THE HISTORY AND ARCHAEOLOGY OF KIAWAH ISLAND, CHARLESTON COUNTY, SOUTH CAROLINA

RESEARCH SERIES 30

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To make a new brick today to build a building on a site where there is already a building steals from two generations. It steals from the generation that built the brick originally by throwing away their asset before its work is done and it steals from a future generation by using increasingly scarce natural resources today when they should have been saved for tomorrow. I would suggest that we have already consumed enough of somebody else's assets -- its time for us to make better use of our own. Historic preservation is the way for us to do that.

--Donovan D. Rypkema

ABSTRACT

Kiawah Island's Native American prehistory goes back at least to 2000 B.C. when the island was occupied by Thom's Creek phase groups. These people left behind dense shell midden sites, as well as sites characterized by sparse scatters of pottery, lithics, and shell filled pits. Later Native American groups include those associated with Deptford, Hanover, and Pee Dee pottery.

In the mid-eighteenth century the historic occupation of Kiawah Island began with the Stanyarne, Vanderhorst, and Shoolbred families. The initial agricultural crop was indigo -- blue gold. By the antebellum period the island was divided into three large Sea Island cotton plantations worked by hundreds of African American slaves. Eventually the island was consolidated under the ownership of the Vanderhorst family.

This study examines the history and archaeology of Kiawah Island over the past 4000 years. Included are detailed reviews of the historic documentation for the island, an archaeological survey of nearly 1000 acres, the report on the excavation of the Thom's Creek Bass Pond (38CH124) and Rhett's Bluff (38CH125/126) sites, and information on shellfish, faunal and ethnobotanical materials. Also included in information on excavations at the Shoolbred, Vanderhorst (38CH127) and Stanyarne (38CH122) plantations, architectural studies of the standing Vanderhorst plantation house and the archaeological ruins of the Shoolbred house, and the faunal studies associated with these plantations.

Kiawah's Bass Pond shell midden represents one of the few non-shell ring coastal Thom's Creek sites examined in South Carolina. There is no better examination of Sea Island plantations than that which has been conducted on Kiawah, where not one, but two, of the three plantations have been examined in detail with the third briefly examined through the auspices of a National Park Service Survey and Planning Grant. As future historical and archaeological research is conducted on the South Carolina coast, Kiawah will stand as a source of considerable comparative research and data.

Chicora Foundation's work begins to unravel some of the mysteries of the Native American, African American, and Euro-American occupation of Kiawah Island. For both prehistoric and historic residents, Kiawah presented both a pleasant and hostile environment. The goal of this study is to explore the lives of the red, black, and white inhabitants of Kiawah, as well as the island's environment and its constant impact on those who attempted to tame it.

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ACKNOWLEDGEMENTS

The work was funded as a series of three collaborative agreements between Kiawah Resort Associates and Chicora Foundation, Inc. These included a survey of portions of Kiawah Island, a survey and data recovery excavations of the Vanderhorst[1] tract, and data recovery excavations of a series of three sites on Rhett's Bluff (38CH124, 38CH125/126, and 38CH129). I wish to thank the principals of Kiawah Resort Associates, and especially Leonard Long, Esq., for their confidence in Chicora Foundation.

A special word of thanks goes to Ray Pantlik, the Project Manager, with whom Chicora has been doing work for nearly five years. I want to thank him for his encouragement and interest in the prehistory and history of Kiawah Island. I also appreciate his support and patience throughout this long process.

Throughout this work Kiawah Resort Associates has been totally supportive of our work with the Island's cultural heritage. They represent what is good about the development of the South Carolina coast and have consistently recognized that preservation is not only right, but also good business.

A number of individuals on Kiawah Island made life more pleasant for us during these projects. The security and maintenance staffs were constantly supportive and interested in our work. The staff of Kiawah Resort Associates Planning and Architectural Review Board were always willing to help with mapping needs and other, numerous requests. Carolyn Vosburg, Director of Marketing for Kiawah Resorts Associates has taken a special interest in marketing Kiawah's unique heritage -- making the results of our studies more accessible to owners, visitors, and the general public. The staff of Benchmark Rentals helped us secure very spacious and comfortable housing for each of these projects.

Many thanks to Mary P. Brady, Cary H. Hall, Jr., and Barbara Winslow of Charleston for their willingness to share historical research. Mrs. Ben Smith, also of Charleston, provided us with a copy of a letter written on Kiawah late in the Civil War. Mrs. Paul M. Aldrich of Bristol, Maine also provided us with very important information on the 55th Massachusetts Volunteers -- the "other" black regiment of the Civil War. Betty Stringfellow, of John's Island, provided a number of corrections and additions to the late history of Kiawah, sharing with us her extensive knowledge of the area. The contributions of these individuals suggests that much more exists on the rich heritage of Kiawah, but is held in smaller, perhaps even private, collections. Perhaps the most interesting of all the individuals who read about our work on Kiawah and contacted us is James Quash Stevens, Jr., the grandson of Quash Stevens. Now living on Hilton Head Island, Mr. Stevens was as excited about learning of his past as we were of making his acquaintance.

Much of the credit for this research goes to the field crews who worked on Kiawah, including Natalie Adams, Steve Corsini, Carrie Joseph, Mona Grunden, Kristrina Herndon, Richard Herndon, Mike Patton, Liz Pinckney, Marianne Reeves, and Pam Timmons. Volunteers during the field work include John Bennett, Dee Dee Joyce, Gloria Swieczkopski, and Mr. Washington's class from Lincoln High School in McClellanville. Volunteers on the Stanyarne excavations include Richard,

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[1] The common convention of spelling, "Vanderhorst," will be used throughout this study. However, it is clear from both written records and oral histories that the Vanderhorst family typically wrote their name, "Vander Horst," or occasionally "Van der Horst," but likely always with the pronunciation "Vān dər Hō(ə)rst".

Kathy, Lynn, and Mary Dominica Geronimo; Carl and Margit Obern; Barbara Winslow; and Burney and Allen Meacher. I thank them for their assistance and interest in this project. I would also like to thank Debi Hacker who oversaw the laboratory analysis and conservation of the artifacts, Colin Brooker who served as Chicora's architectural historian, David Lawrence who consulted on the shellfish remains, and Jack Wilson who continues to provide Chicora with excellent faunal investigations.

A portion of the work at the Stanyarne Plantation was partially funded by a National Park Service Survey and Planning Grant administered by the South Carolina Department of Archives and History. I want to thank Steven Skelton and Susan McGahee for their assistance during the project. The property owners who supported our work at the Stanyarne Plantation include Richard and Kathy Geronimo, Jim and Ruth Irvin, Emory and Joy Man, Joseph and Nancy Stiefel, Otis and Linda Jones, and Charles Bates. These individuals tolerated our disruption of their lives and landscape without complaint or impatience. We appreciate that patience, as well as their interest in better understanding the heritage of Kiawah Island.

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I am sure there are others whom I have failed to mention -- to them I offer my apology and my deepest appreciation for their support of our efforts.

CHAPTER 1.
INTRODUCTION

Michael Trinkley

Background

A Programmatic Agreement between the U.S. Army Corps of Engineers, the Advisory Council on Historic Preservation, the South Carolina State Historic Preservation Officer (SC SHPO), and Kiawah Resort Associates (KRA) was developed in late 1990 (signed by the Advisory Council on September 6, 1990) to protect historic resources on Kiawah Island. The agreement stipulated an archaeological survey of the undeveloped portions of Kiawah Island would be conducted by KRA prior to any further development and that sites determined eligible for inclusion on the National Register for Historic Places would either be green spaced or subject to archaeological data recovery excavations.

An initial survey of the 56 acre Rhett's Bluff tract was conducted in 1989 (Poplin 1989). This study identified seven sites, six of which were recommended for inclusion on the National Register of Historic Places, or had been previously nominated to the National Register. In discussions with the SC SHPO, Kiawah Resort Associates determined that three of these sites (38CH124, 38CH125/126, and 38CH129) would require archaeological data recovery.

Chicora Foundation was requested by KRA to prepare a proposal based on a scope of work previously submitted to and approved by the SC SHPO (dated August 23, 1990). A proposal for those investigations was submitted by Chicora on August 28, 1990 (with an addendum dated September 7, 1990) and the work was approved by KRA on September 7, 1990. The work was approved by the SC SHPO on September 28, 1990 (letter from Dr. Linda Stine to Dr. Michael Trinkley). The proposal was forward to the U.S. Army Corps of Engineers for submittal to the Advisory Council on Historic Preservation on October 6, 1990. No comments were received from either agency and an agreement to perform the work was signed by KRA on October 18, 1990.

The archaeological investigations at the three sites took place from November 5, 1990 through January 25, 1991 by a crew ranging from five to six archaeologists (including the Principal Investigator, Dr. Michael Trinkley). A total of 488.0 person hours were spent in the field and an additional 131.0 person hours were spent on field processing at 38CH124; a total of 172 person hours were spent in the field and 6 person hours were spent on field processing at 38CH125/126; and a total of 1090.5 person hours were spent in the field and 170.5 person hours of field processing at 38CH129. Additional investigations, incorporating 160 person hours, were conducted at 38CH129 from March 4 through 8, 1991. A series of three management summaries were issued on these investigations, as well as a brief letter report (Trinkley 1990b, 1991a, 1991b, and a letter to Mr. Ray Pantlik, dated April 5, 1991).

Kiawah Resorts Associates also requested that Chicora Foundation, Inc. complete the archaeological survey of the undeveloped portions of Kiawah (excluding the Vanderhorst tract). A proposal for this work was submitted to both KRA and the SC SHPO on December 28, 1990. That proposal was accepted by Kiawah Resort Associates on January 10, 1991 and an agreement was signed on January 28, 1991. No comments were received from the SC SHPO.

This survey, which incorporated approximately 959 acres, was conducted by a crew of four archaeologists (including the Principal Investigator) from February 18 through March 14, 1991 and required a total of 608 person hours with an additional 32 person hours devoted to field processing of collections. A

management summary was provided to KRA and the SC SHPO, indicating that 23 sites had been identified in the survey tracts and recommending eight sites as potentially eligible for inclusion on the National Register (Trinkley 1991c). In August 1993, during the review of this manuscript, the SC SHPO recommended that the National Register evaluation process be changed from that originally employed to reflect the process established by Townsend et al. (1993). Chicora Foundation agreed to make the requested changes and the portion of the study concerned with the site survey was resubmitted in October 1993.

Subsequently, KRA requested that Chicora Foundation develop a proposal for the survey of the approximately 23 acre Vanderhorst tract. That proposal was submitted on May 8, 1991 and was accepted by KRA on May 15. It was submitted to the SC SHPO for review on May 24, 1991. Field work on the Vanderhorst survey was conducted by a crew of four archaeologists (including the Principal Director, Dr. Michael Trinkley) from June 3 through June 7, 1991. The survey required a total of 140 person hours, with an additional 20 hours devoted to the field processing of the resulting collections. Connected with this study was an architectural survey and evaluation of the standing Vanderhorst mansion. This required an additional 20 person hours by Chicora's architectural historian, Mr. Colin Brooker.

The Vanderhorst survey identified only the Vanderhorst plantation site, 38CH127, although the site boundaries are now known to include six structures (including the standing mansion) and a series of four shell middens and trash areas. The structure itself is currently listed on the National Register of Historic Places and the associated archaeological site is recommended as eligible for inclusion on the National Register of Historic Places.

Data recovery at the Vanderhorst plantation site was conducted by a crew of five archaeologists (including the Principal Director, Dr. Michael Trinkley) from February 17, 1992 to April 3, 1992. The excavations required a total of 1100.5 person hours, with an additional 123.5 hours devoted to field processing of the collections. A management summary was subsequently issued on these investigations (Adams and Trinkley 1992a).

In order to briefly examine what was thought to be Stanyarne's original Kiawah settlement, 38CH122, Chicora requested, and received, a National Park Service Survey and Planning Grant administered through the South Carolina Department of Archives and History. The research at the site was also graciously supported by Kiawah Resort Associates, and the property owners. This work, conducted during the summer of 1993, allowed a portion of Kiawah's history to be explored which would otherwise have been lost.

All of these various investigations were conducted by Chicora Foundation, Inc. for Kiawah Resort Associates (Mr. Ray Pantlik, Project Coordinator), developer of the island resort community. Kiawah, about 3300 acres in size, is situated about 14 miles southwest of the City of Charleston and 13 miles northeast of Edisto Island in Charleston County. It is bordered to the north and west by the Kiawah River, to the east by the Stono Inlet and River, and to the south by the Atlantic Ocean. The island is separated from neighboring Folly Island to the east by the Stono Inlet, from Seabrook Island to the west by the Kiawah River, and John's Island to the north by the Kiawah River and associated marshes (Figure 1).

The background and archival research specific to the work on Kiawah Island was conducted by Dr. Michael Trinkley, Ms. Debi Hacker, Ms. Natalie Adams, and Ms. Liz Pinckney intermittently over a period of nearly six months in early to mid 1991.

Although development activities on Kiawah Island will be phased, the remainder of the island is anticipated to be opened for residential development within the next two to five years. This activity will involve the clearing,

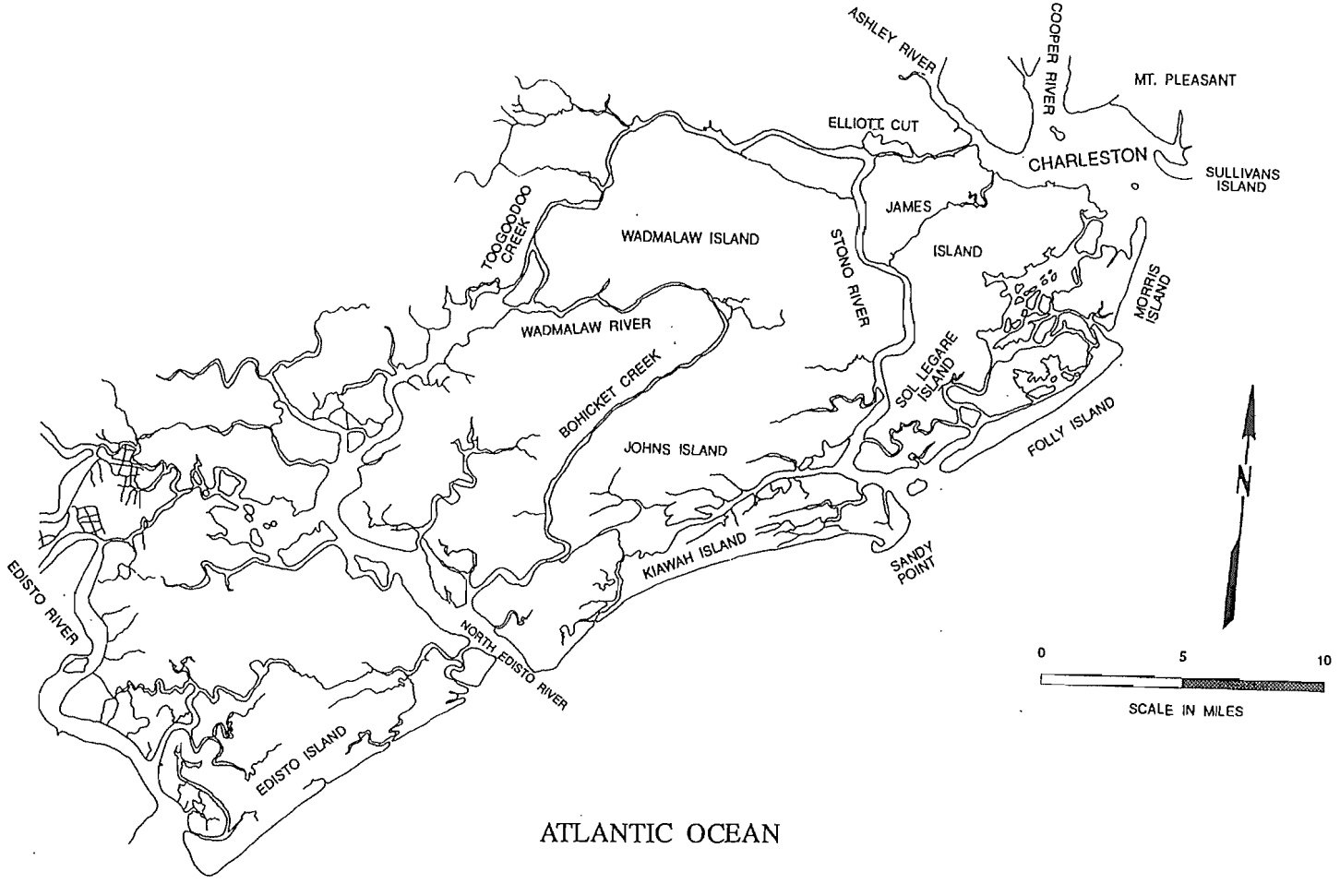


Figure 1. The Kiawah Island vicinity in Charleston County.

grubbing, filling, and grading of roadways. Construction activities will also include the placement of water and sewer lines, underground utilities, and disturbance caused by house construction on individual lots. These activities will result in considerable land alteration with potential damage to archaeological and historical resources which may exist in the project area.

Several phases of development on Kiawah Island have been completed, including the construction of over 35 miles of roads, an four 18-hole golf courses, underground utilities, and house construction. The additional survey on Kiawah Island is limited to approximately 982 acres or 30% of the island. The portion incorporated into the current survey includes essentially the eastern third of the island.

The laboratory work and analyses for these projects began in February 1991 and were conducted on an intermittent basis through June 1992, with the work directed by Ms. Debi Hacker. Artifact conservation, necessary for only items from the historic sites, was conducted at the Chicora Foundation laboratories under the supervision of Ms. Hacker, Chicora's Conservation Administrator.

This research includes a complex mix of survey, site assessment, architectural evaluations, and data recovery. The various projects are combined not simply because they were all conducted for Kiawah Resort Associates. Rather, this integration of the various projects allows for a more comprehensive, sensitive, and appropriate treatment of the island's cultural resources. Further, this approach allows all of Kiawah to be viewed and understood as the whole it of course is, rather than be "chopped up" into projects that have meaning only within the context of compliance with various federal regulations.

Goals

Archaeological Survey

The primary goals of the Kiawah survey were, first, to identify the archaeological resources on the undeveloped portions of the island; and second, to assess the ability of these sites to contribute significant archaeological, historical, or anthropological data. The second goal essentially involves the sites' eligibility for inclusion on the National Register of Historic Sites, although Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the SC SHPO at the South Carolina Department of Archives and History.

Secondary goals were, first, to examine the development of eighteenth and nineteenth century plantations on a South Carolina Sea Island; second, to examine site settlement and subsistence options and systems at prehistoric Thom's Creek sites on Kiawah Island, particularly in comparison to nearby shell ring research (Trinkley 1980b); and third, to examine the relationship between site location, soil types, and topography, expanding the previous work by Brooks and Scurry (1978) and Scurry and Brooks (1980) in the Charleston area and Trinkley (1990 and 1991) on Spring and Callawassie islands in Beaufort County.

At a survey level the work to investigate prehistoric and historic site settlement locations is of considerable importance, not only because it has immediate use in directing future survey research, but also because they begin to unravel the underlying rationale for site locations. As research continues it will be possible to develop settlement hypothesis or models which can be used on a regional basis for predicting site locations more accurately.

Once identified, all of the sites in the survey areas of Kiawah Island were evaluated for their potential eligibility for inclusion on the National Register of Historic Sites. It is generally accepted that "the significance of an archaeological site is based on the potential of the site to contribute to the scientific or humanistic understanding of the past" (Bense et al. 1986:60). Site

significance in this survey was evaluated, at the request of the SC SHPO, using the recently published process of Townsend et al. (1993).

This evaluative process involved five steps, forming a clearly defined, explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps were:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, subsistence remains, architectural remains, or sub-surface features;

- identification of the historic context applicable to the site, providing a framework for the evaluative process;

- identification of the important research questions the site *might* be able to address, given the data sets and the context;

- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and

- identification of "important" research questions among all of those which might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluation process must stand alone, with relatively little reference to other documentation and where only, typically, one site is being considered.

In the case of a survey which identifies multiple sites the process outlined by Townsend et al. (1993) can become burdensome. Consequently this study has elected to combine some of the steps, making the process more streamlined, without substantively altering the clear goal -- to ensure that sites capable of providing significant information are provided the protection afforded in the historic preservation process. The development of a historic context was not undertaken for each site, but is found outlined in Chapters 4 and 5 of this study, which provide an overview of the prehistoric and historic archaeology and research for the region. The identification of "important" research goals was achieved by incorporating research goals and questions in these two chapters, again outlining significant questions to the discipline and the public.

Otherwise, the evaluative process was essentially the same as outlined by Townsend et al. (1993). For each site the data sets identified during the survey, such as the presence of pottery or the likelihood of architectural features, were discussed. At times the absence of data sets dominates the discussions, such as when the identified site has been thoroughly mixed by plowing or destroyed by logging. Reference was made back to the historic context and the research questions a site might be able to address, while at the same time the site's integrity was clearly defined. We opted to use the integrity areas developed by Townsend et al. (1993:17-23) since they are more commonly used with National Register sites than the archaeological properties developed by Glassow (1977). Those most important for archaeological sites being evaluated for eligibility under Criterion D (sites that have yielded, or may be likely to yield, information important in prehistory or history) are locational integrity, design integrity, integrity of materials, and associative integrity.

Locational integrity means that discernable patterning is present. If a site lacks patterning, if the artifacts are displaced, if activity areas are no longer recognizable, then it likely lacks locational integrity. Integrity of design is most often addressed as intra-site artifact and feature patterning. Integrity of materials is typically seen as the completeness of the artifact/feature assemblage or the quality of feature or artifact preservation.

Finally, associative integrity is often examined in the context of how strongly associated the data set is with important research questions. Clearly the evaluation of integrity is somewhat subjective, but this research found that most sites either clearly exhibited integrity, or clearly lacked integrity. There were relatively few over which there could be any real debate.

The topic of research questions is perhaps more controversial, since every archaeologist can develop research topics which may, or may not, be of interest to his or her colleagues. What makes a research topic important can be debated -- is it something that particularly interests the public? is it something that can offer methodological advancement? is it something that can assist in better management of archaeological resources? Of even greater controversy is when a research issue is settled and how much testing a conclusion should have before it is accepted. After all, it is never possible to "prove" theories; they can only be disproved.

At this point in time it seems essential to recognize the importance of asking the right questions at the right sites, not limiting the number of sites at which questions are asked, or what questions are posed. Clearly, asking the "right questions" at the "right sites" can be difficult and requires an understanding of the "theoretical and substantive knowledge of the discipline" (for a more detailed discussion of these questions, particularly relating to Woodland Period sites, see Trinkley 1990a:30-31).

Archaeological Survey and Testing of the Stanyarne Plantation

The Stanyarne Plantation, 38CH122, represents the one major site on Kiawah which was not investigated during the Kuwaiti development. Although reported by Combes (1975) as containing architectural features, slave cabins in ruins, and a cemetery, the site apparently attracted no attention or interest. Among the earliest phases of development, it quickly slipped into obscurity. As historical research was undertaken, it became obvious that this site represented much more than a late antebellum slave row -- it probably represented the earliest settlement on Kiawah. It was also clear that the site played a pivotal role in understanding the evolutionary development of plantations on Kiawah. It was likely part of the "Old Settlement" abandoned by Shoolbred in favor of the location today called Rhett's Bluff. Failure to at least obtain a sample of the archaeological remains would likely make the interpretation of Kiawah's history that much more difficult.

Consequently, Chicora Foundation sought the support of Kiawah Resort Associates and the individual property owners to conduct some limited survey and testing at the site. In addition we sought, and received, a National Park Service Survey and Planning Grant, administered by the South Carolina Department of Archives and History to help support the work. All of the parties supported the work, allowing shovel testing and more intensive 5-foot excavations to be conducted in various yard and lot areas.

The work was designed to accomplish three specific goals. The first was to obtain sufficiently large samples to permit artifact dating. This would verify that the site was likely the eighteenth century Stanyarne Plantation. The second was to obtain samples of the artifacts sufficient to allow comparative analysis with the Shoolbred, Vanderhorst, and (ultimately) the remainder of Shoolbred's "Old Settlement." This would assist in better understanding each of the plantations, their organization, and how they saw themselves fitting into the world around them. Finally, the work at 38CH122 was also designed to allow a better understanding of the plantation landscape. This was an effort to collect data that would certainly be lost as additional portions of the neighborhood are developed over the next decade. Each of these goals was achieved during the investigations and will be discussed in greater detail in Chapter 16.

Data Recovery Excavations at Prehistoric Sites

The data recovery excavations on Kiawah Island included portions of two prehistoric sites (38CH124 and 38CH125/126). Both dated from the Thom's Creek phase and one, 38CH124, has been previously placed on the National Register of Historic Places. Consequently, it was important to ensure that a valid sample of the data the site contained was collected during its investigation. This site contained a dense Thom's Creek shell midden containing a wide range of lithics, worked shell and bone, pottery, and faunal and floral remains. This site offered the potential to make significant contributions to Early Woodland research questions (see Trinkley 1990a). The other site, 38CH125/126 was characterized as a scatter of Thom's Creek material and shell, absent any large, concentrated shell midden remains. In simplest terms, it appeared to represent the other "end" of the Thom's Creek site continuum. Consequently, research at 38CH125/126 was oriented toward gathering comparative data and investigating the broad context of Thom's Creek subsistence and settlement.

Both sites also were found to contain noticeable amounts of later, Middle Woodland, Deptford pottery. This discovery allowed not only the study variability among Thom's Creek sites, but allowed temporal changes to be considered.

The subsistence questions involved the seasonality of the remains, the evidence they could provide regarding the habitats being exploited and the intensity of that exploitation, and the methods of collecting being used. While determining the importance of each resource to the diet was also recognized as an extremely important research goal, it was tempered by the recognition that many analytical techniques, such as biomass, diversity, and equitability determination, while relatively easily determined for faunal remains, are very difficult to apply to ethnobotanical and shellfish materials.

To ensure that subsistence materials would be intensively sampled in a uniform manner and comparable between sites, the use of certain similar methods, including the use of 1/8-inch mesh, the collection of flotation samples, and the collection of shell columns, was employed at each site. In addition, each shell midden was quantified by weight, providing shell/soil ratios.

The primary settlement question explored by this research involved the potential to discover intra-site patterning. To this end both midden and non-midden areas were intensively examined in the hopes of not only identifying specific activity areas, but also of locating structural remains.

The typological and chronological questions involved primarily the Thom's Creek phase. It was felt that neither of these sites could provide more than gross stratigraphic information, although temporally discrete features were sought for reliable radiometric determinations. Previous work on Thom's Creek typology has provided significant evidence that the surface treatments have temporal significance (see Trinkley 1980a). The work at 38CH124 and 38CH125/126 offered the possibility to re-evaluate and refine existing concepts.

Data Recovery Excavations at Historic Sites

Intensive data recovery excavations were also undertaken at the Shoolbred Plantation (38CH129) and the Vanderhorst Plantation (38CH127) on Kiawah Island. This work, coupled with detailed historical research, was intended to fully explore the development and evolution of the sea island plantations during the colonial, antebellum, and postbellum periods. Like other islands around Charleston, Kiawah was first used for the raising of stock and probably naval stores. Later the emphasis shifted to indigo as a cash crop. By the 1790s the economy of the island was controlled by cotton. As the world economy fluctuated, so too did the wealth and prosperity of those on Kiawah.

Because Kiawah, today, is "conveniently located" to Charleston, it is

likely difficult to fully grasp the isolation of the island prior to this century. Like many other sea islands, Kiawah was, in the words of Fernand Braudel, "both far ahead and far behind the general history . . . [divided] often brutally, between the two opposite poles of archaism and innovation" (Braudel 1972:1:149-150). This isolation can perhaps most clearly be seen in the late eighteenth century architecture, modern and daring at some levels, yet clearly constructed without any ultimate vision.

Both the Shoolbred and Vanderhorst mansions were elaborate and imposing structures, clearly evidencing the wealth and prestige of the owners. Yet they largely served no function -- placed on an island that few people visited, few passed by, and even fewer lived on. Such activities provide a glimpse of the *mentalité* of the Southern planter. Yet the architecture is but one aspect of the plantation, however visible it may be. These investigations are also intended to explore the less obvious -- the ceramics, the everyday objects of the planter's life -- to see if they also evidence the same *mentalité*. Additionally, the investigations are intended to document how the slaves and freedmen of Kiawah Island lived, and how they altered the landscape, primarily to the benefit of the wealthy class.

Curation

Archaeological site forms have been filed with the South Carolina Institute of Archaeology and Anthropology and the South Carolina State Historic Preservation Office.

The field notes, photographic materials, and artifacts resulting from Chicora Foundation's investigations at the Stanyarne Plantation have been curated at the South Carolina Institute of Archaeology and Anthropology. The other materials have been curated at The Charleston Museum as Accession Number 1991.8. Excavations at 38CH127 have been curated as Accession Number 1992.38. The artifacts from 38CH124 have been cataloged as ARL 41291 - ARL 41370, those from 38CH125/126 as ARL 41371 - ARL 41466, those from 38CH127 as ARL 41829 - ARL 41998, those from 38CH129-1 as ARL 41174 - ARL 41233 and ARL 41730 - ARL 41772, those from 38CH129-2 as ARL 41234 - 41290, those from miscellaneous sites as ARL 41467 - ARL 41470, and those from the Kiawah survey as ARL 41781 - ARL 42001 (using a lot provenience system). The artifacts have been cleaned and/or conserved as necessary. Further information on conservation practices may be found in Chapter 3 -- Research Strategy and Methods. All original records and duplicate copies were provided to the curatorial facilities on pH neutral, alkaline buffered paper and the photographic materials were processed to archival permanence.

CHAPTER 2.
NATURAL SETTING

Michael Trinkley

Physiography

Charleston County is located in the lower Atlantic Coastal Plain of South Carolina and is bounded to the east by the Atlantic Ocean and a series of marsh, barrier (such as Kiawah), and sea islands (Mathews et al. 1980:133). Elevations in the County range from sea level to about 70 feet mean sea level (MSL). The mainland topography, which consists of subtle ridge and bay undulations, is characteristic of beach ridge plains. Seven major drainages are found in Charleston County. Four of these, the Wando, Ashley, Stono, and North Edisto, are dominated by tidal flows and are saline. The three with significant freshwater flow are the Santee, forming the northern boundary of the County, the South Edisto, forming the southern boundary, and the Cooper, which bisects the County. Because of the low topography, many broad, low-gradient interior drains are present as either extensions of the tidal rivers or as flooded bays and swales.

Coastal islands are generally placed into three major groupings, based on geomorphology, area, sediment composition, and environment of deposition. The classic sea islands such as Daufuskie, Hilton Head, and James islands, are erosional remnants of coastal sand bodies deposited during the Pleistocene. Some, such as Hilton Head, also have a ocean fringe of beach dune ridges developed during the more recent Holocene period. Barrier islands, in contrast, are composed of alternating beach ridges and low troughs or lagoons oriented roughly parallel to the present shoreline, deposited during Holocene high sea level stands. Marsh islands, such as Raccoon Key and Morris Island, are composed of isolated or widely spaced Holocene sand ridges surrounded by recent salt marsh. They are typically situated in the filled lagoons behind the barrier islands, although they are also found fronting the Atlantic Ocean where erosion has removed the protecting barrier islands.

Kiawah is classified as a barrier island. It is situated between Folly Island to the northeast and Seabrook Island to the southwest. Kiawah is separated from Folly by the Stono River and from Seabrook by the Kiawah River. It is separated from John's Island to the north by an expanse of marsh and the Kiawah River.

The island has a sandy beachfront and is about 9.1 miles in length and 2.0 miles in width, including both high ground and marsh. There are approximately 3300 acres of high ground and 3730 acres of marsh incorporated into Kiawah Island, making it the largest barrier island and the fifth largest island in South Carolina (with only James, St. Helena, Hilton Head, and Daufuskie, all Sea Islands, being larger).

Elevations on the island range from sea level to 25 feet MSL. The island is composed of a series of prograding beach ridges that have been highly modified on either end by the migration of the Stono and Kiawah inlets. Hayes et al. (1975) identify four major physiographic regions on Kiawah: the actively changing beach zone; the three tidal inlets of the Stono, Kiawah, and Edisto rivers; the interior of the island, largely consisting of beach-ridge complexes; and the salt marsh area that surrounds the backside of the island.

Of the three, the beach-ridge complex is perhaps the most significant for the archaeological and historical understanding of Kiawah Island. The western half of the island is composed of a series of tightly spaced beach ridges with low relief (typically under 10 feet). Hayes et al. (1975) suggest this low

topography is the result of cultivation, although this would require extensive erosion and leveling, which does not appear likely. Regardless, the eastern end of the island evidences a radically different physiography, being composed of very complex, bifurcating beach ridges. Expanses of salt marsh occur between these various ridges. Hayes et al. note:

> the reason for this difference [between the eastern and western ends of Kiawah] is the beach ridges at the east end were located near a major tidal channel (Stono River) that migrated as much as 1½ to 2 miles since the island was first formed. These migrations have brought about the formation of long, cat-eye shaped ponds (here termed cat-eye ponds) that form when a new beach ridge develops along the margin of a tidal inlet. Close inspection of the geomorphic map [reproduced as Figure 2] reveals the presence of many old tidal inlets and recurved beach ridges in the vicinity of Ibis and Willet Ponds. . . . The complex morphology of the east end of the island is simply a reflection of the large-scale changes that commonly take place near a major tidal inlet (Hayes et al. 1975:G-84).

The beach ridges found on the eastern end of the island incorporate steeply sloping topography, narrow ridges, and vast areas of poorly drained soils (discussed below) and marsh areas. Elevations range from about 10 to 25 feet MSL. The channels found in this area of the island include Bass Creek, Cinder Creek, and a variety of smaller, unnamed drainages.

The mean tidal range for Kiawah is approximately 5.2 feet, with a Spring tidal range of approximately 6.1 feet. These tides generate strong currents in the tidal inlets and major tidal channels.

Geology and Soils

Coastal Plain geological formations are unconsolidated sedimentary deposits of very recent age (Pleistocene and Holocene) lying unconformably on ancient crystalline rocks (Cooke 1936; Miller 1971:74). The Pleistocene sediments are organized into topographically distinct, but lithologically similar, geomorphic units, or terraces, parallel to the coast. Kiawah Island is classified by Cooke (1936) as part of the recent Holocene terrace, with elevations under 25 feet MSL (see also Colquhoun 1969).

The work by Stapor and Mathews (1976) found that Kiawah's deposition began at least 2500 years ago and was essentially complete by 1000 years ago. The oldest portion of Kiawah appears to be Shoolbred Point (today called Rhett's Bluff), which is an old Pleistocene Beach Ridge (Hayes et al. 1975). Consequently, only a very small portion of Kiawah is likely to evidence Paleo-Indian or Archaic occupation, while much more of the island may evidence Middle Woodland or later occupations.

Hayes et al. (1975) have reconstructed Kiawah's historic changes, from the late seventeenth century through the late twentieth century. They remarked:

> Kiawah Island has undergone many changes in the past three hundred years. In 1661 a large waterway incised the northeastern portion of the island. From 1661 to 1854 the waterway infilled, leaving a small tidal inlet which was connected to Bass Creek. Beginning in the late 1880's and continuing at a rapid rate until the 1920's the eastern shoreline underwent tremendous progradation. This was caused by the erosion of Morris Island and Folly Island to the north, which, in turn, was a result of the diversion of Charleston Harbor channel. This accretional trend continued at a slower rate until the early 1940's, adding a total of 3400 ft of shoreline in the form of a triangular foreland. Starting in the late 1930's, the southeast

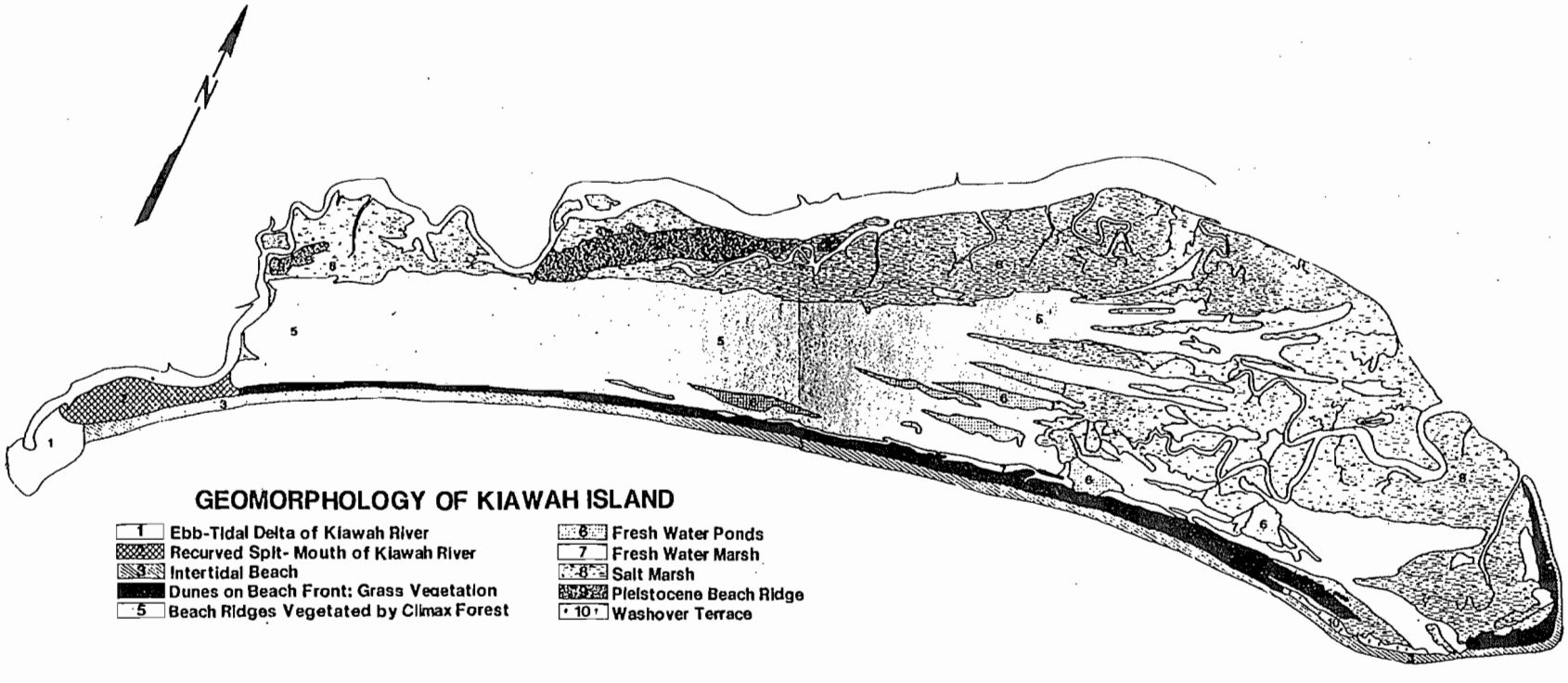


Figure 2. Geomorphology of Kiawah Island (adapted from Hayes et al. 1975).

flank of this foreland began to erode with contemporaneous accretation along the southwest flank. Since 1939, this trend has continued at an average rate of 100 ft per year, resulting in approximately 400 ft of westward migration and general straightening of this part of the shoreline.

Between 1880 and 1940 the central portion of the island was also accretional. Since 1867, the west central shoreline has prograded 700 ft. Over the same period of time, the east central shoreline advanced more than 2000 feet (Hayes et al. 1975:G-47, G-50).

Of considerable importance to these discussions is the history of Kiawah's eastern end adjacent to the Stono Inlet. Hayes et al. suggest that in 1661 the northeastern end of Kiawah was cut by a channel separating Kiawah from a number of smaller islands to the east. The Stono channel was narrow and present-day Bird Key was part of the larger island.

During the mid-1700s (perhaps the Extreme hurricane of 1752) a large storm eroded a portion of this island, leaving Bird Key as a remnant. From this point on, the Stono Inlet flowed through two channels, located east and west of the island. By 1854 200 to 400 feet of progradation had occurred along the northeastern portion of Kiawah, forming a long, thin, elbow-shaped spit parallelling this portion of the coastline. At the time of the Civil War, Cougar Island, which now is found in the central portion of the eastern end of the island, was on the shoreline. At this location the shore has prograded over 2500 feet during the past century, although periods of rapid erosion were also present.

In the late 1870s construction was begun on the Charleston Harbor jetties, which were designed to reroute the main harbor entrance to the southeast and prevent natural shoals from obstructing navigation. This project, completed in 1896, caused accelerated erosion of Morris and Folly islands with the sediment moving southward, causing an accumulation at the headland area of Kiawah. Over 3500 feet of progradation is seen on the northeastern end of Kiawah. Bass Creek inlet migrated almost 2 miles toward the middle portion of the island, forming a long, recurved spit trending parallel to the beach. The eastern end of the island, facing the Atlantic Ocean prograded nearly 1500 feet, while the western end, in the vicinity of the Kiawah River inlet prograded approximately 100 feet.

By the late 1940s the triangular foreland on Kiawah began a westward migration resulting in 600 feet of erosion on its southeast face and 400 feet of accretion on its southwest edge. The changes to Kiawah continue to the present time, and are illustrated in Figure 3.

On an island such as Kiawah, water appears to be plentiful, yet sources of fresh water are scarce. The principal deep water aquifers are the limestone of Eocene age known as the Santee Formation and the sands of Cretaceous age, known as the Pee Dee and Black Creek formations, although these are at depths of 400 to 500 feet and 1600 to 2000 feet respectively. The Santee Formation has been pumped so heavily that there is now a "cone of depression" with the result that chloride levels exceed 400 mg/l in some areas (S.C. Water Resources Commission 1973:100).

Lynch et al. note that colonial wells rarely exceeded 20 feet into the sands which were "everywhere saturated with the water which it received from a rainfall averaging 43.78 inches each year" (Lynch et al. 1882:258). Consequently, wells 12 to 15 feet deep provided "an unfailing supply of water of the very best quality" (Lynch et al. 1882:259). Water quality gradually declined as the population increased and antebellum wells became deeper, although they rarely exceeded 60 feet in downtown Charleston. One antebellum brick-lined well on Daniels Island, about 5.5 miles northeast of Charleston, was only 10.7 feet in depth (Zierden et al. 1986:4-44). Cisterns, in common use throughout Charleston,

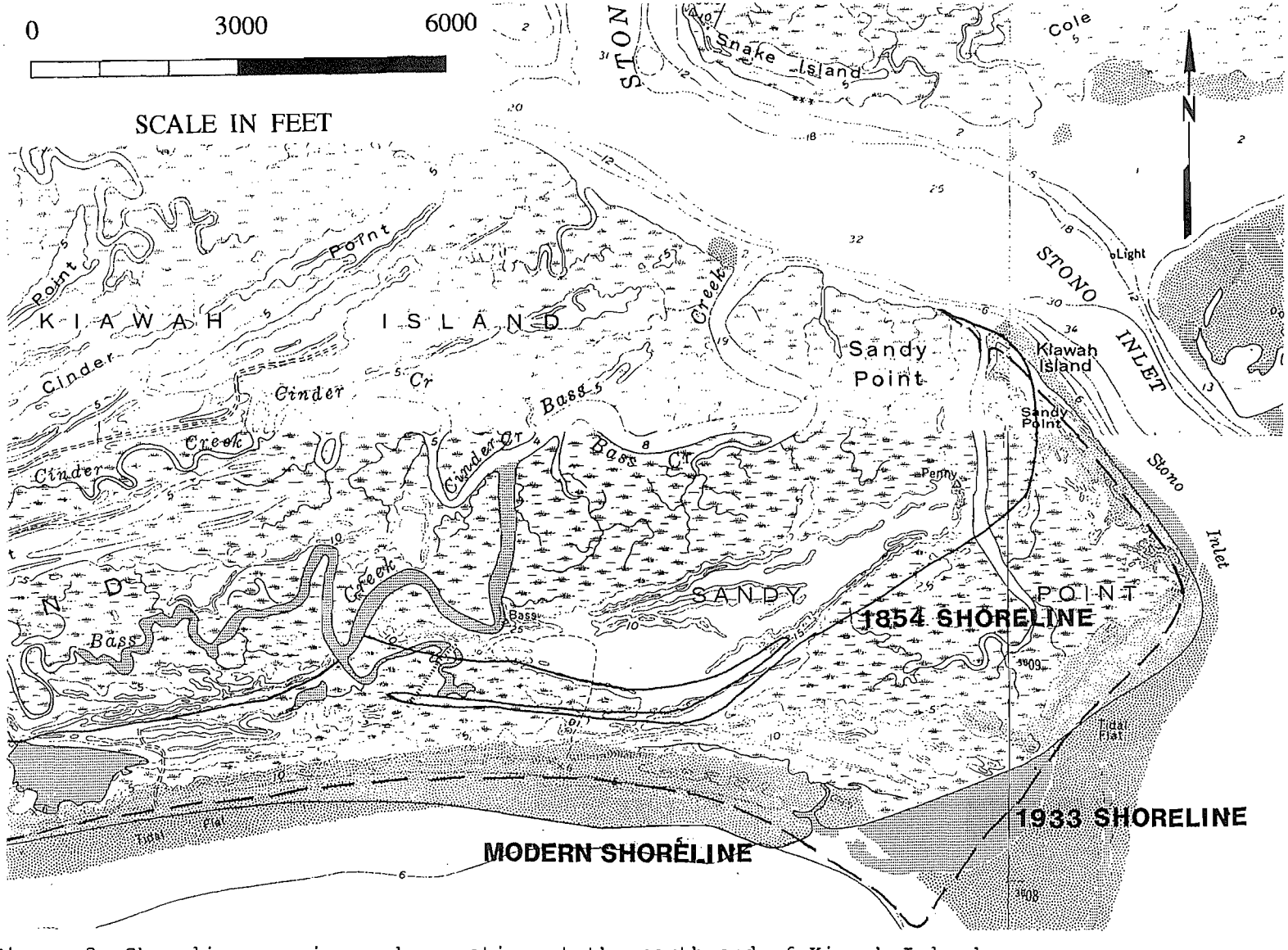


Figure 3. Shoreline erosion and accretion at the north end of Kiawah Island.

could provide very safe, potable water, although Lynch et al. (1882:292-293) also found many of the cisterns in Charleston "foul," evidencing high levels of ammonia.

There is extensive documentation of wells being dug on the islands by Union troops during the Civil War. Copp noted:

> in our camp at Hilton Head, every company had its well, by digging through the sand to a depth of from four to six feet, empty barrels would be inserted, and the well as complete, with plenty of water: although brackish to the taste it was not as bad as we were frequently obliged to use in our later campaigns (Copp 1911:94).

On nearby Folly Island Barlow remarked:

> all the water used on the island was obtained by digging below tide-mark and curbing with barrels. The finest and best protected well in camp was made by cutting into a sand dune and making a winding passage to the water, thus placing the water continually in the shade and protecting it from dust and dirt blowing around the camp (Barlow 1899:158).

It is therefore clear that during the historic period wells were in common use, although shallow wells probably tended to be less healthy and more saline.

Another significant aspect of coastal geology to be considered in these discussions is the fluctuation of sea level during the late Pleistocene and Holocene epochs. Prior to 15,000 B.C. there is evidence that a warming trend resulted in the gradual increase in Pleistocene sea levels (DePratter and Howard 1980). Work by Brooks et al. (1989) clearly indicates that there were a number of fluctuations during the Holocene. Their data suggest that as the first Stallings phase sites along the South Carolina coast were occupied about 2100 B.C. the sea level was about 4.2 feet lower than present. Following that period there was a gradual fall in the sea level to about 11.0 feet below current levels by 1850 B.C. Sea levels gradually increased during the Thom's Creek phase to a level within about 2.0 feet of the current stands by 1650 B.C. Following this was a second lowering about 1250 B.C., to a level of 9.7 feet below that of today. The sea level increased through the late Thom's Creek phase to a high about 2.8 feet below modern levels by 1050 B.C. Another low, about 9.7 feet, occurred at 350 B.C. after which the sea levels tend to maintain a gradual rise to their modern levels. Quitmyer (1985) does not believe that the lower sea levels at 2100 B.C. would have greatly altered the estuarine environment, although drops of nearly 10 feet would have reduced available tidal resources and would have affected the overall drainage patterns and soil moisture of coastal sites.

Data from the nineteenth and twentieth centuries suggest that the level is continuing to rise. Kurtz and Wagner (1957:8) report a 0.8 foot rise in Charleston, South Carolina sea levels from 1833 to 1903. Between 1940 and 1950 a sea level rise of 0.34 foot was again recorded at Charleston. These data, however, do not distinguish between sea level rise and land surface submergence.

Within the coastal zone the soils are Holocene and Pleistocene in age and were formed from materials that were deposited during the various stages of coastal submergence. The formation of soils in the study area is affected by this parent material (primarily sands and clays), the temperate climate (to be discussed later in this section), the various soil organisms, topography, and time.

The mainland soils are Pleistocene in age and tend to have more distinct horizon development and diversity than the younger soils of the sea and barrier islands. Sandy to loamy soils predominate in the level to gently sloping mainland areas. The island soils are less diverse and less well developed, frequently

lacking a well-defined B horizon. Organic matter is low and the soils tend to be acidic. The Holocene deposits typical of barrier islands and found as a fringe on some sea islands, consist almost entirely of quartz sand which exhibits little organic matter. Tidal marsh soils are Holocene in age and consist of fine sands, clay, and organic matter deposited over older Pleistocene sands. The soils are frequently covered by up to 2 feet of saltwater during high tides. Historically, marsh soils have been used as compost or fertilizer for a variety of crops, including cotton (Hammond 1884:510) and Allston mentions that the sandy soil of the coastal region, "bears well the admixture of salt and marsh mud with the compost" (Allston 1854:13).

Only six soil series occur on Kiawah Island: Crevassee and Dawhoo association, Dawhoo and Rutlege association, Kiawah, Rutlege-Pamlico association, Seabrook, and Wando (Table 1). Of those soils, only two (Seabrook and Wando) are considered well drained. The remainder are poorly drained, except for the Crevassee-Dawhoo association, found in the ridge and trough area of eastern Kiawah Island, which has mixed drainage (Miller 1971). Table 1 reveals that only 22.9% of the island can be considered well drained. Although some of the Crevassee-Dawhoo soils are well drained, they occur on narrow ridges and are not generally suitable for nineteenth century agriculture.

Table 1.
Soils found on Kiawah Island

Soil	% of island	drainage
Crevassee-Dawhoo	41.3	mixed
Dawhoo-Rutlege	5.5	poor
Kiawah	30.1	poor
Rutlege-Pamlico	0.2	poor
Seabrook	7.7	well
Wando	15.2	well

The western and central thirds of the island consist primarily of Wando soils ringing the edge, while Kiawah and Dawhoo-Rutlege soils are found on the interior. The eastern third of the island contains little well drained soil, being composed largely of Crevassee-Dawhoo soils.

Soil drainage may reasonably be expected to impact prehistoric and historic settlement patterns, as well as cultivation (and hence plantation wealth) during the antebellum period. Plants such as indigo and cotton require well drained soils, while rice requires flooding (and therefore soils capable of holding the water) (Hammond 1884; Hilliard 1975; Huneycutt 1949). A number of period accounts discuss the importance of soil drainage. Seabrook explained:

> subsoil so close as to be impervious to water; so that the excess of the rains of winter cannot sink. Nor can it flow off, because of the level surface . . . . The land thereby is kept thoroughly water-soaked until late in the spring. The long continued wetness is favorable only to the growth of coarse and sour grasses and broom sedge . . . acid and antiseptic qualities of the soil . . . sponge-like power to absorb and retain water . . . is barren, (for useful crops) from two causes - excessive wetness and great acidity. The remedies required are also two; and neither alone will be of the least useful effect, with the other also. Draining must remove the wetness - calcareous manures the acidity (Seabrook 1848:37).

Hammond expanded on this, mentioning:

> drainage . . . has of necessity always been practiced to some extent. The remarkably high beds on which cotton is planted here,

> being from 18 inches to 2 feet high, subserve this purpose. The best planters have long had open drains through their fields. These were generally made by running two furrows with a plow and afterwards hauling out the loose dirt with a hoe, thus leaving an open ditch, if it may be so termed, a foot or more in depth (Hammond 1884:509).

While a large portion of the land on Kiawah appears to be unsuitable for most crops, it is clear that adequate drainage could be constructed to make the soils more agriculturally productive. In fact, an 1854 map of Kiawah clearly reveals that soils of Kiawah, Seabrook, and Wando were cultivated on the western third of the island; Kiawah and Seabrook soils were cultivated on the central portion of the island; and on the western third of the island even some limited area of Crevassee-Dawhoo soils were opened and cultivated. Major drainages were apparently oriented east-west, following the natural trough topography. Fields were not scattered out over the island, but were clearly concentrated in several areas of well-drained soil.

Climate

John Lawson described South Carolina, in 1700, as having "a sweet Air, moderate Climate, and fertile Soil" (Lefler 1967:86). Of course, Lawson tended to romanticize Carolina. In December 1740 Robert Pringle remarked that Charleston was having "hard frosts & Snow" characterized as "a great Detriment to the Negroes" (Edgar 1972:282), while in May 1744 Pringle states, "the weather having already Come in very hott" (Edgar 1972:685).

The major climatic controls of the area are latitude, elevation, distance from the ocean, and location with respect to the average tracks of migratory cyclones. Kiawah's latitude of 32°37'N places it on the edge of the balmy subtropical climate typical of Florida, further south. As a result, there are relatively short, mild winters and long, warm, humid summers. The large amount of nearby warm ocean water surface produces a marine climate, which tends to moderate both the cold and hot weather. The Appalachian Mountains, about 220 miles to the northwest, block the shallow cold air masses from the northwest, moderating them before they reach the sea islands (Mathews et al. 1980:46).

The average high temperature on Kiawah in July is 81°F, although temperatures are frequently in the 90s during much of July (Kjerfve 1975:C-4). Mills noted:

> in the months of June, July, and August, 1752, the weather in Charleston was warmer than any of the inhabitants before had ever experienced. The mercury in the shade often rose above 90°, and for nearly twenty successive days varied between that an 101° (Mills 1972:444).

Kiawah normally experiences a high relative humidity, adding greatly to the discomfort. Kjerfve (1975:C-5) found an annual mean value of 73.5% RH, with the highest levels occurring during the summer. Pringle remarked in 1742 that guns "sufferr'd with the Rust by Lying so Long here, & which affects any Kind of Iron Ware, much more in this Climate than in Europe" (Edgar 1972:465).

The annual rainfall on Kiawah is 49 inches, fairly evenly spaced over the year. While adequate for most crops, there may be periods of both excessive rain and drought. Kjerfve (1974:C-8) notes that Kiawah has recorded up to 20 inches of rain in a single month and the rainfall over a three month period has exceeded 30 inches no less than 9 times in the past 37 years. Likewise, periods of draught can occur and cause considerable damage to crops and livestock. Mills remarks that the "Summer of 1728 was uncommonly hot; the face of the earth was completely parched; the pools of standing water dried up, and the field reduced to the greatest distress" (Mills 1972:447-448). Another significant historical drought occurred in 1845, affecting both the Low and Up Country.

The annual growing season is 295 days, one of the longest in South Carolina. This mild climate, adequate rainfall, and long growing season, as Hilliard (1984:13) notes, is largely responsible for the presence of many southern crops, such as cotton and sugar cane.

Hilliard also points out that "any description of climate in the South, however brief, would be incomplete without reference" to a meteorological event frequently identified with the region -- the tropical hurricane. Hurricanes occur in the late summer and early fall, the period critical to antebellum cane, cotton, and rice growers. These storms, however, are capricious in occurrence:

> in such a case between the dread of pestilence in the city, of common fever in the country, and of an unexpected hurricane on the island, the inhabitants . . . are at the close of every warm season in a painful state of anxiety, not knowing what course to pursue, not what is best to be done (Ramsay, quoted in Calhoun 1983:2).

The coastal area is a moderately high risk zone for tropical storms, with 169 hurricanes being documented from 1686 to 1972 (about one every two years) (Mathews et al. 1980:56). Table 2 lists the major storms of the seventeenth, eighteenth, and nineteenth centuries.

Table 2.
Major Hurricanes Through the Nineteenth Century

Date	Location	Classification	Damage
August 25, 1686	Charleston	Major	Flooding, wind damage
September 14/16, 1700	Charleston	Great	Flooding, at least 97 deaths
September 5/6, 1713	Charleston	Major	Flooding, perhaps 70 deaths
September 13/14, 1728	Charleston	Major	23 ships damaged or lost, forests leveled
September 15, 1752	Charleston	Extreme	Extensive flooding, damage, death
September 1784	Charleston	Major (?)	Flooding, extensive property loss
September 7/8, 1804	Savannah	Great	7 foot storm tide, 500 deaths in SC
August 27, 1813	Charleston	Great	Severe winds, tides, much crop loss
September 27, 1822	Charleston	Major	Extensive crop losses, 300 deaths
September, 7-9 1854	Savannah	Major	90 mile/hour winds
August 27, 1881	Savannah	Major	16 foot tide, 700 deaths in Georgia and SC
August 25, 1885	Beaufort	Extreme	21 deaths in Charleston, 125 mile/hour winds
August 27, 1893	Charleston	Extreme	17 to 19 foot storm tide, up to 2000 deaths
October 13, 1893	Charleston	Major	Flooding, several deaths
September 28-29, 1896	Savannah	Major	12 deaths, winds of 75 miles/hour
August 31, 1898	Savannah	Hurricane	100 mile/hour winds
October 2, 1898	Savannah	Hurricane	12 foot storm tide
October 31, 1899	Charleston	Major	

The climate of the Charleston area, regardless of storms, temperature, humidity, or rainfall, was often viewed as harsh and unhealthful, especially for the white population. Mills states:

> the numerous swamps, bays, and low grounds which indent the low country, retain the waters that fall in rains; and in consequence of these, occasion thick fogs throughout the night, during the summer months. Under such circumstances it is a matter of little surprise that fevers prevail. . . . The two fevers most dreaded here, are, what are commonly termed the country and yellow fever. The first is peculiar to the country, and to avoid it, the planters are in the habit either of residing in Charleston during the sickly season, or

> retiring to the Sea Islands or Sand hills. The second belongs exclusively to the city, and is generally fatal to strangers only, who have not, as it is termed, become climatized (Mills 1972:140-144).

Expounding on the evil of the swamps, Mills also explained:

> that to the extensive swamps and stagnant pools, which cover its surface, are we to attribute the cause of our epidemical diseases. The rank luxuriance of vegetation on these waste lands, their perpetual moisture, and the operation of a powerful sun, produce at certain seasons of the year, in a degree indeed extensive, the rapid decomposition of this vegetable matter: the miasma arising from this decomposition contaminates the surrounding air, which afterwards is wafted by the winds over the country, and poisons, more or less, the whole atmosphere (Mills 1972:462).

Floristics

Kiawah Island exhibits three major ecosystems: the maritime forest ecosystem which consists of the upland forest areas of the island, the estuarine ecosystem of deep water tidal habitats, and the palustrine ecosystems which consist of essentially fresh water, non-tidal wetlands (Sandifer et al. 1980:7-9).

The maritime forest ecosystem has been found to consist of five principal forest types, including the Oak-Pine forests, the Mixed Oak Hardwood forests, the Palmetto forests, the Oak thickets, and other miscellaneous wooded areas (such as salt marsh thickets and wax myrtle thickets).

Of these the Oak-Pine forests are most common, constituting over half of the forest community on the island. In some areas palmetto becomes an important sub-dominant. Typically these forests are dominated by the laurel oak with pine (primarily loblolly with minor amounts of longleaf pine) as the major canopy co-dominant. Hickory is present, although uncommon. Other trees found are the sweet gum and magnolia, with sassafras, red bay, American holly, and wax myrtle found in the understory.

In the Mixed Oak Hardwood forests pine is reduced in importance and the laurel oak is replaced by the live oak. Yaupon holly and red bay or magnolia are found in the understory. Live oak is concentrated on Cougar Island and Sharitz (1975:F-12) suggests this is due to the soils being very dry and "sterile." The Palmetto forests are characterized by open palmetto stands with an understory of wax myrtle, red cedar, yaupon holly, and magnolia. The Low Oak woods or thickets are found as a band behind the high dunes. This association is continuous with the Oak-Pine-Palmetto forests. The miscellaneous wooded areas include wax myrtle thickets found in low areas behind the dune fields.

Mills, in the early nineteenth century, remarked that:

> South Carolina is rich in native and exotic productions; the varieties of its soil, climate, and geological positions, afford plants of rare, valuable, and medicinal qualities; fruits of a luscious, refreshing, and nourishing nature; vines and shrubs of exquisite beauty, fragrance, and luxuriance, and forest trees of noble growth, in great variety (Mills 1972:66).

The loblolly pine was called the "pitch or Frankincense Pine" and was used to produce tar and turpentine; the longleaf pine was "much used in building and for all other domestic purposes;" trees such as the red bay and red cedar were often used in furniture making and cedar was a favorite for posts; and live oaks were recognized as yielding "the best of timber for ship building;" (Mills 1972:66-

85). Mills also observed that:

> in former years cypress was much used in building, but the difficulty of obtaining it now, compared with the pine, occasions little of it to be cut for sale, except in the shape of shingles; the cypress is a most valuable wood for durability and lightness. Besides the two names we have cedar, poplar, beech, oak, and locust, which are or may be also used in building (Mills 1972:460).

The "Oak and hickory high lands" according to Mills were, "well suited for corn and provisions, also for indigo and cotton" (Mills 1972:443). The value of these lands in the mid-1820s was from $10 to $20 per acre, less expensive than the tidal swamp or inland swamp lands (where rice and, with drainage, cotton could be grown).

The estuarine ecosystem in the vicinity includes those areas of deep-water tidal habitats and adjacent tidal wetlands. Salinity may range from 0.5 ppt at the head of an estuary to 30 ppt where it comes in contact with the ocean. Estuarine systems are influenced by ocean tides, precipitation, fresh water runoff from the upland areas, evaporation, and wind. The mean tidal range for Kiawah is 5.2 feet, indicative of an area swept by moderately strong tidal currents. The system may be subdivided into two major components: subtidal and intertidal (Sandifer et al. 1980:158-159). These estuarine systems are extremely important to our understanding of both prehistoric and historic occupations because they naturally contain a high biomass (Thompson 1972:9). The estuarine area contributes vascular flora used for basket making, as well as mammals, birds, fish (over 107 species), and shellfish.

While shellfish are only briefly itemized by Mills in the context of a food source, he elaborates in his discussion of building material, observing that:

> lime is obtained from burning oyster shells. It makes a very good mortar, where good sharp sand is used, though it is not equal to the stone lime (Mills 1972:460).

While the primary historic use of shellfish may have been for the production of lime, the large numbers of shell middens in coastal area clearly indicate the importance of shellfish in the aboriginal diet (see Trinkley 1991:214-215).

The last environment to be briefly discussed is the freshwater palustrine ecosystem, which includes all wetland ecosystems, such as the swamps, bays, savannas, pocisins, and creeks, where the salinities measure less than 0.5 ppt. These palustrine ecosystems tend to be diverse, although not well studied (Sandifer et al. 1980:295).

Most of Kiawah's freshwater environments appear to have been created within the twentieth century, primarily unintentionally by the creation of dikes to support logging road (Hosier 1975:D-40). It is likely, however, that small freshwater ponds were found in various troughs scattered across the island. A number of forest types may be found in the palustrine areas which would attract a variety of terrestrial mammals. The typical vegetation might consist of red maple, swamp tupelo, sweet gum, red bay, cypress, and various hollies. Also found would be wading birds and reptiles. It seems likely that these freshwater environs were of particular importance to the prehistoric occupants.

CHAPTER 3.
RESEARCH STRATEGY AND METHODS

Michael Trinkley

Introduction

As was previously indicated, the primary goals of the Kiawah survey were to identify, record, and assess the significance of archaeological sites within the approximately 982 acres of the island not previously developed (representing 30% of the total island area). Secondary goals of the Kiawah survey included an examination of several major antebellum plantations situated on one island, the examination of settlement and subsistence patterns for prehistoric sites, and the examination of soils and drainage as they affect the location of prehistoric sites. No major analytical hypotheses were created prior to the field work and data analysis, although certain expectations regarding the secondary goals will be outlined in these discussions. The research design proposed for this study is, as discussed by Goodyear et al. (1979:2), fundamentally explorative and explicative.

The previous discussions regarding soils and drainage lead to the conclusion that prehistoric sites will be found in areas of moderately to well drained soils. Previous work, however, has suggested that a few, small prehistoric shell middens will be located on poorly drained soil. Further, the bulk of the site components will be Middle to Late Woodland, since the high sea level stands during these periods are thought to have restricted the dispersion of resources such as large mammals and forest products. In addition, Kiawah's geological age suggested that there would be a greater likelihood of later Woodland sites. Finally, sites are expected to be small and exhibit low artifact diversity since the use of extractive sites is brief, the sites represent a narrow range of activities, and group size was small (Brooks and Scurry 1978). Previous research has also clearly exhibited a non-random pattern to prehistoric site settlement. Even when vast areas of well drained soils are available for settlement, the sites tend to be found clustered around small tidal inlets and marsh areas (see Scurry and Brooks 1980:77 for Charleston County data, Trinkley 1987 and 1990 for Beaufort County data).

Based on these data, prehistoric sites on Kiawah Island might be expected to occur on the better drained Seabrook and Wando soils, but were not anticipated (in any great number) in the areas of Kiawah, Dawhoo-Rutlege, or Rutlege-Pamlico soils. Some sites might be located on the Crevassee-Dawhoo soils. Few prehistoric sites, however, were expected inland, away from marsh or tidal creeks. This situation was anticipated because of the "edge effect" where a variety of resources are brought into close proximity. Consequently, it was anticipated that prehistoric sites would be found clustered in the well drained soil regions. Those sites occurring on the interior were anticipated to be major "base" camps.

Previous work at Spring and Callawassie islands in Beaufort County has developed a scheme of classifying prehistoric sites based on size, features, and relationship to water. Type 1 sites represent fairly small, thin scatters of isolated midden immediately adjacent to the marsh. Type 2 sites consist of larger, more discrete heaps of shell found adjacent to the marsh or a major slough. Type 3 sites consist of shell middens found inland from the water 200 to 800 feet and may be characterized as "inland" in the sense that they are not directly oriented to a single, specific marsh or slough. Type 4 sites lack any evidence of shell midden deposits.

As an alternative to this descriptive approach Espenshade et al. (1993) have offered a typology of shell midden sites which purports to offer a more functional interpretation. They describe multi-family residential bases, representing aggregations of coastal residents for at least several seasons and perhaps year-round; single-family shell middens are similar but are deposited by only one family; single-family limited shell sites are suggested to be seasonal camps used by a small group or one family; and oystering stations were presumably used for short periods by small groups focused on oyster procurement.

While it is obviously appropriate to progress from purely descriptive site classification to functional interpretation, and the effort is to be applauded, one can legitimately question whether there is sufficient information in hand to make this jump. The functional typology developed also begs the question of the difference between multi-family and single family occupations. Likewise, one might argue that the lack of artifacts reported for single-family shell-less sites is the result of reduced preservation potential. Finally, the concept of oystering stations has meet with less that uniform acceptance. Regardless, the effort does focus professional attention on the need to at least begin the process of exploring different explanations for the observed data. Just as importantly, the debate the typology has caused emphasizes the need to collect additional data to test the assumptions inherent in the approach and the conclusions it provides.

Turning to historic site locations, previous research has suggested that the main house or major plantation complex will be situated in areas of "high ground and deep water," which incorporate the positive attributes of well drained soils and immediate access to water transport (Hartley 1984; South and Hartley 1980). As plantation crops and owners changed during the colonial and antebellum periods, it is possible that settlement areas might also change location. Additionally, it might be impossible to locate the plantation complex in an area which was healthful, centrally located, and adjacent to a deep water access. In such cases compromises on the ideal would be made, but the weight given to each of the various attributes is unclear. While the health and well-being of the owner's slave chattel was of considerable concern, slave rows were not commonly situated on the best land, and in some cases were located on very poorly drained soils (Singleton 1980; Zierden and Calhoun 1983).

The primary goals of the data recovery excavations at sites 38CH124 and 38CH125/126 on Kiawah Island included detailed examination of subsistence, settlement, and the associated cultural materials. The two sites span the Early (i.e, Thom's Creek) and Middle (i.e., Deptford and Wilmington) Woodland, although the Thom's Creek phase dominates both collections. As previously discussed, these sites are incorporated together in these discussions since the results of the study assume greater significance when viewed as a cohesive assemblage.

The seasonality of the various remains found at these two sites was of considerable importance to the overall settlement reconstruction. Likewise, questions concerning the exploitation of different habitats within the coastal zone were significant to an understanding of site settlement choices. While this research could not be expected to explicate the entire range of subsistence and settlement, a careful examination of the sites might offer some indications of areal patterning.

Also of major importance was a better understanding of the pottery produced by the Thom's Creek people. Previous typological studies have provided an indication of temporally sensitive surface treatments (Trinkley 1980a). The work on Kiawah Island offers an opportunity to continue that study and provide additional absolute dates for the treatments identified.

An examination of archaeological research from South Carolina over the past five years reveals exceptionally few studies of main plantation houses, or more importantly, plantation complexes. Much of recent plantation archaeology has

emphasized the investigation of slavery -- cloaking itself in Marxian theory while examining power and racism. The approach may well have merits and no one can deny that examining slave life is an extremely worthwhile undertaking. Some of the bias against main house or upper status archaeology is also the result of asking very simplistic questions. As Amy Friedlander (1991:109) has said, "it is already well known that the rich lived better than the poor" and one wonders how much further demonstration the topic requires. More appropriate as a goal for archaeology than highly particularistic studies are those which combine, as Singleton (1991:77) suggests, humanistic and scientific analyses in order to understand the nature of plantation life and labor.

From this perspective, the "main house" becomes a telling artifact in its own right, illuminating a wide range of issues relating to the diffusion of technologies, capital investment, shifts in economic climate, division of labor, the movement of manufactured products, and available manual skills -- issues central to plantation regimes operating amidst geographically isolated areas such as the South Carolina Sea Islands.

Even at the level of the plantation complex there is a surprising lack of detail and scientific rigor. Examination of recent archaeological studies would largely suggest that plantations consisted of nothing more than an occasional main house, perhaps on overseer's structure, and a single slave settlement, frozen in time. Yet, a multiplicity of additional structures, such as barns, stables, kitchens, offices, wash houses, industrial settlements, and so forth, also existed. The plantation was serviced by roads, cart paths, and walkways. Gardens of some description were almost certainly present. Fences were common and marked off cultural and idealized boundaries, if not real places. Yet, most of these "other" features of the plantation fail to be either discovered or discussed.

The original of a late nineteenth century watercolor of the Shoolbred house was located after nearly two months of searching. This view shows a series of eight structures, including a "Romanesque" boat house, a barn, the main house, two flankers, a possible overseer's house, and two unidentified buildings with spires, as well as a road network, landscaping associated with the house, and fences. Unfortunately, the original survey of the plantation located only two of these eight structures. By comparing placement, proportions, and scaling distances from the watercolor, it was possible to identify the locations of five of the remaining six structures. Excavations, however, were conducted at only three of these seven identified structures.

The archaeological investigations at the Shoolbred plantation site have therefore attempted to concentrated on a wide variety of exceptionally important problems in plantation archaeology, including the exploration of a plantation complex -- rather than single buildings, the examination of architectural styles and traditions -- rather than simply counts of artifacts, and the use of plantation wealth by the owner -- rather than on the artifacts themselves.

It should be increasingly clear that history exacts demands upon all of those individuals entrusted with exploration of the past. It also imposes costs on its custodians. On Sea Island plantations, where, before emancipation, almost every act modifying the natural landscape involved slave labor, there can be absolutely no justification for destroying, without full recordation, the works of the subjugated and all too often silenced peoples whose testament the antebellum man-made landscape has become. Neither can there be any justification for sweeping aside, without thorough investigation, those creations -- whether they are buildings, gardens, slave settlements, or landscaping -- which reflect the aspirations and value systems of a planter elite, however foreign these systems seem to modern sensibilities.

Hopefully the work at Shoolbred Plantation will mark a radical change in the orientation and commitment of South Carolina archaeology. Survey must be

sufficiently intensive to identify something approaching the whole, not merely a fraction. Data recovery must then examine the whole plantation, not a few selected parts. Analysis and reports must be geared toward presenting that whole understanding, not merely a listing of artifacts with a cursory examination. Unless archaeology can achieve these changes than it will have failed in its duty and we will continue to consume, without thought or care, someone else's assets.

Based on the frustrating lack of knowledge about the Shoolbred Plantation site as we began data recovery there, an intensive close interval survey of the Vanderhorst tract was performed which identified six structures (including the standing main house), two trash middens, and two shell middens (Adams and Trinkley 1991). Subsequent data recovery was able to thoroughly document these loci and better understand the development of the portion of the plantation complex located within the 27 acre survey tract.

The success of conducting detailed, close interval surveys for the development of data recovery plans at Vanderhorst clearly reveals the benefits of this approach. It also provides some indication of the successes which might have been possible at Shoolbred had detailed survey been available. This lesson in the types, and quality, of data necessary for research at complex plantation sites should be applied to future plantation archaeology in the South Carolina lowcountry. To maximize data potential at the excavation level, background research prior to survey, coupled with close interval shovel testing, must be used, otherwise the information we receive from archaeological surveys will limit our abilities to ask sophisticated questions. Limited knowledge of sites can only allow us to continue asking the same simplistic questions without significantly increasing our understanding of plantation life and development.

Archival Research

The study of Kiawah Island incorporated a review of the site files at the South Carolina Institute of Archaeology and Anthropology. In addition, archival and historical research was conducted at the South Carolina Historical Society, the Charleston County RMC, the Thomas Cooper Library, the South Carolina Department of Archives and History, the Southern Historical Collection at the University of North Carolina at Chapel Hill, and the National Archives. Throughout this historical research an emphasis was placed on the primary, rather than secondary, sources as the appropriate level of initial study. While the historical research is not exhaustive, it does provide a clear background and is a significant base for future work in the project area. Special attention was allotted to the Vanderhorst family papers housed at the South Carolina Historical Society. This collection, of approximately 30 linear feet, covers the period from 1682 through 1944 and was exhaustively examined for information on the Vanderhorst activity on Kiawah Island. The 338 fiche Middleton Papers collection, which included related materials of the Gibbs and Drayton families, from the Middleton Place Foundation, were also carefully examined. The Shoolbred Collection at the Charleston Library Society was also reviewed for information relating to Kiawah Island. This historical and archival research was primarily conducted by Ms. Debi Hacker, with assistance from Ms. Natalie Adams and Ms. Liz Pinckney.

Field Survey Methodology

The typical methodology for a compliance survey of a tract such as Kiawah Island is to establish a systematic intensive survey methodology which examines the entire acreage for archaeological and historical resources. Such an approach, although extremely labor intensive, was used on Kiawah since so little of the island remained undeveloped. Although Combes (1975) had conducted a reconnaissance survey, it was clear from a review of his methodology (which emphasized a survey of suspected high potential areas open to inspection) that a number of archaeological resources were excluded from consideration.

The initially proposed field techniques were based on the previously established Memorandum of Agreement, which stipulated that "presently undeveloped areas will be intensively surveyed prior to future development." This had been further clarified by Dr. Linda Stine, Staff Archaeologist with the SC SHPO, who indicated that zones of high probability were required to be surveyed using shovel testing at intervals not over 100 feet, while low probability zones might receive "a pedestrian walk over and occasional, judgmental shovel tests" (letter from Dr. Linda Stine to Mr. Ray Pantlik, dated July 9, 1990).

Previous studies (Combes 1975; Poplin 1989), as well as on-going research have provided some clear suggestions that high probability areas for prehistoric sites occur on:

- well drained sandy terraces and ridges overlooking interior sloughs and depressions, and
- well drained soils adjacent to the marsh edge.

There were several undeveloped tracts on Kiawah which appeared, based on these criteria, to have a high potential for prehistoric archaeological sites.

High probability areas for historic sites are often more difficult to determine, but generally incorporate high, well-drained soils (typically used for main settlements) and areas of in close proximity to the marsh or interior fields (used for slave settlements). The historical research conducted for Kiawah Island was used to assist identification of additional areas.

Consequently, Chicora Foundation identified six areas of differing archaeological potential (Figure 4):

Area A - situated immediately north and south of Bass Pond and east of a marsh slough to the west of Bass Pond. This was an area of expected high archaeological probability based on previous surveys, historical research, and topographic setting.

Area B - situated on an interior plain south of Bass Pond. This area appeared to have a low archaeological potential based on its distance from a water source and poorly drained soils.

Area C - consisting of a currently undeveloped buffer around the standing Vanderhorst Plantation, this area was anticipate to have a high archaeological potential based on it proximity to the river and the presence of a large plantation complex.

Area D - representing an area of ridge and trough topography known as Cinder Point at the northeast end of the island. This area was thought to have a high archaeological potential based on the presence of previously identified archaeological sites.

Area E - representing an area of ridge and trough topography similar to Area D and known as Eagle Point. Although previously identified as an area of low archaeological potential by the SC SHPO, an analysis of the soils, topographic setting, and proximity to water suggested that the archaeological site density might be similar to Area D.

Area F - situated south of Bass Creek on the Atlantic Ocean side of the island. This area incorporated Sandy Point. Examination of the Shoreline Movement Maps (South Carolina Department of Archives and History; see Figure 3) revealed that this area had been accreting over the past 100 years. The archaeological potential for much of the area was therefore suggested to be low.

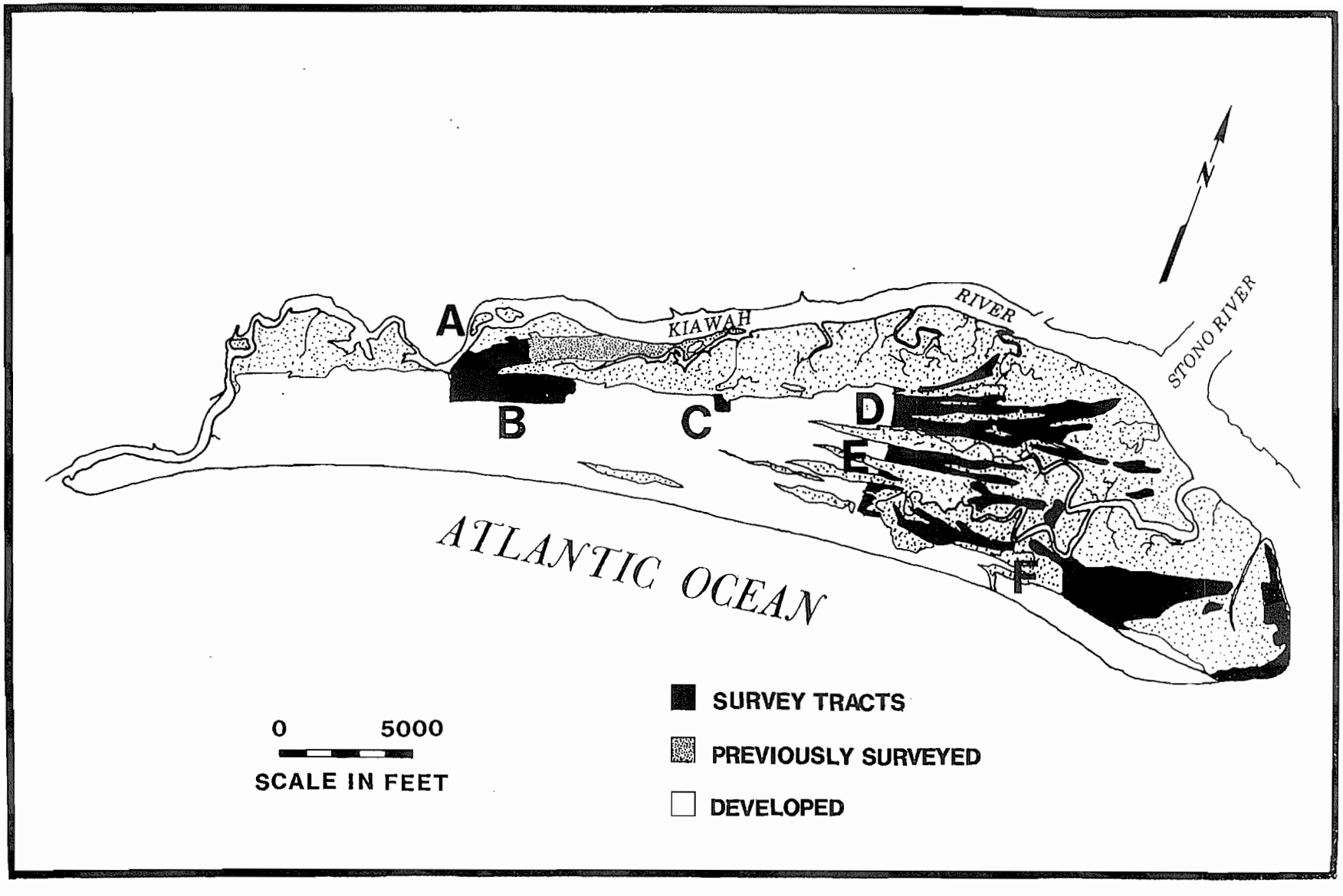


Figure 4. Survey areas on Kiawah Island.

With these various levels of archaeological potential identified, Chicora Foundation developed a methodology to conduct an intensive, systematic field survey of the high probability tracts -- Areas A, C, D, and E. An intensive survey is generally recognized as one in which the entire tract is surveyed and a sampling scheme (such as is often used in reconnaissance level surveys) is not employed.

Specifically, Chicora Foundation proposed the use of shovel testing on transect lines in order to provide a systematic examination of the vegetated areas. Shovel tests, approximately 1.0 foot square, would be excavated at 100 intervals along transects also placed at 100 foot intervals. Transects were typically staggered, producing offset shovel tests. All soil would be screened through ¼-inch mesh and all recovered cultural materials would be retained, except for shell, brick, and mortar which would be qualitatively assessed and discarded in the field. Individual shovel tests would be flagged so that loci could be relocated should additional investigations be necessary.

If archaeological remains were discovered during the testing operations, the spacing of the tests would be decreased to no greater than 50 feet (both parallel and perpendicular to the original test) in order to better identify the limits of the site. These shovel tests would assist not only in determining site boundaries, but also in determining site integrity, artifact density, and temporal periods of occupation. The field locations were also flagged so that Southeastern Surveying could locate the sites on development maps. Information would be collected at each identified sites necessary for the completion of S.C. Institute of Archaeology and Anthropology site forms. The site location would be recorded on 7.5' USGS topographic maps and on the development maps. Site forms were completed during the course of the field investigation to ensure that all necessary field data was collected. This survey methodology is consistent with the *South Carolina State Historic Preservation Office Guidelines and Standards for Archaeological Investigations* and was discussed with and approved by Dr. Linda Stine, Staff Archaeologist with the South Carolina State Historic Preservation Office.

In addition, Chicora would relocate and assess all previously identified sites within the boundaries of Areas A, C, and D (although sites on developed or sold portions of the island were not incorporated into this study). These sites would also be subjected to shovel testing in order to establish site boundaries, site integrity, and assist in collecting temporally diagnostic materials.

Those areas of low archaeological probability (Areas B and F) would receive only minimal survey, involving a pedestrian survey of open and cleared areas coupled with shovel testing at 200 foot intervals along transects spaced at 200 feet. These shovel tests, and the collection of site data, would otherwise be identical to that used in the other survey tracts.

These proposed field methods were implemented with only minor modifications. Throughout many of the survey tracts extensive Hurricane Hugo damage was observed. In many cases the resulting ground disturbance increased surface visibility and allowed better than expected surface collection conditions. In such cases the originally proposed subsurface tests were supplemented by intensive surface survey.

The originally proposed limited subsurface investigations in Area F were abandoned for more intensive survey when it became apparent that rather intensive use of the area was made by Union Army encampments during the Civil War.

In Areas D, E, and portions of F, it quickly became apparent that some of the troughs were even less likely to contain archaeological sites than originally supposed. These areas were very low, frequently exhibiting a water table with the upper 1.0 foot of the ground surface. Consequently, survey in these areas emphasized the higher ridges. These ridges were often so narrow that only a

single transect could be placed on them. In order to sample both the ridge crest and side slopes, a zig-zag transect pattern was adopted.

A total of 1165 shovel tests were placed in Areas A, B, D, E, and F. Throughout the project, a "site" was defined as the location of three or more artifacts within a 25 foot diameter and/or the presence of shell midden deposits. Isolated finds, such as a single sherd, were identified as a site only if they co-occurred with shell midden either on the surface, or in shovel tests.

In Area C, around the Vanderhorst mansion, an initial visual inspection confirmed the extensive historical research findings. It was clear that there was a very high likelihood of finding significant archaeological remains around the house area, although that probability decreased dramatically as one progressed inland (i.e., south).

Consequently, it was determined that the archaeological tests in the remnant maritime forest along the edge of the marsh would be conducted at 50 foot intervals using transects spaced at 50 feet. These intervals would be increased to 100 feet only when the transects cleared the intact maritime vegetation and began testing in the lower, previously logged interior portion of the tract. The transects were oriented parallel to the marsh, on a northeast-southwest alignment. After completion of the initial survey it became clear that this orientation, set at a considerable angle to the orientation of the Vanderhorst house, might have been convenient logistically, but it was a poor choice for identifying structures originally constructed on alignment with the main house. As a result, a second series of shovel tests were placed oriented with the main house, approximately east-west, at 25 foot intervals. A total of 260 shovel tests were excavated in the 23 acre Vanderhorst tract.

In addition, the only map available for most survey areas were the 1959 Kiawah and Legareville USGS topographic sheets, last photorevised in 1971. These maps are dated and offer few topographic features useful in forest surveys. They were supplemented by a circa 1980 color aerial photograph and an earlier blueline aerial photograph of the island. However, many site locations must be considered approximate given the available mapping.

Vanderhorst Architectural Evaluations

The Vanderhorst Mansion was nominated for inclusion on the National Register of Historic Places in 1973 by Elias Bull, then at the Berkeley-Charleston-Dorchester Council of Governments. The site was accepted for inclusion by the Keeper of the National Register on October 25, 1973. The nomination, unfortunately, provides only brief, and generally undocumented, comments concerning the structure, including that it was "built for James Stanyarne ca. 1770" (Vander Horst House National Register of Historic Places Inventory - Nomination Form, on file at the South Carolina Department of Archives and History).

The first reasonably thorough, professional evaluation of the structure took place in October 1976 by Robert A. Shulbred, Inc., a consulting structural engineering firm in Charleston, South Carolina. This initial work included the preparation of detailed architectural plans, profiles, and elevations of the house, as well as the recordation of much of the remaining architectural detailing. A copy of these plans are located at the South Carolina Historical Society (in addition, a vellum copy has been obtained by Chicora Foundation). Keyed to these plans were a number of black and white prints, and color slides. The slides and prints are held by Kiawah Resort Associates (copies of the prints and slides have been transferred to the South Carolina Historical Society to complete their collection and copies are also held by Chicora Foundation).

Shulbred's written report indicated that a construction date between 1800 and 1815 appears likely. This was largely based on:

> the chimney band of the east chimney. Here the date 1807 can be read with difficulty. Since most historic buildings have undergone several alterations through the years, many of major proportion, no initial assumptions were made regarding the accuracy of the 1807 date (untitled, undated manuscript on file, Chicora Foundation, Inc.).

They note that few original features remain in the house and there is clear evidence of considerable repair, restoration, and renovation.

A second, brief, architectural evaluation was conducted in 1989 by Evans & Schmidt, Architects of Charleston, South Carolina. They repeat the 1807 date (letter from William D. Evans to Leonard Long, Esq., dated June 30, 1989).

The current evaluation consisted of an examination of visible architectural detailing, primarily for evidence of construction techniques and episodes, as well as for formal and stylistic information. In addition, considerable efforts were made to examine the framing details of the structure, which usually are less likely to be impacted by renovations and are frequently more temporally sensitive than other aspects of the construction. During this evaluation a variety of samples from the structure were taken, including hardware, plaster, paint, lathe, and nails. This work, conducted by Colin Brooker, will be discussed in detail in a subsequent section of this study.

Based on the currently available evidence (combining historic documentation, and current and previous architectural evaluations), the structure appears to have been constructed between 1790 and 1807. The first episode of repair/renovation may have been about 1830-1840. A second period of repair occurred after the Civil War, about 1867-1870. Additional repairs, largely confined to the roof and exterior, continued into the 1950s. The current metal roof was installed in the early 1980s. It was probably during this phase of repair that the two chimneys were reworked, removing the architectural detailing and stucco bands. The most recent phase of repairs in 1990 involved removing the west chimney, which had been damaged by Hugo and capping both openings.

The speculation concerning Stanyarne's construction of the mansion can be traced back to his will, which does specify that he owned a house on Kiawah. Careful review of the historical and archaeological evidence suggests that site 38CH122 was the location of Stanyarne's settlement. Vanderhorst also had a pre-Revolutionary structure on the island, which may have been in the same area as the extant structure. This house was burned during the Revolutionary War. The only three sites on Kiawah which has provided any evidence of colonial period occupation are the West Pasture Site, 38CH123; 38CH122; and 38CH127. Of course, this survey has incorporated only 30% of Kiawah Island and only 23 acres around the Vanderhorst site. It is possible that other, earlier sites were previously present, but were unidentified by Combes in the early 1970s. There is no evidence, archaeological or architectural, that the extant Vanderhorst House dates prior to the late eighteenth century.

Excavation Methodology

In order to allow comparisons to be valid between the three loci at the Shoolbred Plantation (38CH129-1, 38CH129-2, and 38CH129-3), the Vanderhorst Plantation (38CH127), Stanyarne Plantation (38CH122), and the two prehistoric sites (28CH124 and 38CH125/126), it was essential that field techniques, in so far as possible, were uniform. As previously discussed, it was also essential that the excavation techniques be developed to ensure that a wide variety of data, especially relating to subsistence, would be recovered from the Thom's Creek site, 28CH124. The data recovery investigations at these sites were therefore designed and executed in a comparable manner. While the individual site sections will provide more detailed information, this discussion will generally outline the strategies used on Kiawah.

At all sites (except 38CH122) a grid was developed and tied into permanent development points (such as survey stakes or property markers which could be reconstructed if necessary) to allow horizontal control. A modified Chicago 10-foot grid was established, with each square designated by its southeast corner from a 0R0 point off site. Thus, square 800R200 would be located 800 feet north and 200 feet right (or east) of the 0R0 point. At 38CH122 the units were tied into individual lot markers, reducing the time necessary to establish horizontal control without reducing the quality of that control.

At each site vertical control was maintained through a mean sea level elevation control point. This ensures that elevations between sites are consistent. In addition, the horizontal datums used by Poplin (1989) at 38CH129-1 and 38CH129-2 during his test excavations were tied into the current excavations at these loci.

The proposed investigations at 38CH124 were to include the excavation of approximately 200 square feet in locus 1, approximately 400 square feet in locus 2, approximately 200 square feet in locus 3, and approximately 300 square feet in locus 4. At the conclusion of the work, loci 3 and 4 were to be mechanically stripped in order to reveal, plot, and excavate any additional features which might be identified. The scope of work for the project defined by Kiawah Resort Associates and accepted by the SC SHPO was based on the survey conducted by Poplin (1989). This survey included only very limited shovel testing in loci 2 and 3 (a total of eight tests), with no tests placed in either loci 1 or 4. (Poplin 1989).

The work conducted by Chicora at 38CH124 meet the proposed data recovery requirements, although only 75 square feet were excavated in locus 2. The preliminary Chicora survey of the site and the various loci failed to reveal any evidence of the dense Thom's Creek shell middens reported by Poplin (1989:44) for locus 2 on the ground surface. The survey, however, did locate one of Poplin's shovel tests identified on flagging tape as Transect 31, Shovel Test 2, although this test was only 30 meters from locus 1, rather than 60 meters as it is shown by Poplin (1989:Figure 14). In order to more fully examine this area a series of four transects were laid out at 30 foot intervals, with two oriented north-south and two oriented east-west, bisecting the supposed area of locus 2. Shovel tests were excavated at 30 foot intervals with all soil screened through ¼-inch mesh. These tests identified several small Middle Woodland shell middens, but failed to identify any evidence of dense Early Woodland midden. Our investigations suggest that the previous survey began shovel testing with Transect 30 on the edge of locus 1, rather than 30 meters to the west as shown by Poplin (1989:Figure 14). This resulted in "duplicating" the Thom's Creek midden defined as locus 1 and reporting it as locus 2. Through consultations with the SC SHPO and Kiawah Resort Associates, Chicora reduced the level of investigations in the area of locus 2.

The stripping proposed in the data recovery plan for loci 3 and 4 is in areas of hardwood vegetation. Under these circumstances, Chicora consulted with the SC SHPO and Kiawah Resort Associates, proposing that the stripping be limited to areas with no tree cover. This proposal was accepted by both parties and a series of four 20 foot transects were stripped, three in locus 3 (totaling 500 linear feet or 10,000 square feet) and one in locus 4 (totaling 150 linear feet or 3000 square feet).

The proposed investigations at 38CH125/126 were to include the excavation of 75 2-foot units (representing 2.4% of the site core to be impacted) at 15-foot intervals within the site core as identified by Poplin (1989); this site core, originally flagged by Poplin, was also incorporated on development base maps. Following this field work, all identified features and artifact concentrations would be plotted on the site map. At the conclusion of this work Chicora would contact both Kiawah Resort Associates and the SC SHPO regarding the necessity of additional work. If features or other structural remains associated with the

prehistoric occupation were identified, the site would be mechanically stripped, with features plotted and excavated. The work conducted by Chicora exceeded these requirements with the excavation of 80 2-foot squares and a 5 by 10 foot unit.

The proposed investigations at 38CH129-1 were to include the excavation of approximately 200 feet in the north and west yard areas, excavation of 5-foot trenches bisecting the structure, excavations at each corner of the structure, and excavations in different room partitions. A total of 1550 square feet of excavation were planned. Work at 38CH129-2 was to include the excavation of 1050 square feet in and around the structure. The scope of work for the project defined by Kiawah Resort Associates and accepted by the SC SHPO was based on the survey conducted by Poplin (1989). This survey included test excavations at 38CH129-2, but the investigations at 38CH129-1 were limited to 29 shovel tests and seven 50 centimeter units (the latter placed largely on the periphery of the site) (Poplin 1989).

The work conducted by Chicora at 38CH129-2 meet the proposed data recovery requirements, fully investigating the structure, architectural remains, and associated yard areas. Work at 38CH129-1 revealed a structure larger, more complex, and differently situated than originally suspected. Through consultations with the SC SHPO and Kiawah Resort Associates, Chicora excavated 1925 square feet, rather than the originally proposed 1550 square feet, with the bulk of these excavations being confined to two structures (the main house and a western flanker). Most of the yard excavations, however, were placed initially to examine suspected architectural remains.

The proposed investigations at 38CH127, based on the survey conducted by Chicora Foundation (Adams and Trinkley 1991a), were to include the excavation of approximately 800 square feet at Structure 1, 500 square feet at Structure 2, 400 square feet at Structure 3, 400 square feet at Structure 4, 400 square feet at Structure 5, 200 square feet at Shell Midden 1, 50 square feet at Shell Midden 2, 150 square feet at Trash Midden 1, 200 square feet at Trash Midden 2, and 800 square feet to quantify yard refuse around the main house. At total of approximately 3900 square feet of excavation were planned, representing a 1.0% sample of the total site area and a 4.5% sample of the various concentrations.

The work conducted by Chicora Foundation at 38CH127 meet the proposed data recovery requirements, fully investigating the various structural and disposal areas of the site. In actuality, these excavations exceeded the stipulated work by an additional 155 square feet.

At 38CH122 a slightly different approach was adopted since the study was conducted in an area which had been extensively developed and many of the excavations were in landscaped yards. The investigations began with a pedestrian survey of the banks of Salt House Creek and the Kiawah River, and a general walkover of interior areas to investigate bare spots and above ground brick rubble concentrations. This was followed by shovel testing the lots available for research coupled with test units (either 2 or 5 foot squares) to examine areas with dense remains. Seven units (five 5-foot and two 2-foot squares) were excavated at the site, based on the density of artifactual remains found in shovel testing.

Non-shell midden soils at all sites were dry screened through ¼-inch mesh using mechanical sifters. Shell midden soils were typically dry screened through 1/8-inch mesh also using mechanical sifters. The use of 1/8-inch mesh, while somewhat more time consuming, greatly increases the potential for the recovery of small faunal material. Wing and Quitmyer (1985:57) note that the percentage of fish, relative to other organisms, increases from 34% with the use of ¼-inch mesh to 76% with the use of the finer 1/8-inch mesh. The only exception to this strategy was at 38CH124, were a system of water screening was used with fill from shell midden units placed through three screens, graduated from 1-inch to 1/8-inch.

The shell from midden soils was consistently weighed prior to being discarded in the field. Hand picked samples of left oyster valves were collected for additional analysis, as were any other unusual or suspect shell material. At 38CH129, the brick, mortar, and plaster was also weighed prior to being discarded in the field. In addition, a column sample was collected from each unit which exhibited a shell midden component. These column samples varied from 2.25 feet square in a 10 foot unit to 1.1 foot square in a 5-foot unit, but were designed to provide a 5% sample of the midden.

Each column sample was removed and weighed prior to screening. All shell was then weighed and bagged for detailed analysis. The weight of total column minus the weight of the shell provided the weight of the soil in the column and allowed a shell/soil ratio for each midden to be calculated.

Soil samples were routinely collected from each zone. Several examples of shells filled with soil were retained from the various middens for pollen analysis. Units were troweled at the top of the subsoil, photographed in black and white and color, and plotted.

Features were plotted and photographed prior to excavation. Typically they were bisected, with the profile photographed and drawn prior to the excavation of the remaining feature. All feature fill, excepting a 5-gallon sample retained for water flotation, was dry screened through 1/8-inch mesh. Hand picked shell samples were retained for analysis. If shells with packed soil were found in the features, several examples were retained for possible pollen studies.

Laboratory and Analysis Methods

The cleaning of artifacts was begun in Charleston during the field work and completed in Columbia. Cataloging of the specimens was conducted at the Chicora laboratories in Columbia intermittently from January through June 1991. The cleaning and analyses of the Stanyarne collection (38CH122) were conducted at Chicora's Columbia laboratories in July 1993. All artifacts except brass and lead specimens were wet cleaned. Brass and lead items were dry brushed and evaluated for further conservation needs. Conservation treatments on the historic materials recovered from 38CH127 and 38CH129, have been conducted by Chicora personnel in Columbia.

Brass items, if they exhibited active bronze disease, were subjected to electrolytic reduction in a sodium carbonate solution with up to 4.5 volts for periods of up to 72 hours. Hand cleaning with soft brass brushes or fine-grade bronze wool followed the electrolysis. Afterwards, the surface chlorides were removed with deionized water baths (until a chloride level of no greater than 1 ppm or 18 μmhos/cm was achieved using a conductivity meter) and the items were dried in an acetone bath. The conserved cuprous items were coated with a 20% solution of acryloid B-72 in toluene. Ferrous objects were treated in one of two ways. After the mechanical removal of gross encrustations, the artifacts were tested for sound metal by the use of a magnet. Items lacking sound metal were subjected to multiple baths of deionized water to remove chlorides. The baths were continued until a conductivity meter indicated a level of chlorides no greater than 1.0 ppm (18 μmhos/cm). The specimens were dewatered in acetone baths and given an application of 10% acryloid B-72 in toluene, not only to seal out moisture, but also to provide some additional strength. Items which contained sound metal were subjected to electrolytic reduction in a bath of sodium carbonate solution in currents no greater than 5 volts for a period of 5 to 20 days. When all visible corrosion was removed, the artifacts were wire brushed and placed in a series of deionized water soaks, identical to those described above, for the removal of soluble chlorides. When the artifacts tested free of chlorides (at a level less than 0.1 ppm, or 2 μmhos/cm), they were air dried and a series of phosphoric (10%) and tannic (20%) acid solutions were applied. The artifacts were air dried for 24 hours, dewatered in acetone baths, and coated with a 10% solution of acryloid B-72 in toluene.

The architectural materials recovered from the brief investigation of the standing Vanderhorst mansion received different treatment. Since these items were not archaeological, and therefore did not contain large amounts of soluble chlorides, they did not require prolonged soaking and in several cases did not require electrolytic reduction. As an alternative, we began testing a vapor phase or volatile corrosion inhibitor (VCI) manufactured by Cortec Corporation of St.Paul, Minnesota. The exact nature of the specific bonding between the metal and inhibitor is not precisely understood, but the simplest explanation is that the outer surfaces of metals are composed of a metal oxide. The VCI attaches itself to the oxides through weak chemical bonding and shields the metal from penetration by corrosion materials, such as water. Most VCIs, such as those produced by Cortec, are proprietary compounds of mixed amine salts.

Typically conservators are opposed to proprietary products since their ingredients are not known, may change without notice, and their is often little scientific study of their effect on the materials being treated. Obviously these are valid concerns, however, we chose to investigate the usefulness of several Cortec products since there was relatively good information that the current formulations were reversible and would not adversely affect the metals to which they were applied (Miksic et al. 1989). In fact, it appears that Cortec products have less of an affect on the metals they are meant to protect than benzotriazole, long used in the conservation of copper and bronze.

Two products were tested. The first was Cortec VCI-337, a clear water based concentrate intended for indoor use. The product was reported to leave a thin, non-tacky, self-healing film up to 0.5 mil in thickness. The film can be removed with either water or solvents. The second product was Cortec VCI-368, a dark brown thixotropic liquid which dries to a waxy film. Reported to be a semi-dry, translucent film, it will not transfer to your hands and will not absorb dust or dirt. This particular product is intended to be used in concentrate form to provide up to 24 months of outdoor environments, including exposure to salt spray.

In our use the VCI-337 produced a green waxy film on copper artifacts and was deemed aesthetically unacceptable. The VCI-368, however, produced a very satisfactory coating which was almost unnoticeable on the artifacts. For ferrous materials the additional of carbon black enhanced the appearance, if display aesthetics were critical. The VCI-368 was observed, in an indoor environment with fluctuating relative humidity, for 12 months prior to transmittal to the curatorial facility. During that period there was no evidence of corrosion break-through. Based on this limited study it appears that Cortec's VCI-368 may be appropriate for a wide-range of architectural and display objects. Additional studies are currently in progress to explore its use on archaeological materials.

As previously discussed, the materials have been accepted for curation by the South Carolina Institute of Archaeology and Anthropology (38CH122 materials) and The Charleston Museum as Accession Number 1991.8 and 1992.38 (38CH127 data recovery). The materials have been cataloged using these institutions' accessioning practices. Specimens were packed in plastic bags and boxed. Field notes were prepared on pH neutral, alkaline buffered paper and photographic material were processed to archival standards. All original field notes, with archival copies, are also curated with these facilities. All materials have been delivered to the appropriate curatorial facilities.

Analysis of the collections followed professionally accepted standards with a level of intensity suitable to the quantity and quality of the remains. Prehistoric pottery was classified using common coastal Georgia and South Carolina typologies (DePratter 1979; Trinkley 1983). The temporal, cultural, and typological classifications of the historic remains follow Noel Hume (1970), Miller (1980, 1991), Price (1970), and South (1977).

CHAPTER 4.
PREHISTORIC OVERVIEW

Michael Trinkley

Previous Archaeological Research

Archaeological research on Kiawah began with John Combes' (1975) survey for the original owners of the island, Kiawah Island Company, a Kuwaiti investment concern. This initial study, a reconnaissance which emphasized the visual inspection of "high probability areas," including "road cuts, hog rooting, game trails, [and] erosional cuts" (Combes 1975: A-10). Many of the sites, however, were reported by local informants who had long known the island and its resources. As a result, 22 sites were recorded and divided into four "priorities" for future research. No clear statement of eligibility was made and it appears that development proceeded on the island with only the Vanderhorst House (38CH127) partially green spaced.

This initial period of development was remarkably unconcerned with the island's historic resources. Sites such as 38CH130, the remains of a tabby structure; 38CH122, the remains of the Seabrook (and earlier Stanyarne) Plantation, including the main house, slave settlement, and a cemetery; and 38CH128, a second African-American cemetery associated with the Vanderhorst Plantation, were destroyed or heavily damaged by construction activities.

In addition, Combes' survey clearly stated that only a reconnaissance study had been undertaken -- and no more intensive investigation was conducted during this early period. To further compound problems, a surprising number of Combes' site locations were incorrectly located on either the master site files at the South Carolina Institute of Archaeology and Anthropology, or on the map which appeared with his study (Combes 1975:Figure 2).

In 1978 the South Carolina Institute of Archaeology and Anthropology was retained by Kiawah Island Company to conducted limited excavations at 38CH123 and 38CH124, although it is not clear from the remaining documentation whether this work was anticipated to be intensive survey, testing, or data recovery. Regardless, extensive work was conducted at 38CH123, including the excavation of 43 1-meter units at 15 meter intervals over an area approximately 400 feet north-south and 300 feet east-west. No report has been published on this work, although the field notes are on file (38CH123 notes on file, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia).

An examination of the tabulated artifacts reveals a concentration of specimens in the northern portion of the site area tested. Unfortunately, no map of the site has been identified which will allow the grid to be reconstructed with any degree of accuracy. Consequently, these data points are "floating" in the general site area. The historic artifacts recovered include a large quantity of lead glazed slipware, delft, creamware, and pearlware. The collection dates from the middle of the eighteenth century, confirming Combes' assertion that the site was the "earliest" historic occupation he discovered on Kiawah (Combes 1975:A-14).

The excavations at 38CH124, consisting of a series of 28 1-meter tests, were conducted by the Institute over a two week period in late July and early August of 1978 (Michie 1979). Michie found a dense Early Woodland Thom's Creek phase site, exhibiting a wide range of pottery; bone, stone, and pottery tools; and subsistence remains. As a result of this work, the site was nominated to the National Register of Historic Places on December 30, 1978, accepted by the S.C. State Historic Preservation Officer on February 9, 1979, and placed on the

Register on April 24, 1979.

In the early 1980s Kiawah Island Company retained Larry Lepionka (1981a, 1981b, 1981c, 1982) to conduct some additional, limited survey work on the eastern end of the island. While specific information regarding this work will be provided in a later section, it is appropriate to mention that the investigations provided little additional understanding of either the location of the various sites, or the significance of these sites to our understanding of Kiawah's prehistory. Lepionka (1982:1) also mentions that both he and Michie presented proposals to Kiawah Island Company for the excavation of Bass Pond in 1981. Apparently neither of these were acted upon.

It was not until the island was purchased by Kiawah Resort Associates (KRA) that any serious commitment to the archaeological and historical resources was made. KRA, recognizing that development had spread over a major portion of the island, absent any archaeological research plan, initiated a Memorandum of Agreement with the Army Corps of Engineers, the S.C. State Historic Preservation Office, and the Advisory Council on Historic Preservation (discussed in a previous section). In addition, KRA obtained an intensive survey of the Shoolbred Point area of the island (called Rhett's Bluff by the developers). This work, conducted by Eric Poplin in 1989, identified seven sites, six of which were recommended as eligible for inclusion on the National Register (Poplin 1989).

This commitment by KRA is carried on in these current studies, which, as previously explained, include a survey of the remaining undeveloped portions of Kiawah Island and data recovery excavations at three sites on Rhett's Bluff. Two of the sites excavated by Chicora Foundation in 1990 and 1991 are prehistoric and the following portion of this section will outline previous work at these sites in greater detail.

38CH124

Site 38CH124 was originally reported by Combes (1975), based on his reconnaissance survey. Combes' investigations revealed the presence of "Awendaw" (i.e., Thom's Creek), Middle Woodland, and historic materials (Combes 1975:A-15) with stratigraphic deposition to 4 feet (this is the only indication of subsurface testing by Combes and no further information on his excavations is available).

Michie (1979) conducted test excavations at the site, finding considerable evidence of historic occupation and associating it with the Shoolbred occupation, although not specifically relating it with previously identified site 38CH129. Likewise, Michie briefly notes that Middle Woodland "Cape Fear" (i.e., Deptford) pottery is present at the site. The bulk of Michie's attention, however, was directed toward the Thom's Creek occupation.

Michie's (1979:33) investigations consisted of excavating a series of 25 1-meter units across the site, spaced at 15 meter intervals. There is, however, some confusion concerning the location of these tests. Michie's Figure 5 shows 28 tests (numbered 2 through 29) and there is no reference to Unit 1. The grid established by Michie was apparently not tied into any permanent points and therefore could not be recreated. In addition, Poplin (1989:41-43, Figure 12) discusses the difference between the site map shown in Michie (1979:Figure 5) and the coordinates used for the National Register nomination, determining that the National Register nomination used incorrect latitude and longitude coordinates.

During the intensive survey of the Rhett's Bluff tract by Poplin, the site boundaries for 38CH124 were enlarged (Poplin 1989:Figure 8). In general, the site was divided into four areas:

- locus 1 representing the site area originally defined by Michie (1979),

- locus 2 representing an area to the west,
- locus 3 representing the area east of the access road, and
- locus 4 in an area between locus 1 and 2.

38CH125/126

Sites 38CH125/126 were originally reported by Combes (1975:A-17) as containing Archaic through late Woodland Deptford phase pottery. Although found in close proximity to each other, they were recorded by Combes (who did not undertake any subsurface investigations) as two separate sites.

Additional work by Poplin (1989:32) suggested that the sites were, in effect, one site. Poplin excavated a total of 29 shovel tests at the site (termed 38CH125/126), recovering small quantities of primarily Early Woodland Thom's Creek pottery, although a later Middle Woodland occupation was mentioned, as was a small quantity of historic material. The site core, encompassing about 210 feet east-west by 60 feet north-south, was based on the somewhat greater density of remains in 11 tests. The remainder of the site was felt to be of minimal significance.

Poplin apparently did not have access to work conducted on Rhett's Bluff by Lepionka (1981b, 1982). While not suitable for compliance purposes, the work by Lepionka clearly reveals the confusion surrounding the location of sites 38CH125 and 38CH126. Lepionka notes that:

> [site 38CH125] is not to be found where indicated on the map in Combes (1975:A11), and it is also true that there is considerable confusion between 38CH125 and 38CH126 as Combes reports them . . . . It was not until after submission of the 1981d [cited here as Lepionka 1981c] report that we chanced upon a site map at the Institute of Archaeology whereon 38CH125 was recorded in a different location from Combes 1975 -- a recording that may have been made by Combes himself. At that time we realized that the shell exposure found in our survey . . . was not a new site, but the 38CH125 that had been originally identified but incorrectly plotted by Combes (Lepionka 1982:6).

In essence, Lepionka suggests that the site recorded by Poplin (1989) as 38CH125/126 is actually 38CH125 and the site identified by Poplin (1989) as 38CH440 is actually 38CH126. While it clearly makes little difference at this point what individual sites are called (as long as all of the collections are attributed to the correct site), the South Carolina Institute of Archaeology and Anthropology may wish to further examine the numbering system and ensure that the state site files reflect this overlap.

Archaeological Overview of the Woodland Period

For the purposes of these discussions the Woodland Period begins with the introduction of fire clay pottery about 2000 B.C. along the South Carolina and Georgia coasta (the introduction of pottery, and hence our definition of the beginning of the Woodland Period, occurs much later in the Piedmont of this region). It should be noted that many, perhaps most, researchers call the period from about 2000 B.C. to 1000 B.C. the Late Archaic because of a perceived continuation of the Archiaic lifesytle in spite of the manufacture of pottery. Regardless of the terminology employed, the period from 2000 to 1000 B.C. is well documented, although many of the technological changes and much of the reorganization of the cultural landscape is only beginning to be fully realized, understood, and studied (see Sassaman 1993).

Early Woodland

The earliest phase of the Woodland Period (Figure 5) is called Stallings, after the type site excavated by the Cosgroves in 1929 (Claflin 1931). These "Stallings Island people" produced a rich cultural assemblage of bone and antler work, polished stone items, grooved and perforated "net sinkers" or steatite disks, stone tools (including projectile points, knives, scrapers, and cruciform drills), and fiber tempered pottery (see also Williams 1968). It was over a decade before the typological significance of the Stallings ware was recognized and a formal type description was offered (Fairbanks 1942; Griffin 1943). The definitive feature of this pottery is its large quantity of fiber, now identified as Spanish Moss (Simpkins and Scoville 1981), included in the paste prior to firing. Vessel forms include simple, shallow bowls and large, wide mouthed bowls, as well as deeper jar forms. The pottery is generally molded, although coiling fractures are occasionally present, particularly later in the period. Firing was poorly controlled, and the pottery was incompletely oxidized. The pottery was decorated with punctations (using periwinkle shells, reeds, and sticks), finger pinching, and incising. At least some of these motifs may be temporally sensitive (Trinkley 1986).

Stallings phase site are found clustered in the Savannah River drainage (Claflin 1931; Hanson 1982; Sassaman 1991) and in the Coastal Zone south of Charleston (Anderson 1975). Recent studies have also identified the pottery at least as far north as the Tar drainage in North Carolina (Phelps 1983:27-28), which suggests either the culture's remarkable adaptive capability or the widespread initial acceptance of pottery manufacture. Stoltman (1966, 1974) obtained an early radiocarbon date of 2515±95 B.C. (GXO-345) from Rabbit Mount in the Savannah drainage. This area has produced a number of large Stallings sites, such as Stallings Island (Bullen and Greene 1970; Claflin 1931), Fennel Hill (38AL2 notes on file, South Carolina Institute of Archaeology and Anthropology), Rabbit Mount (Stoltman 1974), and Bilbo (Williams 1968:152-197;Dye 1976), with elaborate material assemblages. As a result, the Savannah drainage is generally accepted as the birthplace of the Stallings culture. The stimulus for this elaboration on the pre-existing Late Archaic culture may be related to a complex process of population increase and disequilibrium with the environment (see Hanson 1982:21 and Smith 1974:306-311). Such a situation is similar to Binford's (1968) hypothesis regarding population stress as a factor in new forms of food procurement. Hanson (1982:13) notes that by 2500 B.C. mussel availability had increased through changes in sea level, river gradient, and channel location. More recent research (Brooks et al. 1986), however, questions this reconstruction and has found that mussel availability in the Savannah River drainage may have begun to decrease by 2500 B.C.

The elaborate Savannah River drainage sites such as Stallings Island, Fennel Hill, Rabbit Mount, and Bilbo, are all characterized by large quantities of either fresh water mussels or tidal oysters, large quantities of artifacts, and abundant features. Stoltman (1974:51-56) further suggests the possibility of a structure at Rabbit Mount. These middens, however, represent only one aspect of the Stallings settlement system. Another portion of that system is represented by Stallings sites which evidence little shell. While many of these are sparse scatters, such as Clear Mount (Stoltman 1974) and Pinckney Island (Trinkley 1981b), some evidence intensive occupation with features and a rich cultural assemblage, such as the Love (38AL10; Trinkley 1974) and Fish Haul (38BU805; Trinkley 1986) sites. At the Fish Haul site a Stallings phase "D"-shaped structure containing about 90 square feet of floor area has been identified (Trinkley 1986:145-147) and Stoltman (1974:51-54) recovered a lean-to structure at Rabbit Mount. The function of essentially non-shell midden sites such as Love and Fish Haul is only partially understood at present, although shellfish seasonality and ethnobotanical studies (Claassen 1986; Lawrence 1986; Trinkley 1986) are beginning to suggest late fall and winter occupation. These may represent early sites when the subsistence base was diffuse, prior to intensive riverine and estuarine exploitation. Alternatively, and more likely, they may

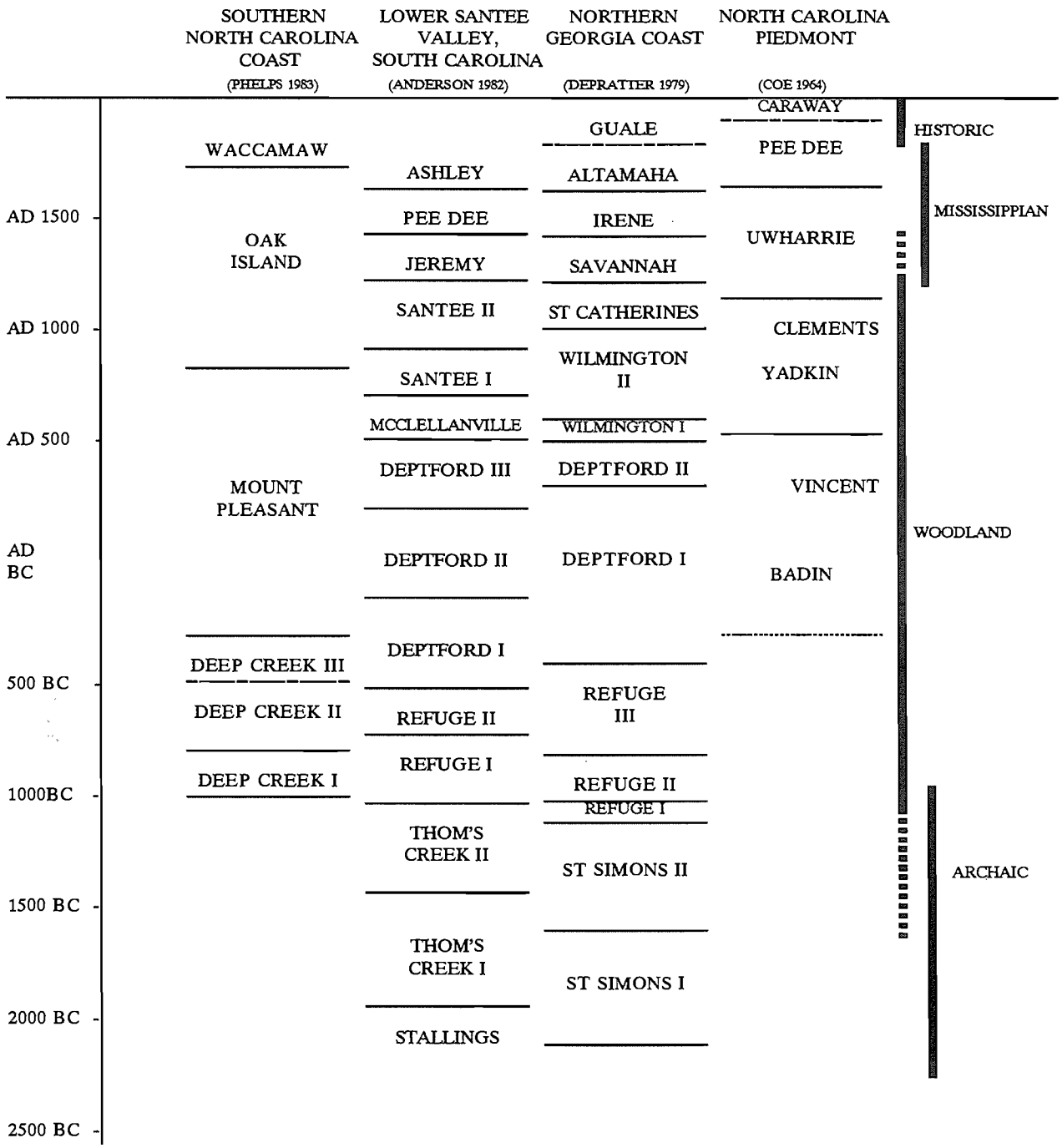


Figure 5. Woodland Period phases in the South Carolina locality.

represent a seasonal round in the Stallings settlement system. Riverine shellfish may have been gathered in the fall when the Savannah River and its tributaries were low and clear, while other resources away from the river were exploited during the period of high discharge in the late winter and spring (Anderson and Schuldenrein 1985:13). Additional work within the Savannah drainage is necessary to understand more fully the relationship between large shell middens, dense non-shell upland and coastal sites, and sparse upland and coastal "scatters."

Stallings pottery was produced as late as 1060±80 B.C. (UGA-1686), based on a date from the Cunningham Mound C in Liberty County, Georgia; although Milanich and Fairbanks (1980:78) suggest that fiber tempering may be found on the Georgia coast as late as A.D. 1. While Stallings pottery is usually considered older than, and often the progenitor of, Thom's Creek pottery, recent radiocarbon dates leave little doubt that the two pottery styles are largely contemporaneous (Trinkley 1980a). Hanson (1982:14), however, notes that where both Stallings and Thom's Creek sherds are found stratigraphically separated on the same site, the Stallings ware is the earlier of the two. Such a situation may indicate that "the agent of tempering changed earlier on the coast than in the riverine setting" (Hanson 1982:14).

The following Thom's Creek phase dates as early as 2220±350 B.C. (UGA-584) from Spanish Mount in Charleston County (Sutherland 1974) and continues to at least 935±175 B.C. (UGA-2901), based on a date from the Lighthouse Point Shell Ring, also in Charleston County (Trinkley 1980b:191-192). The Thom's Creek phase is characterized by an artifact assemblage almost identical to that of Stallings sites. The only major differences include the replacement of fiber tempering with sand, or a clay not requiring tempering, and the gradual reduction of projectile point size.

Thom's Creek pottery, first typed by Griffin (1945), consists of sandy paste pottery decorated with the motifs common to the Stallings series, including punctations (reed and shell), finger pinching, simple stamping, incising, and very late in the phase, finger smoothed (Trinkley 1980a). Investigations at the Lighthouse Point and Stratton Place shell rings, stratigraphic studies at Spanish Mount and Fig Island, radiocarbon dates from Lighthouse Point and Venning Creek, and the study of surface collections from a number of sites, have suggested a temporal ordering of the Thom's Creek series. Reed punctated pottery appears to be the oldest, followed by the shell punctated and finger pinched motifs. Late in the Thom's Creek phase, perhaps by 1000 B.C., there is the addition of Thom's Creek Finger Smoothed (Trinkley 1983:44). Vessel forms include deep, straight sided jars and shallow conoidal bowls. Lip treatments are simple, and coiling fractures are common. Firing of the Thom's Creek vessels is certainly better than that evidenced for Stallings, but there continues to be abundant incompletely oxidized specimens.

The projectile points, which are typically Savannah River Stemmed (Coe 1964) during the Late Archaic Period and early Stalling phase, are reduced in size during the Thom's Creek phase and are appropriately classified as Small Savannah River Stemmed (Oliver 1981; see also Trinkley 1980b:Plate 14). Raw materials used in their production include coastal plain chert, quartz, quartzite, orthoquartzite, and rhyolitic stones. Anderson and Joseph (1988:195-199), however, question Oliver's (1981) thesis that the large Savannah River point was fairly rapidly replaced by smaller points. They note that there appears to be a "long co-occurrence of both large and small forms" (Anderson and Joseph 1988:197), while also correctly noting that Coe's (1964) original typology has been rather inconsistently used by researchers. As an alternative to Oliver's (1981) approach, they suggest that other factors affecting point size, especially trends in raw material use, be more intensively investigated and factored into typological studies (see White 1982; Sassaman et al. 1989). Some researchers have suggested that the major problem with current Woodland lithic typologies is that they fail to recognize the shift from bifacial core reduction techniques to an amorphous core reduction technology (which may be intimately related to the

adaptation of a sedentary lifestyle). In addition, work in the Savannah River area is providing evidence of what some call "cultural quarrying" or the scavenging and recycling of earlier materials in the Woodland Period as source materials became more scarce (Sassaman et al. 1989:297-299).

Bone pins illustrated by Williams (1968:152-197) and Trinkley (1980b:Plate 17) may have functioned as weaving or netting tools (shuttles or needles). Common to Thom's Creek sites are whelk shells with a carefully executed and well-smoothed hole in the shoulder of the body whorl close to the aperture and a heavily worn or smoothed columella and outer whorl. These tools likely served as scrapers (see Trinkley 1980b:209-214). Other whelk tools evidence a heavily battered columella which has resulted in a blunt tip.

Like the Stallings settlement pattern, Thom's Creek sites are found in a variety of environmental zones and take on several forms. Thom's Creek sites are found throughout the South Carolina Coastal Zone, Coastal Plain, and up to the Fall Line. The sites are found into the North Carolina Coastal Plain, but do not appear to extend deeply southward into central Georgia (although they are common along many Savannah River drainages, such as Brier Creek). There appears to be strong concentration of Thom's Creek sites in the Santee River drainage and the central South Carolina coast (see Anderson 1975:184).

In the Coastal Plain drainage of the Savannah River there is a change of settlement, and probably subsistence, away from the riverine focus found in the Stallings Phase (Hanson 1982:13; Stoltman 1974:235-236). Thom's Creek sites are more commonly found in the upland areas and lack evidence of intensive shellfish collection.

In the Coastal Zone large, irregular shell middens; small middens with only sparse shell; and large "shell rings" are found in the Thom's Creek settlement system.

Work by Michie (1979) at the Bass Pond Dam site (38CH124) in Charleston County, suggested to him essentially three types of Thom's Creek sites: "large circular, ring-shaped enclosures constructed mainly of oyster shell," "amorphous shell middens of similar construction," and sites "without massive structures of shell" but which do have some shell. This last category of sites is seen as different from the rest, and they "apparently performed a different function in the settlement system" (Michie 1979:28). This function is posited to be that of base camps. Four attributes are reported by Michie to be found only at base camps and thus serve as indicators: (1) the artifact assemblages express a greater diversity than either the shell rings or irregular middens, (2) the sites are situated on Pleistocene soil formations, (3) the sites are located to take advantage of both terrestrial and marine resources, and (4) the base camp sites will be located near other Early Woodland sites. Michie's main thrust, however, is the dichotomy between the artifact assemblages of shell rings or irregular middens and "base camps." Only four "base camps" are reported by Michie: Bilbo (which would appear more like an irregular midden in construction), Daws Island, Venning, and Bass Pond on Kiawah Island.

This reconstruction has been previously discussed (see Trinkley 1980b:310-313) and will only be briefly reviewed. A review of Thom's Creek sites has found that most (although not all) are situated on Pleistocene formations, regardless of their type. Likewise, most of these Thom's Creek sites occur in ecotones, where a variety of resources are present. The criterion of proximity assumes that the sites under investigation are actually distinct -- an assumption which has yet to be demonstrated. The foundation of Michie's "base camp" concept rests on the perceived differences in the artifact assemblages. A comparison of the various artifacts, however, reveals no significant differences in any of the sites being considered (see Trinkley 1980b:312-313). Sassaman, however, argues that, "Trinkley and Michie alike employ a trait list method which is entirely unconvincing," noting that the approach fails to take into account either

proportional differences or artifact context (Sassaman 1991:69). Niether the criticism, however, alters the fact that Michie was attempting to view the settlement system of the Thom's Creek from a more wholistic vantage and make sense of the various site attributes -- a research goal which is still wanting in our examination of the Thom's Creek phase.

Limited testing has been conducted at one small Thom's Creek non-shell midden on Sol Legare Island (38CH779) in Charleston County, South Carolina (Trinkley 1984). The site evidenced very limited reliance on shellfish and faunal remains, with the bulk of the food remains consisting of large mammals. Excavations also identified a portion of a probable Thom's Creek post structure situated about 180 feet inland from the marsh edge.

Excavations at other Coastal Zone Thom's Creek sites includes the work by Sutherland (1973, 1974) at the Spanish Mount shell midden (38CH62). While this work has never been completely published, the site appears to represent a seasonally occupied camp with a diffuse subsistence base, including reliance on shellfish, floral material, fish, and mammals.

By far the most work has been conducted at Thom's Creek phase shell rings (see Trinkley 1980b, 1985). These sites are circular middens about 130 to 300 feet in diameter, 2 to 6 feet in height, and 40 feet in width at their bases, with clear interiors. These doughnut-shaped accumulations were formed as small mounds, arranged around an open ground area, and gradually blended together. The ring itself is composed of varying proportions of shell, animal bone, pottery, soil, and other artifacts. The midden soils are silts, and the shell is lensed and crushed. Post holes are abundant, although no structures have been clearly defined. Pits are evidence throughout the midden, but under the midden, large shellfish steaming pits, several feet in diameter and 2 to 3 feet in depth, are more clearly evident. Their use and the subsequent disposal of the shells actually formed the middens.

These shell rings were apparently mundane occupation sites for fairly large social units which lived on the ring, disposed of garbage underfoot, and used the clear interiors as areas for communal activities. The sites further suggest relatively permanent, stable village life as early as 1600 B.C., with a subsistence base oriented toward large and small mammals, fish, shellfish, and hickory nut resources (Trinkley 1985).

Recently Sassaman has attempted to move the research on early pottery from technological and chronological issues to their functional, social, and economic contexts (Sassaman 1991), exploring the relationships between pottery, soapstone, trade, and diffusion networks. A major contribution of this work may be to shift research emphasis from typology to examination of social variation. Certainly Sassaman clearly documented much of the technofunctional variation in early pottery and also refined our understanding of early fiber tempered pottery chronology. His work emphasizes the need to explore Early Woodland sites using a broad range of theoretical and methodological approaches in order to maximize data return.

Following Stallings and Thom's Creek are the Refuge and Deptford phases, both strongly associated with the Georgia sequence and the Savannah drainage (DePratter 1979; Lepionka et al. 1983; Williams 1968). The Refuge Phase, dated from 1070±115 B.C. (QC-784) to 510±100 B.C. (QC-785), is found primarily along the South Carolina coast from the Savannah drainage as far north as the Santee River (Williams 1968:208). Anderson (1975:184) further notes an apparent concentration of Refuge sites in the Coastal Plain, particularly along the Santee River. The pottery is found inland along the Savannah River (Peterson 1971:151-168), although it does not extend above the Fall Line (see Anderson and Schuldenrein 1985:719; Garrow 1975:18-21).

The Refuge series pottery is similar in many ways to the preceding Thom's

Creek wares. The paste is compact and sandy or gritty, while surface treatments include sloppy simple stamped, dentate stamped, and random punctate decorations (see DePratter 1979:115-123; Williams 1968:198-208). Anderson et al. note that these typologies are "marred by a lack of reference to the Thom's Creek series" (Anderson et al. 1982:265) and that the Refuge Punctate and Incised types are indistinguishable from Thom's Creek wares. Peterson (1971:153) characterizes Refuge as both a degeneration of the preceding Thom's Creek series and also as a bridge to the succeeding Deptford series. There is a small stemmed biface associated with the Savannah drainage Refuge sites. This type has been termed Groton Stemmed by Stoltman (1974:114-115) and Deptford Stemmed by Trinkley (1980c:20-23). Peterson suggests that, "a change from the 'Savannah River' to the small stemmed points, a diminution basically, could occur during the Refuge" (Peterson 1971:159), although points similar to the Small Savannah River Stemmed continue to occur.

While large Refuge shell middens, such as 38JA61 (Lepionka et al. 1983), occur, a significant change in the Refuge settlement pattern and subsistence base is clearly evidenced. At the end of the Thom's Creek phase a number of small, non-shell midden sites are found. This pattern of small sites, situated away from potential shellfish sources, continues in the Refuge phase (see, for example, Peterson 1971:164-168). Refuge pottery is common on coastal sites south of the Santee River, but is usually found in sandy buried soils with few features or organic remains (see, for example, Trinkley 1982 and the distribution discussions by Anderson et al. 1982:266).

It is difficult to reconstruct the subsistence base, although the sites suggest small, seasonal camps for small groups (Trinkley 1982). The settlement fragmentation, which began at the end of the Thom's Creek phase, around 1000 B.C., probably relates to the increase in sea level, from a Thom's Creek phase low of 10 feet below the current high marsh surface at 1200 B.C. to a high of about 3 feet below the current high marsh surface at 950 B.C. (Colquhoun et al. 1980; Brooks et al. 1989). This increasing sea level drowned the tidal marshes (and sites) on which the Thom's Creek people relied. The following Refuge phase evidences the fragmentation necessary when the environment which gave rise to large sedentary populations disappeared. Hanson (1982:21-23), based on Savannah River data, suggests that subsistence stress present during the Thom's Creek phase may have resulted in an expansion of the settlement system into diverse environmental settings. It seems likely, however, that the development of mature, upland tributaries was also essential ingredient in this process (see Sassaman et al. 1989). This same "splintering" is observed on the South Carolina coast.

The Deptford culture takes its name from the type site located east of Savannah, Georgia, which was excavated in the mid-1930s (Caldwell 1943:12-16). Deptford phase sites are best recognized by the presence of fine to course sandy paste pottery with a check stamped surface treatment. This pottery is typically in the form of a cylindrical vessel with a conoidal base. The flat bottomed bowl with tetrapodal supports found at Deptford sites along the Florida Gulf coast (Milanich and Fairbanks 1980:79) is very rare in South Carolina. Other Deptford phase pottery styles include cord marking, simple stamping, a complicated stamping which resembles early Swift Creek, and a geometric stamping which consists of a series of carved triangles or diamonds with interior dots (see Anderson et al. 1982:277-293; DePratter 1979).

The Deptford technology is little better known than that of the preceding Refuge phase. Shell tools are uncommon, bone tools are "extremely rare" (Milanich and Fairbanks 1980:77), and stone tools are rare on Coastal Zone sites. All of this indicates to some researchers that "wood must have been worked into a variety of tool types" (Milanich and Fairbanks 1980:75). One type of stone tool associated with South Carolina Deptford sites is a very small, stemmed projectile point tentatively described as "Deptford Stemmed" (Trinkley 1980c:20-23). This point is the culmination of the Savannah River Stemmed reduction seen in the Thom's Creek and Refuge phases. Similar points have been found at a variety of

Deptford sites (see Milanich 1971:175-176; Stoltman 1974:115-116, Figure 20i-j, 40h-j). Also found at Deptford sites are "medium-sized triangular points," probably similar to the Yadkin Triangular point (Coe 1964:45, 47, 49; Milanich and Fairbanks 1980:75-76). In the Savannah River area Sassaman et al. (1989:156-157) report that Deptford pottery appears much more strongly associated with triangular projectile points (Badin and Yadkin types) than with the small stemmed points. They note, "small stemmed bifaces are attributed to the Early Woodland period with the recognition that they probably persisted into the subsequent period but were rapidly and thoroughly replaced by triangular forms by 2000 B.P." (Sassaman et al. 1989:157).

Perhaps of even greater interest is the co-occurrence of the larger triangular points (such as Badin and Yadkin) with smaller triangular forms (such as Caraway) traditionally attributed to the Late Woodland and South Appalachian Mississippian periods. This situation has been reported at Coastal Plain sites (Blanton et al. 1986:107), Savannah River sites (Sassaman et al. 1989:157), and Coastal Zone sites (Trinkley 1990). Blanton et al. (1986) suggest that these point types were used at the same time, but perhaps for different tasks.

Milanich (1971:Figure 12) illustrates a generalized distribution of this series, which is divided into the Gulf and Atlantic subregions. This distribution, however, should extend to the South Carolina Fall Line and probably as far north as the Neuse River in North Carolina. Anderson (1975:186) has found Deptford wares distributed throughout the South Carolina Coastal Plain, with major sites at the mouths of the Santee and Savannah Rivers. The earliest date for Deptford, 1045±110 B.C. (UGA-3515), has been obtained from 38LX5 in Lexington County (Trinkley 1980c:11). The most recent date comes from St. Simons Island, Georgia, where a date of A.D. 935±70 (UM-673) was obtained. Milanich and Fairbanks (1980:60) suggest a tighter range of about 500 B.C. to A.D. 600, while Anderson et al. (1982:281) suggest a date range of about 800 B.C. to A.D. 500.

Deptford sites on the South Carolina coast are usually small, especially when compared to the earlier Thom's Creek middens, and they are usually multicomponent. Deptford Coastal Zone sites, while containing shell, do not represent massive mounds, but rather thin middens formed as series of small shell heaps which have been deposited adjacent to the marsh and gradually formed continuous masses. These heaps were the result of short periods of site use, perhaps as a base camp for shellfish collecting (see Milanich and Fairbanks 1980:72-73; Trinkley 1981b). Results of soil chemical analyses from the Pinckney Island midden (Trinkley 1981b:53-54) suggest less than intensive occupation. The chemical studies support Milanich's assessment that occupation was not on the shell piles, but adjacent to them (Milanich and Fairbanks 1980:72-73; Trinkley 1981b:53-54).

Milanich (1971:192-198; see also Milanich and Fairbanks 1980:70-73) suggests that the Deptford phase settlement pattern involves both coastal (i.e., Coastal Zone) and inland (i.e., Coastal Plain) sites. The coastal sites, which are always situated adjacent to tidal creek marshes, evidence a diffuse subsistence system. The inland sites are also small, lack shell, and are situated on the edge of swamp terraces. This situation is similar to that found in South Carolina, although there are Deptford middens which exhibit a very focal subsistence emphasis (Trinkley 1990). Sites such as Pinckney Island (38BU67 and 38BU168; Trinkley 1981b) and Minim Island (38GE46; Drucker and Jackson 1984; Espenshade and Brockington 1989) evidence large Coastal Zone Deptford occupations, while sites such as 38BU747 (Trinkley 1990) evidence only small, focal shell midden occupations.Sites such as 38BK984 (Roberts and Caballero 1988) provide evidence of Coastal Plain non-shell midden Deptford occupation.

At Pinckney Island the bulk of the calories came from shellfish while mammals played a relatively insignificant role (Trinkley 1981b:57-60). A similar situation occurs at Minim Island (38GE46), where late spring and summer occupation is documented with a reliance on fishing, with mammals being a

secondary, if not minor food source. In the fall there is evidence of intensive oyster gathering and possible use of nearby hickory masts (Drucker and Jackson 1984; Espenshade and Brockington 1989).

Inland, sites such as 38AK228-W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Coastal Plain, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979; Ryan 1972; Trinkley 1978, 1980c). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis-West site (38AK228-W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1989:96-98).

Milanich observes that "this dual distribution . . . suggests a transhumant subsistence pattern," with inland sites occupied in the fall for the collection of floral resources and the hunting of deer (Milanich 1971:194; Milanich and Fairbanks 1980:72). While such a subsistence round may have been practiced, it cannot be documented from the available evidence. Some sites, such as Pinckney Island, were clearly occupied in the late winter (Trinkley 1981b:60). Minim Island, however, was apparently occupied in the summer (Drucker and Jackson 1984), although a fall or winter occupation cannot be precluded. 38BU747 was likewise occupied during the spring and summer (Trinkley 1990).

A similar situation is observed along the Savannah drainage, where Stoltman (1974:237) observed both floodplain and upland Deptford sites. This duality, according to Stoltman, is "indicative of a gradually increasing dependence upon upland wild plant food" and eventually horticulture (Stoltman 1974:237), although no archaeological evidence supports this speculation. Hanson (1982:21-23) sees settlement locations becoming more diverse as population pressures require that new food sources be identified and exploited. While this is similar to the explanation offered by Stoltman, Hanson does not imply or suggest that the alternate food source must be horticultural.

This view of an estuarine Deptford adaptation with minor interior occupations must be re-evaluated based on the Savannah River drainage work of Brooks and Hanson (1987) and Sassaman et al. (1989:293-295) who suggest larger residential base camps and foraging zones along the Savannah River, coupled with smaller, household residences and foraging zones in the uplands along small tributaries. While it is not yet clear if these upland sites represent a perennial settlement pattern or a seasonal fissioning typical of the Late Archaic, it seems likely that the pattern was equally affected by demographic pressures and external socio-political influences (see Sassaman et al. 1989:303-304). Of considerable potential significance is evidence of trade between coastal and interior Deptford groups. For example, the Lewis-West site (38AK228-W) has produced evidence of sharks' teeth and whelk shells from the coastal region.

Throughout much of the Coastal Zone and Coastal Plain north of Charleston, a somewhat different cultural manifestation is observed, related to the "Northern Tradition" (e.g., Caldwell 1958). This recently identified assemblage has been termed Deep Creek and was first identified from northern North Carolina sites (Phelps 1983). The Deep Creek assemblage is characterized by pottery with medium to coarse sand inclusions and surface treatments of cord marking, fabric impressing, simple stamping, and net impressing (see Trinkley 1987a). Much of this material has been previously designated as the Middle Woodland "Cape Fear" pottery originally typed by South (1960). The Deep Creek wares date from about 1000 B.C. to A.D. 1 in North Carolina, but may date later in South Carolina, based on two radiocarbon dates of 120±130 B.C. (QC-1358) and A.D. 210±110 (QC-1357). The Deep Creek settlement and subsistence systems are poorly known, but appear to be very similar to those identified with the Deptford phase.

The Deep Creek assemblage strongly resembles Deptford both typologically and temporally. It appears this northern tradition of cord and fabric impressions was introduced and gradually accepted by indigenous South Carolina populations. During this time some groups continued making only the older carved paddle-stamped pottery, while others mixed the two styles, and still others (and later all) made exclusively cord and fabric stamped wares.

It is appropriate, however, to note that acceptance of the Deep Creek type is not uniform. Some investigators have chosen to develop alternative types, while others have suggested that a type-variety approach might allow the variability in the record to be acknowledged while still maintaining some consistency in the typological constructs (see Anderson et al. 1982). Recently this approach was adopted for an assemblage in Florence County with generally good results (see Trinkley et al. 1993).

Middle Woodland

Although the Deptford phase is discussed as part of the Early Woodland, many authors place the phase intermediate between the Early and Middle Woodland (see, for example, Anderson et al. 1982:28, 250). Such an approach is not unreasonable, because Deptford exhibits considerable temporal range and cultural adaptations which are more characteristically Middle Woodland (see also Anderson 1985:53). The Deptford phase, however, is still part of the early carved paddle stamped tradition which is replaced by the posited northern intrusion of wrapped paddle stamping during the Middle Woodland. Clearly the Deep Creek pottery, at the same time period as Deptford, is part of this "Northern Tradition," yet the Deep Creek, on temporal grounds, is considered Early Woodland by Phelps (1983:17, 29). This is meant simply to indicate that the transition from Early to Middle Woodland is not as clear as one might wish.

The Middle Woodland in South Carolina is characterized by a pattern of settlement mobility and short-term occupation. On the southern coast it is associated with the Wilmington phase, while on the northern coast it is recognized by the presence of Hanover, McClellanville or Santee, and Mount Pleasant assemblages. Wilmington and Hanover may be viewed as regional varieties of the same ceramic tradition. The pottery is characterized almost solely by its crushed sherd temper which makes up 30 to 40% of the paste and which ranges in size from 3 to 10 mm. Wilmington was first described by Caldwell and Waring (Williams 1968:113-116) from coastal Georgia work, while the Hanover description was offered by South (1960), based on a survey of the Southeastern coast of North Carolina (with incursions into South Carolina). The Wilmington phase was seen by Waring (Williams 1968:221) as intrusive from the Carolina coast, but there is considerable evidence for the inclusion of Deptford traits in the Wilmington series. For example, Caldwell and McCann (1940:n.p.) noted that, "the Wilmington complex proper contains all of the main kinds of decoration which occur in the Deptford complex with the probable exception of Deptford Linear Checkstamped" (see also Anderson et al. 1982:275). Consequently, surface treatments of cord marking, check stamping, simple stamping, and fabric impressing may be found with sherd tempered paste. Anderson et al (1982) suggest that Hanover is simply a variant of Wilmington in a type-variety system, presenting a rather compelling approach to deal with this typological overlap.

Sherd tempered Wilmington and Hanover wares are found from at least the Chowan River in North Carolina southward onto the Georgia coast. Anderson (1975:187) has found the Hanover series evenly distributed over the Coastal Plain of South Carolina, although it appears slightly more abundant north of the Edisto River. The heartland may be along the inner Coastal Plain north of the Cape Fear River in North Carolina. Radiocarbon dates for Wilmington and Hanover range from 135±85 B.C. (UM-1916) from site 38BK134 to A.D. 1120±100 (GX-2284) from a "Wilmington House" at the Charles Towne Landing site, 38CH1. Most dates, however, cluster from A.D. 400 to 900; some researchers prefer a date range of about 200 B.C. to A.D. 500 (Anderson et al. 1982:276).

Largely contemporaneous with the sherd tempered wares are the Mount Pleasant, McClellanville, and Santee series. The Mount Pleasant series has been developed by Phelps from work along the northeastern North Carolina coast (Phelps 1983:32-35, 1984:41-44) and is a Middle Woodland refinement of South's (1960) previous Cape Fear series. The pottery is characterized by a sandy paste either with or without quantities of rounded pebbles. Surface treatments include fabric impressed, cord marked, and net impressed. Vessels are usually conoidal, although simple, hemispherical, and globular bowls are also present. The Mount Pleasant series is found from North Carolina southward to the Savannah River (being evidenced by the "Untyped Series" in Trinkley 1981b). North Carolina dates for the series range from A.D. 265±65 (UGA-1088) to A.D. 890±80 (UGA-3849). The several dates currently available from South Carolina (such as UGA-3512 of A.D. 565±70 from Pinckney Island) fall into this range of about A.D. 200 to 900.

The McClellanville (Trinkley 1981a) and Santee (Anderson et al. 1982:302-308) series are found primarily on the north central coast of South Carolina and are characterized by a fine to medium sandy paste ceramic with surface treatment of primarily v-shaped simple stamping. While the two pottery types are quite similar, it appears that the Santee series may have later features, such as excurvate rims and interior rim stamping, not observed in the McClellanville series. The Santee series is placed at A.D. 800 to 1300 by Anderson et al. (1982:303), while the McClellanville ware may be slightly earlier, perhaps A.D. 500 to 800. Anderson et al. (1982:302-304; see also Anderson 1985) provide a detailed discussion of the Santee Series and its possible relationships with the McClellanville Series. Anderson, based on the Santee area data from Mattassee Lake, indicates that there is evidence for the replacement of fabric impressed pottery by simple stamping about A.D. 800 (David G. Anderson, personal communication 1990). This strongly suggests that McClellanville and Santee wares are closely related (or even identical), both typologically and culturally. Also probably related is the little known Camden Series (Stuart 1975) found in the inner Coastal Plain of South Carolina.

The best data concerning Middle Woodland Coastal Zone assemblages comes from Phelps' (1983:32-33) work in North Carolina. Associated items include a small variety of the Roanoke Large Triangular points (Coe 1964:110-111), sandstone abraders, shell pendants, polished stone gorgets, celts, and woven marsh mats. Significantly, both primary inhumations and cremations are known from the Mount Pleasant phase. Phelps notes that:

> [a] distinctive cultural feature of Middle Woodland age in the South Coastal region is the rather extensive distribution of low, sand burial mounds . . . . The high frequency of secondary cremation, platform pipes, and other objects in the mounds, and the fact that at least some of them seem to be placed away from their contemporaneous habitation sites, points to southern influence during this period (Phelps 1983:35).

Phelps goes on to note that, "[t]heir known spatial extent is limited . . ., and no comparable structures have been reported from . . . South Carolina. . . . Further research . . . is needed to determine relationships [of North Carolina mounds] with . . . those on the Georgia coast" (Phelps 1983:35).

Sand burial mounds have been known from the Georgia and southern South Carolina Coastal Zone since C.B. Moore's investigations in 1898. Recent studies include those by the American Museum of Natural History on St. Catherines Island, Georgia, which document the Early to Late Woodland use of sand burial mounds (Larsen and Thomas 1982; Thomas and Larsen 1979), as well as the re-investigation of the Callawassie Island burial mound (38BU19) in Beaufort County, South Carolina (Brooks et al. 1982; Trinkley 1991a). It has been previously reported that the presumed burial mound gap between southern coastal South Carolina and southeastern coastal North Carolina was "filled" by the 1983 excavations of the Buck Hall sites in Charleston County where Trinkley and Zierden documented that

at least one low sand mound covered poorly preserved secondary burials (Trinkley 1991d). Recently this finding has been disputed by Poplin et al. (1993) you offer a different interpretation, suggesting that the mounds are more recent and do not relate to this period. Rathbun has identified an ossuary (38HR36) from Horry County, South Carolina (see Conner 1985; Hyman 1983), providing a somewhat more southern extension of this tradition into South Carolina.

Although it is not yet clear whether ossuaries and sand mounds are found along the entire South Carolina coast, nor is there precise dating or a thorough understanding of their cultural significance, Wilson notes that, "the sand burial mounds . . . cannot be associated with any one prehistoric physical type or aboriginal group," for in North Carolina they are found in the context of probable Iroquoian, Siouan, and Algonquin populations (Wilson 1982:172). The available information, however, suggests a relatively egalitarian society was common to all. Anderson suggests that, "these mound/ossuary complexes appear to represent principal burial areas for local lineages or other currently unrecognized social entities" (Anderson 1985:56).

These Middle Woodland Coastal Plain and Coastal Zone phases continue the Early Woodland Deptford pattern of mobility. While sites are found all along the coast and inland to the Fall Line, shell midden sites evidence sparse shell and artifacts. Gone are the abundant shell tools, worked bone items, and clay balls. Recent investigations at Coastal Zone sites such as 38BU747 and 38BU1214, however, have provided some evidence of worked bone and shell items at Deptford phase middens (see Trinkley 1990).

In terms of settlement patterns, several researchers have offered some conclusions based on localized data. Michie (1980a:80), for example, correlates rising sea levels with the extension of Middle Woodland shell middens further up the Port Royal estuary. Scurry and Brooks (1980:75-78) find the Middle Woodland site patterning in the Wando River affected not only by the sea level fluctuations, but also by soil types (see also Trinkley 1980b:445-446). They suggest that the strong soil correlation is the result of upland sites having functioned as extraction areas, principally for exploitation of acorns, hickory nuts, and deer. Shell midden sites, they suggest, also represent seasonal camps and therefore exhibit small size, low artifact density, and infrequent re-occupation. Ward's (1978) work in Marlboro County suggests that interior site patterning changed little from the Early to Middle Woodland. Sites continue to be found on the low, sandy ridges overlooking hardwood swamp floodplains, which suggests that while pottery styles changed, site locations, and presumably subsistence, did not (see also Ferguson 1976). Drucker and Anthony's (1978) work in Florence County, South Carolina reveals virtually continuous short-term occupation along the terraces associated with the floodplain of Lynch's Lake. DePratter's (1985) work at the Dunlap site, however, suggests that a few, relatively stable villages were present in the Middle Woodland.

Middle Woodland research in South Carolina has concentrated primarily on the abundant shell middens found along the coast. Various means of classifying these shell middens have been offered (Trinkley 1991 has offered a descriptive scheme, while Espenshade et al. 1993 has offered what purports to be a more functional interpretation), although it seems clear from the debate that additional research is necessary to fully address both descriptive *and* functional questions. Some aspects of Middle Woodland shell midden research have been outlined by Trinkley (1993) and Trinkley and Adams (1993), with topics concentrating on a wide range of issues:

- The ceramics themselves can be examined for information on kin-based groups using cordage analysis at an intrasite level, comparing materials between a variety of discrete midden piles. Similar analysis can also be accomplished using chemical analysis of the paste, perhaps concentrating on a small array of trace elements.

- Chemical analyses of the pottery may provide clues to the clay sources, which in turn may provide information regarding seasonal (or other) rounds. These analyses may also be able, once there is a sufficient data base, to project the limits of different groups.

- Both chemical analyses and cordage studies may be useful to refine typological issues, especially when conducted in addition to more traditional paste studies. For example, this battery of analytic approaches may be able to refine our understanding of the array of clay and grog tempered Wilmington, Hanover, and St. Catherines pottery. Perhaps there is good reason to review the Mattassee Lake report (Anderson et al. 1982) and adopt a type-variety system.

- Even using different analytic approaches, such as the concept of estimated vessel equivalence, may provide a better understanding of inter and intrasite ceramic diversity. Likewise, making complete cordage analysis a standard feature of all studies would assist in allowing others to adopt a colleagues work to new and different theoretical approaches.

- Radiocarbon dating, based on relatively large charcoal samples, could be used to date a variety of discrete shell middens within one site, with 10 to 20 dates refining our understanding of site function. It might be possible to identify sufficient charcoal samples from distinct levels within the midden to allow for beginning and ending dates for individual middens (accepting one or two sigma deviations), providing even closer temporal control. Further, each charcoal date could be compared to a shell date from the same midden in an effort to develop better alternatives when there is insufficient charcoal for a reliable date.

- Pollen analysis at individual middens could explore the nature of site vegetation, testing for evidence of site disturbance, second growth or weedy species. This information might better help us understand how, and how intensively, the sites were used. Such studies could be combined with more traditional ethnobotanical research to identify wood species for cross-checking.

- Incorporation of additional shellfish studies may be able to further refine our understanding of seasonal use, especially when several seasonal indicators are used as cross-checks from discrete midden areas. It may also be useful to examine middens on a shellfish assemblage basis in an effort to reconstruct specific ecotonal use areas.

There seems to be ample evidence that there is still much to learn from coastal shell middens. Viewed from a different perspective, we are not even close to the point of redundancy at these sites.

Late Woodland

In many respects the South Carolina Late Woodland may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500 to 700 years. This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

Sassaman et al. (1990) echo the belief that the Late Woodland evidences relatively little change from earlier periods, observing that it "is difficult to delineate typologically from its antecedent of from the subsequent

Mississippian period," but that the best typological break may be "the decline in stamped Deptford wares at about 1500 B.P." (Sassaman et al. 1990:14).

Along the central and northern South Carolina coast, Anderson et al. (1982:303-304) suggest a continuation of the Santee series into the Late Woodland. The Hanover and Mount Pleasant series may also be found as late of A.D. 1000. Along the southeastern North Carolina coast, South (1960) has defined the Oak Island complex, which is best known for its shell tempered ceramics with cord marked, fabric impressed, simple stamped, and net impressed surface finishes. The phase is briefly discussed by Phelps (1983:48-49), but curiously this manifestation is almost unknown south of the Little River in South Carolina. Very little is known about the northern coastal South Carolina Late Woodland complexes, although sites such as 38GE32 may document the occurrence of village life in the Late Woodland.

CHAPTER 5.
HISTORY OF KIAWAH ISLAND

Debi Hacker and Michael Trinkley

Colonial Period

The English established the first permanent settlement in what is today South Carolina in 1670 on the west bank of the Ashley River. Like other European powers, the English were lured to the New World for a variety of reasons, including the acquisition of land and the promotion of agriculture. The Lord Proprietors, who owned the colony until 1719-1720, intended to discover a staple crop, the marketing of which would provide great wealth through the mercantile system.

By 1680 the settlers of Albemarle Point had moved the village across the bay to the tip of the peninsula formed by the Ashley and Cooper rivers. This new settlement at Oyster Point would become modern-day Charleston. The move provided not only a more healthful climate and an area of better defence, but:

> the cituation of this Town is so convenient for public Commerce that it rather seems to be the design of some skillful Artist than the accidental position of nature (Mathews 1954:153).

Beginning as early as 1586 the Spanish made references to Cayagua, translated by Gene Waddell (1980:222) as Kiawah and it is clear that the term was variously used by both the Spanish and the English to designate the general area of Charleston, as well as nearby Native Americans. In 1670 Governor William Sayle remarked:

> the Indians that boarder on them being soe friendly for a inconsiderable vallue they supply them with deer fish and fowle in a great abundance as likewise in assisting them to cleare and plante their land (quoted in Waddell 1980:236-237).

And in 1671 Maurice Mathews noted that the "Keyawah" Indians resided "where we now live" (Waddell 1980:237).

On March 10, 1675 the Kiawah Indians ceded their lands to the English for "cloth, hatchets, brads & other goods and manufacturers." The document specifies that:

> we the Cafsequas natural born heirs & sole owners & Proprietors of Great and Little Cafsor lying on the River of Kyewaw the River of Stono and the Freshed of the River of Edistoh doe for us ourselves and subjects and Vafsals demise, do grant and forever quit and resign the whole parcel and parcels often called by the name and names of great and little Cafsor with all Timber of said land all manner of the appurtenances [ ] belonging to any part or parts of the said land or lands unto the Right Honorable Anthony Earle of Shaftsbury . . . (S.C. Department of Archives and History, Royal Grants, Vol.38, p. 1).

This document reveals that while the land ceded may have included Kiawah Island, a great deal more territory was involved --essentially covering the area of the North Edisto, Kiawah, and Stono rivers and probably including Seabrook, Johns, and Kiawah islands.

By 1682 the Kiawah were reduced to "forty Bowmen," with Waddell estimating

a total population of perhaps 160. That same year Joel Gascoyne produced a map entitled, "A New Map of the Country of Carolina." An insert on the map, labeled, "A Particular Map for the going into Ashley and Cooper Rivers" shows "Kyawah" written beside a small circle indicating a residence about 2 miles south of the Stono River on the NW side of an island -- possibly Folly or Long island (Waddell 1980:238). This begins to document the movement of the Kiawah from the vicinity of Charleston as the English colony grew. Further evidence is provided by the ca. 1685 Maurice Mathews "Plat of the Province of Carolina in North America" map, which shows the Kiawah actually on Kiawah Island (Figure 6).

In 1687 Captain William Dunlop's account places the Kiawah on Kiawah Island near the juncture of Kiawah River and Stono Inlet. This appears to be one of the last reliable accounts of the Kiawah. While they appear on the 1711 Crisp map, this was copied from the Thorton-Morden c. 1695 map, which has its origins in the c. 1685 Mathews map.

It therefore appears that the Kiawah Indians disappeared sometime in the 1690s, lasting less than 30 years from the arrival of the English. It is also clear that while Kiawah Island bears their name, it was a rather late location, perhaps a refuge as they attempted to avoid direct confrontation with the English who quickly occupied their prime lands in the vicinity of Charleston. Unfortunately, the best documented location for the Kiawahs is also an area of considerable instability and erosion (see Hayes et al. 1975:G-65). It is also likely that the small group, occupying Kiawah for such a short period, left little to mark their presence. Based on our knowledge of other late prehistoric or protohistoric groups, the Kiawah probably left behind sloppy complicated stamped pottery similar to the Kimble series of the Waccamaw Neck (see Trinkley et al. 1983).

Early settlers came from the English West Indies, directly from England, and from other colonies. But perhaps more than any others, it was the Barbadian elite who would set the Carolina culture apart from that of the more northern colonies, such as Virginia, and who would also establish the roots of cash monoculture and slavery (Sirmans 1966; Waterhouse 1975). Coclanis notes that almost as many Carolina settlers came from the small island of Barbados in the decade of the 1670s as from England herself, causing him to remark that:

> Carolina - alone among the English colonies on the mainland of North America - felt the heat of the tropics from the start. Those that wish to understand the torridity of South Carolina's later history, its passion and its zeal, would do well to remember this point (Coclanis 1989:22).

Kiawah Island, a plantation of 2700 acres, was granted to Captain George Raynor by the Lords Proprietors on March 29, 1699 (South Carolina Historical Society; see also February 22, 1698/9 warrant in Salley and Olsberg 1973:585-586). Raynor (also spelled Rayner) was also recorded purchasing three town lots in 1693/4, 1020 acres of land on the west side of the Stono, and an island on the east side of the Stono in 1699/1700 (Records of the Court of Ordinary of the Province of South Carolina 1692-1700, p. 21-22; Salley and Olsberg 1973:444, 485, 591).

Raynor has been associated with piracy by at least one recent local historian (Leland 1977:8). It is documented that Raynor arrived in the Charleston harbor as the captain of the *Loyal Jamaica* in 1692. Hughson notes that:

> a crew of forty men arrived in a vessel called the *Royal* [sic] *Jamaica*, bringing with them large quantities of silver and gold. By means of their wealth they found immediate favor with many of the people, and the officials were so far swayed by considerations of which history does not speak, that they were permitted to remain in the Province unmolested, on the condition of their entering into

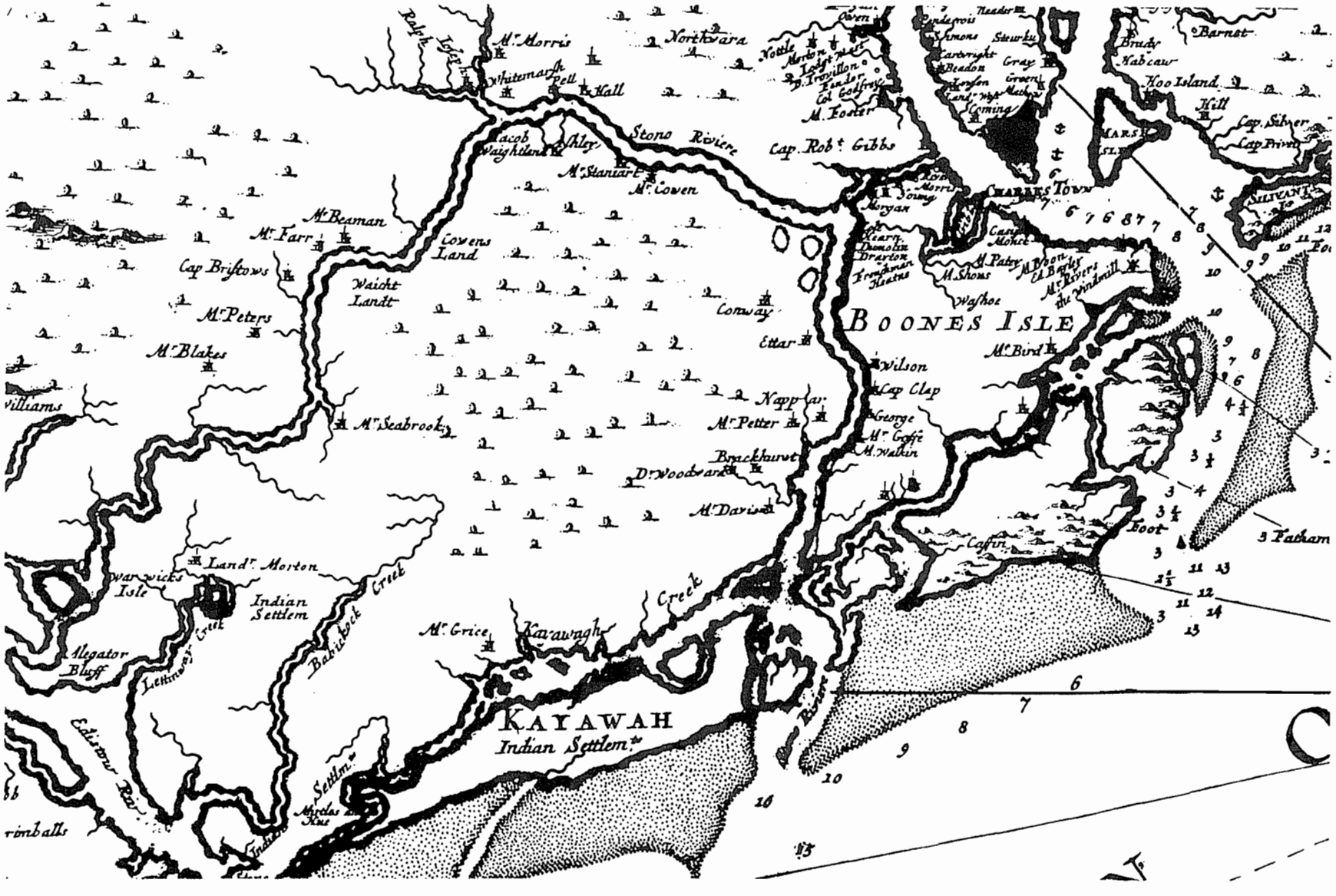


Figure 6. Maurice Mathews' "Carte Particuliere de la Caroline," ca. 1685.

> bond to keep the peace for a year, the Proprietors in the meantime being applied to for a grant of indemnity in their favor (Hughson 1894:32-32).

An April 1692 entry in the Journal of the Grand Council of South Carolina recounts the arrival of the "*Loyall Jamaica*" off Sullivans Island and the claim by Raynor that the ship was a lawful prize taken in the war against France. On February 22, 1694 Samuel Lowe and John Harris, of Port Royal, Jamaica, merchants:

> executed their bond in the sum of £1000 to George Raynor, of Carolina, merchant, indemnifying him from suits or actions by themselves or any of their agents, or from Thomas Harrison, formerly Captain of the ship called the *Loyal Jamaica*, or any of his agents, by reason of his turning the said Harrison out of his command of said ship (Records of the Court of Ordinary of the Province of South Carolina, 1692-1700; see also Carroll 1836:1:106).

As late as 1701 Governor William Penn complained to the Board of Trade that Massachusetts, New York, New Jersey, Maryland, Virginia, and Carolina were harboring Captain Kidd's pirates and that in Carolina "their Captain one Reiner now lives" (South Carolina Historical Society Collections, Vol. 1, p. 213; see also Hughson 1894:46).

This situation, of course, is but a footnote in the history of Carolina. Sirmans notes that:

> many of the pirates had been privateers during the conflicts with Spain and Anglo-Dutch wars of the 1660s and 1670s, and after the wars they had stepped over the thin line between privateering and piracy. Such men had nearly always been welcome in the colonies, because their raids had been traditionally against the Spanish and because they paid for their supplies in gold and silver. Several South Carolinians - most of them Barbadians - had discovered the profits in the pirate trade, and Charles Town had become a frequent port of call for the freebooters. When the Lords of Trade first inquired about the trade in 1684, the proprietors tried to deny its existence. After additional reports reached England, however, the Crown put pressure on the proprietors and they began to issue directives that forbade the trade (Sirmans 1966:39-40).

Regardless of the efforts by proprietors and the Crown, piracy continued to be a way of life into the mid-eighteenth century (Hughson 1894). Raynor's participation, while suspected, can hardly be proved by the historical accounts and his land transactions suggest that he engaged in land speculation, gradually integrating himself into respectable society.

There is no indication that Raynor ever lived on Kiawah, or even planted the island. Raynor apparently married in Charleston and had at least one daughter, Mary, who married Roger Moore sometime prior to 1715 (Webber 1936:13). Roger was the son of James Moore, Governor of South Carolina from 1700 to 1703.

Raynor sold half of Kiawah Island to a Captain William Davis about a year after his initial purchase, on November 1, 1701 (South Carolina Historical Society, Misc. Deeds). The other half interest or moiety he passed to his daughter in his will (Charleston County RMC DB Y, p. 182). Mary Raynor Moore apparently moved to the Cape Fear area of North Carolina with her husband about 1723. There Roger Moore became a member of the Kings Council and was one of the "chief gentlemen of Cape Fear" (Webber 1936:12-13).

The portion of Kiawah which passed from Raynor to his daughter remained in the Moore family through 1737, passing from Mary to her husband Roger to their son, George Moore (Charleston County RMC, DB Y, p. 182). As absentee owners it

seems unlikely that they made any appreciable changes on Kiawah. Roger Moore sold Kiawah Island to John Stanyarne in October 1717 (Charleston County RMC DB N, p. 119). Apparently there was some doubt to the legality of the transfer, since George Moore, while noting that his father had only a life-interest in the property and therefore could not legally provide fee-simple title, sold his one-half share in Kiawah to John Stanyarne on July 16, 1737 for only 5 shillings, apparently to clear the title (Charleston County RMC DB Y, p. 182).

The other moiety of Kiawah, sold by Raynor to William Davis, was passed from Davis to his widow, Elizabeth. She married William Wilkins and sold the property (as executor of her late husband's estate) on July 12, 1708 to Richard Peterson, Jr. for £90 (Charleston County RMC, DB N, p. 113). Richard Peterson is described as a "mariner" (Charleston County RMC DB N, p. 122), perhaps continuing the ownership of this moiety by those having some tie to Raynor's earlier days as a privateer. The moiety eventually passes from Richard Peterson to his son, John Peterson. Apparently a minor, the property was managed by Jonathan Drake, who on January 4, 1722/3 sold John Stanyarne the "whole stock of cattle also the hoges bothe tame and wild" on "Koyawave" for £300. Further Stanyarne was to have "use of that part of the Island which is now in the posation of said John Drake In behalf of said Peterson" (South Carolina Historical Society 12/194/30).

This suggests that Kiawah, in the early eighteenth century, was being used solely as range for cattle, a common practice in the early Colony, especially on the sea islands. It was an easy way to exploit the region's land and resources, offering a relatively secure return for very little investment. Few slaves were necessary to manage the herd. The mild climate of the islands made winter forage more abundant and winter shelters unnecessary. The salt marshes, useless for other purposes, provided excellent grazing and eliminated the need to provide salt licks. Further, the islands were self-contained, eliminating the need for fences (Coon 1972; Dunbar 1961). Production of cattle, hogs, and sheep quickly outstripped local consumption and by the late seventeenth century beef and pork were principal exports of the Colony to the West Indies (Ver Steeg 1975:114-116).

John Peterson died in September 1727 and his property was inherited by his aunts, Elizabeth Porter (of North Carolina) and Eleanor White (late of Jamaica). They, in turn, sold their one-half of Kiawah to John Stanyarne, who had been previously leasing the island, for £600 (Charleston RMC DB N, p. 129).

With the acquisition of the Peterson moiety in 1734 and the Moore moiety in 1737, John Stanyarne for the first time since Raynor, 33 years earlier, united the island under one ownership. Relatively little is known about Stanyarne, although his major seat was Hickory Hill at the end of River Road on adjacent John's Island and it is there, in the family cemetery, that he was buried in 1772 (South Carolina Historical Society 30-06-21; Betty Stringfellow, personal communication 1993). Politically, he sided with the Proprietors during their long-standing disputes with the "Goose Creek" faction (which included his brother, James). The "Goose Creek Men," a wealthy and influential immigrant group from Barbados, favored trade and commercial interaction with pirates and privateers, against the will of the proprietors and Crown (Sirmans 1966:42).

Early agricultural experiments in Carolina involved olives, grapes, silkworms, and oranges -- all with less than spectacular success. While the Indian trade, naval stores, and cattle farming all were profitable to many of the early settlers, these endeavors did not provide the proprietors with the wealth that they expected from their venture. Attention was increasingly turned to rice and indigo as a means of establishing the mercantile system.

It is known that Stanyarne began cattle farming on Kiawah as early as 1722/3. It also seems likely that it was during this early period when agricultural pursuits were introduced to Kiawah. Starr provides a compelling analysis to demonstrate the economic profitability of indigo over cattle for the Beaufort area and it seems likely that the same incentives would be present on

Kiawah, even closer to Charleston (Starr 1984:37).

As Coclanis goes to lengths to illustrate, the shift from "pioneer" (i.e., grazing) to "plantation," (cash crops) was not a change in *mentalité* or ends, just a change in the means to the end. He observes that:

> early land-intensive activities, activities which included not only mixed agriculture but rudimentary extraction and plunder - the stuff of Marxian primitive accumulation - as well, gradually gave way to economic activities requiring relatively greater inputs of labor and capital (Coclanis 1989:58).

Rice and indigo both competed for the attention of Carolina planters. Although introduced at least by the 1690s, rice did not become a significant staple crop until the early eighteenth century. At that time it not only provided the proprietors with the economic base the mercantile system required, but it was also to form the basis of South Carolina's plantation system -- slavery.

South Carolina's economic development during the pre-Revolutionary War period involved a complex web of interactions between slaves, planters, and merchants. By 1710 slaves were beginning to be concentrated on a few, large slave-holding plantations. By the close of the eighteenth century some South Carolina plantations had a ratio of slaves to whites that was 27:1 (Morgan 1977). And by the end of the century over half of eastern South Carolina's white population held slaves. With slavery came, to many, unbelievable wealth. Coclanis notes that:

> on the eve of the American Revolution, the white population of the low country was by far the richest single group in British North America. With the area's wealth based largely on the expropriation by whites of the golden rice and blue dye produced by black slaves, the Carolina low country had by 1774 reached a level of aggregate wealth greater than that in many parts of the world even today. The evolution of Charleston, the center of the low-country civilization, reflected not only the growing wealth of the area but also its spirit and soul (Coclanis 1989:7).

Only certain areas of the low country, however, were suitable for rice production. During the early years rice was grown as an upland crop, in small fields adjacent to freshwater streams where water could be easily impounded and applied to the crop. By the early 1700s planters found that upland swamps were even better for rice, although the soils were quickly exhausted. In addition, during drought, water had to be brought in, requiring the creation of upland reservoirs (Meriweather 1940; Sellers 1934). While the introduction of tidal rice cultivation solved many of these problems, the sea islands were typically poor producers of rice. Freshwater was always in short supply and the proximity of the marshes and ocean created a constant threat of salt-water encroachment.

These problems, coupled with a dramatic decline in rice prices during the 1720s (see Coclanis 1989:106), provided the incentives necessary for serious consideration of indigo by planters. The economic motive for indigo was clear. Carman noted:

> Mr. Glen's account is that one acre of *good land* will produce 80 lb. and one slave may manage two acres and upwards, and raise provisions besides, and have all the winter months to saw lumber and be otherwise employed: 80 lb. at 3s., the present price, is 12£ per acre; and 2½ acres at that rate amount to 30£ per slave, besides lumber, which is very considerable: but I should observe, that there is much indigo brought now from Carolina which sells in London for from 5s. to 8s. a pound, some even higher, though the chief part of the crop may not yield more than 3s. or 4s.; this will alter the

average price (Carman 1775:281-290).

Copenhaver (1930) suggests that 80 pounds/acre was high and a better average was 30 to 40 pounds per acre. Eight slaves could cultivate, harvest, and prepare the dye from a 40 acre plot -- with returns of from 30¢ to $2.25 per pound.

The industry also flourished because of its unusual advantages -- an indirect bounty, a protective tariff, and a monopoly on the British market during the various wars which cut off access to the better Spanish and French indigo supplies (Sharrer 1971). Winberry also suggests that South Carolina's love affair with indigo ran hot and cold, unlike its commitment to rice. At the end of King George's War in 1748, many Carolina planters returned to rice. Indigo cultivation continued, but it was always of poor quality, typically the cheapest "copper indigo" quality. Carolina planters failed to pay close attention to the exacting requirements of processing, and the result was disastrous. According to Winberry, "importers also noticed that in many of the casks there was nothing but a black spongy substance producing a muddy effect, as if the indigo were mixed with soil" (Winberry 1979:248).

If processing was difficult, cultivation was fairly simple. The crop was planted from seed in middle April, with a preference for dry, loose soil typical of "hickory lands and pine barrens." The plant was harvested in late June or early July, immediately after it blossomed, by cutting it off at ground level. This allowed the roots to produce a second, and sometimes a third, crop before it was killed by frost.

The plants were hauled to the indigo vats and placed in a steeper made from pine or cypress planks measuring 16 feet square and 3½ to 5 feet deep. The plants were weighted down, covered with water, and allowed to ferment for 10 to 14 hours to remove the dye. The "liquor" was drained off to the wooden beating vats, which were typically 15 feet long, 8 feet wide, and 5 feet deep. There the solution was oxidized by beating. After visible precipitation began limewater was added from the adjacent lime vat to aid coagulation of the dye and agitation continued for about an hour. Afterwards the liquid was drained from the vat and strained through woolen cloth to catch the dye. As Carman notes, "indigo has a very disagreeable smell, while making and curing; and the foeces, when taken out of the steeper, if not immediately buried in the ground (for which it is excellent manure) breeds incredible swarms of flies" (Carman 1775:288).

The wet dye was carried to the curing shed where it was pressed to remove as much water as possible and cut into cubes about 2 inches square. It was dried on trays in the shade, then placed in barrels with damp moss, where it was allowed to mold for several days. Afterwards it was brushed off and graded into four categories -- fine blue, ordinary blue, fine purple, and ordinary copper, the least desirable (Copenhaver 1930:895).

There is good evidence that Stanyarne actively participated in this economy. The appraisal and inventory of his estate listed a total of 296 slaves working on his plantations -- six on Johns Island totalling 1974 acres, one on St. Helena with 1040 acres, and Kiawah with 2700 acres, plus his Charleston house. Agricultural implements, tools, and produce included a lot of indigo seed; seven casks; 17 indigo hooks; a wire sieve; five sets of indigo vats, press cloths, and pumps; three pair rice sieves; 15 rice mills with mortars and pestles; 300 bushels of seed rice; a "win fann for Rice"; 14 bushels old indigo seed; 29 bushels new indigo seed; 63 Indigo vats and "furniture"; and crops of rice and indigo from his Johns Island and Kiawah plantations. While not divided in the inventory, it is likely that the Johns Island plantations produced rice, while Kiawah produced indigo. Henry Laurens served as a factor for Stanyarne, shipping as much as 6000 pounds of indigo at a time to England. At the rate of 40 pounds per acre this suggests Stanyarne was planting about 150 acres in indigo, requiring perhaps 30 slaves.

John Stanyarne's estate, excluding lands, was valued at £146,246.9.2 (S.C. Currency, or approximately £20,474 sterling). To obtain a better idea of this wealth, a pound sterling during this period was worth about $120.58 in 1992 dollars (Jones 1980:10), with Stanyarne's estate therefore being nearly $2.5 million. Less than 19% of South Carolina estates fell into this category (Coclanis 1989:86).

Other items at Johns and Kiawah islands included: walnut chairs, tables, gilt looking glasses, a clock, four hunting prints, floor cloths, window blinds, mahogany and cypress tables, tea tables, poplar and pine bedsteads, mattresses, easy and arm chairs, silver castors, candlesticks, silk umbrellas, a rum case, brass scales and weights, curtains, guns and pistols, books, pewter, earthenware, glass, kitchen furniture, iron pots and kettles, milk pans, and green handled knives and forks. Plantation implements included carpenter's tools, shoemaker's tools, an auger, staves and heads, cedar posts, an ox cart, two horse carts, five boats or canoes, iron wedges, spades, a grist mill, whip and crosscut saws, nails (20p, 10p, and 4p), window glass, cut lumber, and a "lott of old iron."

Produce and provisions on the plantations included one jar of hog lard, 36 bottles of wine, two jugs of linseed oil, 158 pounds of tallow, 456 pounds of myrtle wax, rice flour, 2649 bushels of corn, peas, 2 barrels of pitch, potatoes, and corn blades. The current rice crop was valued at £4368, while the indigo crop was valued at £6098. Stock included 31 horses, 206 head of cattle, 16 head of oxen, 55 hogs, and 50 head of sheep. Of the 296 slaves, 97 were males, 90 were females, and 109 were children. Their total value was £90,310, or approximately 62% of the total estate (Charleston County WPA Inventories, Vol. 94B, pp. 436-444).

Stanyarne's will, dated August 27, 1772 and proved December 22, 1772 provided that his grand daughter, Mary Gibbes, would receive as a life estate the southwestern moiety of "my Island Called Kiwah Island, wheron the dwelling-house now stands, containing one Thousand Three hundred and fifty acres of Land." At her death the property would pass to her heirs, and finally, ownership would be fee simple with the third generation. The other, or northeastern, moiety was devised to Stanyarne's grand daughter "Elizabeth Vanderhorst, daughter of the late William Raven and Sarah his late wife," again as a life interest converting to fee simple ownership for the third generation (Charleston County WPA Wills, 1771-1774, p. 286; see Writs of Partition, Book No. 1, 1754-1777, p.262 for the division of Kiawah between Gibbes and Vanderhorst, this partition also provides the first plat of Kiawah, dated 1775).

On the eve of the American Revolution it therefore appears that Kiawah was not only a major indigo producing plantation, but that it was also producing at least some provisions, perhaps myrtle wax, and was continuing to be used for stock raising. Stanyarne had built a settlement on the southwestern half of the island, probably in the vicinity of 38CH123. No settlement worthy of mention existed on the other half of Kiawah, inherited by Elizabeth Vanderhorst (this spelling is retained throughout this study, although most members of the family used the spelling Van der Horst, with the pronunciation, vān•der•hórst). The island, united by Stanyarne for nearly 40 years was again divided.

The impact of the American Revolution was perhaps hardest felt in economic terms. Charleston was seized and held by the British for 2½ years, from 1780 to 1782. In addition, the removal of Royal bounties on rice, indigo, and naval stores caused considerable economic chaos with the eventual restructuring of the state's agricultural and economic base.

It is unclear exactly what activities were taking place on Kiawah, although in 1782, nearly at the end of the war, General Nathanael Greene arranged for a truce to allow American officers to use Kiawah Island for rest and recuperation. Apparently the party going to Kiawah included Greene's wife, Catherine; Dr. Robert Johnson, Hospital Physician and Surgeon, Southern Department; Colonel

William Washington and his wife, Jane Elliot Washington; Colonel Lewis Morris; Major Pierce; and Captain Nathaniel Pendleton, Jr. and his brother. Colonel Morris wrote his fiancee, Ann Elliott on August 24, 1782 that they were to begin the trip to Kiawah the following day:

> we shall travel with a cook and all the materials for a table, and depend upon the sea for our support (Anonymous 1939:133).

It is clear from other letters, however, that the group was well provisioned, eating duck, chicken, beef, crab, fish prawn, and potatoes, while drinking coffee and wine (Stegeman and Stegeman 1977:98).

The group apparently stayed at the Gibbes plantation on Kiawah and Pendleton wrote Greene complaining of the lack of hospitality shown to the group by their host, Robert Gibbes (part of this inhospitable behavior was a shortage of wine) (McCaskey 1990:88).

While Robert Gibbes' daughter, Mary, had a life estate in the southern moiety, and she married Thomas Middleton on November 3, 1774, she died the following year, giving birth to her daughter, Mary. Although her husband, Thomas lived until 1779, he had no right to the plantation and played an insignificant part in Kiawah's history. It is likely that on Mary Gibbes Middleton's death, her father, Robert Gibbes (a Charleston merchant and factor, as well as a planter), assumed operation of the plantation in trust for his grand daughter, Mary, and was thus assumed to be the owner by Greene's officers.

McCaskey (1990:88) suggests that Gibbes' behavior reflected his personnel sentiments and loyalties to the Crown. There may be some truth in this considering that Kiawah had seen the darker side of the Revolution. A house built on Kiawah by Arnoldus Vanderhorst II, husband of Elizabeth Raven, sometime shortly after her inheritance of the northern moiety, had been burned by the British in 1780, immediately before their occupation of Charleston. That the Gibbes plantation survived unscathed perhaps reflects the divided sentiments on Kiawah Island during the Revolution.

The first Vanderhorst, John Van der Horst, arrived in Charleston in 1686 as one of 14 settlers with the Flemish or Dutch John d'Arsens, Seigneur de Wernhaut. John Vanderhorst is listed as a soldier, apparently fighting for William, Prince of Orange (Ellis 1962:52-53; Leland 1977:19). By his death in 1717, this first Vanderhorst had acquired two Charleston town lots and the 1940 acre White Hall Plantation on the Wando River in Christ Church Parish.

Arnoldus II was born in 1747. He became associated with such Revolutionary leaders as Philip Gadsden and Henry Laurens, and eventually served as an officer in the Colonial Militia. He served in the Second Provincial Congress, served as a Senator in the Jacksonboro Assembly of 1782, a member of the 1783 Privy Council and was the official host for George Washington's 1791 Charleston visit (Leland 1977).

In 1774 Henry Bonneau purchased the marshes, oyster banks, and accreting spits on the edges of Vanderhorst's Kiawah Island property, amounting to 1000 acres, turning the deed over to Arnoldus that same year (South Carolina Department of Archives and History, Colonial Grants v. 32, p. 168; Colonial Plats v. 13, p. 269; see also Charleston County Wills, Book E, p. 448). As one legal opinion offers, it seems likely that while Stanyarne owned all of the high ground on Kiawah, he did not own the adjacent marshes. Sandy Point, in 1775, was apparently marsh at this time. The purchase by Bonneau, passed to Vanderhorst, ensured his title to not only the high ground, but also to the marsh and the rapidly accreting Sandy Island point (Letter of Opinion from Buist and Buist, dated November 28, 1950, Ms. on file, Chicora Foundation, Inc., Columbia).

It was probably in February 1780, when the British occupied Edisto,

Seabrook, Wadmalaw, Johns and Kiawah islands on their way to Charleston (Johnson 1851:247), that the Vanderhorst mansion was burned. When the British seized Charleston, his property was sequestered (Leland 1977:24). Arnoldus II itemized his losses to the British as: "1 Dwelling House on Kiawah burnt by the British with out buildings and fences £2000." Other items listed, such as "30 Negroes 2/3 grown & Negro men @ £400 ruined £12000," and "Stock of Cattle Sheep Hogs Horses etc. £2000" may have referred to either Kiawah or White Hall plantation (South Carolina Historical Society 12/194/33). Regardless, it is clear that the Vanderhorst plantation on Kiawah was heavily impacted by the Revolution.

Shortly after the American Revolution, about 1797, Mary Gibbes Middleton, daughter of Thomas and Mary Middleton, married James Shoolbred, bringing with her fee simple ownership (as the third generation descendant of John Stanyarne) in the southern moiety of Kiawah (South Carolina Historical Society 15/62/1). Shoolbred served as the British Consul for South and North Carolina under the administration of William Pitt. Surprisingly little else is known about the man or his activities on Kiawah Island. The Shoolbred Papers at the Charleston Library Society (Manuscript #62) deal almost entirely with Shoolbred's oversight of his father's business in Canada.

An account book for the Vanderhorst plantation on Kiawah provides some information on the economic activities of the immediate post-war years of 1785 through 1799 (South Carolina Historical Society, 12/19/36). Virtually all listings are for Kiawah and it appears complete and reliable.

As can be seen in Table 3, Kiawah yielded a wide range of produce, including corn, peas, "haulm peas" (also halm, peas still on the stalks), corn blades (used for fodder), turnips, tanyas (also tanias or taniers, which are an African tuber similar to taro), potatoes (sweet potatoes or yams), Irish potatoes, water and musk mellons, oats, hay, and myrtle wax (for candles). Fowls included chickens, turkeys, ducks, and capons (castrated roosters). Stock included calves, cattle, hogs, and shoats (a young, weaned pig). Eggs and butter were especially common commodities, as were palmetto logs and lime. Other items included fish, oysters, hides, indigo casks, fire wood, oxen meat, tar, and even candle wicks.

Table 4 illustrates the major items purchased for use on the plantation, including rice, rye, oats, corn, indigo seed, tools, negro shoes and cloth, various food stuffs, oakum (used for caulking), train oil (whale or fish oil, perhaps for the making of soap or burning in oil lamps), and various devices for indigo production.

It is clear from this account book that Kiawah was again thriving shortly after the Revolution. Like many other plantations, Kiawah approached, with varying degrees of success, self sufficiency. Initially Vanderhorst seems to have produced too little corn, and purchases were routinely made; eventually the plantation produced what it needed, with an occasional surplus. The cash crop appears to have been indigo, at least into the 1790s, based on the construction of indigo vats in 1785 and occasional repairs in 1787, 1788, and 1789. There is, however, only one transaction showing either the purchase of indigo seed (in 1786) or the sale of indigo (in 1785).

The accounts also provide a regrettably brief view of slavery on Kiawah. A 1785 expenditure on tobacco and pipes is listed as being "for new negroes." Purchases of negro cloth and shoes were also greatest in 1785, suggesting (coupled with the construction of new indigo vats and purchases of nails) that this year may represent Vanderhorst's renewed efforts on the island after the Revolution. The purchase of cloth and shoes after this initial, large quantity appears to reflect minimal replacement. Purchases of other plantation tools, such as axes and hoes appear fairly constant. The account also indicates that in 1785 taxes were paid on a total of 40 African American slaves on Kiawah.

Table 3.
Items Produced by Kiawah Plantation, 1785 - 1799

	1785	1786	1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799
Indigo, casks	4														
Corn, bu.	16		2	304	150		43½			425					
Peas, bu.	15	7		46			20								14
Peas, halm, sheet	3	8		90	105	32									
Corn blades, lb.	3800	800	6650												
Turnips	✓														
Potatoes, bu.	5					30									
Irish potatoes, bu.	1														
Melons	6														
Tanyas, bu.	2														
Oats, bu.	14														
Hay, lbs.			1200												
Seed rice, bu.	20														
Eggs, doz.	123½	31	10	8											
Butter, lb.	205½	147½	254												
Chickens	80	71	178	44											
Turkeys	50		2												
Ducks	29	58	4												
Capons	4			7											
Fish	✓	✓	✓												
Oysters	✓														
Calves	16	15	7			4	2					5	2	4	2
Hogs	14	6	15												
Shoats	6	2				1									
Beef, quarters	3						✓								
Oxen meat							✓								
Hides	✓					✓	✓					✓			
Palmetto logs	1236														
Lime, bu.	1569	900												3395	10345
Wood, cords		26	30												
Candle wicks, lb.							80								
Tar, barrels															2
Myrtle wax, lb.	92	82	35												

Table 4.
Items Purchased by Kiawah Plantation, 1785 - 1799

	1785	1786	1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799
Indigo seed, bu.		20¾													
Corn, bu.	112½	60	136		36										
Rice, barrels				½											1
Rye, bu.	4														
Oats, bu.	16														
Hoes	24	12	9			2			6	12					
Axes	12	6	6		3	6	6	5	12				2		
Spades		24													
Indigo hooks	12														
Nail	✓	✓	✓												
Negro shoes, pr.	36		7	5	5	5	6						7	14	6
Negro cloth, yd.	205		38	44½	35	48	50	29					69		
Thread	✓	✓													
Pipes & tobacco	✓														
Pitch, barrel			1												
Tar, barrel	1														
Gun powder, lb.	1				2	1									
Shot, lb.	8					4									
Train oil	3¾	10		6¼	7										
Oakum, lbs.	✓	100	56	56	60										
Con. indigo vats	✓	✓													
Indigo pump	✓			✓											
Repair indigo vats			✓	✓	✓										
Rum, gal.		3		6½	3½	3	3	3½							
Brown sugar, lb.				✓	40	50	20	135					125	133	125
Salt, bu.	6	6	10						4	4					

Antebellum Expansion

The period from 1790 through the early 1800s was one of reorganization and expansion. Indigo no longer served as a profitable crop, although rice continued to be the gold upon which much of the Low Country was built. Gradually, however, cotton came to replace indigo, although it too was based on specialization in the production of a staple crop using bound labor. As Coclanis notes, "such specialization, under prevailing market conditions, generally proved highly profitable to those individuals in both the low country and in Europe with capital directly involved in the production or distribution of such staples" (Coclanis 1989:130).

Through the nineteenth century, however, the economy of the low country began to grind to a halt. By the eve of the Civil War, the tendency of South Carolina's economic and social fabric toward "structural disarticulation, factorial distortions, and asymmetrical development" could be clearly seen, if one chose to look. Coclanis observes that:

> just as the market was largely responsible for the low country's rise, it was largely responsible for the area's later decline as well. For its siren song lured the area into a pattern of economic and social development which was conducive to economic growth under one limited set of conditions - great external demand for plantation staples produced in the low country - but which would thwart progressive economic adjustments if these conditions ever changed, that is to say, if external demand for low-country staples ever faltered. And, as we have seen, external demand did indeed falter.It is possible, of course, that in the low country, a fragile ecological area with limited economic possibilities, development was doomed from the start. But by establishing an economy whose health was dependent almost entirely upon the vagaries of international demand for commodities, the hegemonists, in effect, sealed the low country's fate (Coclanis 1989:157).

The only account from Kiawah which provides a clue regarding the rebuilding of the Vanderhorst plantation is an October 23, 1801 letter from William Nicks, the overseer, to Arnoldus II. Nicks writes about the trouble brewing with Shoolbred over oyster picking (discussed below), as well as other plantation activities:

> pea house is not fool . . . the cotton field corn has not turned out much . . . East winds is the reason of so much sickness . . . the hinges for the doors of the new buildings wanted there will not be neare a load of lime at the landing. The carpenders has raised the body of the other new house but not the rafters, the [ ] about 6 Feet high with the chimney I them him [?] also working. I have been obliged to flog several of the carpenters to start them . . . the high tides has at last tore away the new dam around the marsh near the landing (South Carolina Historical Society 12/197/5).

This account, coupled with the earlier account books, supports the belief that Vanderhorst's renovation of his Kiawah plantation, while beginning in the mid-1780s, was not complete until about 1802. There is nothing in the earlier ledger which would suggest that the main house was under construction prior to 1800 or 1801.

William Nicks' October 26, 1801 letter to Arnoldus II provides a particularly graphic description of conditions on Kiawah at the turn of the century:

> The schooner has been detained on account of the hard hed winds and it is raining but not much wind. The schooner must set away this

morning tide. They would have a bad chance if it were taken by hard Winds as their Cable in not to bee depended upon. It is with reluctance that I set down to write For our neighbors seem to be combine against our Shell picking. I thought to have finisht This kiln by the last of this week but by our good neighbors and bad weather I am only on the Fourth floor. We have had a distressing time for this 8 or 10 days past With Sick negroes. chem is dead and Isac is very sick with apluricey. I was oblige to blister him this morning. big feby Has been very ill but is something better - I would send Isac down but it will not do to remove him in such weather. I first gave him a dose of salt and tartar and when his tongue was yet foul I gave him a second dose of hip and gallah. Gabo give him spirits of turpentine with sweet oyl and also had a sirup made of hour hound life everlasting alder and gave him. As it an ecelent remedy for the cold on the stomach. peter's got better, but Cupit is laid up. it is destressing To See So much sickness, and So maney worker calls about. The Cattle Corn is in and only made 18 Rice barels fool. The cotton Blows so fast that I cannot get time to do anything Elce. As yet I have broake in part of the Big field sods to give the horses and elce a chance for everything looks like dying. I have taken pains to inform Hector of Everything on the place I could recollect for your Satisfaction. The rye ought to have been planted but I have not had the time to do it / Your Obedient Servant / Wm. Nicks / don't forget the hinges for the two lower doors of the foder house as well as those to the doors and windows of the new Buildings as at present they have Shucks in. I have sent the plantation gun over as she is out of order and perhaps you may want me to hunt with you when you come. the Same which holds the flint is worn out and the chat coms too cloce the steel by which means she will not hold along flint without tearing open the pan. Hector can shoe you. The Sloop now coms to the Cricks mouth (South Carolina Historical Society, 12/19/5).

Dry weather, sick negroes, broken tools, delays in the construction of the lime kiln, hazards associated with travel to Kiawah, planting and harvesting operations, and plantation needs all were on the overseer's mind. This account also reveals that at least by 1801 Vanderhorst had begun planting cotton -- with Nicks being unable to pick it as fast as it "blows" or opens. This may explain the increase in slaves on Kiawah from 13 shown in the 1800 census to 113 in 1810.

The account also provides a clue that Vanderhorst's "good Neighbors," the Shoolbreds were unhappy with shell gathering on what they felt were their marshes. As both Nicks' letter describing the lime kiln and the earlier account book reveal, the production of lime was a profitable undertaking. In 1799 Vanderhorst realized £215 from the sale of lime, equal to that of about 15 acres of indigo.

This dispute had already lead to court action by Shoolbred against Vanderhorst. Apparently Shoolbred claimed the oyster beds as his property, based on the partition of the island. Vanderhorst either claimed them as part of his 1774 Bonneau grant, or else claimed that they were unowned. The Court of Common Pleas directed that a new survey be made of Kiawah to determine whether the disputed oyster beds were part of the original grant of the island.

The correspondence between the surveyor, John Hardwicke, and Vanderhorst reveals the problems encountered in attempting to settle even simple disputes, as well as the isolation of Kiawah. Although the survey was ordered by the Court in early 1801, no less than three attempts to arrange Hardwicke's presence met with failure -- once because Hardwicke was "sick," another time because he was in Europe, and a third time because he had scarlet fever. The survey finally took place on January 10, 1803 and the resulting plat is dated January 20, 1803 (South Carolina Historical Society, 12/194/46, 49, 50; South Carolina Department of

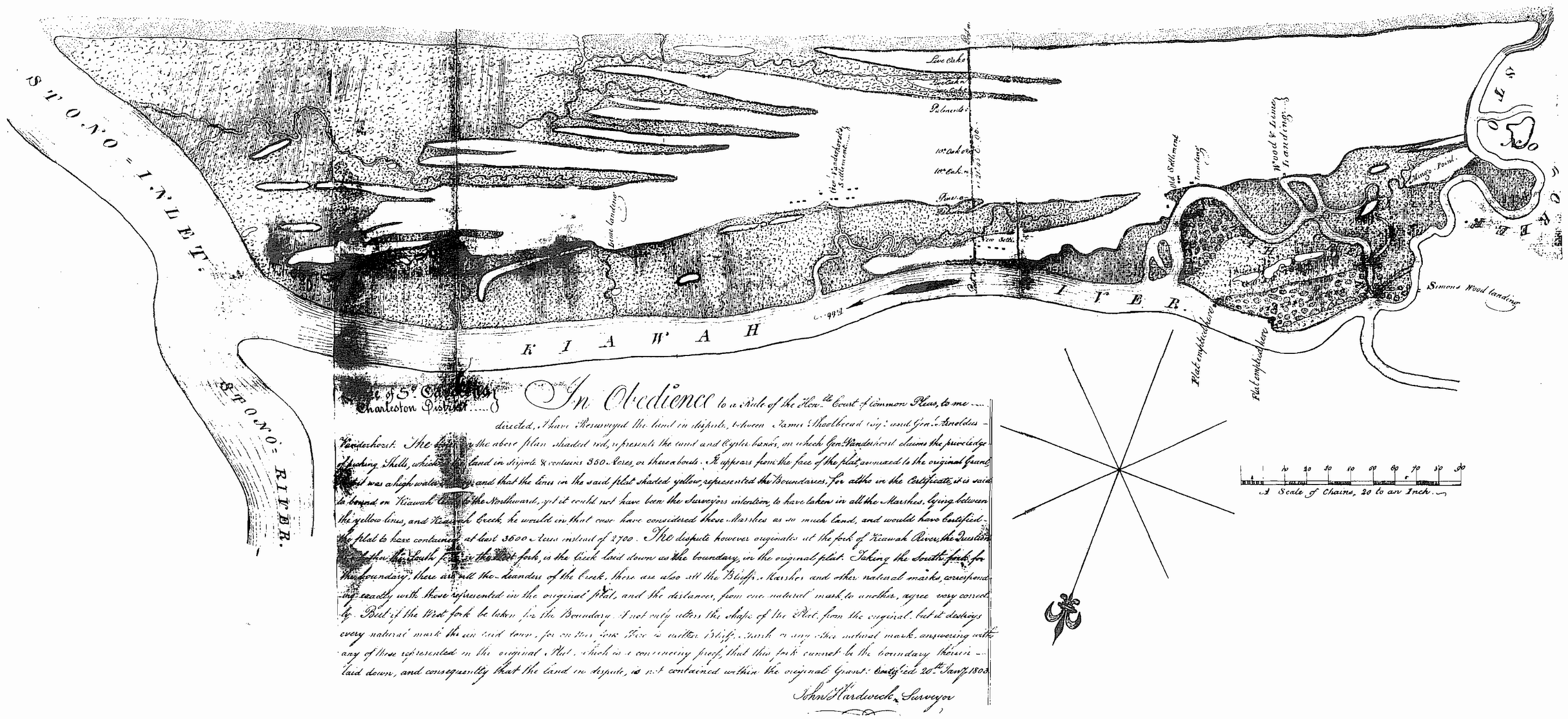


Figure 7. 1802 plat of Kiawah Island.

Archives and History, MC 1).

Hardwicke determined that the oyster grounds in questions were not part of the original grant of the island, which was of highland only. As a result, the jury found Vanderhorst innocent of any wrongs and ordered Shoolbred to pay court costs (South Carolina Department of Archives and History, Judgement Roll 750A).

The resulting plat (Figure 7) provides the first plan of the island's settlements. Vanderhorst's settlement is shown as a series of 10 structures representing the main settlement, out buildings, and a probable slave settlement. To the east there is a "lime landing," today in the vicinity Cinder Point, west of Thumb Point. To the west on Kiawah Creek there is a cluster of six structures designated "Old Settlement," with the largest of these, apparently a main house, adjacent to a Landing. A second landing ("Wood and Lime Landing") is found even further to the west. On what is today known as Shullbred Point or Rhett's Bluff is the "New Settlement," with a series of four structures, forming an east-west line.

As will be discussed in more detail later, the old settlement is thought to represent the initial Stanyarne settlement (and later Gibbes) on Kiawah, with the main house perhaps in the vicinity of what later became the Seabrook Plantation. The New Settlement is that of Shoolbred.

About the same time as Vanderhorst was restoring his Kiawah Island plantation he was also engaged in the construction of two apartment houses in downtown Charleston. Composed of three apartments, each with 3½ stories, these two structures "produced a Georgian-colonial house, but one that hid within itself the germ of the towering apartment houses of today" (Lapham 1923:59). The first, at 76-78 East Street, was completed about 1800, while the second, to the north of Vanderhorst Wharf (which is located below Tradd Street), was completed about 1810 (Smith and Smith 1917:233). Measuring 48 by 75 feet, with the central section 26 feet in width and projecting about 4¾ inches beyond the two side sections, these structures were built with stone lintels, keystones, plaques, Palladian windows, wood cornices with medallions and fluttings, carved chair rails, and wainscoting. About 20 feet to the rear was a secondary service building, housing servants' quarters and kitchens. These structures, according to Lapham, "indicated the period of prosperity that followed the American revolution, and were a product of the wave of extravagance, due to the large profits of the post-war period" (Lapham 1923:59). The structure near Vanderhorst Wharf was torn down after the Civil War, while the main structure of the East Bay Street structure was restored in the 1930s and is still standing (although the support buildings are now gone).

It was during the War of 1812 that the first fortification was built on the north end of Kiawah Island. With a companion fort on Cole's Island, the two batteries were intended to maintain control of the Stono and Kiawah Rivers. This fort is shown on the 1822 "Map of South Carolina," by John Wilson. Mistakenly referred to in later years as a "tabby" fort, the Kiawah fortifications were little more than piled up shell embankments in the hard marsh at the edge of the river. The fortification was connected to the island's high ground by means of a causeway.

Arnoldus Vanderhorst died in 1815, passing Kiawah to his sons, Elias and John Vanderhorst, with the condition that should either die without lawful issue, that individual's share would revert to the surviving son (Charleston County Wills, Book E, p. 448). John died a year later, unmarried, and the northern portion of Kiawah Island fell into the sole ownership of Elias Vanderhorst.

During the last few years of his life Arnoldus manumitted seven slaves: Hagar Richardson and her three children, Sarah, Eliza, and Peter, as well as three additional slaves, Stepney, Molley, and Peter. Elias and John were made the trustees of Hagar and she was given $2000 for her care and the care of her

children until they reached the age of 28. Upon reaching age, Peter legally took Vanderhorst as his surname, with Elias serving as a witness to the document. There is some evidence that Arnoldus' manumittion was not looked upon favorably by the family (South Carolina Historical Society 12/195/27-30).

On May 17, 1815 Elias and his brother John entered into an agreement with Rivers and Saltus for the construction of the schooner, *Two Brothers*. It was to be 45 feet in keel, 18 foot beam, 5 feet in hold, and calculated to carry live oak timber. They paid Rivers and Saltus $2200 in merchantable live oak timber. Apparently the ship was to be constructed on Kiawah Island, with Rivers and Saltus paying the Kiawah slaves 75¢/day for their labor. The schooner was to be finished by November 1st of that same year (South Carolina Historical Society 12/195/2). In January 1816 John and Elias Vanderhorst entered into a second agreement with Elijah and Thomas Swift to cut live oak timber off Kiawah, paying four slave carpenters on Kiawah $18/month and eight field hands $14/month to assist in the cutting (South Carolina Historical Society 12/195/3).

It is also during this period that several receipts are found for such items as closet, stock and iron rim locks; H hinges, brass door locks, and marble chimney pieces. Although there is no indication for which structure they were intended, no new houses were being built and they were consequently intended for either Arnoldus' town house in sight of the wharf (willed to his daughters) or the Kiawah house (South Carolina Historical Society 12/195/6-7).

In 1821 Elias Vanderhorst married Ann Morris although it was not until 1832 that he built a town house, at 28 Chapel Street. This structure consists of Greek Revival architecture, "expressed in a suburban villa" (Smith and Smith 1917:178). It is a 2½ story stuccoed brick house with a double flight of stone steps leading to the piazza.

In June of perhaps 1822 or 1824 Ann wrote from Kiawah:

> we intended to have left this place for the Island [probably Sullivans Island where the Vanderhorsts had a summer house], where we are to spend the summer, but as the fates would have it, the rain prevented us, the schooner Ann went down 3 days ago, provided with every comfort, you know what a good manager my husband is, he ordered one of the waiters to fix the house on the Island and have a carriage in readiness for me, so I shall find everything arranged for me without any trouble . . . . I am afraid I shall be made very uneasy this summer as it is my husbands intention to return here [to Kiawah] frequently to look after his business, he has built a House near the ocean for the Capt and himself, and it is really a pretty little hut formed of Palmetto fans . . . . Mr. Shoolbred dined with me the other day. I am delighted with the old gentleman, he is elegant in his manners as most men who have seen much of the world are, and combining with this a highly improved mind (South Carolina Historical Society 12/197/17).

Ann's reference to her husband's "hut" is the first of many references to the Vanderhorsts' increasing tendency to abandon use of the main house on Kiawah in favor of living on the beach. In spite of this, her letter suggests that, at least in the mid-1820s, the mansion was sufficiently well tended to allow the entertainment of James Shoolbred (who had been a widower since 1808). By that time the "hut" was little used. In January 1824, Lewis Morris (Ann's brother) wrote that he had spent:

> a fort night, walking on the sea beach [at Kiawah], feasting upon fish and game, and occasionally paying morning visits to Mr. Shoolbred and his daughter Miss Eleanora. Anna is better than she was, but still in delicate health, her disease appears to be in the mind. The rough nature of her husband [Elias] does not accord with

her delicate feelings (South Carolina Historical Society 12/195/8).

Letters from 1824 and 1830 mention that the Vanderhorsts began spending their summers not only on Sullivans Island, but also at Eddings Bay on Edisto Island (South Carolina Historical Society 12/197/9-10).

Elias continued to labor on Kiawah. In a letter to the Agricultural Society of St. John's Colleton, Elias explained in some detail his methods of planting cotton on Kiawah, remarking that the best cotton came from the sandy soils and that he used "soft salt mud" as fertilizer. He also admitted that he had never made more than 150 pounds of cotton to the acre (Seabrook 1827:22-24). A typical letter by Elias to Ann on May 16, 1936 stated, "I have sent the sloop down with my great crop of cotton. You will receive vegetables, strawberries" (South Carolina Historical Society 12/197/16). A November 1838 letter from Ann to Lewis mentioned visiting Kiawah for a day, apparently for sport and relaxation (South Carolina Historical Society 12/197/19).

By 1840 Elias owned a schooner called *The Raven*, although it is unclear whether this was in addition to, or as a replacement for the schooner *Ann* (South Carolina Historical Society 12/207/13). The various letters from the 1840s reveal that Kiawah, while producing cotton, was also important for its production of provisions. There are also some hints that the previous profitability of Kiawah was slipping:

> when the boat went down with a load of corn and blades I ordered it to return the next day but it did not do so and the negroes gave as a reason that you prevented their coming. I do not know how this can be, as you know I do not like my orders to be disobeyed, and you will know, or ought to know, that it would have been much better for the negroes to be in a boat, even on Sunday, than to be gambling and drinking . . . I will send 15 cords of wood when the schooner comes also corn and blades. I wish you to send me a peck of clean rice from the barrel in the store room - I have no rice here. I also want the old tin roaster and the frying pan, being without cooking utensils. I would be glad to have one pair of sheets and 6 hand towels, provided, they can be spared. There is a very small chance of Poultry here, only 22 young turkeys and 4 chickens and 5 young ducks - everything goes wrong here - no less than four prime hands in the houses for life - two with snake bites, one with dropsy and the other with chronic sore throat . . . . The very grass is perishing here for want of rain . . . I find that there is only one quarter of the venison fit to send, the other quarter is too damaged with shot and I have ordered it given to the negroes (letter from Elias on Kiawah to his wife Ann, dated May 27, 1841, South Carolina Historical Society 12/197/25).

In August 1842 Elias wrote that "my patch of cotton is nearly destroyed by water. No chance for young turkeys." In May 1845 he wrote:

> you will receive by the Boat . . . [a] piggin of butter made at this place . . . 2 quarters of Lamb, which you can send to the Ice House, green peas, turkeys, and cabbages. I do not know what you will do for a cow -- all so poverty striken here that there is not one fit to send (South Carolina Historical Society 12/198/12).

These references to Kiawah may partially explain the decline in the island's population. While the slave population increased slightly from the 113 slaves kept on Kiawah by Arnoldus II in 1810, to 115 in 1820, the number dropped to 100 in 1830 and 46 in 1840. Of those, 21 were males and 25 were females. Nearly a third were over 36 years old, with only 12 slaves being between 24 and 36 years old, indicating not only a decline in numbers but also an increasingly old population.

The Vanderhorst letters from the 1850s continue to present Kiawah as a rather forlorn island. Elias periodically sent small amounts of produce and wild game (such as venison, calves, corn, potatoes, peas, carrots, butter, and clams) to his Charleston house from the island (see South Carolina Historical Society 12/200/2, 3, 5). The island continued to be described as sickly, and in September 1852 Elias wrote his wife:

> The weather here is very bad, it has been raining almost incessantly for the last week and no prospect, at present, of its clearing up - such an immense fall of water I never known to occur at one time, the whole country is underwater and what is to become of the planters I do not know . . . .
>
> the plan you propose of going to Sandy Point will not answer - Kiawah is pretty much under fresh water and therefore not healthy - millions of Mosquitoes there and no Doctor (South Carolina Historical Society 12/200/2).

On May 23, 1858 Elias wrote Ann:

> This place must be considered the Botany Bay for all the nuisances - Why are not Anwill's crops in the same category with mine! . . . . There is only one way I know of to raise money, that is by borrowing from some money lender and giving him my Bond and Mortgage of my Property and leaving the debt to be paid by you and the children after my death . . . . I have ordered John Rose to town, you will have to put him in Frank's room and send for Dr. Dawson to cut his leg off. It seems I am unfortunate with Negroes (South Carolina Historical Society 12/200/8).

"Botany Bay" is a reference to a place for penal exile, coming from the late eighteenth century efforts to establish a penal colony at Botany Bay in Australia. The British Government found, however, that the poor soils and lack of water made the location unlivable. Similarly, Elias was finding Kiawah less and less profitable.

Ann Vanderhorst's diary provides a brief account of life on Kiawah just prior to the Civil War:

> By one [o'clock] we reached James Island cut, a clever piece of work saving much distance, then into Stono, passed Ligan Village and there on the top of a Sand hill stands Mr. Vs cottage looking like a white Curlew [a small bird] in the distance. The broad Ocean washes his poor Island of Kiawah most cruelly, and perhaps it will dip it right into the sea one of these days. A few palmetto royal seem to cling round the hut and the wild grass waves on the few hills that are left. Folly Island and Coal Island on the one side with the dashing stone Braker engulfing the poor little bird key. And woe to that poor mariner who goes near them, many a wreck thrown on these shores and sundry dead bodies . . . . A comfortable wagon was waiting for us . . . . It makes me sad to see Mr. V. so thin and he seems listless and has to visit on the Sofa . . . and though the table is spread with many a luxury of fine tomatoes, soup, fish, delicious stone crabs, his appetite is very delicate.
>
> The Kiawah maidens [the slaves] in high frolic - they danced by the light of the moon and Master was pleased they were so happy. Sunday morning they presented themselves to me dressed off at all points, some with pretty spotted muslin aprons and dresses stretched off with hoops, earrings in their ears, and then presenting me their gifts of eggs. One mooma sorrowfully told me she had only 1 chicken I must accept it.

> [leaving the island] 7 dilapidated dirty negro men with oars in their hand appear, one in rather a state of nudity. I exclaim and shame them, Speak of the contrast between them and the women of Kiawah, O Mistress they declare "it is those very Satans that take all our money. I have heard of a fiddler at Mr. Grimballs' who declares them womens, too expense to marry, De Hoops petticoats, and de sits of Calico to take, can't marry dem womens" (South Carolina Historical Society 12/216/1).

From a business perspective, activities on Kiawah during the pre-war years of 1854 through 1860 are provided by a plantation journal (South Carolina Historical Society 12/196/25). Throughout this period the island's daily activities were managed by Bailey, a slave driver, although Vanderhorst also paid B.H. Welch, overseer of William Seabrook's plantation on Kiawah, to periodically check on the Vanderhorst tract. The food allowance on the plantation was 6 bushels and 1 peck of corn meal a week for all adult slaves and 2 bushels and 1 peck for all slave children. This was a normal allowance (see Stampp 1956:282 for example), although no mention is made of any pork or meat allowance, suggesting that slaves were intended to survive on a corn diet supplemented by whatever they could raise or grow themselves on the island.

During the six year period covered by the journal, negro cloth and blankets were distributed only twice -- in 1852 and in 1855. There is, however, good evidence that this information was only occasionally entered into the journal since receipts have been identified for major Kiawah purchases of clothing supplies in 1855, 1856, and 1857 (South Carolina Historical Society 12/209/4, 6, and 7). Items included WW Plains, drab jersey, shirting, thread, needles, and buttons.

Information is also provided regarding slave mortality and morbidity on Kiawah. A total of 42 African Americans were living on Kiawah as slaves in 1854, including a driver and eight additional males, 14 females, and 20 children. By 1860 there were 41 slaves living on the island, including the driver and 10 other males, 18 females, and 13 children. Comparison of the lists reveals that in the six years between the two census, one male adult died and two listed as children in 1854 were considered adults by 1860. Only one new male was found on the journal listing. Between 1854 and 1860 one female slave died and one is no longer listed, although five female children in 1854 were listed as adults in 1860. One new adult female was listed in 1860. One child died between 1854 and 1860, with one new child listed in 1860. While it is difficult to interpret such a small sample, it appears that Vanderhorst's goal was to maintain a stable population on Kiawah -- there is no evidence that he was attempting to increase the number of slaves. This would imply that he had little hope for expanding production on the island.

The listing of slaves also provides additional clues regarding slave occupations. Bailey is consistently listed as the driver. The 1860 list indicates that Butcher was a "Stock Minder," Old Peter and Old Hector by 1860 were both "Past Muster," Lizzy in 1860 had only one leg and was a "Poultry Minder," Madge was disabled by 1860, Combahee Sarey was a nurse and did garden work, and Old Nelly "minds house on Sandy Point."

The journal also provides a vivid account of the agricultural production on the island, as shown in Table 5. Stock levels remain fairly constant, as do levels of corn. The sweet potatoes tended to provide provisions for no more than about a third of the year. The corn, averaging 664 bushels of ground meal a year, provided about a third more corn than was necessary for the slave provisions. This excess, based on the surviving records, was largely diverted to Vanderhorst's Charleston house with occasional shipments to his other plantations or sale on the open market.

Cotton production on the island appears to have been somewhat cyclical,

Table 5.
Agricultural Production of Vanderhorst, 1850 - 1860

	1850	1854	1855	1856	1857	1858	1859	1860[1]	1860[2]
Cattle		91	98		88	100	83	86	
Milk cows	90								35}
Working oxen	9								7} 87
Other cattle	59								45}
Sheep	60	68	75	71	58	100	64	35	30
Goats		67	83	66	66	11	69		
Horses	1								4
Asses/mules	1								2
Value of livestock ($)	600								1500
Turkeys		25	29	29	42		13		
Ducks		15	9	12	3		5		
Geese			2						
Guinea fowl					5				
Cotton, white (lbs.)		2500	2500	800	2200	500	500	500	10000
Cotton, yellow/stained (lbs.)			500	400		100	200	100	
Corn (bu.)	1800	700	660	694	969	700	830		650
Peas (baskets)		800	1785	1180	1847	1600	2748		
Slip potatoes (mos. prov.)		2½	4	2	3½	2¾	3¾	4	
Root potatoes (mos. prov.)		2½	3	2	1¾	1¾	1¾	1¾	
Sweet potatoes (bu.)	1200								800
Seed potatoes (baskets)		47							
Hay (tons)									8
Oats (bu.)	300								
Wool (lbs.)	125								
Butter (lbs.)	150								
Acreage, improved	250								800
Acreage, unimproved	2250								1700
Value ($)	12000								20000

[1] Plantation journal entries

[2] 1860 Agricultural Census

although the general tendency was for production to decrease through time. The 1854 production of approximately 2500 pounds (expressed as six bales and one pocket, calculated at 400 pounds to the bale and 100 pounds to the pocket) fell to 600 pounds by 1860 (expressed as 6 bags, calculated at 100 pounds to the bag).

Table 5 also compares the plantation journal entries with the 1850 and 1860 agricultural census, revealing considerable differences in a few areas (such as cotton) and nearly identical figures in others (such as stock and corn). At the present time it is not possible to determine the cause(s) of these differences or evaluate the accuracy of the various documents.

During the second quarter of the nineteenth century there is evidence that the Vanderhorsts and Shoolbreds were living in greater harmony than they had earlier, during Arnoldus's life. While there is no clear evidence, some of the differences may have been lingering political differences, with Arnoldus a staunch whig and Shoolbred (and Gibbes before him) strong tories. Such disputes could easily have been rekindled by the War of 1812. Regardless, Ann Vanderhorst and Lewis Morris both made pleasant comments concerning Shoolbred.

It is impossible to reconstruct plantation activities on the southwestern moiety of Kiawah since Shoolbred left no plantation papers or journals. It seems likely, however, that the Shoolbred plantation was more of a retreat or country seat than an intensively operating plantation. It is clear that Shoolbred was making changes to the property -- the largest of which was the relocation of the main settlement shown on the 1802 plat of Kiawah (Figure 7). By the time Shoolbred married Mary Middleton about 1797, the Stanyarne house would have been at least 60 to 70 years old, constructed perhaps in the 1730s. Shoolbred may have wanted to create a more elaborate and graceful plantation setting for Mary, if not for himself, and chosen to move the main settlement northward to what is today called Rhett's Bluff. This move, however, left behind a nucleus of support structures and probably at least a portion of the slave settlement. The "old settlement" continued to serve as the major landing on the island, apparently used by both Shoolbred and Vanderhorst. As the following archaeological discussions will suggest, it is also possible that Shoolbred salvaged materials, such as expensive architectural items, from the old mansion, rather than leaving it abandoned to the slaves.

Regardless, the Shoolbred settlement was well established on Rhett's Bluff by the time of James Shoolbred's death in 1847. His will, proved November 17, 1847, specified that the plantation would be divided into two parts (Charleston County Wills, Book K, p. 138). To John Gibbes Shoolbred (his son), in trust for Mary Drayton (James' daughter and the widow of Charles Drayton) he devised:

> the eastern part of my Plantation on Kiawah Island, bounded on the East by the line which separates it from General Vanderhorst's part of the said Island . . . on the North by Kiawah River, on the South by the Atlantic Ocean and the West by the middle of Salt House Creek down to my carting dam, and thence by a line in continuation of the above line to the Atlantic Ocean, together with all the buildings and improvements within the said boundaries including the settlement on Wall Point [Rhett's Bluff], also all the furniture, household goods, and silver plate in my Kiawah house, the Canoes Paul and Robuck the Sloop built by W. Bird in 1846, the mail boat, etc. and the horned cattle, sheep, Goats, swine, the utensils of husbandry and everything of the nature of personal estate on said part of said Plantation or used or enjoyed therewith; also the following Negro slaves, to wit, Ben, and Tenny and their five children, Soloman, Pender, Harry, Lilly, and Cato, Siddy, Moses and Kate, Joe and Kit, Cattle Joe, Swine Peter, February & Suckey, Jack and Sarah, John, Cuffy, Ned Sikey and Primus . . . and from and after the decease of the said Mary Drayton . . . to her children living at the time of her decease.

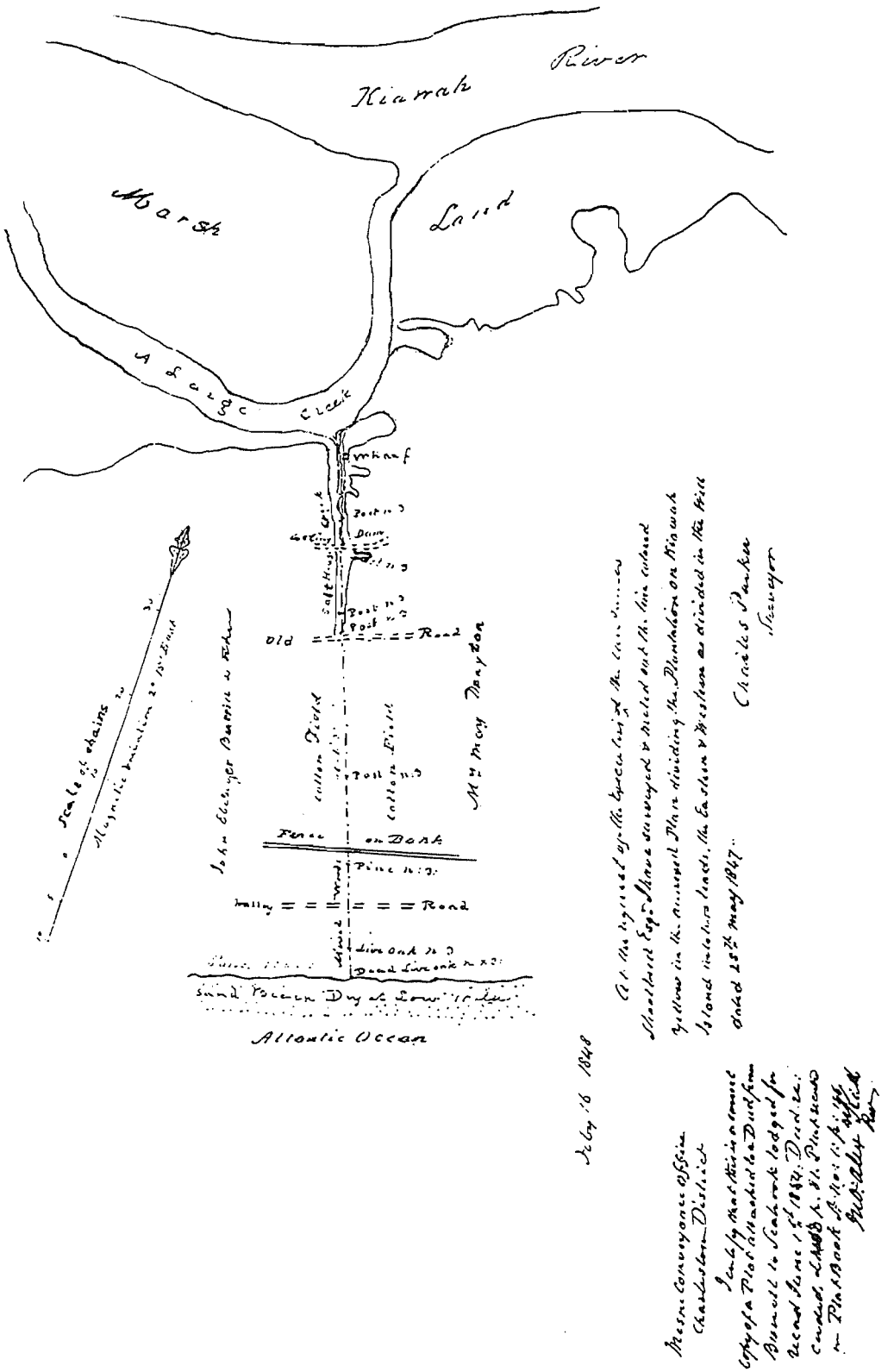


Figure 8. 1848 survey showing the division of the Drayton and Burrill lands on Kiawah.

To the children of his deceased daughter, Ann Burrill, named as John Ebenezer Burrill, Mary Burrill, Shoolbred Burrill, and Drayton Burrill (all living in New York), he devised:

> all that part of my Plantation on Kiawah Island lying to the west of the part herein before devised in trust for my daughter Mary Drayton.

This effectively gave Kiawah three owners -- Vanderhorst, owning the eastern half of the island; Mary Drayton, owning the central one-quarter; and the Burrills, owning the western one-quarter. The tract devised to Mary Drayton contained the bulk of the improvements, including Shoolbred's "new settlement" on Wall Point (now known as Rhett's Bluff). The plat of this division, shown in Figure 8, reveals that the island's landing was well developed, and included a wharf on the east side of the inlet called Salt House Creek. The central part of the island was cleared for cotton fields and a bank had been established on the ocean side of the island, probably to limit flooding. Several roads ran east-west across the island, and the cart path across Salt House Creek suggests that there were still major utilitarian building existing on the west side of the inlet.

Notes on the Gibbes family, written in the 1870s, mention that Shoolbred was "buried at his Country Seat, Kiawah Island, along side of his beloved wife," and that "the remains of both repose on Kiawah Island amidst the shrubbery of that beautiful estate" (South Carolina Historical Society 15/62/1, pp. 52, 59). James Shoolbred's stone, still extant near 38CH129, reads: "SACRED/To the Memory of/JAMES SHOOLBRED Esqr./Born in London/May 13th 1776./and Died in Charleston/September 12th 1847/aged seventy-one years and 4 months/having lived in this State/steadily since 1790". His wife's stone reads: "Under This Marble/are deposited by her own desire/the Remains of MARY MIDDLETON SHOOLBRED/Born on the 6th of November 1779/and departed this Life on the/10th of July 1808".

At Mary Drayton's death in 1855, the eastern portion of Shoolbred's plantation passed to her sons, Thomas Henry Middleton Drayton and John Drayton (Charleston County Wills, Book L 1851-1856, p. 410). In 1855 the plantation included the house, outbuildings, cattle, horses, mules, and 75 slaves. The two brothers held the plantation until January 16, 1860, when they sold it to Isaac Wilson, who mortgaged the island to them to guarantee payments (Charleston County RMC).

The property devised by Shoolbred to the children of Ann Burrill was sold in March 1854 to William Seabrook (Charleston County RMC, DB L13, p. 81, DB L13, p. 85).

Agricultural activity continued on the eastern portion of Shoolbred's estate, although there is no evidence that any activity was taking place on that portion sold by the Burrill's to Seabrook. Table 6 details the 1850 and 1860 agricultural censuses, revealing that Mary Drayton's plantation, under the control of her son, Thomas Drayton, continued to be a major producer of cotton and subsistence crops. Comparison with Table 5 reveals few differences between the Vanderhorst and Drayton plantations. By 1860, under the ownership of Isaac Wilson, the plantation improved acreage had gone down, although cotton production went up by 6 bales. This change was accomplished with 31 slaves, compared to the 51 owned by Mary Drayton 10 years earlier. This increase in the cash crop, however, was also accompanied by a decrease in important provision commodities such as corn, oats, peas, and butter. It appears that while Wilson was attempting to make the plantation profitable with a cash crop, he was also placing himself in the position of purchasing more provision crops on the open market.

A dramatic demographic change, beyond a simple reduction in numbers, had also taken place in the slave population on the plantation. While the 1850 population included 16 males and 16 females over the age of 15, as well as 19

children, by 1860 there were only nine males compared to 16 females, with five children. This radical shift may have been the result of Wilson not only trying to trim costs by reducing the population, but may also indicate an effort to farm with less costly female slaves. Of the nine male slaves held by Wilson, a third were over the age of 40, compared to only 12% 10 years earlier.

The best view of Kiawah Island is provided by an 1863 tracing of the 1854 Coastal Survey Map entitled, "Kiawah River and Island and Portions of Folly, Cole's, John's and Seabrook's Islands" (Figure 9). This shows Kiawah under the ownership of the Burrills, Mary Drayton, and Vanderhorst, although it is unlikely that any major changes had occurred since the island was under the dual ownership

Table 6.
Agricultural Production on the Eastern Portion of the Old Shoolbred Plantation in 1850 and 1860

	1850 - Drayton	1860 - Wilson
Acreage, improved	400	300
Acreage, unimproved	94	142
Cash value ($)	10000	11000
Value of implements/equipment ($)	600	150
Horses		10
Asses/mules	3	3
Milk cows	40	40
Working oxen	16	8
Other cattle		20
Sheep	30	50
Swine	40	
Value of livestock ($)	760	2000
Value of slaughtered animals ($)	100	200
Corn (bu.)	1100	500
Oats (bu.)	250	
Hay (tons)		15
Cotton (bales @ 400 lbs.)	14	20
Peas (bu.)	220	150
Sweet potatoes (bu.)	1000	1400
Wool (lbs.)	60	200
Butter (lbs.)	480	200

of Shoolbred and Vanderhorst.

On the west side of Salt House Creek (Figure 10) there is a settlement consisting of 16 structures surrounded by a fence. These include a double row slave settlement with eight houses, seven support structures, and the main house. This portion of the Shoolbred Plantation had been passed to the Burrills, who sold it the year the chart was made to William Seabrook. On the east side of Salt House Creek (Figure 10) there are a series of 16 structures consisting of nine slave houses and seven outbuildings. It is unlikely that any of the structures shown were a main house since Mary Drayton inherited not only the complex east of the creek, but also the Shoolbred plantation house on Rhett's Bluff. The Shoolbred settlement on Rhett's Bluff is shown as consisting of six buildings (Figure 11). The Vanderhorst settlement (Figure 12) is shown as consisting of nine structures. These structures appear to represent three slave house (to the east), the main house and two flanking buildings, and three outbuildings. At Sandy Point five structures are shown. This settlement probably consisted

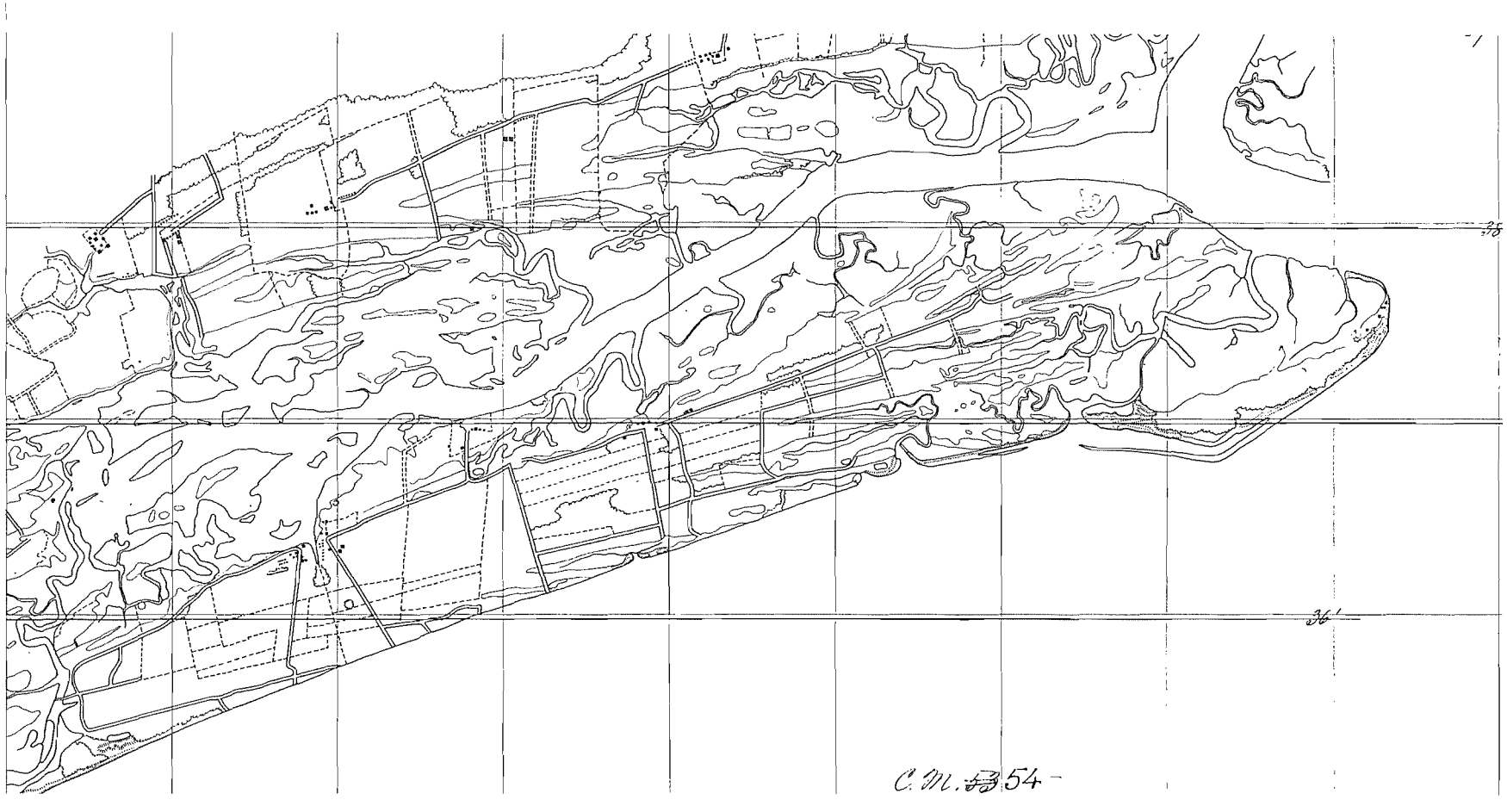


Figure 9. 1863 tracing of the 1854 Coastal Survey of Kiawah Island.

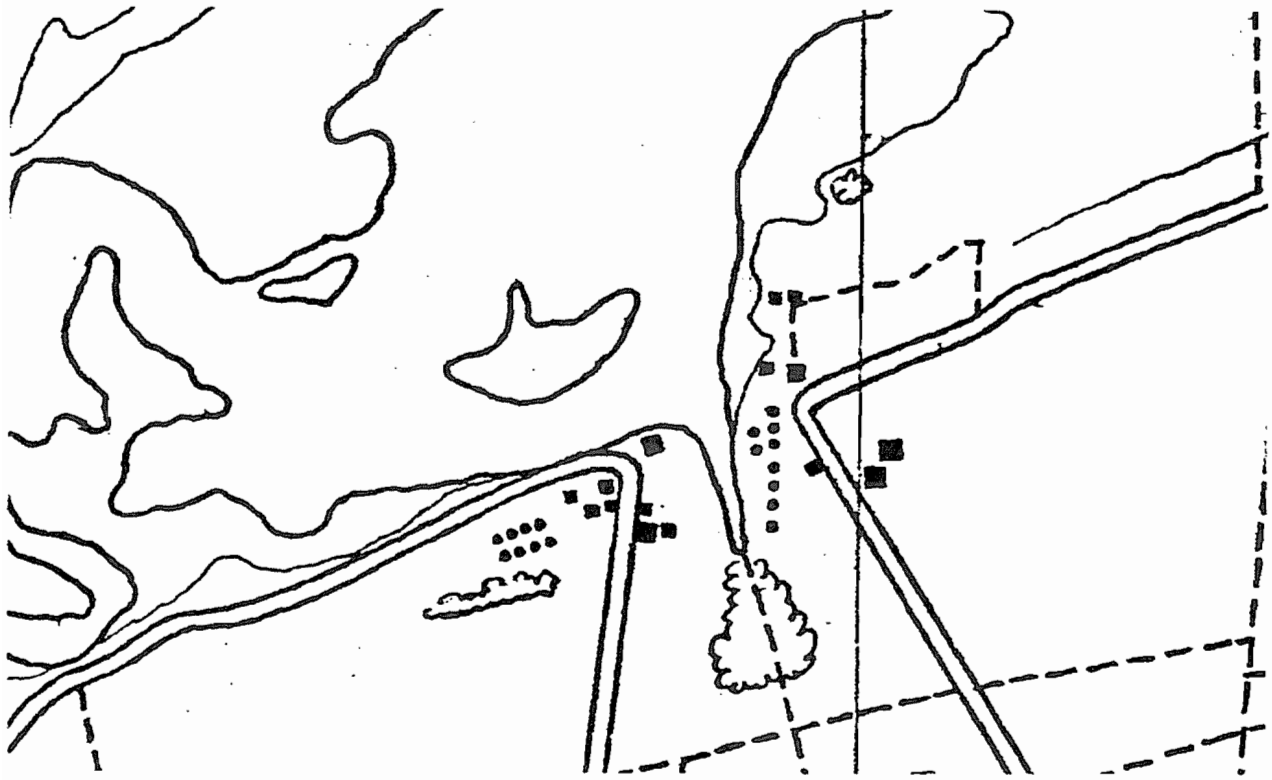


Figure 10. Area of Seabrook's settlement on the west side of Salt House Creek and Drayton's settlement on the east side.

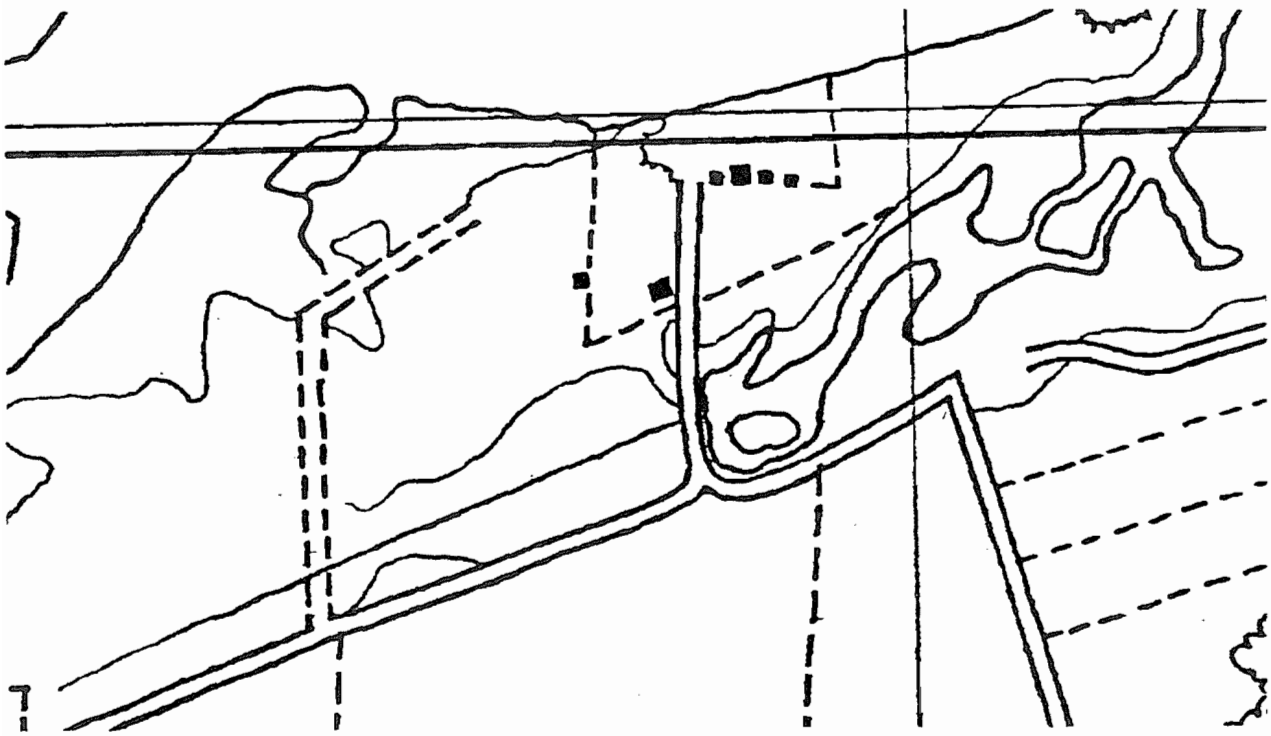


Figure 11. Area of Drayton's settlement on Wall Point (today Rhett's Bluff).

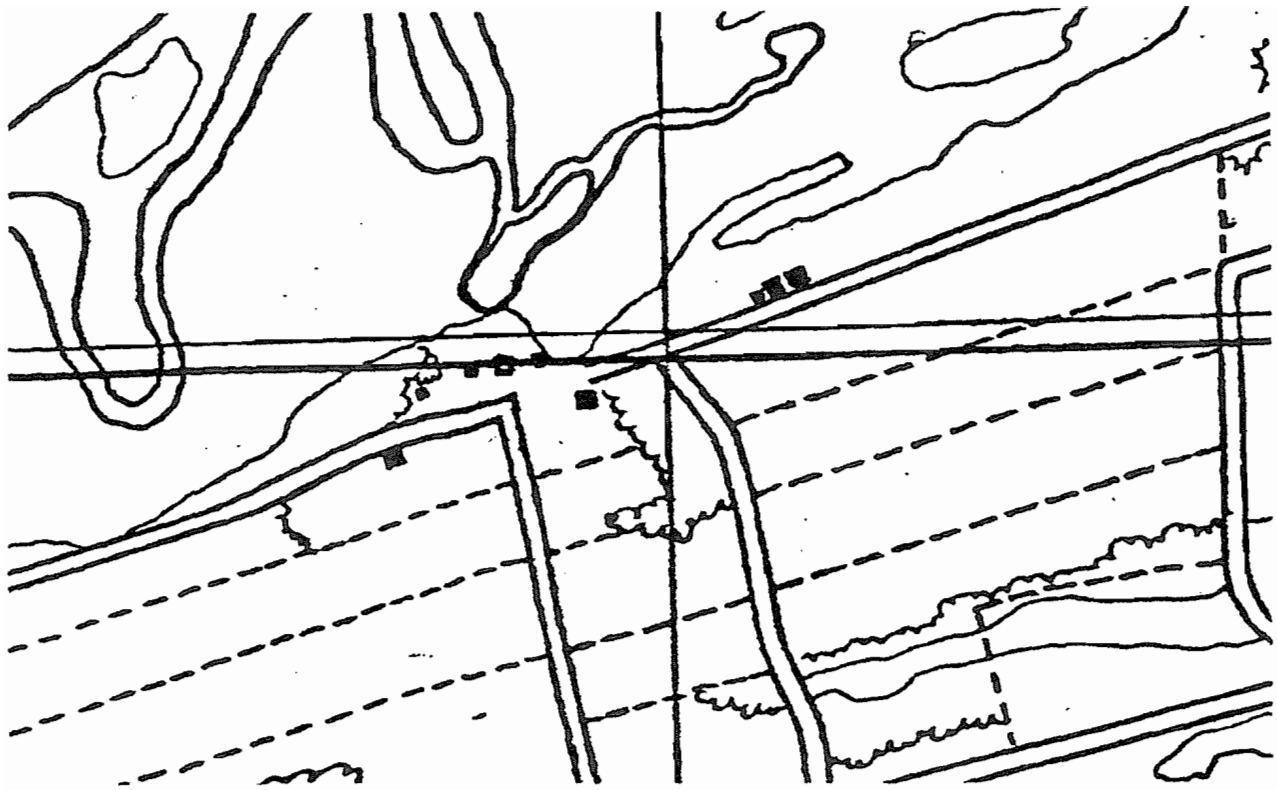


Figure 12. Vanderhorst's settlement.

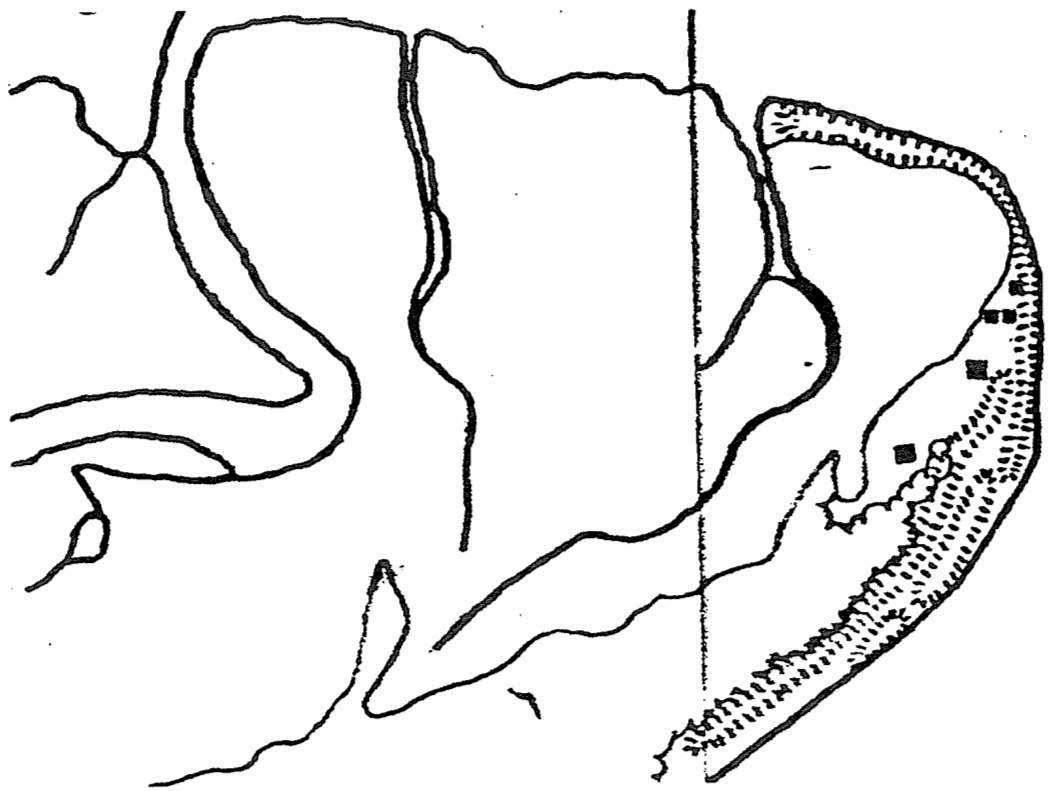


Figure 13. Vanderhorst's Sandy Point settlement.

of Vanderhorst's house, one or more servants' quarters, outbuildings, and possibly a kitchen (Figure 13).

There are some differences between the original 1854 map and the 1863 tracing. Many of these differences may be due to the map being updated or, more likely, incorrect transferral of structures and features from the original. Nonetheless, these differences are worthy of note.

On the west side of Salt House Creek, the main house area is shown in more detail. Within a fenced area is the main house, which almost certainly was Stanyarne's original structure built on Kiawah Island, and three additional outbuildings, one of which was probably the kitchen. In addition, the whole settlement is surrounded by a fence. Nineteen structures are found on this map. On the east side of the creek there are a series of 19 structures scattered along several roads. The wharf projects from the eastern side into Salt House Creek. This entire area is labeled, "Drayton's," representing the portion of the Shoolbred Plantation devised to Mary Drayton and sold by her sons in 1860 to Isaac Wilson.

Further to the east, on what is today Rhett's Bluff, is a second cluster of what appears to be four structures, corresponding to the "New Settlement" on the 1802 plat. Further east is "Vanderhorst's", consisting of five structures within a fenced compound, and an additional nine structures to the west (several of which may represent slave structures). To the east, across a small slough, is a slave settlement of perhaps three structures. At the tip of Sandy Point this map also shows the location of Vanderhorst's house. No evidence of the 1812 fort is shown on the chart, suggesting that by 1854, 42 years after its construction, little remained of the fort.

The Civil War on Kiawah

The earliest account of the war's effect on Kiawah is provided by an early 1862 note from Elias Vanderhorst regarding the movement of slaves off the island. He specifies that a few are to be left to care for the plantation, but the majority are to be moved:

> tell them that we expect to remove back to Kiawah in the Spring -
>
> tell them that all the Carpenters and several others are at the Round O [on the Ashepoo River] and will be working for them [presumably building new houses]. I wish them to be provided with a plenty of provisions for the journey. Kill as much beef for them as they will want, not the working oxen, but the steers (South Carolina Historical Society 12/196/26).

When Arnoldus Vanderhorst IV (the son of Elias and Ann Vanderhorst) visited Kiawah in March 1862 he told Adele (his wife):

> fortunately found everything just as I had left it when I removed the negroes. The next plantation belonging to Mr. Wilson [the Shoolbred plantation, 38CH129, passed on to Mary Drayton and sold to Wilson in 1860] was not so fortunate. Our own troops had broken into the fine dwelling house and maliciously destroyed the furniture, and left the house in such a condition that it scarcely ever will be habitable for a decent family. The Vandals were not satisfied with this shameful destruction of private property, but were low enough to rob the poor old negro who was left to take care of the place of all his chickens, and they even went in his house, and stole a new pair of shoes that his master had given him. Is it not melancholy to think that we have such Barbarians amongst us, and that these are the men that the country looks to to fight its battles. The more I see of our people the more I am convinced of their total unfitness

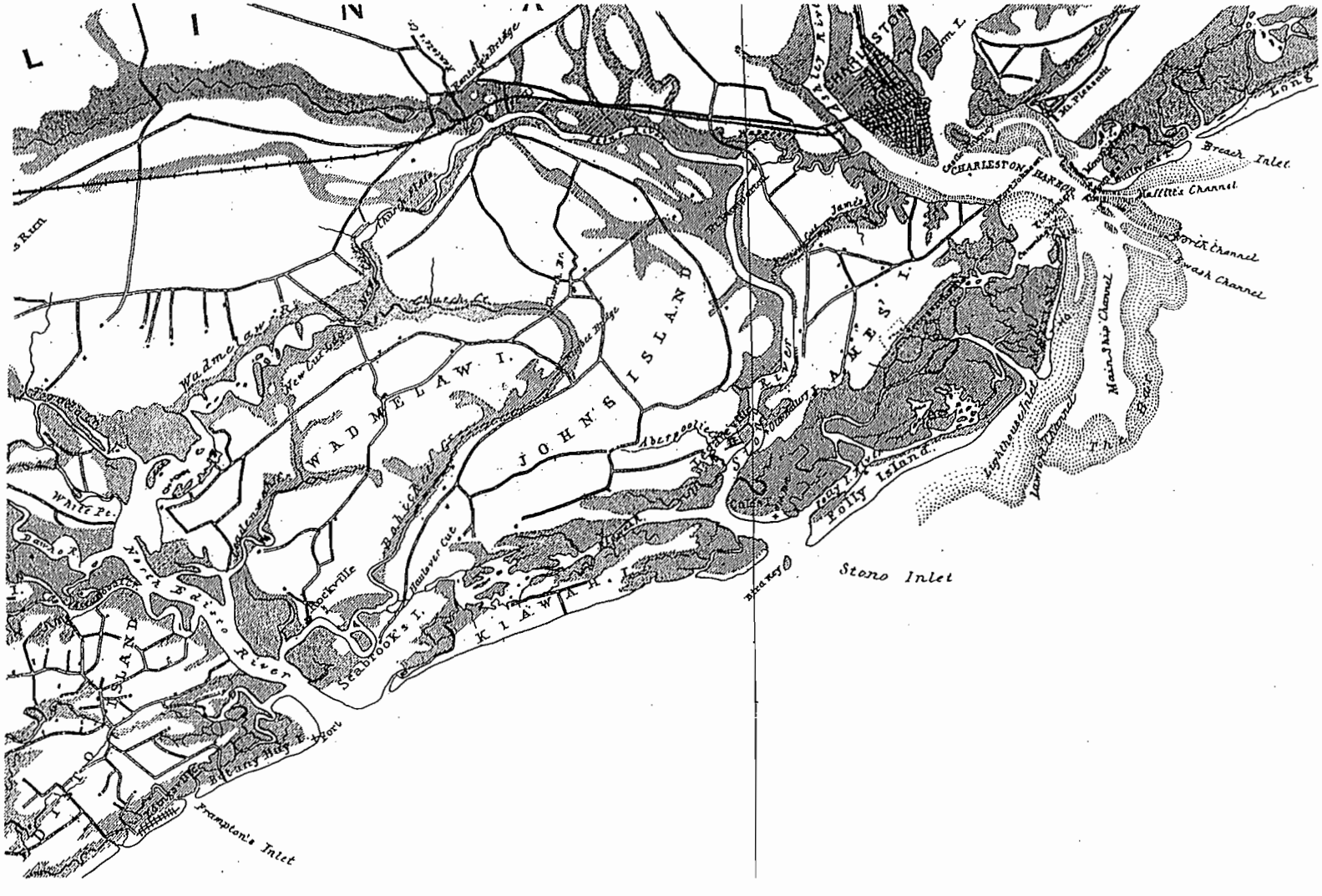


Figure 14. A portion of A.D. Bache's 1862 "Coast of South Carolina."

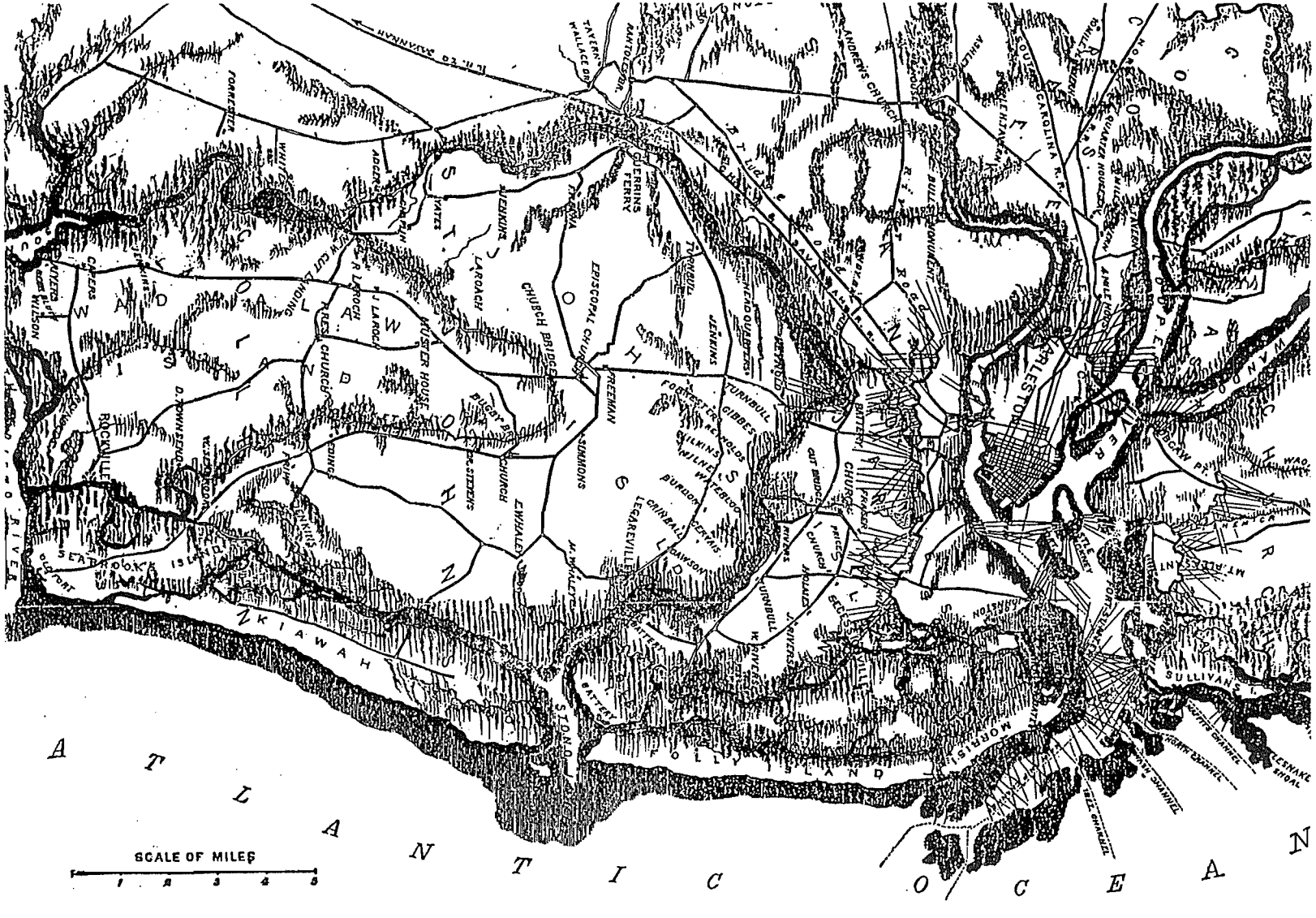


Figure 15. 1863 "Map of Charleston, S.C. Showing the Approaches" (*Harper's Weekly*, March 28, 1863).

> to Government themselves, and I think the sooner we have a strong government the better for all classes (South Carolina Historical Society 12/200/12).

Other correspondence during these early days of the war reflect the optimism of Southerners and the various efforts to fortify Charleston. Vanderhorst's slaves were used to construct defenses by General Pemberton (South Carolina Historical Society 12/200/12) and two of his flats were used to make a pontoon bridge over the Ashepoo River (South Carolina Historical Society 12/200/16). Like other coastal Southerners, Vanderhorst also sent a box of valuable papers to Columbia for safe-keeping, a tragic mistake.

During this early period of the war, only one reference to the Kiawah area has been found. In April 1862 the Third New Hampshire Infantry made a brief reconnaissance to Seabrook Island. Evidently little activity was found on either Seabrook or Kiawah, although Confederate troops were clearly established on John's Island (*Official Records*, Ser. 1, Vol. 14, p. 3-4). As late as October 1862, no fortifications appear to have been erected by the Union forces on Kiawah (*Official Records*, Ser. 1, Vol. 14, p. 627-628).

Kiawah played a small part in the Union siege of Charleston, conducted from April 1863 through February 1865 and the events of this operation are discussed in detail by Burton (1970), and Legg and Smith (1989). Charleston was protected by a series of primarily coastal defenses, including Fort Sumter, a two-tiered brick casement constructed on an artificial island in the middle of the harbor; Castle Pinckney, a brick fort constructed on Shutes Island, about a mile east of Charleston; and Fort Moultrie, another brick fort, situated on Sullivans Island. To these defenses General P.G.T. Beauregard added earthworks in a circle around Charleston, including Battery Beauregard on Sullivans Island, Fort Johnson on James Island, and Batteries Wagner and Gregg on Morris Island. James Island, considered by both Union and Confederate leaders as the key to Charleston, was heavily fortified, and Cole's Island, guarding the entrance to the Stono River (and hence to James Island), received an enclosed battery (Figures 14 and 15).

Concerned that Charleston had insufficient men and artillery to protect itself, Confederate General John C. Pemberton ordered troops to abandon the Cole's and Folly Island defenses in March 1862 (see Hagood 1910). The abandonment of these defensive lines allowed Union troops to move into the area without opposition in the Spring of 1862. It was at this time that the siege of Charleston began and the Civil War came to Kiawah Island.

The first major offensive on Charleston was the ill-fated June 1862 land attack of James Island. The second, equally disastrous, was the combined naval and land attack in April 1863. In June 1863 the command of the islands around Charleston was given to General Quincy A. Gillmore and the previously defensive efforts were transformed into preparations to again launch an attack on Charleston. In July 1863 Union troops on Folly Island attacked adjacent Morris Island, easily establishing control over the southern end of the island. Three efforts to storm Battery Wagner were repulsed and the Union troops once again began siege tactics. In September the Confederate troops abandoned Morris Island, giving the Union forces a somewhat hollow victory and beginning the next phase in the long siege of Charleston. Union troops held a somewhat tenuous line along portions of Seabrook, Kiawah, Folly, and Morris islands, but failed to hold any significant portions of John's or James Island. Figure 16 shows a portion of Kiawah Island and the picket line of the Union troops in 1864, revealing that Kiawah and Seabrook were usually considered hostile territory by the Union forces.

In early September 1863, troops stationed on Kiawah were ordered:

> to reconnoiter Kiawah Island thoroughly. By frequent patrols of the island affording opportunities for the erection of batteries by the

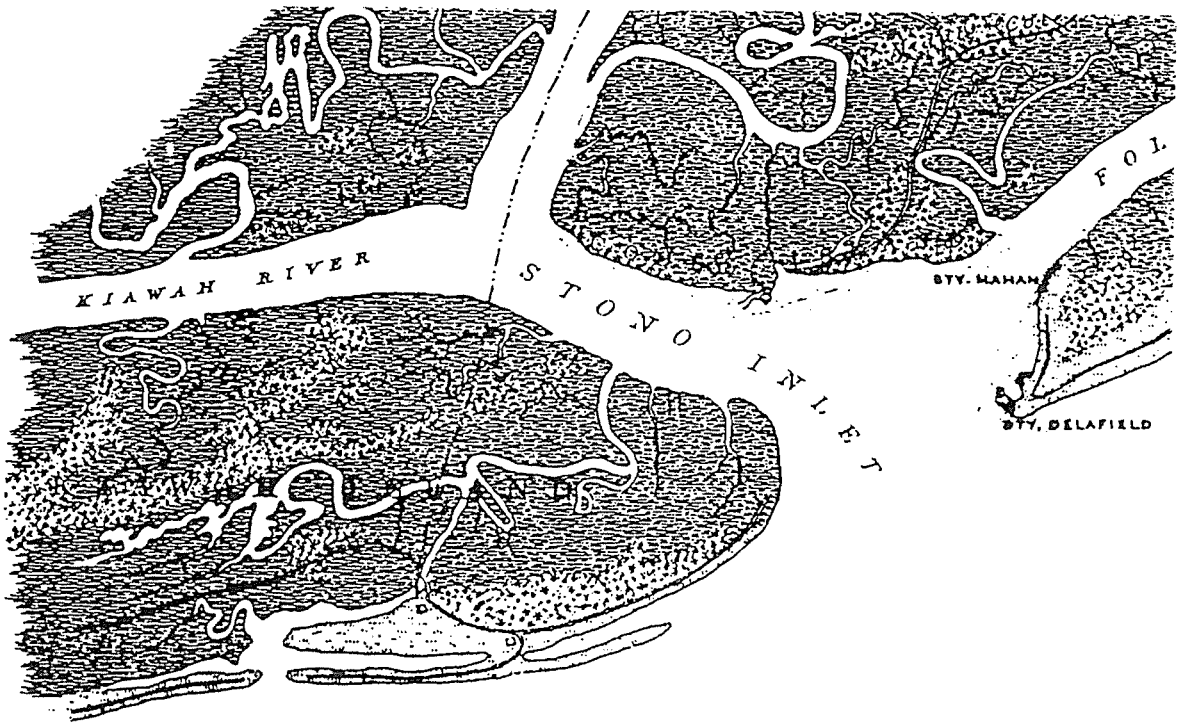


Figure 16. Detail of "Map of the Defenses of Charleston City and Harbor, also showing the Works Erected by the U.S. Forces in 1863 and 1864."

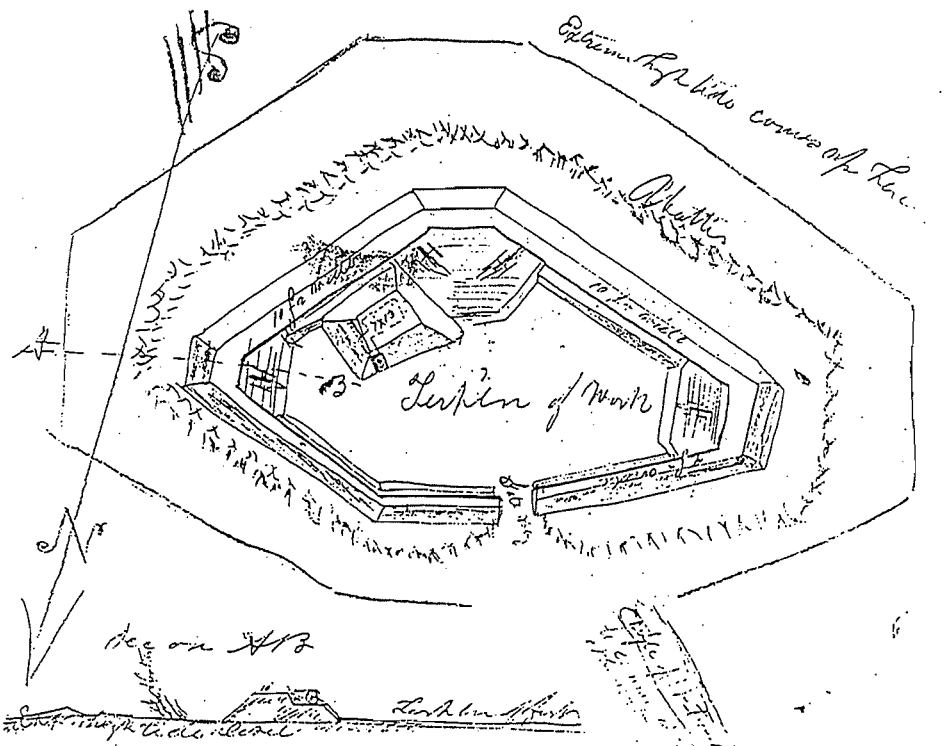


Figure 17. Plan of the beach fort on Kiawah Island (National Archives, RG 77).

> rebels, we shall do all we can without an increased force (*Official Records*, Ser. 1, Vol. 47, p. 87).

Later that same month, the commander of Union forces on Kiawah was ordered to "strengthen the position of Kiawah, this side of the first creek that divides the island, by abatis and excavating rifle-pits in rear." Further, the quartermaster was to "furnish any facility for constructing a landing for Kiawah" (*Official Records*, Ser. 1, Vol. 47, p. 99). The location of this activity on Kiawah would have been on what is today known as Cougar Island on Sandy Point.The landing was probably constructed at the bluffs of Bass Creek (see Figure 16).

The fortification of Kiawah continued into October and November 1863, with a November 15 account describing the recent construction of a small fortification near the beach of Kiawah. Also mentioned, but not described, was a second fort (Figure 17; see also *Official Records*, Ser. 1, Vol. 47, p. 103). One of the few Confederate accounts from this period describes a brief encounter with Union forces who had established artillery on the west end of Kiawah, near the bridge joining Kiawah and Seabrook, and had been shelling the Haulover Cut area. The Union forces were also repairing the bridge (*Official Records*, Ser. 1, Vol. 46, p. 737-738).

It is likely that the bulk of the activities taking place on Kiawah were undertaken by six regiments: the 41st New York, 54th New York, 127th New York, 142nd New York, 107th Ohio, and 74th Pennsylvania. In addition, the 17th Connecticut, 40th Massachusetts, 144th New York, 157th New York, 25th Ohio, and 75th Ohio may have had occasional picket duty on the island (*Official Records*, Ser. 1, Vol. 47, p. 138).

In January 1864 a series of signal towers were constructed from Hilton Head to Folly Island in an effort to allow uninterrupted communications along the coast. At least one signal tower was constructed on the east end of Kiawah "as so much smoke arises from the camps there and on Folly Island as to render it impossible to see a station on Folly Island from there [Botany Bay on Edisto Island] (*Official Records*, Ser. 1, Vol. 46, p. 54).

Military operations were largely confined, as they had been earlier, to harassing Confederate posts on James and John's islands. One such example was conducted during three days in February 1864 when 1000 troops landed on Kiawah, crossed the island to Seabrook, and then proceeded to John's Island. This activity included the 41st New York, 54th New York, 142nd New York, and 74th Pennsylvania regiments (*Official Records*, Ser. 1, Vol. 65, pp. 31, 144, 468-470; Barlow 1899:154-155). Additional forays took place in May 1864.

A May 2, 1864 order was issued to "put the oyster shell fort on Cole's Island in a state of defense, with a view to arming it with two heavy rifled pieces and two mortars or field howitzers" (*Official Records*, Ser. 1, Vol. 66, p. 83, see also *Official Records*, Ser. 1, Vol. 65, p. 55). The other fort on Kiawah, probably at the location of the old fort from the War of 1812, is mentioned on May 5:

> On Kiawah Island I have taken the guns from the forts, armed the large fort with rockets, and reduced the garrison to an outpost of 40 men. . . . Besides this, I very much need facilities for mounting a small force of infantry for the purpose of patrolling the whole of Folly Island and also Kiawah (*Official Records*, Ser. 1, Vol. 65, p. 53).

The "rockets" referred to would have been either the Congreve or Hale, both of which were used extensively during the siege on Charleston, although with relatively little effect (Dickey and George 1980:469-471). McGrath notes that:

> On the 9th of April [1864] a party was detailed on a reconnaissance

> to James Island, and afterwards a detachment to Kiowah Island to practice handling the Congreve Rockets. They were found very unreliable; some of the rockets after leaving the tube would trip and return to the sender; they made a good deal of noise when they exploded and might be useful in scaring horses, but were not thought much of (McGrath 1898:97).

McGrath also provides a detailed account of the Cole's Island fort:

> our new camp was made in a grove of live oak trees near the landing and in the vicinity of the old shellfort supposed to have been erected by the Spanish. The so-called "Fort" was a circular wall, made some ten or twelve feet high and five to six feet thick, made of a concrete of oyster shells as solid as masonry. It was useless for our purposes, however, except as a breastwork, which the situation here did not require (McGrath 1898:74).

Also on May 5 a party of 100 Union troops traveled to Vanderhorst's plantation as part of a patrol:

> while this party was out, the negroes at Vanderhorst's plantation (8, old and young) were allowed to move within our lines, where they are now established (*Official Records*, Ser. 1, Vol. 65, p. 54).

A similar scouting party was sent out on June 1, with orders to cross over to Kiawah and proceed as far as Vanderhorst Plantation and stay there overnight. The next they were to continue to the:

> broken-down bridge leading to Seabrook Island, and to the point of Kiawah at the Seabrook ford on the beach. . . . While this party is out, the negro, Frank, will be allowed to bring in any of his stuff or cattle still on the Vanderhorst plantation, and for that purpose Captain Cushing will furnish the officer in command with two wagons on his calling for them (*Official Records*, Ser. 1, Vol. 66, p. 109-110).

In June 1864 the defenses on Kiawah were listed as:

> Works on Kiawah Island cover the Stono Inlet from an attack in this direction: First. Lower redoubt, commands the beach. Second. Upper redoubt, commands all the end of the island. The armament of these works has been removed. They are held by infantry (*Official Records*, Ser. 1, Vol. 66, p. 118).

The first redoubt is that shown in Figure 17 and constructed in late 1863. The second fortification, built to command the end of the island was almost certainly the reworking of the 1812 fort (Figure 18).

An additional account is provided by a March 31, 1864 letter from A.M. Barney to his friend, Phiny. Written from Kiawah, Barney describes the island and its plantations:

> the Island that we are encamped on is about fourteen miles long by the average width of two miles. There are three plantations on it and was two very fair houses. One of them was accidently burned in July last by the tall dry grass getting afire from some bivouac fires, the other has been almost entirely demolished by this and other Regts.

It is clear when this fragment of history is compared to the archaeological and historical evidence that the three plantations were the Vanderhorst, Shoolbred (now Wilson), and Drayton (the "Old Settlement"). It was the Shoolbred house,

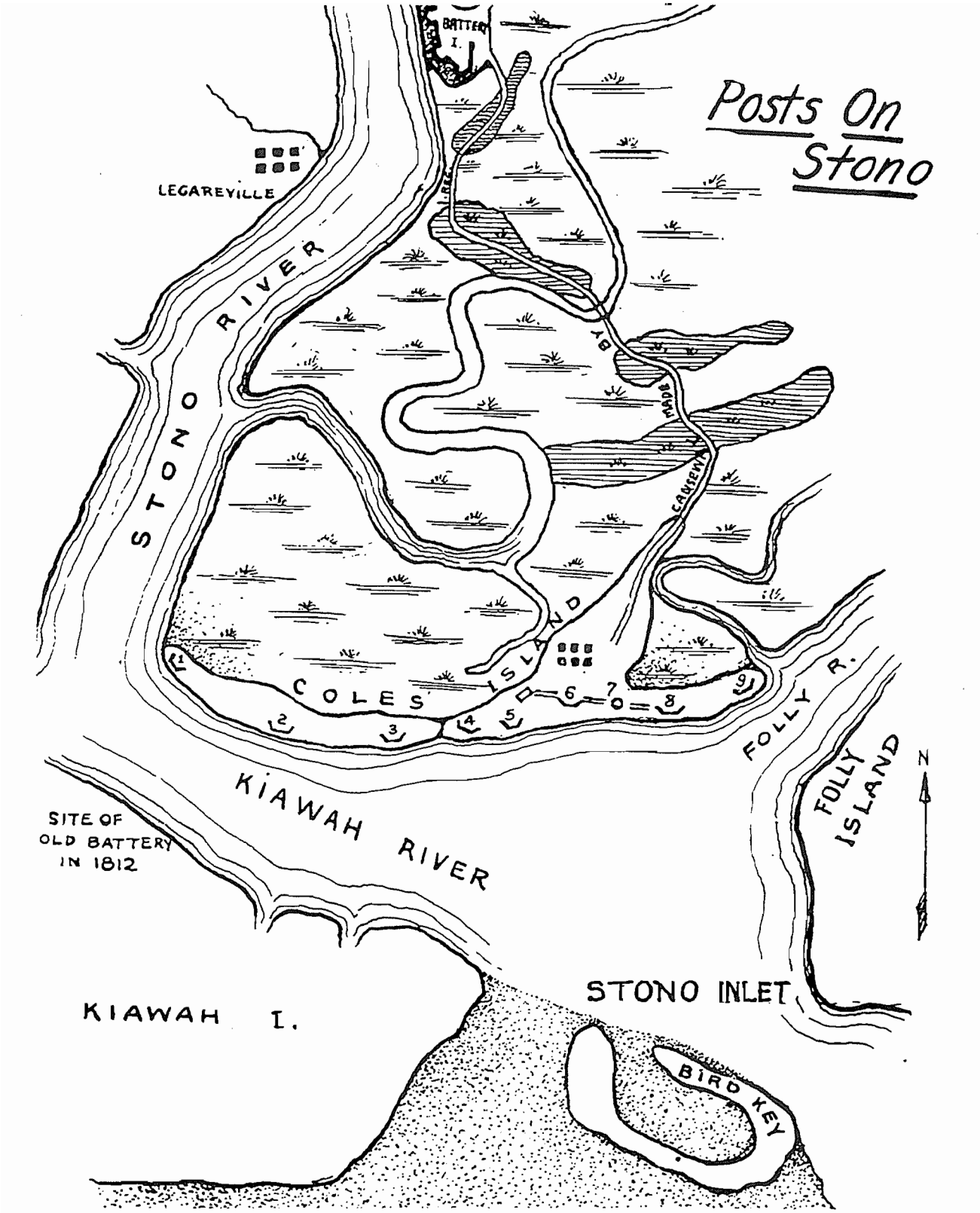


Figure 18. Location of Confederate works on Cole's Island the 1812 fort on Kiawah (Hagood 1910).

38CH129, which Vanderhorst described as vandalized in March 1862, that Barney reported as burned during July 1863. The house being "demolished" was almost certainly the Vanderhorst mansion, 38CH127.

Barney continues, remarking:

> there are two small forts about one and a half miles from the northern end of the Island (Stono Inlet) which are garrisoned by one of our companies, "D" Capt Jones of Malone. We have just moved our camp nearly up to the Forts and will have a splendid one too. I have two tents with good frames in them. A good board floor in the front tent and a marble floor in the other. There was a large lot of marble blocks 9 inches square piled up at the house that was burned which I appropriated. I also found a slab about five feet long by two wide which I made into a table, and I got some sand stone for steps to my tent. The whole frame is raised on posts about a foot from the ground so that it will be cool during the hot weather.

This brief account indicates that a relatively large quantity of marble was stacked at the Shoolbred house. Eventually it seems to have been spread around the island. Barney's letter also makes it clear that the Union forces tended to appropriate whatever was at hand to make camp life more pleasant.

The Vanderhorst house provides some additional clues to military action on the island. During the 1970s when the Victorian wallpaper was being stripped off the walls as part of an abortive restoration effort, pencil graffiti was found in the east room of the second floor. Although some fading and vandalism has occurred, much of the graffiti is still legible:

> "How are you Genl Beuarguarde" (Beauregard being the Confederate general responsible for the defence of Charleston),
>
> "Veriatas Vincet" (not quite literate latin for veritas vincit, or "truth conquers,"
>
> "55th Regt Mass Vol. Inf. J[une, July, or possibly Jan.] 1st, 1864"
>
> "How are you Johnny Rebel You can kiss a Yankee's ass in you ___ were is that _____ a five ____ ____ ____ Dutch ____, 74th Regt."

The 55th Regiment Massachusetts Volunteers is less well known than its sister regiment, the 54th (made famous by the movie *Glory*), but served bravely, making important contributions throughout the Civil War. The 55th was the second black regiment raised in the North during the war, being composed primarily of those left over from the recruitment and enlistment of the 54th regiment. They were in the Kiawah area during the months of January, June, and July, being camped on Long and Folly islands, as well as "at the Stono Inlet," which may actually have been Kiawah Island (Fox 1868:20, 28-233). Regardless, they were in the immediate vicinity and it is likely that some companies served on Kiawah. The Massachusetts Historical Society describes the white officers as "an interesting amalgam of recent Harvard graduates and adventurous schoolboys," perhaps explaining the careful "copper plate engraving" handwriting and the nearly correct latin. Standing in contrast is the reference to "Johnny Rebel" made by a less erudite soldier of the 74th Pennsylvania Infantry, which was in the Folly Island area in early 1864.

Vanderhorst's correspondence during this period is relatively quiet. On March 3, 1864 Vanderhorst's factors wrote indicating he had a $31,754 credit on their books and inquiring what he wished them to do with the funds. Six days later Vanderhorst purchased $34,500 of Confederate War Bonds (South Carolina Historical Society 12/209/18). This tragic, patriotic show sealed Vanderhorst's postbellum fate a year later. In May 1864 Elias wrote his son, remarking,

"provisions are so hard to be obtained . . . money is very tight and no change to be had" (South Carolina Historical Society 12/200/18).

As late as June 1864 the Confederate forces were occasionally visiting Kiawah. A note from a Captain Parker to Elias Vanderhorst stated:

> A few weeks ago being at the time in Command of this S[ection?] I ordered a Scouting party over to Kiawah with a view of ascertaining the location of the Yankees and of bringing off some Stock said to be there - I succeeded in bringing off 4 Cows and 3 Calves (yearling) - the Cattle I had slaughtered for the troops and issued. Except one Cow which had milk. This Cow I have kept until the present time. . . . Two mules and one black Mare were also brought off and these also intended to turn over to Major Perkins . . . . Please write me what disposition you wish made with this property (if it is yours) (South Carolina Historical Society 12/200/18).

In August 1864 Ann Vanderhorst made a deed out to Arnoldus IV to "give and deliver unto him my slave, a Mulatto Man, named Quash" (South Carolina Historical Society 12/200/18). It is likely that Quash was Arnoldus's half-brother, being the son of Elias Vanderhorst, Ann's husband (this was pieced together from the tone of various notes and was confirmed by James Quash Stevens, Jr., the grandson of Quash). Previously Quash had been at the Round O on Ashepoo River and would become a focal point of activities on Kiawah during the postbellum.

Postbellum Stagnation

The immediate postbellum letters of Elias Vanderhorst emphasize the hopelessness of Charleston after the Civil War:

> I look to you for support in my old age, you are the only child left to me . . . . Raven could not stand the excitement of the taking of Columbia and sank under it - we shall never look upon her sweet face again in this world . . . . We have lost everything in the country, not an article saved, not even your mare and colt and the people scattered.
>
> We are very well but in poverty as you may suppose. I borrowed $800 to pay the taxes upon the house and Wharf. The government has possession of the latter and will not allow me to collect any thing from it . . . . I therefore have no income from any sources, but do not quail under it. . . . Will is the only man servant remaining with me . . . . I hope Quash remains faithful. Nothing was saved in the country, not even my old shoes.
>
> What property may be left to me, when things get settled down, if they ever do, I think we shall have to sell and go to some safe country where we can be protected in life and property (South Carolina Historical Society 12/200/19).

The first reference to Elias Vanderhorst visiting Kiawah is a September 22, 1865 note from the Military District of Charleston, providing him safe passage to "visit Kiawah Island, Stono Inlet," although there is no indication of what he found on his visit.

Both Elias and Arnoldus IV took their oaths of allegiance in October 1865 and in November Elias petitioned to have "my plantation in the Eastern end of Kiawah Island restored to me. This tract of land has been in my possession since the year 1815, by inheritance." Not everyone was so fortunate, however. Ann Vanderhorst wrote regarding the sale of her ancestral home to "Yankee Speckulators" -- "think of the Bones of my Ancestors removed from where they have been Sleeping for a Century" (South Carolina Historical Society 12/200/20). Elias

also warned his wife, Ann, not to invest her New York savings, "my wharf will be at a standstill very soon and no money to pay the taxes upon it" (South Carolina Historical Society 12/201/1).

Arnoldus immediately set to work attempting to begin operations at Round O. Always doubtful of his son's wisdom and judgement, Elias has little positive to say about the operation, remarking that, "I hope he will do well, but it is doubtful." For his own part, Elias was attempting, with relatively little success, to begin planting on Kiawah. An April 22, 1866 letter from Lieutenant A.R. McNair, U.S. Navy to Elias, stated:

> When I visited Kiawah Island with you last November there certainly were not more than 10 to 12 Freedmen on the island, and only a portion of them belonged to the island, i.e. were residents of the island before the war. I recollect perfectly the arrival of a flat-load of them right before our Hunting party left for Charleston. I am truly sorry to learn that you have been kept so long from possession of that property - do all the Negroes now on the island claim to belong there? In November, I questioned several, and those who were strangers on the island did not hesitate to acknowledge it. I also recollect that where one of these people expressed fear that you would not allow him to live on your land, you quieted his doubts and, I thought, evidenced a liberal and just spirit (South Carolina Historical Society 12/201/1).

Quash did, apparently, remain "loyal." In November he wrote from Kiawah indicating that the potatoes he planted were doing well, but that it was hard to find workers. And in December, Elias wrote to his son Arnoldus, stating:

> Quash sent me word that the negroes were still living in the house at Kiawah. Negroes doing nothing but making piggins (South Carolina Historical Society 12/201/1).

Vanderhorst was also providing provisions for Kiawah Island, presumably for the new wage laborers on the plantation. These included in February 1867 two shipments of flour, lard, rice flour, molasses, sugar, coffee, whiskey, sugar crackers, and bacon; a March shipment of white corn, bacon shoulders, molasses, salt, flour, and coal tar; in May, white corn, flour, hard tack, and sugar crackers; in August a shipment of pork, sugar, soap, hard tack, and oakum; and in September, corn (South Carolina Historical Society 12/209/21). The quantities clearly indicate that Kiawah was not even partially self-sufficient, but that all provisions were being imported. These were probably being provided by Vanderhorst as either part of the labor contract, although it is also likely he was offering the materials for sale to the Freedmen who had few opportunities to leave Kiawah. Such "captive markets" were often charged incredibly high prices.

During this period the only glimmer of hope was an order for "an immense number of palmetto logs of the largest size." But even this must have been bitter for Elias, since the order came from the U.S. Government and the logs were to be used in the rebuilding of the Mobile, Alabama harbor (South Carolina Historical Society 12/201/3). Still facing labor difficulties on Kiawah, Vanderhorst wrote that in November 1867 he had been forced to take an officer with him to Kiawah to get contracts signed by the Freedmen for the coming year (South Carolina Historical Society 12/201/4).

Vanderhorst's neighbors on Kiawah were no more fortunate. A postbellum account reveals that:

> the elegant [Shoolbred] mansion and all the splendidly arranged outbuildings all, well as the barns, negro quarters &c. were totally destroyed by the Yankee troops in 1863 while under the Command of Gl. Hatch of Mass. - they called it war (South Carolina Historical

Society 15/62/1, p. 59-60).

The reference to Hatch is at least partially correct, since Brig. General John P. Hatch served briefly as the Commander of the District of Charleston after Sherman's march in 1865. Hatch, however, was not in the Charleston area in 1863 and was not in command of Massachusetts troops. Previous historical accounts, however, indicate that both the 1862 looting by Confederate troops coupled with the accidental fire in July 1863 served to reduce the mansion to ruins.

It is also clear from the 1866 Coastal Survey that Kiawah had changed (Figure 19). The Shoolbred "New Settlement" no longer exists, as implied by the above description, and the Seabrook settlement is reduced to 14 structures, although the main house (presumably the original Stanyarne mansion) is still standing. The cluster of structures east of Salt House Creek is reduced to 11 and only six (including the main house) are shown for Vanderhorst's settlement. The Vanderhorst settlement on Sandy Point is no longer shown, probably destroyed by military activities.

In addition, court action was brought against Isaac Wilson in 1866 by Wallace Lawton for various unpaid mortgages and the Court of Equity directed that Wilson's property should be sold. Wilson's portion of the Shoolbred estate, described as:

> that plantation or tract of land lying and being on Kiawah Island in District of Colleton and State aforesaid: measuring and containing - - Butting and Bounding Northwardly on the Atlantic Ocean, Southwardly on Kiawah River [these two boundaries were accidently reversed in the deed], Eastwardly on Lands of Elias Vanderhorst, and Westwardly on lands of William Seabrook (Charleston County RMC, DB D15, p. 405)

was sold to James Gibbes for $4510. Gibbes was a grandson of James and Mary Shoolbred and a cousin of Thomas Henry Middleton Drayton and John Drayton, who had originally sold the property to Wilson in 1860. Gibbes' intent was to maintain the property within the family, and when his daughter Amelia S. Gibbes married John Haile, a marriage settlement stipulated that the property would pass from Amelia to her children. If the children failed to reach legal age, the Kiawah plantation would revert back to James Gibbes, or his estate (Charleston County RMC, DB C16, p. 293). It was also during the early postbellum years that Seabrook's portion of Kiawah Island was transferred, through indeterminate means, to William Gregg.

In spite of these tribulations, Vanderhorst managed to maintain control of his portion of Kiawah and continue his farming activities. Apparently in an effort to maximize his returns (and probably as a condition of his contract with laborers) he purchased 25 barrels of Wando fertilizer for Kiawah in March 1868 (South Carolina Historical Society 12/209/23). He also continued periodic shipments of provisions to the island (South Carolina Historical Society 12/209/24).

During these early years some rewards were seen from his labors (and those of the Freedmen). In April 1867, Vanderhorst obtain 3827 pounds of cotton from Kiawah -- nearly 10 bales. While down from pre-war conditions, this was still an excellent yield for the immediate postbellum years.

A copy of the January 1867 labor agreement for Kiawah Island (reproduced as Figure 20) reveals that conditions on Kiawah were only marginally different for the Blacks in freedom than they had been during slavery. Provisions were set at 1 peck of meal and 3 pounds of bacon, laborers could be dismissed at any time, and they were required to do any work specified by Vanderhorst. This agreement, and most of the receipts for Kiawah from this time on, are in the name of Arnoldus, suggesting that Elias' advanced age, if not the pressures of financial

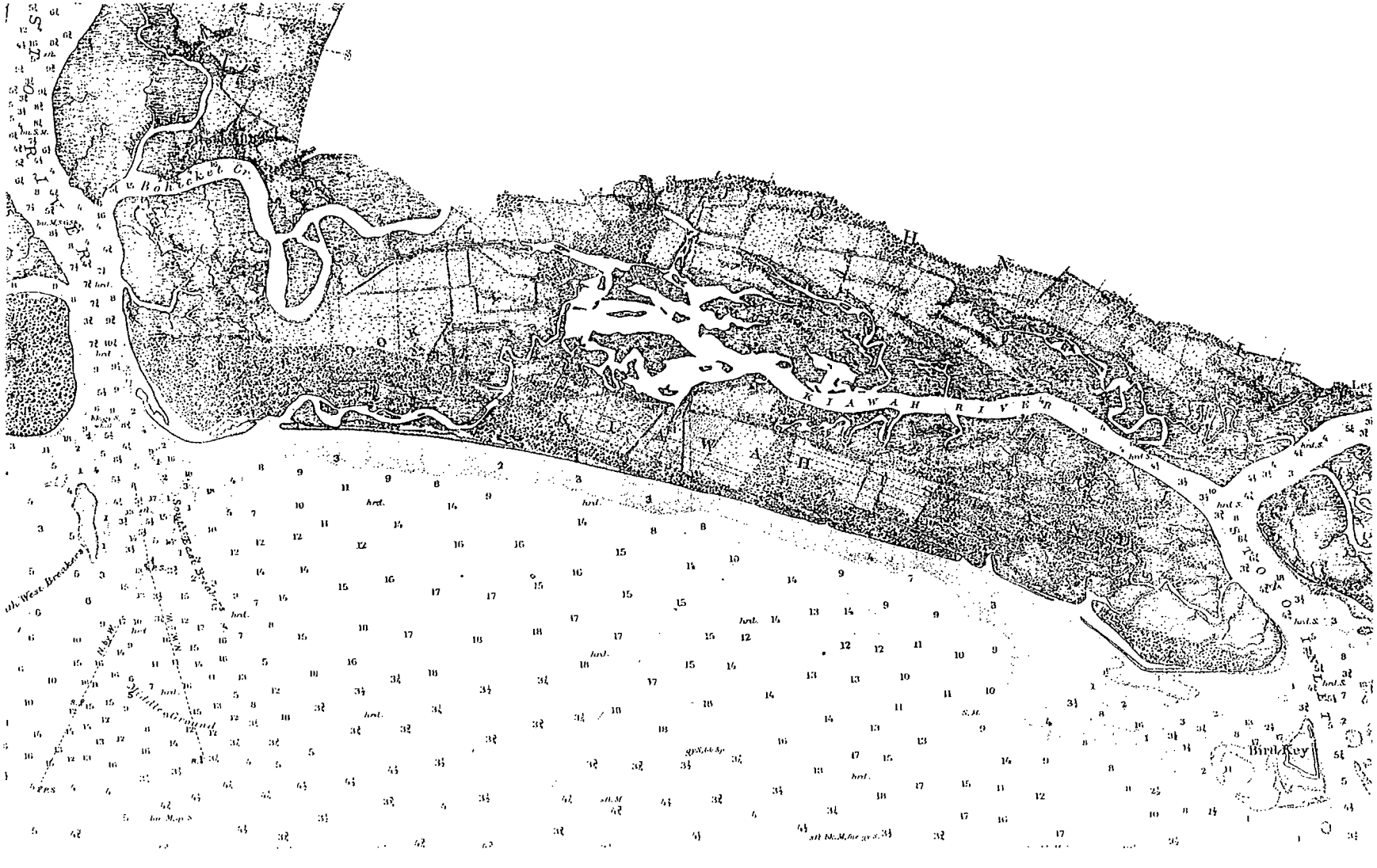


Figure 19. 1866 Coastal Survey of Kiawah Island.

ruin, kept him from taking a very active part on Kiawah.

This contract is typical of the period. The Black Codes had been passed in 1865 in response to the "interference" in local labor conditions by the Freedmen's Bureau. These codes, regulating the status of Freedmen, effectively created nominal freedom, leading to a new form of slavery through the regulation of labor and associated practices. There were a variety of contracts used throughout the South and Vanderhorst's is commonly known as a "standing wage" arrangement, where the planter paid the Freedmen a fixed wage in addition to a weekly ration of meat and meal. The wages paid varied widely, from a little as $2 a month to as much as $25. Vanderhorst's wages of about $8 a month may be about average for the region. Orser (1988:53) notes that such labor agreements were disliked by most Blacks, who rightly saw them as both too much like slavery and an impediment to outright ownership of land -- and the economic freedom that such ownership brought.

The 1867 list suggests the presence of at least seven family units on the island, some of which may have been present on Kiawah as slaves. For example, in 1858 Vanderhorst mentioned John Rose, perhaps related to Miller, Sampson, and Isaac Rose. Likewise, the slave Shorum may be Shorum Preston, Little Lunah may be Lunah Smith, and Scipio may be Scipio Smith.

The first indication of any repair work undertaken by Vanderhorst is the shipment of "6 Hasps & Staples @ 25¢" and "1 Barrel Cement @ $3.25" to Kiawah in April 1868 (South Carolina Historical Society 12/209/25). An undated account by Adele Vanderhorst (wife of Arnoldus Vanderhorst IV) states:

> now since that desolating Civil War of 1860 where is the grandmansion of Mr. Schoolbred - the noble house of the Vanderhorst's, cut up and chiseled the squares thrown far on the Sand and Desolation stalks the Land . . . . After the horrid civil war - Elias Vanderhorst the proprietor of Kiawah Island visited his old mansions he looked around in vain for the marble mantlepieces all torn down from their mooring, the ceilings and [the remainder of this letter does not exist] (South Carolina Historical Society 12/228/11).

It was not until 1872 that any clear evidence of work at the mansion was undertaken. In that year Arnoldus Vanderhorst paid $40.14 for "making and putting up 148 ft of gutter on Keywar, one slide & pan, 25 point for gutter, labor for 5 days" (South Carolina Historical Society 12/210/7).

In June 1870 Arnoldus wrote his wife, Adele, that everything was satisfactory on Kiawah and that "I sleep at my beach Shanty that I have named Palmetto Beach" (South Carolina Historical Society 12/201/10). This continued the antebellum tradition of using a crudely erected structure on Sandy Point as the main settlement, rather than Vanderhorst mansion.

The early 1870s saw additional property changes on Kiawah. In 1873 James Gibbes devised the eastern half of the Shoolbred property, which he purchased in 1868, to his daughter, Amelia Gibbes. Rather than as an outright deed, the property was held in trust for Amelia's children (Charleston County RMC, DB C16, p. 293). William Gregg, who had acquired Seabrook's western half of the Shoolbred plantation, went bankrupt in 1872 and in March 1873 the property was conveyed by the assignee of William Gregg to H.H. Hutchinson (Charleston County RMC, DB H16, p. 413).

Sometime during this period a watercolor of the Shoolbred house was done, apparently from memory (Figure 21). Now in the collections of the Historic Charleston Foundation, this badly worn and faded painting shows a series of seven structures. Three are grouped closely together to form the main complex, one structure is isolated on the right hand edge (west) of the view, one is isolated

Kiawah Island
Jan

Articles of Agreement between A. Van der Horst - and the Freedmen whose names are hereto attached and the said Freedmen & women agree to hire ourselves as Laborers to Mr Van der Horst from Jan 10th 1867 to Jan 10th 1868.

We link ourselves to perform any kind of labour he or his agent may direct for which we agree to receive $100 for the twelve months 4 of which to be paid at the end of each month. To be provisioned with 3 lbs. of Bacon 1 peck of corn or meal & 1/2 pint of Salt. Also six yards of woolens to make a suit of clothes.

Fraction hands to receive [ ] & rations.

Women to receive $60 for the twelve months. $2.50 to be paid at the end of each month.

Any hand which does not suit may be on being paid in full for the time he has laboured be dismissed from this place.

Deductions to be made for absences [ ] the sale the hand receives.

Signatures

Balie Seabrook
Shorum Preston
Scipio Smith
Bob Smith
William Ford
Miller Rose
Sampson Rose
Isaac Rose
Simon Boggs
Louis Brightman
Liddy Smith
Martha Rose
Emma Rose
Polly Bogs
Rachel Preston
Nancie Smith
Lunah Smith
Eliza Brightman

Figure 20. Vanderhorst labor agreement with Kiawah Freedmen (South Carolina Historical Society, 12/195/96).

on the left (east) edge, one between the eastern-most structure and the main complex, and a small Romanesque pavilion is found on the water's edge. A formal garden arrangement is seen between the main complex and the water. While not entirely accurate, archaeological investigations at Shoolbred's new settlement reveal a significant correlation with this view, indicating that the painter was familiar with the with house and grounds.

In 1874 Elias Vanderhorst, who had been an invalid for about year, died, leaving Kiawah Island jointly to his wife, Ann, and son, Arnoldus Vanderhorst IV for the life of Ann, after which it would go to his son (Charleston County Probate Court, Box 225, package 5).

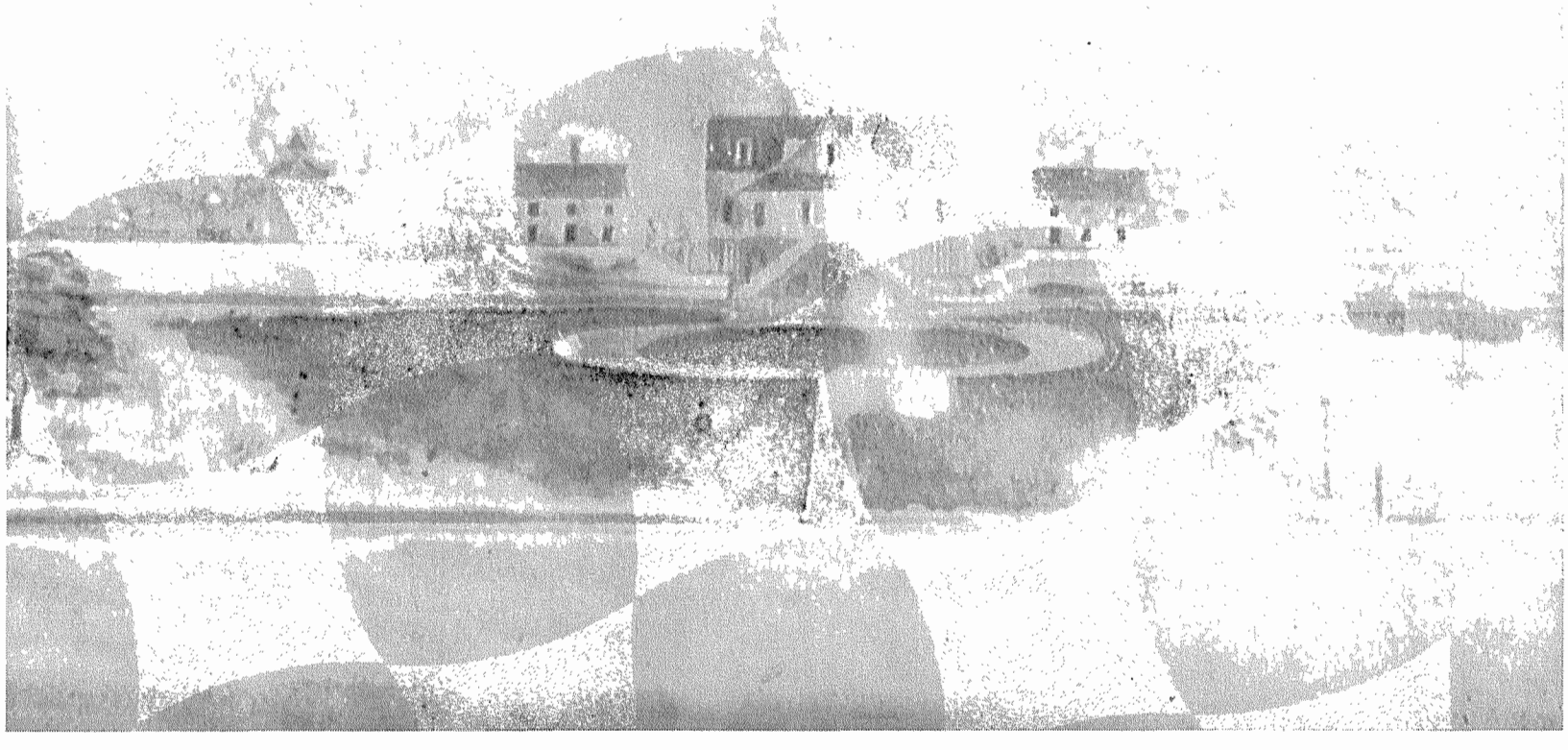


Figure 21. Watercolor of the Shoolbred Plantation, ca. 1870, courtesy of Historic Charleston Foundation.

It is clear from the Vanderhorst correspondence that the 1870s were a difficult period. Ann repeatedly wrote vehement letters condemning the political and social conditions of South Carolina:

> They have published in the paper that the taxes for the State must be paid before the 25th of this month [January 1872] or the property will be sold. I have borrowed some money to pay my tax at Aiken - $45 - 45 for land that yields me nothing, a perfect swindle. It seems the plan is to tax us in this way in order to give up our lands to the Negroes.
>
> General Grant is still endeavoring to persecute us. Most respectable men are taken from their farms and thrust into prison - he is the vindictive persecutor of us poor people - We have no friend but the Great God above us (South Carolina Historical Society 12/201/15, 16.

But even God was perhaps looking disapprovingly on Kiawah. Arnoldus wrote in August of 1872:

> We have had until the last few days a long a serious drought, which injured my crop to a considerable extent. The Cattle were dying on Kiawah for want of pure water, I lost my 2 fine bulls, one was struck by a snake and even the buzzards would not touch the carcass. A pond that had a fine lot of fish got so dry that the heat of the sun killed them nearly all (South Carolina Historical Society 12/201/17).

Nothing is listed for Kiawah in the 1870 agricultural census, although in 1872 Vanderhorst's accounts show income of $376.80 for two bags of Sea Island cotton from Kiawah. After weighing, storage, and commission, the net proceeds for that year's cotton came to $358.98. Vanderhorst continued providing provisions for the blacks on Kiawah and an example of a typical shipment is shown in Figure 22. An 1879 receipt for provisions for his own use, including strip bacon, crackers, coffee, butter, cheese, sugar, loaf bread, lard, brandy, and nectar, reveals only minor differences, primarily the inclusion of luxury items, such as bread, butter, cheese, nector, and brandy (South Carolina Historical Society 12/210/20).

In August 1874 Adele wrote from Kiawah, where she and the family were spending time:

> the children enjoy the beach very much, also the bathing - one can not say surf bathing for there is no surf here, being on an inlet. I teach the children, make the bread and look after the house as well as the chickens besides the sewing, so I am at no loss for occupation. We do not drive much on the Beach - the tide sinks in afternoon once in two weeks. The summer there has been a great deal of rain with frequent storms of wind . . . . Fanny has very much improved since coming here she is so full of spirit - and enjoys feeding the chickens greatly - in this last, we are all much interested . . . also Vandder [her husband] and Johnny Dawson. They have been here only a few days so have not had time to weary of the dullness, the utter want of variety in occupation and pursuit. The boys are devoted fishers and generally furnish our dinner (South Carolina Historical Society 12/201/23).

Additional impressions of Kiawah are provided in a diary kept by Ann Vanderhorst for several years (South Carolina Historical Society 12/216/14). On May 23, 1876 she wrote:

> Arnoldus has just returned from Kiawah, a fine vessel was supplied with five pleasant gentlemen. He must have had a glorious time. The

> Island is so beautiful with the splendid magnolias and oaks that have told the centuries, whilst the Grand Old Ocean dashes up on its shores yielding the finest and most abundant of fish. The red Deer roam in the forest. The rock of the South our banner waves over the whole Island whilst the Lord of the manor administers to the necessities of the negroes, the operators who lost their crop by the Drought last summer.

On July 10, 1876:

> the island of Kiawah, here are tracts of gigantic [ ] old oaks, the dogwood contrast with its virgin white, while the graceful Jessamine creeps over the tree tops, perfuming the air. Then peeping thru the foliage the luscious grape. Then on the dense thickets, where roam the Red Deer and the wild Turkey & ~~the Beast~~. The Sea Eagle . . . how often have I seen it on the tallest pine. . . . Some 100 years ago this Island has been handed down to the descendants of the Vanderhorst's and to the present owner Arnoldus Vanderhorst. Then at the extreme part of the Island he built a cottage, and now has little ones were there leaning on his knee . . . .

She also mentions that, just as in the antebellum, this Sandy Point cottage is constantly being torn down by storms and Arnoldus periodically rebuilds it. She also mentions that Mrs. Seabrook, wife of William Seabrook who owned a portion of Shoolbred's plantation before the war and "once the millionaires of Edisto" is now very poor.

The 1877 tax receipt for Kiawah reveals that the island consisted of 2100 acres in 1876, with 12 buildings, valued at $4600 (South Carolina Historical Society 12/210/15). Two bags of cotton were produced by Vanderhorst in 1882, the same as 10 years earlier, although his income from those in 1882 was only $165.40 -- nearly $194 less. The 1880 agricultural census for Kiawah Island (Table 7) provides some additional information for the island during the period. In addition, the population census for the island reveals that both farmers (those listed in the agricultural census (Table 7) and 15 "laborers" are enumerated. Presumably these laborers were working for wages, while the farmers were tenants of Vanderhorst, indicating a change in the basic labor system of the early postbellum.

Arnoldus, while not becoming rich on Kiawah, was sufficiently covering his costs that he was able to purchase the old Seabrook portion of the Shoolbred plantation from H.H. Hickman in 1879 (Charleston County RMC DB S17, p. 408). The 1200 acres that Hickman purchased for $1850 seven years earlier he sold at a loss, with Vanderhorst paying only $750. During that interval it appears that nothing substantial was done on the Seabrook tract, since it does not appear in the agricultural or population census for Kiawah. This transaction now gave the Vanderhorst family control of all but the central quarter of Kiawah Island.

Arnoldus Vanderhorst IV died on December 3, 1881 as the result of a shotgun wound sustained while deer hunting on Kiawah with John's Island planter William Andell and Quash Stevens (*News and Courier*, December 3, 1881). There were sufficient questions regarding the nature of the accident that it went to a Coroner's Jury, which ruled the death an accident. Unfortunately, the official records of that inquest have been destroyed and the only additional information readily available are the newspaper accounts of the inquest. The most common version of the story is that Arnoldus was hunting alone on one part of the island, while a larger hunting party was to meet up with him at the main house for diner. When he failed to arrive parties went to, eventually finding him dead. Apparently the shotgun he used that day was known to have a faulty trigger, causing the accident. Arnoldus' will, proved December 11, 1881, stipulated that all of his personal and real property was to go to his wife, Adele (Charleston County Wills, Book Q, p. 222).

Table 7.
Agricultural Production on Kiawah Island, 1880

	James Erwin	Harry Gregg	Rachel Preston	Scipio Smith	Amus Rose	Quash Stevens	Arnoldus Vanderhorst	Robert Smith	Miller Rose	Bailey Seabrook
Acres tilled	8	8	4	8	8	5		8	8	4
Acres wooded							1000			
Acres unimproved							1000			
Value of farm ($)	40	40	20	40	40	20	5000			
Value of livestock ($)	70					200	2000	70	20	
Value of farm products (4)	45	60	50	60	45			100	90	90
Horses	1					2	3	1		
Mules							1			
Milk cows	1					9	30		2	
Other cattle							150			
Swine	1	2	1	2				10	1	
Poultry	12	10	9	10					10	
Eggs (doz.)	15	2	8	15					16	
Corn (acres)	3	3	1½	3	3		5	3	1	
Corn (bu.)	10	12	10	15	14		15	15	10	
Cotton (acres)	4	4	2	4	4	3	4	4	3	
Cotton (bales)	1	¾	¼	¾	½	1	½	1	1	
Sweet potatoes (acres)	1	1	½	½	½	½			½	
Sweet potatoes (bu.)	15	20	10	15	15	15			15	

It appears that because of an error in the original census documents, all figures for Vanderhorst, after "Eggs" should be applied to Robert Smith, those for Robert Smith applied to Miller Rose, and those for Miller Rose applied to Bailey Seabrook.

1 sack tack fine	1.75
1 Brl C[ ]ger	22.86
1 Box Soal	6.40
1 Box Starch	3.48
1 Box Mitchells Candles	9.30
30 lbs Java Coffee	10.40
49 lbs. flour	2.88
1 doz Windsor Toop	2.25
1 doz Blacking	.60
2 Galls Whiskey Demijohn	7.85
30 lbs. sugar	3.75
1 Brl Rice	20.20
1 Net Lard	5.59
3 Cans Sea Foam	.75
1 CR Sides	5.52
10 lbs Tobacco	5.00
pack 25 Drg 75	1.00
	109.58
2 Kegs Nails	9.50
	119.08

Figure 22. List of provisions provided Kiawah on June 12, 1874 (South Carolina Historical Society 12/210/11)

It is during this period that Quash Stevens becomes a prominent figure in the history of Kiawah Island. Ann Vanderhorst had deeded Quash to her son, Arnoldus Vanderhorst IV in 1864. Quash assumes importance not only as loyal manservant and trusted overseer, but also as an example of what African Americans aspired to both before and after the Civil War. Quash rose from the ranks of a mulatto slave to become both educated and knowledgeable. He lived his life around the Sea Islands south of Charleston. By 1880, at the age of 40, he was a widower with four children, Eliza, William, Annie, and Laura. Although little is popularly known of his life, his grandson, Harold Arnoldus Stevens, born on Johns Island, became the first Black to hold a seat on the New York State Supreme Court (*News and Courier*, July 7, 1955).

A series of Quash's letters remain interspersed with those of the Vanderhorst family and are of such interest that they are included in their entirety as Appendix 1 of this study. They provide periodic accounts of farming activities, various needs on the island, and of the tribulations that African Americans faced at the hands of unpredictable weather and crops.

While Quash was clearly a careful overseer and very dedicated to "Miss Adele," cultivation on Kiawah increased its emphasis on cash cropping of cotton, with provision crops purchased for use on the island. Kiawah fell into the trap of many other postbellum farmers -- consistently using next year's crop to pay for this year's planting. Quash's careful oversight and love of Kiawah was also unable to compensate for the ineptitude and disagreeable nature of Adele's son, Arnoldus V, who inherited the island after her death in 1915. An account book for Kiawah, dating from 1877 through 1881, suggests that the major cash activity on the island was the raising of stock, with numerous entries for the sale of calves, lambs, and steers (South Carolina Historical Society 12/213/14). This period may reflect the gradual shift of Kiawah away from cotton and toward cattle raising, ironically making a full circle to Kiawah's eighteenth century roots.

Adele, during her life, adroitly managed Kiawah with Quash's assistance. In 1889 she obtained estimates for repairs to the Vanderhorst mansion roof, comparing the cost of slate to shingles. The cost difference was minor, ($119.60 compared to $70.75) and there is some evidence that she opted for the slate shingles -- producing the two distinctly different slate types found on the site

today (South Carolina Historical Society 12/213/16). In 1900 the Vanderhorst House on Kiawah was insured by R.M. Marshell & Brothers (Brokers) for $1000 (South Carolina Historical Society 12/211/21). In 1901 a 158 foot well was dug on Kiawah (South Carolina Historical Society 12/213/16) and although its location is not specified, it is likely that it was somewhere in the vicinity of the Kiawah mansion (Betty Stringfellow remembers it being at the intersection of the two main island roads just south of the mansion). Adele also began renting Kiawah's hunting rights, with the first such agreement with Edward Willis in January 1899.

In 1893 John and Amelia Gibbes Haile's only child, James Haile, died without issue. As a result of the marriage settlement the Haile's Kiawah property reverted back to the estate of James Gibbes and in 1900 Adele Vanderhorst purchased the property for $3500. For the first time since John Stanyarne's ownership in the first half of the eighteenth century, Kiawah Island was united under a single ownership (Charleston County RMC, DB Y22, p. 592).

In an April 24, 1900 letter Julia A. Blake, apparently related to Adele Vanderhorst, wrote Mrs. Cheves Smyth regarding her stay on Kiawah:

> The view from the high back-porch would make a famous subject for the artist's brush. Four tall white columns of the porch in the foreground a row of century oaks with interlacing arms beyond, and a lawn dotted with young palmettos leading to this creek . . . . Before the front piazza another lawn whose outlet is the old avenue to the ocean, only one-half mile away . . . . This avenue now about the worst road possible, with bridges gone, mud holes and ponds abounds in beauties on either side (South Carolina Historical Society, 30/8/108).

The letter also remarks that the "tesselated piazza" was over a "stone floored back porch with tall columns and spreading steps," the only identified description of this front or south entrance. Mrs. Smyth further commented that Quash was the "Cassique of Kiawah," and while "he yet bears the loyal affection of the family, whom our branch represents to him, more truly than the young Vanderhorst," apparently reflecting Quash's growing dissatisfaction with the treatment he was receiving from Arnoldus Vanderhorst.

Beyond this, Mrs. Smyth remarked only that Quash daily brought supplies such as fresh lettuce, beets, peas, potatoes, milk, crabs and eggs, and that life was pleasant and care-free on Kiawah (South Carolina Historical Society 30/8/108).

Quash left Kiawah about shortly afterwards, having purchased a large tract on Johns Island known as Seven Oaks Plantation and his letters are postmarked "Mullet Hall," the post office for Johns Island during this period. The surviving notes indicate that he was bitterly disappointed in the treatment he received from Arnoldus Vanderhorst V, remarking that he had been managing the plantation for 34 years and knew both the land and hands working it very well. Apparently Adele interceded and Quash agreed to continue overseeing the property for an additional year, while Arnoldus searched for a new overseer (South Carolina Historical Society 12/213/16). Arnoldus meanwhile was unyielding in his dealings with the blacks on Kiawah, sending a note to Quash instructing him to deliver a letter to all those on the island, including Robert Smith, Virgil Brown, James Irving, Shoreham Preston, Smart Strobart, Bob Smith, Scipio Smith, Isaac Anderson, James Smith, and James Irving, Jr.:

> I find after careful consideration, that the best possible terms I can make in regard to the renting of planting land are those proposed by me when last on the island. That is, the same portion of land to each as he planted last year, at a rental of $20 with the understanding that should there remain any unused land, available

> for the purpose, after giving each family its portion of seven acres, then such land shall be equally divided among you without additional rent (South Carolina Historical Society 12/215/13).

Apparently Vanderhorst was continuing a mixture of both cash-renting and wage labor. In the cash-rental system the landlord supplied the land and the housing, and the tenant supplied everything else needed to produce the crop. Wage laborers were apparently used to plant Vanderhorsts land and these may have occasionally included some of the renters. In addition these arrangements, the Vanderhorsts also rented out portions of Kiawah. In 1901 Quash leased part of Kiawah and in 1902 part of the island was rented to William Andell of John's Island (South Carolina Historical Society 12/215/13)

In 1902 and 1903 Kiawah was managed by W.R. Jenkins of James Island, but in December 1903 Arnoldus wrote Jenkins that, "I was at Kiawah yesterday and disappointed to find you absent. The present state of affairs there is not satisfactory. Please let me see you here soon so that we may come to a definite understanding" (South Carolina Historical Society 12/215/13). Apparently no understanding was reached, since A.B. Wescott assumed management of the plantation in 1904. In February and May 1904 Arnoldus continued to write Jenkins:

> I would like to see you about your hogs now on Kiawah Island and other matters. The hogs are becoming a great inconvenience to all concerned and you must try to remove them from the place within the next two weeks.
>
> I should like to arrange with you about plows; cotton sheets, and section of tooth harrow which I cannot find at Kiawah (South Carolina Historical Society 12/215/13).

Perhaps relating to these problems, there is a complete inventory of both Kiawah Plantation and the Kiawah House, dating to October 30, 1904 (South Carolina Historical Society 12/213/17). The house contained:

FURNITURE

Dinning Table	Writing Desk	Large Sofa
Meat Safe	2 Sideboards	Book case
Pr. Brass Andirons & Fender	Large Chair	3 Wardrobes
6 Armchairs	4 Straw Chairs	4 Cane-bottom chairs
2 Bureaus	3 Small Tables	2 Towel Racks
2 Wash Stands	Single Bed & Mattress	4 Dbl Beds/5 Mattress
2 Mirrors	2 Cotts & 3 Mattresses	Canvass Cot
3 Pillows	5 Cushions	

CROCKERY & UTENSILS

Carving Knife and Fork	12 Table Spoons	11 Tea Spoons
12 Forks	6 Plated Knives	Salt Shaker
2 Large Lamps	Pantry Lamp	Lantern
Oil Stove	2 Coffee Pots	Small Agate Kettle
Skillet	Frying Pan	Sauce Pan
4 Galvanized Buckets	Dish Pan	2 Tea Pots
18 Tumblers	Glass Pitcher	Toasting Rack
Gravy Boat	7 Cups & 6 Saucers	Sugar Dish
3 Demi-tasse & Saucers	Cream Pitcher	9 Breakfast Plates
9 Dinner Plates	Mug	Water Pitcher
4 Meat Dishes	4 Vegetable Dishes	Bread Dish
Butter Dish	Pickle Plate	Corkscrew
3 Candle Sticks	9 Basins	3 Pitchers
Tin Water Carrier	2 Foot Tubs	3 Slop Jars (Tin)
9 Chambers		

LININ

11 Doilies	7 Napkins	Table Cover
2 Tea Cloths	7 Pillow Cases	Pantry Towel
24 Towels	2 Bed Spreads	6 Double Sheets
2 Single Sheets	5 Table Cloths	6 Comforts

The Plantation contained (with handwritten notes **in bold**):

TOOLS

Force pump **broken**	25 rods woven wire fence **in place now**
150 feet 3x1 wire **in place now**	Monkey Wrench **none here, bought new**
Hack Saw **none here**	Pitcher Pump **old settlement/wharf mill**
Pr. Sheep Shears **none found**	Hatchet **none left here by Jenkins**
Hammer **none left here by Jenkins**	990' 42" Woven Wire Fencing **in place**
Tool Chest **plane saw chisel 2 bits brace**	Mattock **here**
Oil Can **one small half pint one here**	Grindstone **here**
Level **none here**	7 Axes & Handles
3 Pitchforks **2 here 1 broken handle**	2 Shovels 1 Spade **none here**
1 Hoe Fork **not here**	

HARNESSES

Set Wagon Harness **2 large collars here**	Leather Halter **not here**
McClellan Saddle, Cloth, Bridle **here**	Cart Saddle & Britcheon **not in use**
2 Whips **none here**	Collar and Hames & 1 Blind Brindle **here**
4 Prs. Trace Chains **here**	

IMPLEMENTS

Hickory Wagon **broken - here**	Cart **good order - here**
Buckeye Mower & Hand Dump Rake **here**	2 Watt Plows **not in use - here**
2 18-in. Sweeps **not in use - here**	2 Cultivators **parts of one**
4½ in. Harrow **not here**	Section Thos' Harrow **one large disk harrow here**

2 Brass Pad Locks - here

MISCELLANEOUS

86½ yds Sheeting **all cotton sheeting carried away by Jenkins**

Butter Churn **here**	Lantern **broken one here not fit for use**
4 Buckets **none here**	12 2-qt. Agate Pans **not here**
12 5-qt. Agate Pans **not here**	

Wescott proceed to evaluate Kiawah carefully, apparently taking seriously his responsibility to not only make Kiawah a "paying venture," but also comfortable to the blacks living there. He observed in August 1904 that three of the "Negro houses" on the plantation were in very bad condition, needing new roofing. Wescott wrote again in November, observing that the houses still needed new roofing and that "Caroline Wright has asked me to a shed room at the back of her house as she has a large family . . . and she has promised of me to do so she will work more hard for us - so I have promised to do so." Finally in December, three months after the initial report, Vanderhorst agreed to make the repairs, but wanted Wescott to plant more land in cotton. Wescott felt it would be "too far over planting the capacity of the plantation by going into the excess of 100 acres, but are going to try the 60 by all means" (South Carolina Historical Society 12/213/16).

As part of his evaluation, Wescott also observed the dilapidated, but sound, condition of the Vanderhorst mansion, estimating it would take about $40 to make the necessary repairs, including tar paper, roof boards, and shingles for the roof (suggesting that by this time asphalt shingles were being used on the main house); 100 feet of weather boards for the exterior walls; and nails. Since these figures were entered into Vanderhorst's account book, it seems likely that these repairs were done before the repairs on the tenant houses was undertaken

(South Carolina Historical Society 12/224/1).

The correspondence between Wescott and Vanderhorst is generally agreeable and relates to the daily activities on the Island. There is evidence that Vanderhorst made an experiment in planting alfalfa, although cotton continued to be the major emphasis. Vanderhorst also urges Wescott to get rid of the cattle on the island, as they are beginning to break down fences and cause other damage. It is not, however, possible to easily ascertain the economic success of Wescott's tenure. The 1905 accounts suggest that it is less than satisfying, since the costs associated with Kiawah the previous year came to $2,074.81, while the 13,718 pounds of cotton, sold at 11½¢ a pound, produced income of only $1577.57. While it is likely that other items sold off Kiawah (palmetto logs, cedar fence posts, etc.) made up the difference, there is no indication that Kiawah produced a profit (South Carolina Historical Society 12/213/17).

In 1904, Vanderhorst listed the tenants on Kiawah, relating their houses to the Vanderhorst mansion and associated features (going from east to west):

No. 1 Vacant
No. 2 James Irving
No. 3 Shoreham Preston
No. 4 Nat Wright
No. 5 Vacant
No. 6 James Smith
No. 7 Scipio Smith
No. 8 Vacant
BIG HOUSE
No. 9 Robert Smith
No. 10 Bob Smith
No. 11 Nancy Green
No. 12 Charlie Rose
No. 13 Charlie Brown
No. 14 Hagar Gray
No. 15 Vacant
CREEK
No. 16 Bristor Jenkins
No. 17 Vacant

Arnoldus Vanderhorst wrote a variety of individuals, mostly wealthy northerners looking for a winter hunting reserve, offering them Kiawah for rent (although he rejected several offers for long-term rental or sale). One such letter provided a description of the island:

> I note your advertisement in the Charleston News and Courier of this day seeking house and shooting for the winter. I have a place that has never been advertised or put on the market for this purpose, though I know it to be ideally suited. The property I refer to is Kiawah Island, a sea-island twenty miles from this city. The Island, the whole of which is controlled by me, comprised about 6500 acres, 4000 acres of which is highland. It has been carefully preserved and I know from personal experience that there is very fair quail shooting also good duck shooting, while deer are more abundant than in any similar area I know of. In renting I would prefer to reasonably limit the deer shooting.
>
> The island is of course directly on the sea with ten miles of very fine beach. There is no more beautiful island on the coast. As to the house which would go with the renting, it is situated half a mile by straight-away avenue from the ocean to the south, the north side facing the Kiawah River. It is quite large, eight large rooms, dates from 1803, and has been kept in excellent repair. It is comfortably furnished, including linen, blankets, tableware,

utensils, &c. Cook and house-servant (colored) living on the premises.

I would be willing to rent for $500.00 to an acceptable party. All hunting, &c, would of course be confined to the renter or his guests, and I should do everything possible to make his stay comfortable and enjoyable.

I enclose a few little photos (myself being the artist) which may give you some idea of the surroundings. Please return them (South Carolina Historical Society 12/213/18).

In spite of this Wescott continued to expand, writing Vanderhorst in November 1906 that three new houses had been finished, except for the chimneys, while one empty house required new weather boarding. In 1909 Vanderhorst wrote Wescott that he was sending over shingles for "repairing the big house piazza roofs" (South Carolina Historical Society 12/214/1). In addition, Vanderhorst was sending over rolls of roofing, 160 feet of flooring board, 840 feet of tongue and groove ceiling boards, and 1000 shingles to complete another tenant house.

On November 17, 1910 Vanderhorst told Wescott that he was sending over "Carpenter Prioleau" to completely overhaul the big house. This may relate to undated notations (South Carolina Historical Society 12/228/12) regarding work needed at the Vanderhorst mansion:

Basement
E. Room - 1 Pane Glass
Hall - 1 Pr. Door Hinges
W. Room - 2 Panes Glass
Pantry - Outside Door - New or repaired - also tack up shelves, etc.
Few Boards for Platform outside stairway
Width of S. Piazza - 10'10" - roof slope about 30°
N. Porch 10' x 12'7" 12'7" Floor of porch
Slope about 45°

2nd Floor
E. Room - 1 Blind Hinges
W. Room - 2 Panes Glass
Hall - 2 Panes for Bull Eye over Door

3rd Floor
Hall - 1 Pair Blind Hinges
E. Room - 2 Pr. Blind Hinges - 20 Panes Glass
Attic - 1 Pane Glass - 1 Pr. Blind Hinges

Size of Window Panes 12" x 10"

S. Roof figuring shingles to cover 4 x 6 = 4.788 Shingles

In October 1909 Vanderhorst conducted another "inventory" of his workers on Kiawah (South Carolina Historical Society 12/224/1), this time from west to east, noting the acres they were farming, the extent of their family, and if their house needed repairs:

(6 acres) 1. Thomas Cash (wife & 2 children) (needs repair)
(10 acres) 2. Robert Smith (wife & 4 children)
(4 acres) 3. Thomas Smith (wife)
(2 acres) 4. Katy Strobert (needs repair)
(4 acres) 5. Jim Smith (wife)
(4 acres) 6. Charles Small (wife)
(6 acres) 7. Shoreham Preston (wife & 2 children)
(5 acres) 8. Boise Str[ ] (wife & 1 child)

Arnoldus also provided a "list" of places on the island in 1907, including a small sketch map of the eastern end of Kiawah. The map located "Cowhead," "Cow Bone," "Cinder," "Timber Island," "Cain Point," "Isaac Point," "Eagle Point," "Nelson Point," "Duck Island," and "Sandy Point" (Figure 23). Unfortunately, other names, such as "Turnpoint Island," "Turnpoint Ridge," "Wood Landing," and "Drayton Woods," are not explicitly located (South Carolina Historical Society 12/224/1).

Beginning about 1908 Vanderhorst embarked on a new venture for Kiawah, one which may be singled out as symbolic of the island's decline. Arnoldus, always searching for ways to make a fortune with little or no effort, determined that he could sell the island's palmetto fronds for Easter Services. Quoting prices around $18 per thousand, and a minimum 10,000 order, he hoped to market the one item Kiawah grew not only in abundance, but also grew without human care or worry. While never making any significant amount of money, Vanderhorst looked on the income as the best he could hope for from Kiawah. The correspondence concerning this activity is extensive, and continues into the 1930s. It also reveals the intemperate nature of Arnoldus in business, mismanaging even this simple undertaking and offending a number of his clients (South Carolina Historical Society 12/215/1-11).

Wescott's tenure on Kiawah lasted to about 1909 or 1910 when Robert Smith, one of the renters, was "promoted" to overseer. In 1911 he instructed Robert to drive the sheep into the enclosure around the Big House so they could be sheared (South Carolina Historical Society 12/214/3). Robert served Vanderhorst until 1914, a year before his death in 1915, although little else remains to evidence his tenure as overseer.

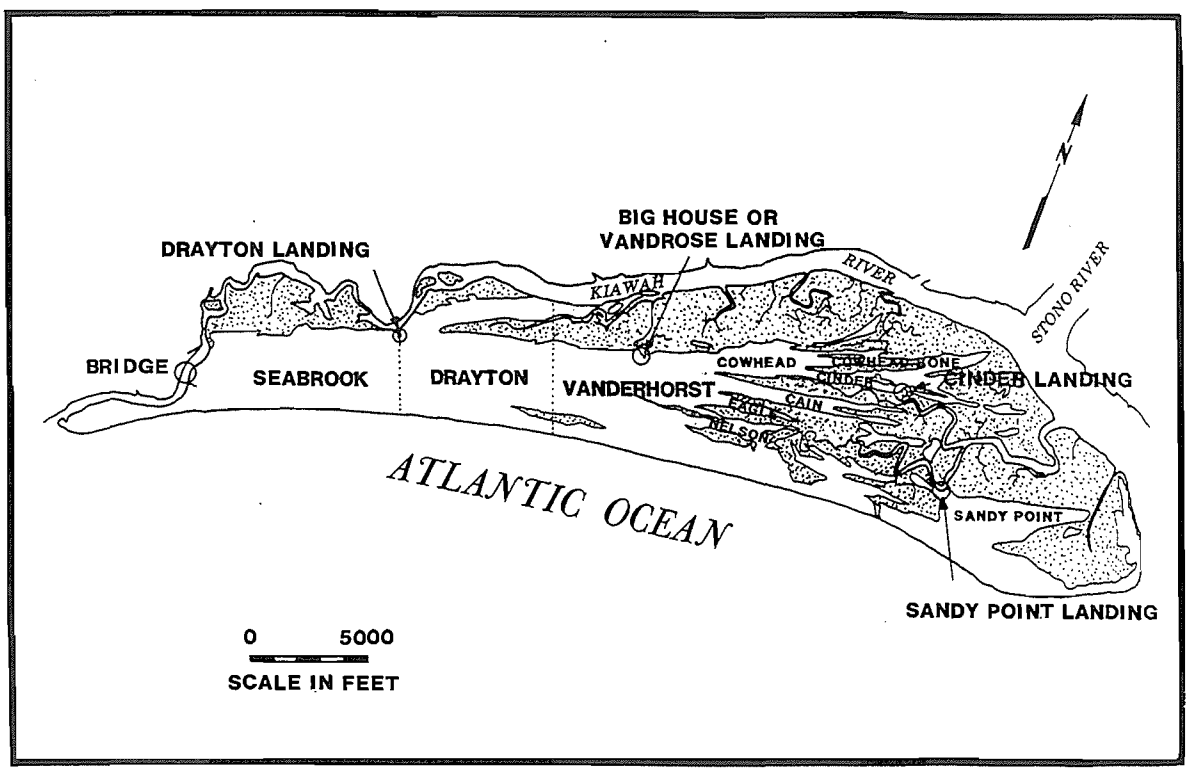


Figure 23. Place names and locations on Kiawah during the early twentieth century.

On November 24, 1914 A.B. Wescott was again visiting Kiawah, apparently at Vanderhorst's request. He reported to Arnoldus:

> I went over the Kiawah yesterday and find the buildings in bad shape, much more so than I expected. The dwelling house is in some disorder, shutters and sashes gone and will take considerable cleaning and glass and repairs. The piazza is entirely rotten and falling in, much of the covering off. I would have that undersilled and covered with lumber now at Kiawah . . . . Three rooms in the house want ceiling overhead about 600 ft one side dressed second class lining would not cost much. The negro houses with the exception of one used by Charlie Scott are open to the weather, windows and doors and . . . some flooring gone . . . . I will want chimneys put and want repairs on inside (South Carolina Historical Society 12/214/6).

The dwelling house he refers to, as becomes obvious below, is not the main house, but the overseer's house. This structure was located not in the vicinity of the main house, but at the end of Captain Maynard's Point on what is today Rhett's Bluff. On the main portion of Rhett's Bluff, before the causeway to Captain Maynard's Island and the overseer's house used by Wescott, were the settlements of both Quash Stevens and Charlie Scott (Betty Stringfellow, personal communication 1993).

This, coupled with additional information in the Vanderhorst files at the South Carolina Historical Society reveals there was a thriving tenant settlement on Rhett's Bluff during at least the first quarter of the twentieth century. In examining the survey of Rhett's Bluff (Poplin 1989) no indication of this settlement is noted, perhaps reflecting the inability of shovel tests, even at 100 foot intervals, to accurately or meaningfully reflect this level of historic settlement. Whatever the reason, however, this was an intensively used portion of Kiawah during its very early twentieth century history.

Apparently, Wescott did not immediately take the job, Vanderhorst wrote in October 1915, offering to rent Kiawah at $5 an acre with the cultivated acreage increased by about 25% each year, but "as regards your occupancy of the big house it seems to me that this is much larger than you would have any need for, in addition to which I fear the risk of fire" (South Carolina Historical Society 12/214/7). Wescott wrote Vanderhorst on October 14, 1915:

> I went to Kiawah on last Monday . . . find the house I used to occupy in much worse shape than ever. The piazza is now drawing away from the house and flooring etc entirely fine. I would certainly wish to live at the big house if you have no particular objections. Knowing the condition of the top of the west chimneys I would not use any of the fireplaces on that side. Otherwise the house is in good condition and would be perfectly safe for occupation. The yard is quite grown up and would require much cleaning . . . . I would feel safe at the big house in case of a storm (South Carolina Historical Society 12/214/7).

Arnoldus, while apparently very interested in obtaining Wescott as overseer, continued to strongly resist his overtures to live at the main house. In September he wrote Wescott:

> Silvia Smith [who was at Mullet Hall] has the key of the house at Kiawah, from whom you can get same. I think, however, that it would be better for you to plan to live in the same house you had before, which I am aware will require overhauling (South Carolina Historical Society 12/214/6).

Apparently Wescott accepted Vanderhorst's conditions since in late September

there is another census of housing on Kiawah, proceeding from east to west:

1. (Irving) one side roof, few weather boards
2. (Preston) weather board, new roofing, chimney cracked, 2 windows
3. not worth fixing
4. (Jenkins) new roofing, 2 windows, chimney cracked
5. (R. Smith) ok
6. (Thomas Smith) ok
7. (Charlie Rose) new roofing - few weather boards, 1 sill, 8 studding, blocks
8. (Hagar) ten weather board, 2 windows, ridge toward chimney
9. (Scott) 1 weather board, 3 windows, 1 door, new roofing, chimney hearth
10. (Molly) new roofing, chimney put up and partition
11. (Daniel) new roofing, chimney put up, few weather boards
12. (1/2 house) new roofing
13. (Wescott) piazza new roofing, kitchen leaks around chimney, 4 pairs shutters, fix trough to cistern
14. (Tom) new roofing
15. (Rosina) new roofing, tighten up

This report also indicated that four barrels of lime and one keg of 10d nails would be required for the job. It also specifies that the houses are 20 by 12 feet and will require 300 square feet of roofing (South Carolina Historical Society 12/214/6). The presence of both a cistern and a piazza at Wescott's house suggests the structure was originally fairly substantial and clearly more than a hastily constructed tenant house. It may have dated from the antebellum period, perhaps serving even then as an overseer's house.

Arnoldus' mother, Adele Vanderhorst died in 1915, leaving her estate evenly divided between her children (Charleston County Probate Court, Wills Book Y, p. 15). This unfortunate event precipitated a simmering war of words between Arnoldus and his elder brother, Elias, who had moved to New York some years previously. Arnoldus held tenaciously to the belief that it would be possible for the Vanderhorst family to somehow maintain their Charleston property, Kiawah, the facade of their lifestyle, and still support their sister, Francis Vanderhorst.

He went to great lengths to find some way to maintain his life as it had always been. He offered Elias a variety of constantly changing proposals, juggling his interests with an almost paranoid view of others. Constantly on his mind was the past:

> the purpose to maintain the family status as far as possible necessarily involves the preservation of the family setting as expressed in tangible things. I regard the heritage as a distinct asset to myself and all members of the family whatever be their individuals aims. . . . The Chapel Street house denuded of its furniture, pictures, &c., would not be the old place at all. Indeed the things held together intact without the house would as a choice be preferable to the house without the things (South Carolina Historical Society 12/215/14).

Bitterly complaining that Kiawah was "rapidly deteriorating" and that he had no money to put into the island, Arnoldus desperately wanted Elias to pick up the pieces by entering into a business arrangement, financially backing the maintenance of the old lifestyle. It became increasingly obvious that this would not happen. Elias wrote Arnoldus in 1916:

> you are a difficult man to help. You seem suspicious of motives, even when all the facts are in your possession. In addition to which it must go your way or not at all . . . . Take a job, start over again, so to speak, and in a few years the whole aspect of things

> will be different. That is the real trouble with the situation today. You occupy an impossible position to hang on to . . .

and in 1918 Elias bluntly told his brother:

> the old order in Charleston has gone. There is and is going to be little doing there for the near future. The tangible value of the Estate is small and will always be small with a preference of living for Frances. You are untrammelled by wife or child. The world needs more men and workers. Pick up and move out. Move on Washington and I feel reasonably sure you can get a job. Let the future take care of itself (South Carolina Historical Society 12/215/14).

Arnoldus, of course, wanted no part of this advice, feeling certain that there was going to be a "deal" just around the next corner which would allow him to save Kiawah and his lifestyle. He continued to search for the perfect investor who would have the money, and desire, to make Kiawah a hunting club with a large membership of incredibly wealthy individuals willing to pay for the privilege of using the island (South Carolina Historical Society 12/215/18).

About 1920 (South Carolina Historical Society 12/217/12) a few of the furnishings from the Chapel Street house were removed and taken to Kiawah Island, including:

1 Iron Bed & Spring	6 Mattresses
9 Washstands	9 Pillows

Already on Kiawah were:

1 Carson painting	Painting, man on horse (stairway)
1 Small table (3rd floor)	1 Chest Drawers (3rd floor east)
1 Wardrobe (3rd floor north)	1 Washstand (dressing room)
1 Picture, race horse	1 Chest drawers (basement)
2 Bookcases (basement)	

Meanwhile, Arnoldus continued to seek anyone willing to rent the island for farming. A typical contract for the period specified that:

> I [Arnoldus] will furnish the land, seed and all the fertilizer. Tenant to plow, work, and pick the crop for and then the seed cotton when picked to be divided equally between us, one half the tenant and one half me. This is the regular share crop system except that the tenant instead of paying for one half the fertilizer does the plowing and instead of my taking all the cotton to sell the cotton will be divided just as it comes from the field (South Carolina Historical Society 12/214/11).

This represents a relatively liberal form of agreement -- Vanderhorst provided all of the fertilizer, expecting only labor from the tenant. While the "rent" still varied with the success of the harvest and Vanderhorst retained estate rights to the crop, the tenant probably felt somewhat better that the crop was divided in the field, not in the owner's account books after being sold.

By 1917 Vanderhorst has a new overseer, J.B. Smith. The only information about him comes from a 1918 letter from Vanderhorst to another perspective renter, Mr. John T. Owens:

> Mr. Smith, who is chiefly engaged in cattle raising, has only the eastern part of the island. His lease does not expire until next summer, so that I do not know whether we will continue the arrangement after that or not. I would be glad to consider leasing the other part of the island, however, which is a very large body of

> land and the best farming land on the island and in fact very fine land whether for cotton or truck. There are six colored families now there so there is labor on the place. There is a four room house where Mr. A.B. Wescott lived for years when he farmed there. This is now occupied by two colored families, but could be put in shape for occupancy at small expense (South Carolina Historical Society 12/214/10).

Apparently Smith continued leasing the east end of the island through 1919 and there is no record of Owens accepting Vanderhorst's offer.

Major repairs to the main house were conducted in 1918 when Arnoldus ordered 57 feet of gutter, 22 feet of drop pipe, 4 feet 6 inches of lateral pipe, two elbows, for repair work. He also made a notation that the cistern at the main house measured 19 feet by 8 feet by 5 feet 4 inches in height for a total of 752 cubic feet or about 5625 gallons. Apparently, he was in the process of cleaning and replastering the cistern.

He wrote Charlie Scott on October 15:

> There should be 500 [split cypress] shingles, 1 barrel of lime, 1 sack of cement, 60 feet gutter and 30 feet pipe with the fixings, 60 lbs nails [at the landing] . . . . The whitewash brush I left at the house. Better bring the two big sawbucks back to the house also. Am depending on you to start work as soon as possible. Start with the inside work first (whitewashing room, entry and pantry) and then fix gutter if you understand how to do this (South Carolina Historical Society 12/214/10).

A 1919 note to four of Vanderhorst's tenants suggests that he had labor problems:

> I understand from what you said at our recent conference, that you would rather leave the island than plow one acre for fair pay. Under the circumstances, I do not consider this a reasonable proposition, and this is therefore to notify you that I will be unable to make any arrangements with you for the coming year (South Carolina Historical Society 12/214/12).

In spite of this Table 8 suggests that Kiawah had only three major labor turnovers from 1867 through 1919.

In 1919 the island was leased for a year by W.L. Limehouse to raise hogs, although the following year Vanderhorst leased the island for $500 to F.Y. Legare. This agreement stipulated that Legare had to cultivate at least 50 acres, but was not allowed to use Wall Point for any purpose. Further Vanderhorst had the right to place up to 12 horses on Legare's rented pasturage. Then in 1921 the western half of the island was leased to J.B. Boyer for $300. Boyer had rights to that portion of the island lying to the west of the Vanderhorst avenue, except the main complex and Wall Point. Boyer was allowed to use the dipping vat which was just east of the Avenue, but was prohibited from hunting, or cutting wood except for firewood or fence posts (South Carolina Historical Society 12/214/13). He may have continued renting the property into the early 1920s (Betty Stringfellow, personal communication 1993).

The Charleston County tax receipts for Kiawah Island provide an interesting view of the island's fluctuation in value and upkeep over the period from 1899 through 1930 (Table 9). In 1922 Arnoldus Vanderhorst wrote to Joseph S. Hart, the County Assessor, complaining that, "the place is now almost a wilderness and the buildings exception of one residence, which is not in first class order by any means, are nothing but shanties, of no value or consequence." The Assessor, however, appears to have been unswayed and the rolls continued to list 14

Table 8.
Labors and Tenants on Kiawah, 1867 - 1919

	1867	1880	1901	1904	1909	1910	1915	1917	1919
Shoreham Preston & Rachel	x	x	x	x	x	x	x		
Bob Smith	x	x	x	x	x				
Scipio Smith	x	x	x	x	x				
Quash Stevens	x	x	x						
Balie Seabrook	x	x							
William Ford	x								
Miller Rose	x								
Sampson Rose	x								
Isaac Rose & Martha	x	x							
Louis Brightman & Eliza	x								
Liddy Smith	x								
Emma Rose	x								
Nancie Smith	x								
Lunah Smith	x								
Miller Rose		x							
Harry Grigg		x							
Amus Rose		x							
James Irving, Jr.			x						
James Smith			x	x	x	x			
Isaac Anderson			x			x			
Smart Strobart			x		x	x			
James Irving			x	x		x	x		
Virgil Brown		x	x			x			
Robert Smith			x	x	x	x	x		
Charlie Small					x				
Joseph Irvey						x			
Nat Wright & Caroline				x					
Nancy Green				x					
Charlie Rose				x			x		
Charlie Brown				x					
Hagar Gray				x			x		
Bristar Jenkins				x			x		
Boise Str[ ]					x				
Tom							x		
Daniel							x		
Thomas Smith					x		x	x	x
Rosina							x		
Scott							x		
Molly							x		
Philip Finick								x	x
Charlie Snipe								x	x
Jim Smith								x	x
Wilber Smith								x	x
Charlie Scott								x	x
William Freeman								x	x
George Glover								x	x
Willie Glover								x	x
Philip Limrick								x	x
Rafiel Taylor								x	

buildings on Kiawah. Vanderhorst tried a different approach in 1923, observing that, "there are Fourteen buildings assessed at Eight Hundred and twenty-five dollars, added to the assessment on the land. These buildings no longer exist, and I therefore wish to have the assessment changed" (South Carolina Historical Society 12/214/14). This brought at least some modification, reducing the taxes on Kiawah by about $40. Curiously, Arnoldus was writing the Assessor about the

depreciated condition of Kiawah at the same time he continued to send out letters remarking on the:

> well constructed residence in excellent repair containing eight large rooms with outbuildings, &c. This is a planter's house of old day's -- built in 1803 -- and has been kept in condition. Attractively located in a grove of live-oaks on river bluff.

Arnoldus Vanderhorst V died December 21, 1943, six years after his elder brother, Elias. With the death of Arnoldus, it fell upon William Weston, the last surviving executor of Adele Vanderhorst, to dispose of the estate. Although a life-long friend to Adele, the greatest act of friendship may have been to continue as executor when confronted by the bickering of the family. To settle the matter and distribute the estate, Weston filed suit in Charleston County on November 1, 1944, asking "inter alia" for instructions from the Court.

While this action progressed, Weston continued to care for the island. Charlie Scott, the last Black living on the island, was paid $100 as year to serve as caretaker. In a 1951 interview Scott recalled Kiawah about 1915, remembering 28 Black tenant farmers on the island. Between 250 and 300 pounds of sea island cotton were produced per acre. He specified 31 structures, including one house for whites with two rooms, one four room house for whites (the one in which Wescott lived on Captain Maynard's Island), the "Big House" with nine rooms (apparently counting the pantry as a room), and a kitchen structure with two or three rooms. Also present were 20 single houses with two rooms and six double houses with four rooms for the Blacks. He also mentioned the presence of a frame church on the island, possibly the Kiawah School which closed in the early 1900s. The island dock, probably at Draytons, was 16 feet wide and 150 feet long (Interview by American Appraisal Company, ms. on file, Chicora Foundation, Inc., Columbia).

Table 9.
Assessment and Taxes on Kiawah Island, 1899-1930

Date	Acres	Value	Structures	Taxes Paid
1899	3100	$5000	11	$64.81
1900	3900	$8100	14	$81.00
1901	3900	$7000	14	$76.95
1903	3900	$7000	14	$84.69
1904	3900	$7000	14	$81.50
1911	3900	$6525	14	$79.20
1916	3900	$6526	14	$97.88
1917	3900	$6525	14	$117.45
1918	3900	$6525	14	$115.82
1924	3900	$6525	14	$315.00
1926	3900	$6000	6	$263.16
1927	3900	$6000	5	$263.16
1929	3900	$6000	5	$252.00
1930	3900	$6000	5	$236.34

Another long-time resident of the area, Captain Thomas C. Welch, remembered the:

> daily boat service, that before and after the 1911 hurricane, operated between Kiawah and Charleston. This was a freight and passenger service leaving Kiawah in the morning and returning in the evening. The trip, including many stops, took about 4 hours each way. The boats ranged from 10 to 50 tons capacity. It was rated a dependable service and docked at Chisolm's Mill at the foot of Tradd

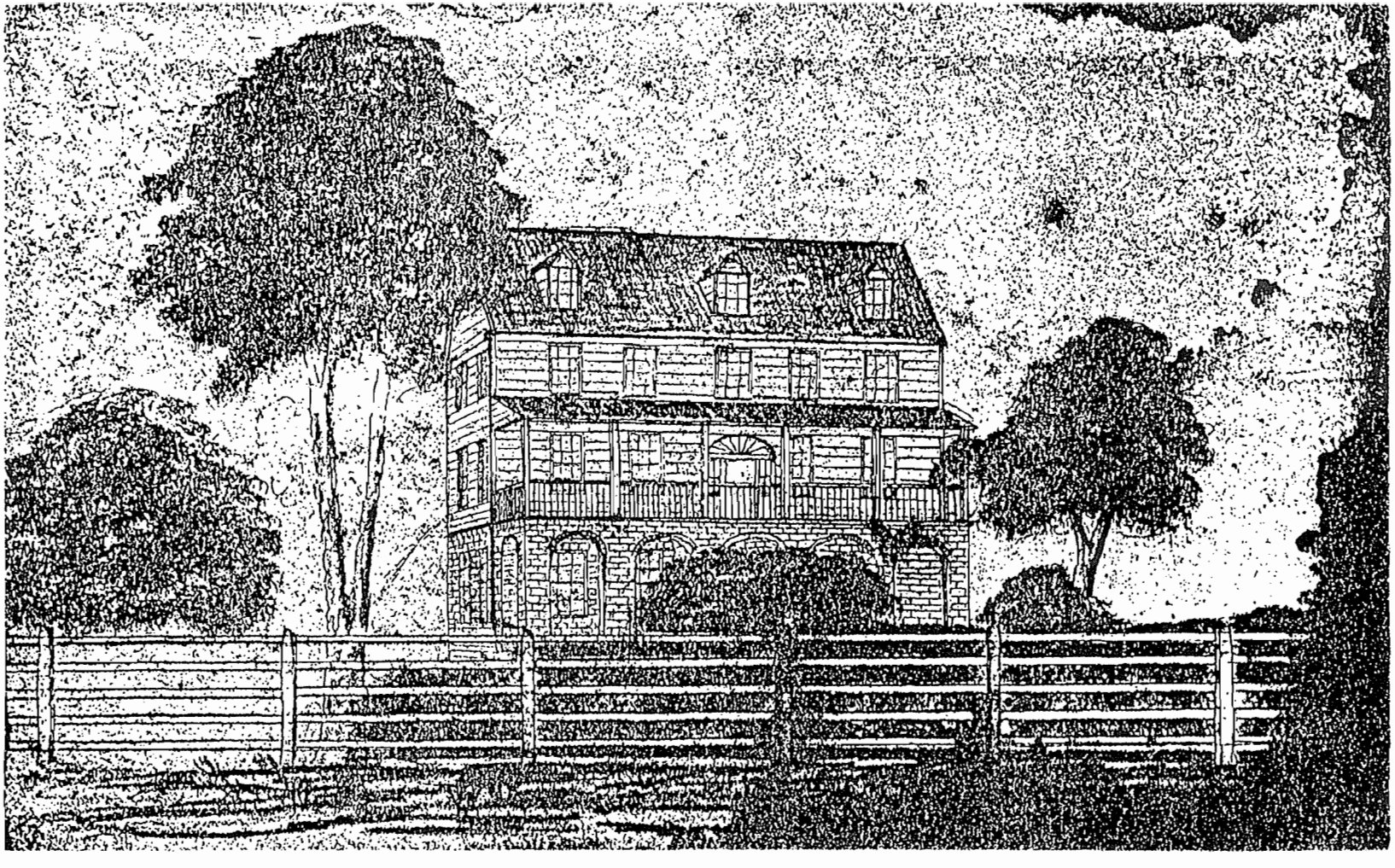


Figure 24. Vanderhorst House in 1851 (reproduced from Leland 1979, original sketch owned by Mrs. G.B. Daniels, Charleston).

Figure 25. Vanderhorst mansion, ca. 1945 with full two story piazza still intact (photo courtesy of Historic Charleston Foundation, Inc.).

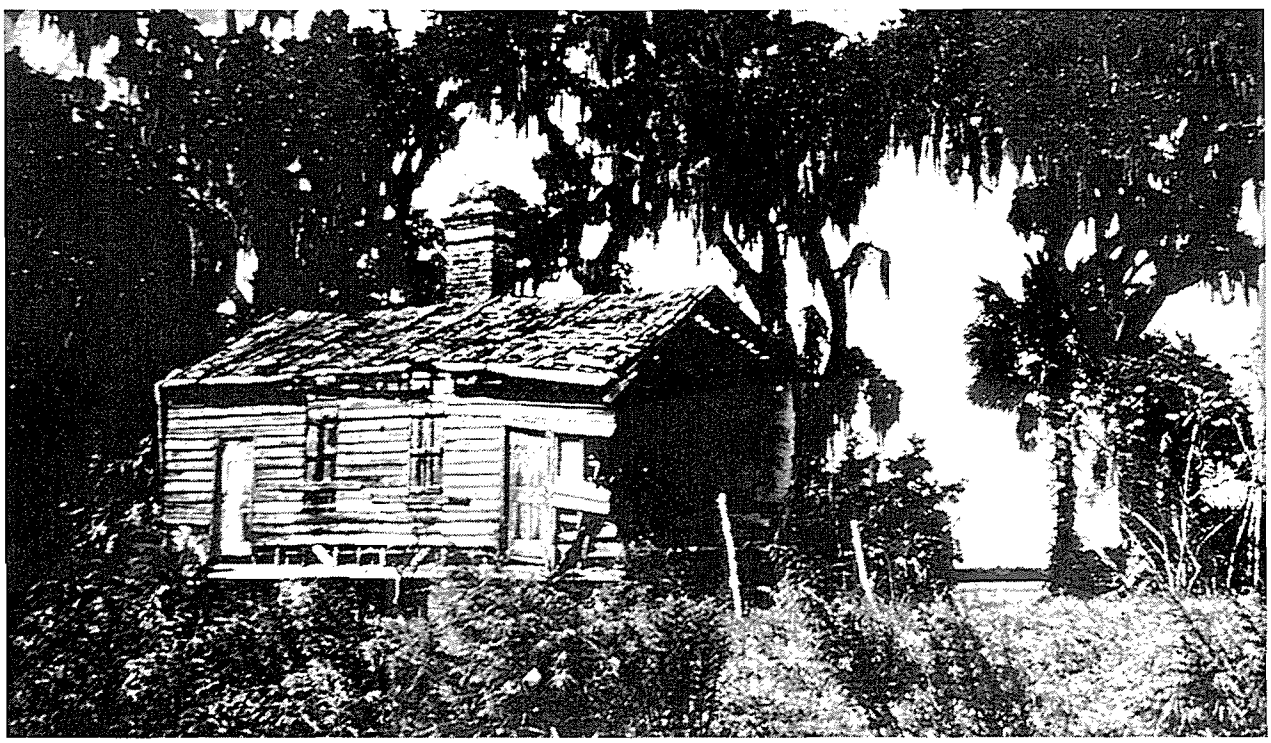


Figure 26. Vanderhorst kitchen, ca. 1945, view taken to the northwest(photo courtesy of Historic Charleston Foundation, Inc.).

Street, Ashley River, Charleston [this service was discontinued about 1928](Interview by American Appraisal Company, ms. on file, Chicora Foundation, Inc., Columbia).

According to Betty Stringfellow (personal communication 1993), Tom Welch also maintained stables on Sandy Island, perhaps in the vicinity of Vanderhorst's earlier settlement.

Col. Reading Wilinson, a consulting engineer in Charleston, was able to remember the causeway which joined Kiawah with Seabrook Island, noting that it was on the west side of Kiawah and crossed a narrow and shallow channel of Kiawah River, with the road eventually leading from Seabrook to Johns Island. This causeway, built with wood posts, was washed out by the 1911 hurricane and had never been rebuilt (Interview by American Appraisal Company, ms. on file, Chicora Foundation, Inc., Columbia).

Weston attempted to update the accounts of Adele's estate, noting that minor repairs were conducted in September 1917, and that the roof was repaired in August 1920. In 1945 Weston arranged for the mansion to receive a metal roof, replacing the badly deteriorating shingle roof originally installed by Adele in 1889. Additional work was done to the house in 1945, resulting in bills from Binswanger Glass Company (for new window lights), Hiller Hardware Company (miscellaneous hardware), and a general supply bill. Additional repair, including the installation of new weather boarding, was conducted in 1948. Also in 1948 the remaining contents of the house were moved off the island and divided among the heirs. The only major income producing activities on Kiawah were rentals of the island for pasturage (perhaps by H.G. Kizer), use as a hunting club, and the U.S. Government's rental of part of the island in 1945 (Charleston County Probate Court, Book I, p. 331).

On April 30, 1947 Judge W.H. Grumball ordered that Weston was empowered to sell the estate of Adele Vanderhorst. On December 5, 1950 Weston found a buyer in C.C. Royal of Royal Lumber Company in 1950 (Charleston County RMC DB B53, p. 71).

An August 10, 1951 appraisal of Kiawah Island enumerated the structures reasonably thought to be present on the island in 1915:

> 1 Dwelling House, 1st story brick, upper storys frame, 3½ stories high, size 25.0' by 55.0', with 10.0' wide two story open porch; containing 9 rooms and 6 fire places; brick foundations and slate roof. No running water, electricity or toilet facilities (This is the only building remaining in 1951).
>
> 1 Kitchen and helps quarters, frame, size estimated, 18.0' by 50.0' 1 story with open porch, double brick chimney, 2 or 3 rooms. Located about 65.0 feet from the dwelling.
>
> 20 Cabins (Colored) frame, size, estimated, 12.0' by 20.0' on wood posts. 1 story, 2 rooms, brick fireplace.
>
> 6 Cabins (Colored) frame, size, estimated, 16.0' by 40.0' on wood posts. 1 story, 4 rooms, double brick fireplace.
>
> 1 House (White) frame, size, estimated, 18.0' by 36.0' on wood posts. 1 story, 2 rooms, brick fireplace.
>
> 1 House (White) frame, size, estimated, 20.0' by 30.0' on wood posts. 1 story, 4 rooms, brick fireplace.
>
> 1 Church, frame, size, estimated 20.0' by 40.0'.

1 Cattle dipping vat, brick + concrete, size 5.0' x 30.0' x 5.0' deep.

1 Boat Dock on Kiawah River, frame construction, size 16.0' by 150.0' with 10.0' x 20.0' head.

Roads, sand wagon tracks, none hard surfaced or improved.

Water, for all domestic purposes, obtained from hand pumps.

By June 1951 all of these structures had disappeared, except the large dwelling, part of the kitchen building, the Cattle dipping vat and the boat dock (American Appraisal Company report dated August 10, 1951, ms. on file, Chicora Foundation, Inc., Columbia).

Sometime after 1945, the south porch or piazza of the main house underwent considerable alteration. What had originally been a two story open piazza in 1851, had been transformed into a single story porch, with the first floor doorway blocked off by the sloping roof. A view of the original structure is provided by Louis Gibbes' 1851 sketch of the house (Figure 24). A photograph of the house, taken in the late 1940s, shows the porch before alteration (Figure 25). Another photograph, taken at the same time, shows the standing ruins of what is probably the kitchen (Figure 26).

With ownership in the hands of C.C. Royal the island was used most intensively for logging and the merchantable timber not removed by J.F.P. Easley and James Salva in 1909, J.C. Beard and Max Baumwind in 1911, or J.T. Kollock in 1939, was harvested. Royal also began the first "development" on Kiawah, creating 65 lots and a series of modest homes along the beach on Eugenia Avenue *News and Courier*, July 4, 1966). Named for his wife, Eugenia Mae, this small community would become the summer home of many prominent South Carolinians, including Governor John C. West, Senator Marshall Parker, and Comptroller General Earle Morris (Gilbert and Fox 1993:103-104). Local informants have explained that the bricks to build these structures were salvaged by Royal from the ruins of the Shoolbred plantation, most probably the "barn" structure. This appears likely since the bricks now on Eugenia match in color, texture, and size, those recovered archaeologically. Royal also created a new causeway for the island, leading directly to John's Island. Royal was also responsible for damming Bass Pond, which previously had been a free-flowing tidal creek (Betty Stringfellow, personal communication 1993). Early in his ownership of Kiawah, Royal received a letter from 90 year old island resident Charlie Scott, who requested permission to stay on Kiawah until his death. Scott lived in a small house with a yard filled with "goats, rabbits, and chickens" on what is today Rhetts Bluff north of the boat landing (Gilbert and Fox 1993:104).

In 1974 the heirs of C.C. Royal sold Kiawah Island to Coastal Shores, Inc., a subsidiary of Kuwait Investment Corporation for over $17 million (*News and Courier*, February 19, 1974). Modest efforts to preserve the Vanderhorst mansion were undertaken in the early 1980s, largely consisting of reconstruction of the porch arches, stabilizing the basement floor, and removing the debris of the rotted porch roof. The last vestige of Kiawah's plantation existence, the horses which escaped from pasturage and roamed wild, were captured in 1979 and shipped to a Walterboro slaughterhouse (*News and Courier*, October 30, 1979).

Surprisingly little is known about the sequence of events associated with the Kuwaiti development. While previous discussions have outlined the archaeological research funded by Coastal Shores, this provides little understanding of, for example, the development in the vicinity of the Stanyarne settlement (38CH122). Residents, however, report that standing structures and even the last remaining portions of the Stanyarne mansion were bulldozed after some of the brick was incorporated into the new houses. In the vicinity of the Shoolbred Plantation it appears that similar bulldozing took place, perhaps to

consolidate the rubble. Elsewhere on the island evidence of cemeteries, old roads, and other landscape features were moved or removed.

Kiawah's 300 year history parallels that of the South Carolina low country, mirroring the area's economic (and social) advances and declines. Throughout this history the island suffered under the practice of a cash crop mentality and a fickle market economy -- the price of indigo, later cotton, and even logging and palmetto fronds were controlled by forces far removed from Stanyarne, Shoolbred, or Vanderhorst. Each one attempted to gain control of market forces in his own fashion, largely through control of land and labor. Peter Coclanis explains:

> the island signifies more than cabanas and cocoa butter, however; indeed it is at once testament to, and logical culmination of three hundred years of history. For one hundred eighty of those years the entire island was owned by one family - the Vander Horsts - which operated a large Sea Island cotton plantation there in the nineteenth century. By the early twentieth century this plantation had been reduced to a collection site for the leaves and cuttings used once a year in low-country churches during Palm Sunday services, a profound, and perhaps, profoundly symbolic reduction to say the least. After decades of continued stagnation, the island finally was sold by the Vander Horst family in 1952 to an Aiken, South Carolina, lumber company, and Kiawah was sold again, this time to foreign interests, in 1974. In recent years the island has witnessed an economic resurrection of sorts, having been transformed by a Kuwaiti investment group into the luxury resort mentioned above. Even in this rarified, five-star atmosphere, the essence of the area's history can still be gleaned, for while a few feast, many serve, as has been true in the low country almost from the time William Sayle's boot first struck sand in April 1670 (Coclanis 1989:156).

CHAPTER 6.
SITES IDENTIFIED ON KIAWAH ISLAND

Natalie Adams

Introduction

Although previously discussed, it is important to emphasize that this current, intensive survey of Kiawah Island includes only 982 of the 3300 acres of high ground on the island and includes only those areas not presently developed. As a result about 60% of the island is not included in this study. The survey area incorporates six separate parcels on the island. Area A is located immediately north and south of Bass Pond and east of a marsh slough west of Bass Pond; Area B is situated on an interior plain south of Bass Pond; Area C is in the area of the Vanderhorst Plantation house; Area D is known as Cinder Point at the northeast end of the island; Area E is known as Eagle Point; and Area F is situated south of Bass Creek on the Atlantic Ocean side of the island, which incorporates Sandy Point (Figure 4). The operative definition of a "site" during this study was any area with three or more artifacts within a 25 foot diameter and/or the presence of shell midden deposits. Isolated finds, such as a single sherd, were identified as a site only if they co-occurred with shell midden either on the surface or in shovel tests. One exception to this practice was 38CH1221, where a site with no associated shell midden and only one artifact was defined, based on nineteenth century cartographic sources. A second exception is 38CH1229 which was accidentally recorded as an archaeological site, rather than an isolated find. The number was retained to avoid confusion in the State Site File numbering system.

These investigations identified a total of 25 sites in the survey tracts. Nine previously identified sites were relocated and evaluated, two previously identified sites were determined to be one site, and 15 previously unidentified were recorded (Figure 27). In addition, two of Combes' (1975) sites (38CH218 and 38CH219) could not be relocated during the field investigations.

This section provides detailed information on each of the archaeological sites identified within the survey areas. Brief mention will also be made of one site, 38CH128, which while outside the survey area, was essential to locate. Information on the original site form was confusing and needed to be clarified in order to determine if the site was located within the survey area.

The archaeological sites identified were primarily evaluated for their potential National Register eligibility under Criterion D: the site has yielded, or may be likely to yield, information important in prehistory or history. Obviously such an approach requires that the property must have information which can contribute to our understanding of the past and that the information be significant (i.e., that it is able to address important research questions). It is not necessary that the information be unique, nor is it necessary that the information be controversial or challenge orthodox position. As Townsend et al. (1993:31) clearly indicate, it is sufficient that the information reinforces previously gathered information. There is an implicit assumption that such reinforcement derives from additional tests of archaeological theories, and that such tests are a necessary, even essential, part of "doing" science. Failure to contentiously test, and refine, archaeological theories and perspectives will result in a stagnant discipline, or alternatively, a discipline where research is equated with the most recent intellectual fad.

In order to evaluate eligibility, we have adopted the approach suggested by Townsend et al (1993:32), which involves five steps:

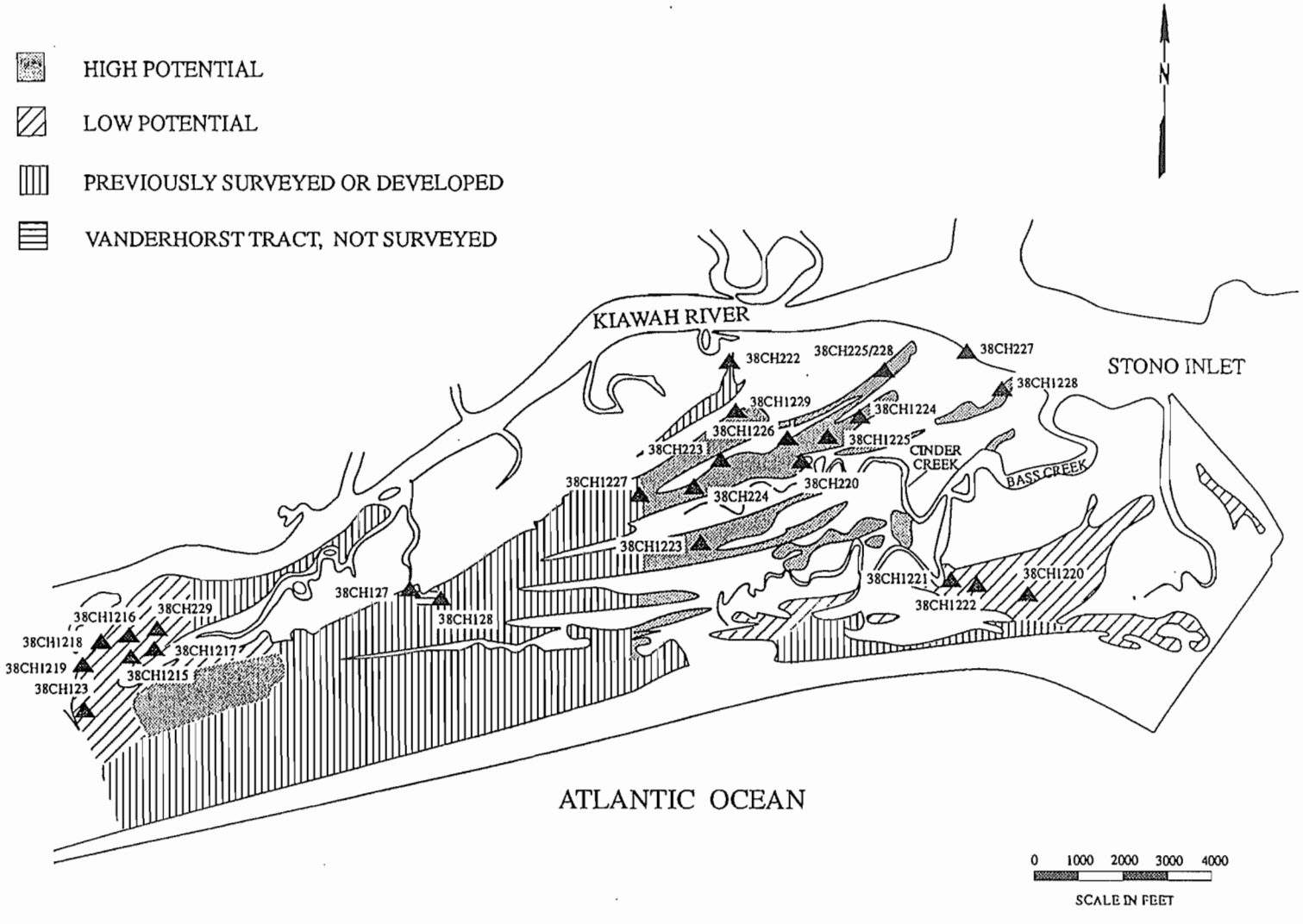


Figure 27. Sites identified on Kiawah Island.

- the site's data sets are identified (these may include ceramics, lithics, floral or faunal material, architectural remains, radiocarbon material, or a wide range of other categories of information;

- the historic context of the site is identified, providing a framework for evaluation;

- important research questions which the site's data sets can address are identified;

- the data sets are evaluated in terms of archaeological integrity (i.e., are the data sets sufficiently well preserved to address the research questions); and

- the information is evaluated in terms of its importance (i.e., how will it contribute to the archaeological context).

Since the approach outlined is intended to be used to provide supporting documentation to National Register nominations, not the review of large number of archaeological sites, we have operationalized the approach by combining sets and making the process more appropriate for survey level review. For example, the archaeological and historic context has been largely developed in the preceding discussions of archaeology and history along the South Carolina coast and specifically on Kiawah. Further, we have emphasized only those research questions which we believe are important in relation to these archaeological and historic contexts, reducing the need to justify research questions in each site discussion. Since this is a relatively new approach for site evaluation, the State Historic Preservation Office requesting its implication (in a letter dated October 13, 1993) long after the survey was accomplished and the eligibility recommendations were provided in our initial management summary (Trinkley 1991c), these modifications seem reasonable in order to expedite the review process.

Identified Sites

Site 38CH123, also known as the "West Pasture Site," represents a portion of the eighteenth century main plantation settlement by John Stanyarne, and later Thomas Middleton. It is also part of the nineteenth century slave settlement for the Shoolbred and Drayton Plantation.

The UTM coordinates are E583900 N3608000-3607740 and the site is situated primarily on well drained Wando soils (although portions extend to the poorly drained Dawhoo series). Soil profiles indicate that the Ap horizon extends to a depth of 0.8 and consists of a dark brown (10YR4/3) sand. Subsoil consists of brown (7.5YR5/4) sand. The site is found at elevations ranging from 5 to 10 feet MSL and is situated on a sandy "terrace" overlooking a slough inlet to the west.

Originally reported by Combes as a protohistoric Indian village with eighteenth and nineteenth century artifacts (Combes 1975:A-14), a portion of the site was further investigated by Michie in 1978. Michie's work has not been published, although it was apparently undertaken as a preliminary step in a data recovery project which was never conducted. Michie excavated a series of 43 1-meter units at 15 meter intervals (covering an area about 400 by 300 feet). This work took place in the portion of the site originally identified by Combes, but failed to identify site boundaries.

The artifacts recovered by Michie span the eighteenth and nineteenth centuries, clearly documenting the site's intensive use during this period. There is, however, little evidence to support Combes' contention that the site might represent a Kiawah Indian village (see S.C. Institute of Archaeology and Anthropology 38CH123 site file).

A series of 49 shovel tests were excavated in the site area, with 27 of these tests yielding artifactual remains (not including tests with only brick or shell). Based on the distribution of material from these tests, coupled with surface collections, the site is estimated to measure about 1500 feet north-south by 600 feet east-west (Figure 28).

Materials recovered from Chicora's testing include two light green bottle glass, 29 black bottle glass, one aqua bottle glass, two clear bottle glass, 32 historic sherds (discussed in detail further), two Colono ware sherds, nine window glass fragments, nine UID nail fragments, three machine cut nail fragments, five hand wrought nail fragments, three kaolin pipe stems, one upholstery tack, six UID metal fragments, one clothing iron, 12 animal bone fragments, one flint nodule, and 13 unidentifiable prehistoric sherds. While the artifacts were uniformly scattered across the site, an area of relatively dense brick rubble was noted in the northwestern portion of the site. Scattered brick fragments were also found throughout the area. No above ground in situ brick was noted. Pieces of plaster were also found. A total of 129 artifacts were recovered which represent eighteenth through early twentieth century occupation of the site. Of these artifacts, 30 were datable European ceramics yielding a mean ceramic date (South 1977) of 1816 (Table 10). The eighteenth century ceramics

Table 10.
Mean Ceramic Date for the West Pasture Site (38CH123)

Ceramic	Mean Date (xi)	Chicora's Survey (fi)	Chicora's Survey fi x xi	Michie's Tests (fi)	Michie's Tests fi x xi
Overglz. enamelled porc.	1730	1	1730		
Canton porcelain	1815			1	1815
NA Salt glazed stoneware	1866	5	9330		
Nottingham	1755			2	3510
Westerwald	1738			7	12166
White salt glazed stoneware	1758			4	7032
White sgsw, scratch blue	1760			2	3520
Bellarmine	1660			1	1660
Lead Glazed Slipware	1733			136	235688
Clouded wares	1755			1	1755
Delft, plain	1720	1	1720	38	46566
Creamware, annular	1798	2	3596		
handpainted	1805	1	1805		
blue trans printed	1790			1	1790
undecorated	1791	4	7164	26	46566
Pearlware, blue hand painted	1800	2	3600	1	1800
blue trans printed	1818			5	9090
edged	1805	4	7220	7	12635
annular	1805			16	28880
undecorated	1805	5	9025	20	36100
Whiteware, blue trans printed	1848	1	1848		
undecorated	1860	4	7440	8	14880
Total		30	54478	276	485387

Mean Ceramic Date = 54478÷30 = 1815.9 and 485387÷276 =1758.6

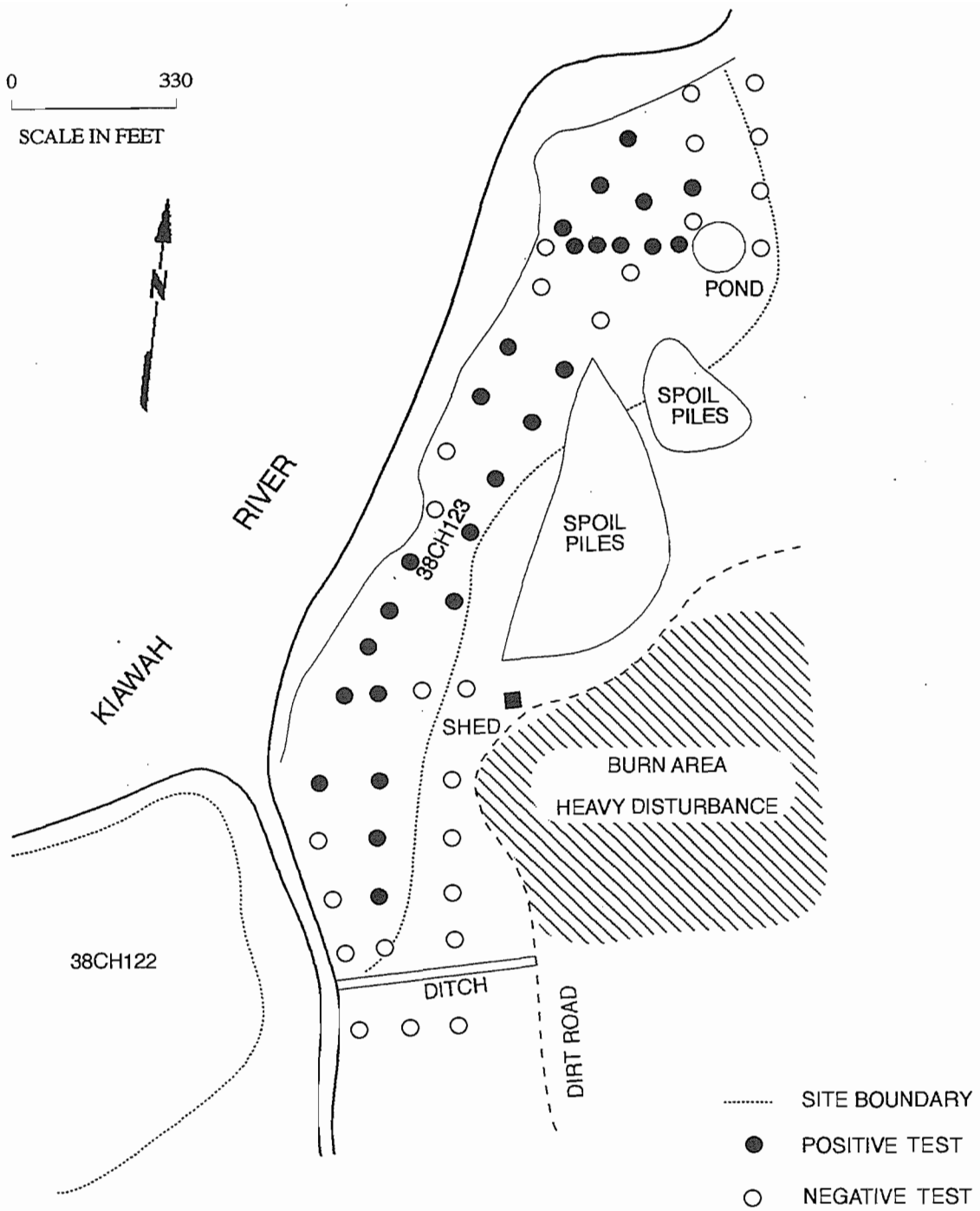


Figure 28. Location of shovel tests and geographical features at 38CH123.

contain eight examples (26.7%) with the remainder consisting of nineteenth century sherds. The disparity of the two mean ceramic dates shown in Table 10 is the result of Michie's work being concentrated in one 3 acre section of the site, while these investigations examined the entire 21 acre site area.

Artifacts were tabulated using South's (1977) artifact groups with Colono ware being placed under the kitchen group (Garrow 1982: 57-66) to obtain a pattern analysis (Table 11), clearly resembling the Revised Carolina Artifact Pattern, typical of higher status occupations in the eighteenth and nineteenth centuries.

These materials support the previous findings of both eighteenth and nineteenth century occupation of the site area. The presence of both higher (porcelain, hand painted pearlware) and lower (annular pearlware and whiteware) status ceramics tends to support the historic documentation which suggests that the earliest settlement at this site was by Stanyarne, with the site being abandoned to the use of slaves in the nineteenth century. As was discussed in the historic overview, it is clear that the eighteenth century Stanyarne and Middleton plantations, followed by Shoolbred in the early nineteenth century, used both the east and west sides of Salt House Creek.

In the mid-nineteenth century William Seabrook operated a plantation on the west side of this slough. This western site, 38CH122, was described by Combes (1975:A-14) as containing foundations, standing slave cabins, and a black cemetery. Unfortunately, this site was developed by the previous owners of the island -- the Kiawah Island Company -- without any archaeological research, thereby heavily damaging what was probably Stanyarne's original house on the island. Further information on this site has been provided by brief investigations undertaken through partial support by Kiawah Resort Associates, the local property owners, and a National Park Service Survey and Planning grant administered by the S.C. Department of Archives and History. The results of this survey are presented in a following section of this study.

Site 38CH123 has likewise been damaged by several development related activities, including the use of an eastern fringe area for burning and the use of the area immediately south and west of the vicinity tested by Michie for the storage of spoil. Without more detailed investigations it is difficult to assess this damage, although it appears that perhaps 25% of the total site area has been severely disturbed. The remaining 75%, however, exhibits very high site integrity.

Table 11.
Artifact pattern for the West Pasture Site (38CH123)

Group	Count	%	Revised Carolina Artifact Pattern Range %
Kitchen	68	64.8	51.8-65.0
Architecture	26	24.8	25.2-31.4
Furniture	1	0.9	0.2-0.6
Arms	0	0.0	0.1-1.3
Clothing	0	0.0	0.6-5.4
Personal	0	0.0	0.2-0.5
Tobacco	3	2.8	1.9-13.9
Activities	7	6.7	0.9-1.7
	105	100.0	

This site is recommended as eligible for inclusion on the National Register of Historic Places under Criterion D. Taken in the context of other sites on Kiawah, we believe the site is significant at a state-wide level, offering the opportunity to examine nearly the complete range of plantation occupations on one island. The site is able to address a broad range of research questions, including:

- the source of the high status ceramics found at the site (since the main settlement at the time was on the opposite side of the creek at 38CH122);
- the nature of the dispersed plantation settlement and particularly the organization of the plantation structures during the eighteenth and succeeding nineteenth century;
- how use of this subsidiary settlement changed from the eighteenth into the nineteenth century, providing a diachronic perspective to the plantation's evolution;
- the nature of the African American settlement at the site, which appears to be non-typical, perhaps representing craft specialists or others outside the normal slave population; and
- information on plantation architecture, providing evidence of a broad range of domestic and utilitarian construction episodes.

All of these represent significant research interests. The presence of the high status ceramics may indicate a historically undetected settlement or may relate to the distribution of wealth on the plantation. The study of plantation settlement patterns better helps us understand land use and landscape features intimately associated with this form of cohesive labor. The study of plantation evolution will reinforce and explore how the plantation changed through time, emphasizing what should be obvious, but is often overlooked in archaeological research. The African American occupation at the site is unusual in that it represents something different from the typical slave row or even less well understood house servant quarters, perhaps representing slaves associated with specific plantation activities. Research in this area offers a different dimension to our understanding of those who labored on the plantation. Finally, as the investigations at both Vanderhorst and Shoolbred document, we know relatively little about plantation architecture and how cultural adaptations affected architectural realities.

This research offers the potential to explore essential aspects of plantation life on Kiawah, assisting us in better understanding how the wealthy altered their environment, framing it to fit their perception of their place in society. It will also help us to understand the range of cultural expression seen in slavery, exploring what appears to be a group distinct from those normally explored in plantation archaeology. Research will help complete this view of Kiawah, offering essential comparative information for studies at other sites in the South Carolina low country.

Site 38CH127, also known as the Vanderhorst Plantation, represents the late eighteenth and nineteenth century main plantation settlement by the Vanderhorst family, as well as a late nineteenth/early twentieth century tenant occupation.

The UTM coordinates are E586940 N3609100 and the site is situated on Wando loamy fine sands. Soil profiles indicate that the Ap horizon is 0.7 inches of dark brown (10YR4/3) sand, while subsoil consists of brown (7.5YR5/4) sand. The site is found at elevations ranging from 5 to 13 feet MSL and is situated on a sandy terrace overlooking an expanse of marsh as well as Vanderhorst Creek which feeds into the Kiawah River.

A series of 260 shovel tests were excavated in the 23 acre tract (Figure 29). Artifactual remains were found to concentrate in the northern portion of the tract, along the Kiawah River. The site was found extending to the area of a slough to the east, opposite site 38CH128. Artifacts extended to the property boundary on the western side of the Vanderhorst house. Based on cartographic information, portions of the site has been destroyed by development beyond the western and eastern property boundaries. The site is bordered to the north by the Kiawah River and extends about 200 feet inland.

After site boundaries were determined through normal shovel testing, a series of shovel tests were placed at 25 foot intervals with transects 25 feet apart oriented with the main house to aid in identifying individual structures. Five structures were found (not including the Vanderhorst house), two shell middens, as well as two areas which appear to be trash dumps (see Figure 26).

Structure 1 is located approximately 200 feet west of the main house. It consists of dense brick rubble concentrated in a 50 by 25 foot area. A small section of in situ footing was found oriented N4°E. This structure is believed to represent the kitchen associated with the Vanderhorst house.

Structure 2 is located approximately 400 feet west of the main house next to the marsh. It consists of an intact brick firebox oriented N15°W and measuring 7.9 by 3.9 feet.

Structure 3 is located approximately 45 feet S64°W from Structure 1. It consists of dense brick rubble concentrated in a 25 by 25 foot area.

Structure 4 is located approximately 500 feet south east of the main house along the edge of a slough. Artifacts concentrate in an area 300 feet north-south by 200 feet east-west. The area is divided by a small slough and, therefore, this locus may represent more than one structure. Moderate amounts of shell, brick and rubble as well as domestic artifacts were recovered.

Structure 5 is located approximately 50 feet east of the main house. It consists of a moderate concentration of brick rubble situated at the head of a small slough.

Two shell middens were found within the Vanderhorst tract. The first is a dense but shallow midden located along the edge of the marsh north of the main house. It follows the marsh edge for approximately 300 feet and goes inland for approximately 50 feet. This midden appears to be related to the historic occupation since several historic artifacts were noted on the surface and no prehistoric artifacts were found in or around the midden.

The second midden, measuring approximately 50 by 50 feet, is located approximately 200 feet south of the main house and 100 feet east of the road leading in along a smaller road. Shovel testing indicated that it has been heavily disturbed. No diagnostic artifacts were recovered.

Two trash dumps were also located. The first was found in the vicinity of Structure 5, in the small slough and along the edge of a larger slough. Large amounts of brick rubble and black glazed redware roofing tiles were found encompassing an area 50 feet N-S and 75 feet E-W. At this point defining the boundary between structure 5 and the trash dump is difficult, and it is possible that the whole area represents a trash dump and no structure will be found.

The second trash dump is located approximately 450 feet west of the main house and 75 feet from the marsh edge in a depression measuring 25 by 25 feet. Large amounts of shell, ceramics, glass, and animal bone were recovered from the area.

A total of 785 artifacts were recovered during the Vanderhorst survey which

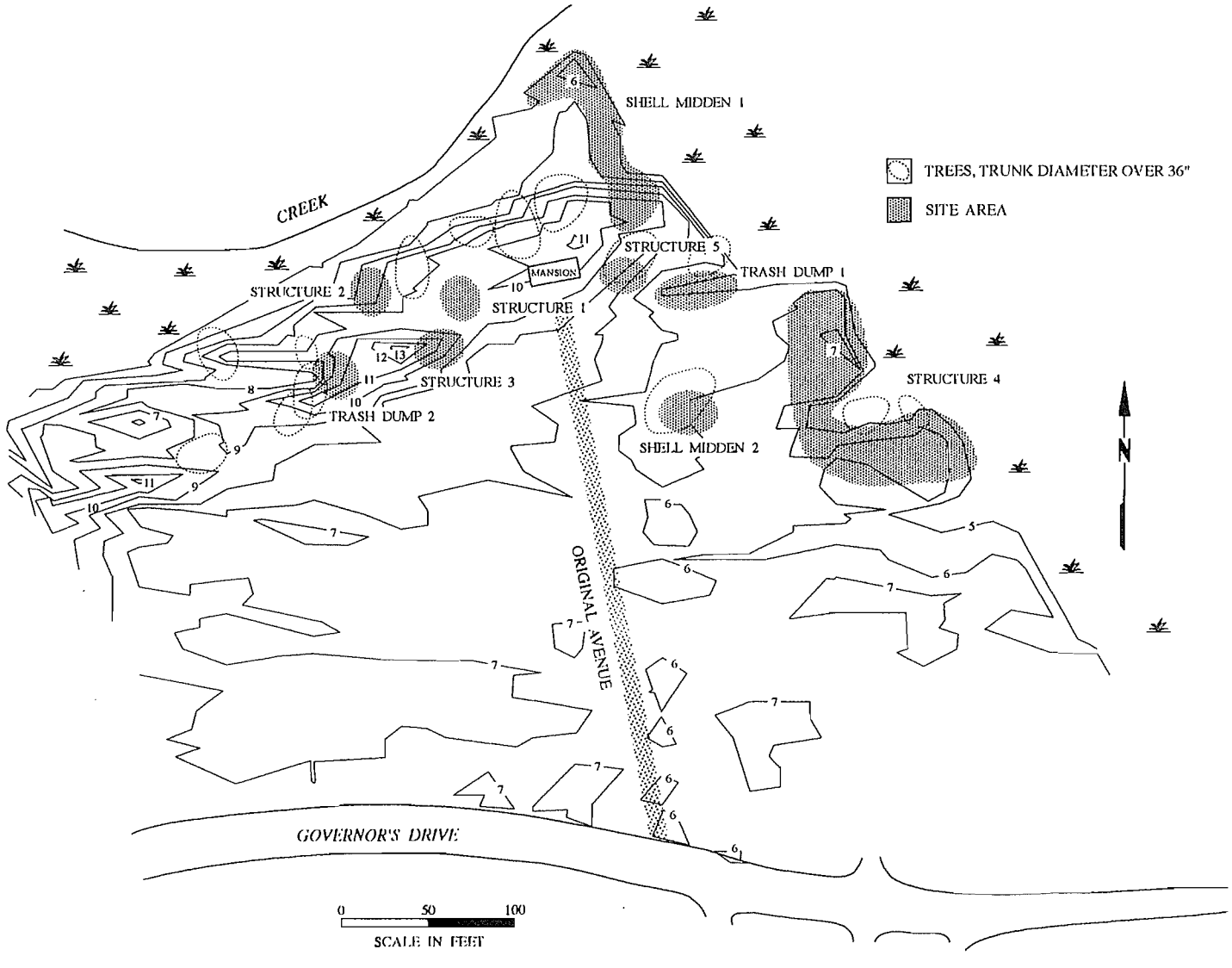


Figure 29. Vanderhorst survey tract, showing the location of various site components.

represent late eighteenth through early twentieth century (based on the presence of manganese glass) occupation of the property. Of these artifacts, 93 were datable European ceramics yielding a mean ceramic date (South 1977) of 1822 (Table 12).

Table 12.
Mean Ceramic Date for Vanderhorst Plantation.

Ceramic	Mean Date (xi)	(fi)	fi x xi
Overglz. enamelled porc.	1730	1	1730
Underglz. blue porc.	1730	5	8650
English porc.	1770	1	1770
NA Salt glazed stoneware	1866	3	5598
Westerwald	1738	1	1738
White salt glazed stoneware	1758	1	1758
Black basalt	1785	1	1785
Creamware, annular	1798	2	3596
undecorated	1791	25	44775
Pearlware, poly hand painted	1805	1	1805
blue hand painted	1800	1	1800
blue trans print	1818	1	1818
edged	1805	1	1805
annular/cable	1805	1	1805
undecorated	1805	4	7220
Whiteware, poly hand painted	1848	1	1848
annular	1866	1	1866
undecorated	1860	40	74400
Yellow ware	1853	2	3706
Total		93	169,474

Mean Ceramic Date = 169,474÷93 = 1822.3

The bracket date (South 1977) for the European ceramics is 1780 to 1820. South's bracket dating technique, however, does not take into account sherd counts. For instance, 43% of the sherds are undecorated whiteware which has a mean ceramic date of 1860 (South 1977) and indicates an intense occupation of the mid-nineteenth century and probably into the twentieth century. The strong presence of whiteware along with a large amounts of manganese glass supports a much later ending occupation date. The early bracket of 1780 may be correct. Although historical references suggest that the Vanderhorst house was built about 1803, the relatively large amount of creamware suggests that this tract was occupied at an earlier date. Since Vanderhorst's colonial period home was burned during the American Revolution, the site may represent rebuilding in the vicinity of the pre-Revolutionary structure.

Artifacts were tabulated using South's (1977) artifact groups with Colono ware being placed under the kitchen group (Garrow 1982b: 57-66) to obtain a pattern analysis (Table 13). The high percentage of architectural remains is difficult to explain and may be caused by the small artifact sample. Alternatively the historic documentation for this site reveals a long period of site maintenance, with relatively infrequent and brief periods of occupation. These circumstances may be reflected in the pattern analysis as an increased quantity of repair and maintenance items (i.e. architectural remains) and a relatively low density of occupation items (i.e. kitchen remains).

Table 13.
Artifact pattern for Vanderhorst Plantation.

Group	Count	%	Revised Carolina Artifact Pattern Range %
Kitchen	387	49.3	51.8-65.0
Architecture	387	49.3	25.2-31.4
Furniture	0	0	0.2-0.6
Arms	5	0.6	0.1-1.3
Clothing	3	0.4	0.6-5.4
Personal	0	0	0.2-0.5
Tobacco	3	0.4	1.9-13.9
Activities	0	0	0.9-1.7
	785	100.0	

The Vanderhorst house, and approximately 3/4 of an acre surrounding it, were listed on the National Register of Historic Places on October 25, 1973 under Criterion C: that the structure itself embodies "the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction." The associated archaeological site is recommended as eligible for inclusion on the National Register of Historic Places, as a contributing aspect of the property's theme and context. Further, the site is recommended as eligible for the National Register under Criterion D: that it has yielded, or may be likely to yield, information important in history. It possesses a high degree of site integrity based on existence of intact architectural features and has the potential to yield significant information on late eighteenth and nineteenth century plantation life, as well as late nineteenth/early twentieth century tenant life. This site will be further discussed in the data recovery portion of the report.

38CH128, although originally defined by Combes (1975) as a slave cemetery, appears to represent a nineteenth century slave settlement. The UTM coordinates are E587100 N3609030 and the site is situated on Wando loamy fine sand. No shovel tests were excavated. The site is found at elevations ranging from 5 to 7 feet MSL and is located on a terrace directly opposite the Vanderhorst house (38CH127) overlooking the slough inlet to the west and an expanse of marsh to the north.

This site was briefly examined since it was not within the Vanderhorst survey tract. Surface collected from the site include one whiteware sherd, one creamware sherd, one cobalt blue and one aqua bottle glass sherds, one iron stove part, one strap hinge, and one iron shovel blade. Also found were areas of scattered brick, suggesting the presence of structural remains in the immediate area.

These materials strongly suggest domestic occupation, although the use of some portion as a cemetery *cannot* be ruled out based on this limited reconnaissance survey. The site appears to be heavily disturbed through clearing and grubbing, and has been partially destroyed by residential development. However, this survey was not intended to establish site integrity, or boundaries.

Site 38CH218, originally reported by Combes (1975:A-19) to be a small "shell heap," could not be relocated during this study and is presumed destroyed.

Site 38CH219, described by Combes as "another small shell heap" (Combes 1975:A-19), could not be relocated during this survey and is thought to have been destroyed by natural erosion.

Site 38CH220 was originally described as a "scatter of shell" in one of the island roads (Combes 1975:A-20). This site was identified during the Chicora survey, but had been destroyed by subsequent bull dozer and tree clearing

activity.

The central UTM coordinates are E590510 N3610060 and the site is found on Crevasse-Dawhoo soils at an elevation of about 5 feet MSL. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) subsoil. The site is situated on a sandy ridge overlooking Cinder Creek and marsh and is a Type 1 midden.

At the time of the survey a scatter of oyster shell was observed, measuring about 50 feet in diameter. A series of 10 shovel tests were excavated in the site area, all revealing that the upper soil zone had been thoroughly disturbed by logging operations. Four of these tests produced either shell or, in one case, a single sherd. A surface collection was also made. Materials recovered from the site include one Deptford Cord Marked sherd and one unidentifiable sherd.

This site is recommended as not eligible for the National Register because of the extensive logging damage and the absence of in situ shell midden deposits. No further work is recommended at this site.

Site 38CH222, also known as the "Terrapin Island Site," was reported by Combes to consist of a shell midden which "extends into the marsh" (Combes 1975:A-20). The site was identified during these investigations and the central UTM coordinates are E589800 N3610820. The soils are mixed drainage Crevasse-Dawhoo soils and the elevation is under 5 feet MSL. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) subsoil. The site is situated at the north end of Thumb Point adjacent to a tributary of the Kiawah River.

At the time of the survey the site consisted of several very light scatters of primarily oyster shell (Type 1 midden) covering an area approximately 200 feet in diameter. The site size, however, reflects the surface scatter of shell since only three shovel tests out of ten revealed shell, and no artifacts were encountered. The area has been extensively damaged by logging operations conducted after Hurricane Hugo and no intact site areas could be identified.

This site is recommended as not eligible for inclusion on the National Register of Historic Places. It appears to have originally been an ephemeral, if not insignificant, occupation, but it has been totally destroyed. No further investigations are recommended.

Site 38CH223 was initially recorded by Combes, who characterized it as neither "large or extensive." During these investigations the site was found on an interior dune ridge overlooking a marsh inlet. The central UTM coordinates are E589740 N3610000 and the site is found on Crevasse-Dawhoo soils at an elevation of about 5 feet MSL. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) subsoil.

A series of 10 shovel tests were placed in the site, with three producing cultural remains (nine Deptford Cord Marked sherds and eight unidentifiable sherds). The site measures approximately 300 by 100 feet. Based on the shovel testing (i.e., location and density of shell midden), it appears that the site originally consisted of several pockets of shell midden perhaps 20 feet in diameter (Type 1 midden). However, these loci have been thoroughly disturbed and scattered by logging operations conducted after Hurricane Hugo.

Our investigation of the site suggests that it lacks the integrity of location, design and association essential to support a recommendation of eligibility for inclusion on the National Register under Criterion D. Locational integrity has been extensively compromised by logging operations. Design integrity, taken to include intra-site artifact and feature patterning, has also been compromised through mechanical movement and removal of midden. Integrity of

association is usually measured in terms of the strength of the relationship between the site's data and important research questions. At 38CH223 there is a very weak relationship.

It has been suggested that this site may be suitable for investigating the effects of silvicultural practices on archaeological resources. Regrettably, such an approach is inappropriate at 38CH223 since we are unable to clearly document either its pre-Hugo condition or the exact nature of the silvacultural practices. Unable to control these essential variables, research at the site could only weakly document that silvacultural activities likely damage sites (hardly unexpected), without providing us clear indications of how this damage occurred (because of a poorly trained operator, because clearing was conducted during wet conditions, or because tracked vehicles were used rather than rubber wheeled equipment), the exact degree of damage (unattainable information since we don't know the pre-Hugo condition of the site), or what might have been done to prevent the damage. While such research is clearly essential to archaeological site management, it should be undertaken at sites where it is possible to control all the variables, thereby ensuring that the results of the investigation are widely accepted and adopted.

In sum, this site is recommended as not eligible for inclusion on the National Register given the extensive logging disturbance and the inability to locate areas of intact shell midden has reduced the available data sets to the point were no suignificant research questions can be addressed. No additional investigations are recommended.

Site 38CH224 was reported by Combes to consist of a "100 foot light scatter of midden" (Combes 1975:A-21). The current survey identified the site, assigning it central UTM coordinates of E589220 N3609840. The site is situated on a sand dune ridge of Crevasse-Dawhoo soils at an elevation of 5 to 10 feet MSL overlooking Cinder Creek. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) subsoil.

A series of 25 shovel tests revealed the site to extend over an area about 300 feet east-west by 100 feet north-south. Three shovel tests produced disturbed shell midden (Type 1), but no artifacts were recovered. The site has been extensively damaged by logging operations conducted after Hurricane Hugo. While two areas of probable original shell midden were identified, no intact midden areas could be found.

This site is recommended as not eligible for inclusion on the National Register because of the extensive logging damage. This damage severely restricts the data sets available for research at the site. While pottery may be present, it is likely displaced and out of context. While floral and faunal material may be present, the logging damage also makes their potential to offer significant information suspect. As discussed for 38CH224, this site also lacks the essential elements of integrity which represent the site's ability to convey its significance. Absent well preserved data sets and clear integrity, the site cannot be recommended as eligible for inclusion on the National Register under Criterion D. Consequently, no further investigation is recommended.

Sites 38CH225/38CH228 were originally reported as two entities by Combes. Site 38CH225 was described as a "small scatter" and 38CH228 was described as a buried, extensive site (Combes 1975:A-21, A-22). The site was later examined by Lepionka (1981c) who found it possessing excellent integrity, intact middens, and relatively abundant pottery. In spite of these attributes, Lepionka remarked that:

> The site in question replicates the same pattern that is to be found in numerous coastal sites and so is, in spite of its excellent preservation, hardly unique. We do no consider that there is any necessity for further investigations, excavation, or other

mitigation procedure (Lepionka 1981c:11).

In taking this position, Lepionka failed to realize that a site need not be "unique" to be worthy of additional attention. In fact, there are very few, perhaps no, unique sites since cultural behavior is patterned and this results in "replication" as he calls it. To be eligible for the National Register a site must "have yielded or may be likely to yield, information important in prehistory or history" according to 36CFR800.10(a)(4).

The current survey found that the two sites originally defined by Combes in fact represent a continuation of small shell middens (Types 2 and 3) covering an area about 700 feet northwest-southeast by 3000 feet southwest-northeast (Figure 30). The UTM coordinates for the site are E590640-591420 N3610520-3611080. The site is situated on Crevassee-Dawhoo soils at an elevation of about 5 feet MSL. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) subsoil.

A series of 89 shovel tests were excavated on the ridge known as Marsh Hawk Point at 100 foot intervals. An additional 20 tests were excavated at 25 foot intervals to further refine site loci. Of the 109 shovel tests 15 yielded artifacts and/or significant quantities of shell. Positive shovel tests were all located within the loci defined in Figure 30. All other tests contained sparse or no shell. As a result of this work it became apparent that the entire area consists of intermittent midden deposits with shell scatter in between them. The testing, however, identified four loci of fairly dense shell concentrations and recovered five Deptford Cord Marked sherds. Unfortunately, much of the site has been damaged by logging operations following Hurricane Hugo.

There is no doubt that had this site been thoroughly assessed prior to the damage inflicted by logging operations that it would have been recommended as eligible for inclusion on the National Register. Based both on previous archaeological discussions there were areas of clear site integrity with in situ middens, relatively abundant faunal remains, and the potential for the recovery of features. Given the presence of remains in dune troughs, where erosion is minimal, it seems likely that structural remains might also have been present.

At the present time the site has been subjected to heavy, although inconsistent, damage by logging operations. The extensive shovel tests have identified a series of four seemingly intact "islands" of midden in the midst of thoroughly disturbed topography. It seems appropriate to recommend that these remnant site areas be considered eligible for inclusion in the National Register since they remain capable of providing information important to our interpretation of prehistory (National Register Criterion D).

It has also been suggested that the site may be able to provide information on the effects of silvicultural operations on archaeological sites. This is certainly a worthy research question, especially from a management perspective since it would assist in evaluating the number of archaeological resources affected by logging and associated activities. However, we do not believe that such research is appropriate **at this site.** The archaeological community does not have sufficient information on the pre-damaged condition of the site. In other words, except for the four small intact areas remaining, we have no real understanding of what the site "looked like" prior to the clearing. We cannot document that the four undisturbed areas are representative. Nor can we document the condition of the site, verifying that all perceived damage was inflicted by the logging operations. Further, we have no information on the logging operations themselves. We do not know if a skidder was used, whether tracked or rubber tired equipment was used, where the log decks may have been, or the amount of hand clearing undertaken. In short, there are simply too many uncontrolled variables. Research undertaken at the site *might* be able to document damage, but it would not be able to ascribe that damage to particular activities, or time periods. Consequently, we believe that additional research on silvacultural effects should

be undertaken only on sites where it is possible to effectively control all of the variables, ensuring that the research will be both valuable, and viable.

It seems, however, appropriate to investigate those site areas -- the "islands of intact midden" -- where disturbance appears limited. Obviously, if methodological research into silviculture operations becomes appropriate, it should be undertaken. Likewise, if the research is begun, only to discover that the primary goal of exploring the prehistoric middens (for recovery of faunal and ethnobotanical remains, evidence of structures, and intra-site patterning) is not feasible, then consideration should be provided to terminating the research, after consultation with the State Historic Preservation Office. It would be inappropriate to waste valuable resources, conducting excavations which are likely to make little substantive contribution to the discipline or the public.

Site 38CH227 was originally reported by Combes to be a ring of shell corresponding to a fortification shown on an 1822 map. At the time of Combes survey the site measured about 75 feet in diameter with the ridge of shell standing about 3 to 4 feet above the surrounding hard marsh surface (Combes 1975:A-22).

The current investigations have identified this site on a relatively high point of land at the confluence of the Stono and Kiawah rivers, immediately north of a small tidal creek. The central UTM coordinates are E591900 N3611060 and the soils are classified as tidal marsh. Regardless, the soils comprising the "ring" appeared to be well drained. The Ap horizon consists of 0.7 feet of dark brown (10YR4/3) sand overlying brown (7.5YR5/4) sand. The site elevation is approximately 5 feet MSL.

The survey revealed that only the backside (i.e. western) portion of this "ring" is still intact, the remainder having been totally destroyed by erosion. The remnants of the "ring" are evidenced as scattered shell on the hard sand beach spreading north and south from the site area. The portion of the site remaining measures about 100 feet in diameter (Type 2 midden). A series of seven shovel tests in the "ring" failed to identify any cultural remains or to provide clear information on site formation processes such as stratigraphic lensing in the shell bank suggestive of basket loading (Figure 31). Artifacts recovered from the surface, however, included two Deptford Cord Marked sherd, one Deptford Check Stamped sherd, three UID sherds, one brown salt glazed stoneware ceramic, and one flint cobble. Also recovered was one brass machine gun shell.

The State Historic Preservation Office requested a second phase of survey at this site, incorporating the use of a metal detector (this survey is detailed in Appendix 2). The metal detector found considerable evidence of recent trash, but only two period artifacts -- a brass button and a fragment of a brass nail. Perhaps more important than the presence of artifacts are issues concerning their integrity and their context. While the metal detector did identify two nineteenth century items, neither are definitively military-related. The metal detector survey also failed to reveal the presence of any metal items in the high marsh area surrounding the site, leaving the site boundaries as originally established on the basis of topographic features (i.e., the elevated shell deposit).

With the water table within a foot of the current ground surface and the location of the site within feet of a major river, it is unlikely that any pits were excavated for refuse disposal. The water table would also preclude or reduce the likelihood that wells or privies were excavated at the site. The extensive erosion and redeposition of the shell suggests that many surviving artifacts are no longer be in their original context, significantly reducing their ability to address significant cultural issues. Finally, given the very harsh environmental conditions it is also likely that a number of the ferrous and non-ferrous objects have deteriorated to the point where their recovery would offer little additional information at even the most basic level of inquiry.

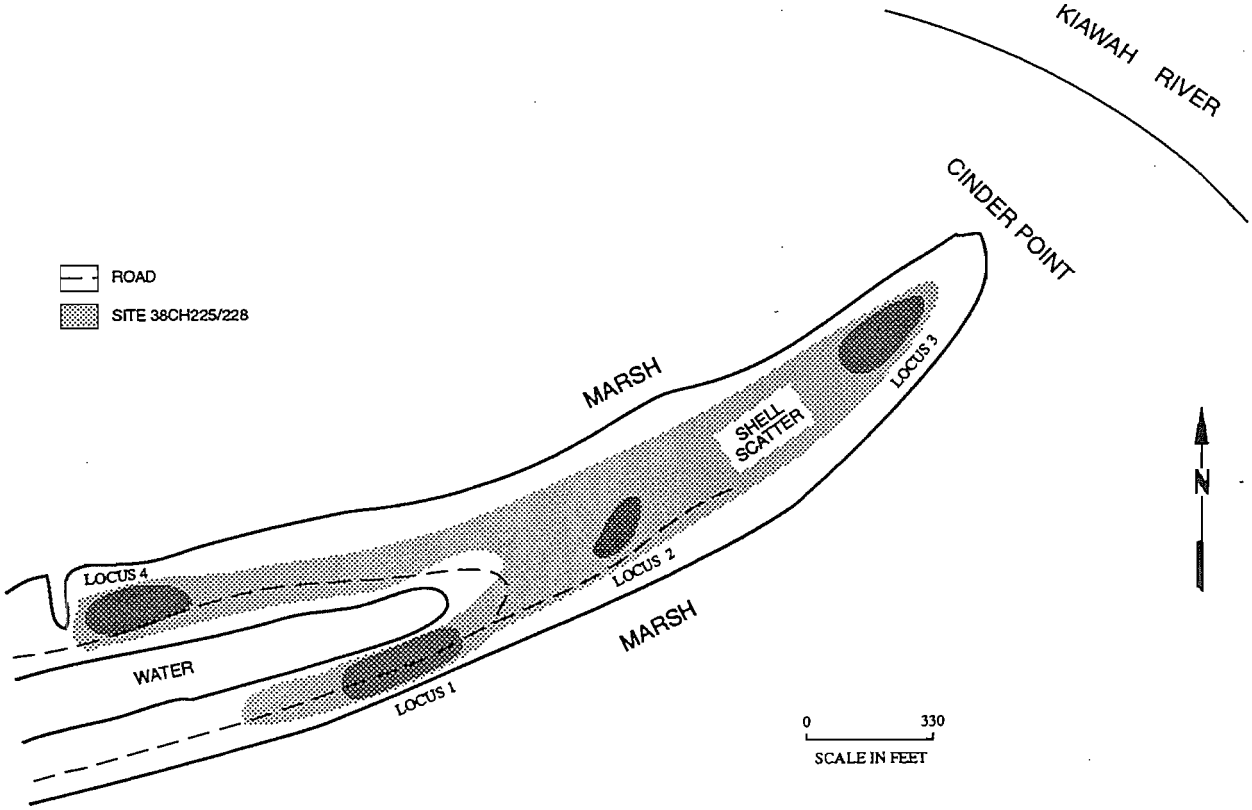


Figure 30. Locations of loci and geographical features at 38CH225/228.

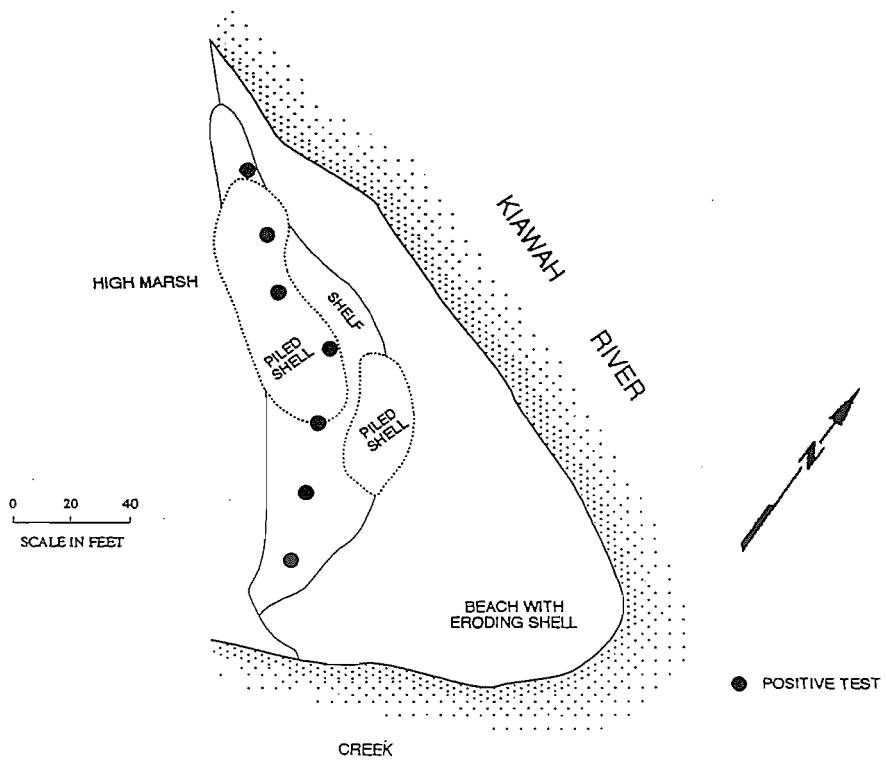


Figure 31. Location of cultural and geographic features associated with 38CH227.

Figure 32. View of site 38CH227, showing extensive erosion at the confluence of Stono and Kiawah rivers.

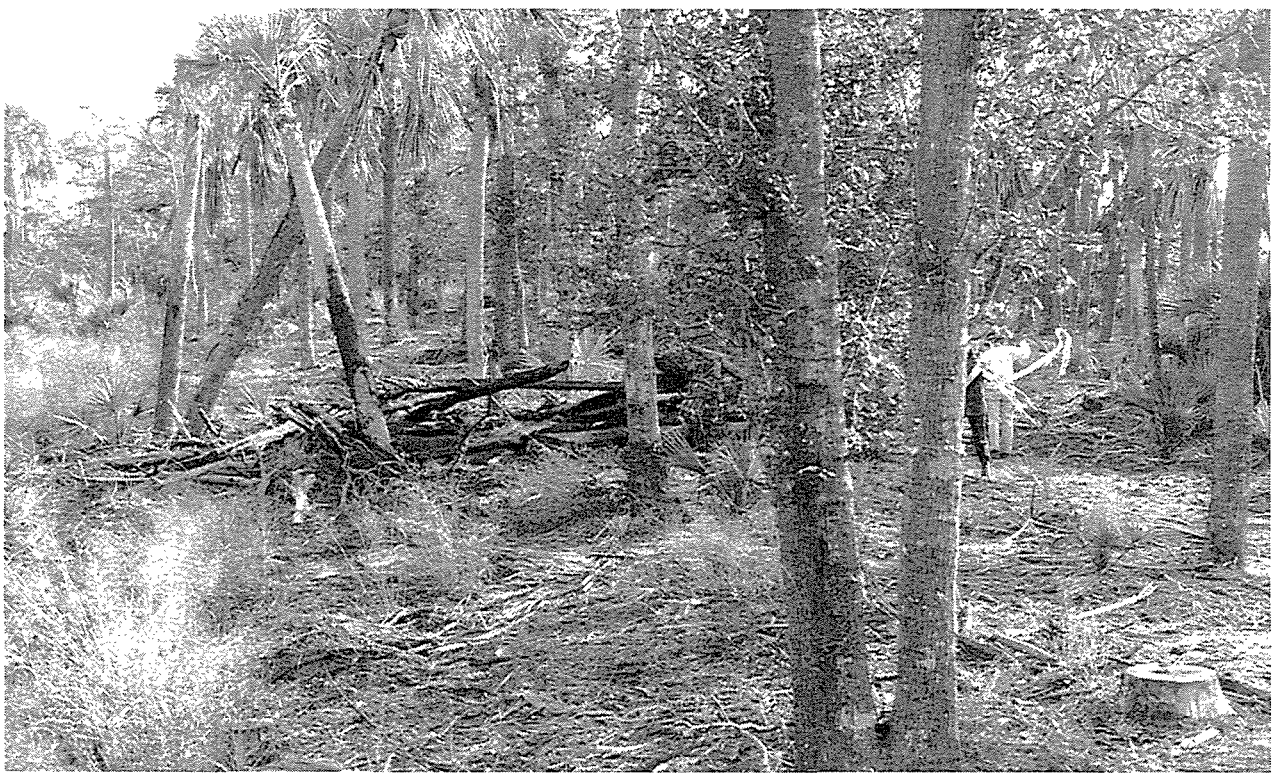


Figure 33. Site 38CH1224, showing logging damage and ground surface conditions.

Historical research suggests that this was originally a fortification constructed during the War of 1812 and used for the defence of the Stono approaches (Figure 18). Vague references to the fort are present in the National Archives (Colin Brooker, personal communication 1991), although it is referred to as a "tabby" fortification. This site was probably re-used during the Civil War, representing what was referred to as the "river fort."

The archaeological evidence suggests that the reference to "tabby" aside, the fort was constructed by piling already existing Early Woodland shell midden in a circle to form a gun emplacement. The erosion of the Stono combined with the Kiawah has resulted in the majority of this site being destroyed.

This site may be evaluated for its eligibility for inclusion on the National Register using Criterion A, being associated with events that have made a significant contribution to the broad patterns of our history, as well as Criterion D, being able to yield information important to history.

Although this is a significant historic site, relating to the War of 1812 and later to the Civil War, it appears that very little of the original fortifications remain. It is also likely that some reworking of the site took place during the Civil War. The prehistoric site from which the fortification was constructed has been thoroughly disturbed by these activities. Consequently, we believe that the site fails to evidence the degree of integrity necessary to support eligibility under Criterion A. It is unlikely that the site displays locational integrity, since the erosion has probably displaced artifacts originally associated with the site. The design integrity of the site has also been dramatically affected by erosion and the changing course of the river. This degree of erosion has likewise affected the integrity of the materials used in the construction of the fort, with only the backside of the fort still intact. Finally, integrity of association is perhaps arguable. This is the location of the fort associated with the War of 1812 and the Civil War; the question is whether that association is clear to most observers. Given the relatively unimpressive appearance of the site, we doubt that it retains good integrity of association. Taken in sum, and recognizing that for a site to be eligible for under Criterion A must be recognizable and convey its historic significance (i.e., have well preserved features, artifacts, and intersite patterning), we do not believe the site can be considered eligible under Criterion A.

Under National Register Criterion D the site must contain information which can contribute to our understanding of history and that information must be significant. The Corps of Engineers Shoreline Movement Study maps reveals that upwards of 500 feet of shoreline in this area has been eroded since ca. 1860 (South Carolina Department of Archives and History, S.C. Maps Collection, Folder 13, James Island). This degree of erosion would explain why only the "backside" of the fort appears to be present. It may also explain why so few period artifacts have been recovered through either the surface survey or the metal detector study.

We believe, however, that the site does contain engineering data, contained in the topography of the landscape. In other words, the remnant portions of the site can contribute information about how such sites were laid out and built. This information is retrievable through the preparation of a detailed topographic survey of the site (perhaps at a scale of 1 inch to 10 feet and a contour interval of 0.25 feet to fully record the remaining evidence of the site). We also believe that this information is important since thus far we have failed to identify any records pertaining to the fortification (suggesting that it may represent a unique feature developed to use local materials and meet immediate war-time needs) and there is no similar data from other fortifications in the locality (for example, even the well preserved fortifications present on Hilton Head Island have not been examined from an engineering perspective and lack adequate mapping).

Consequently, we recommend the site eligible for inclusion on the National Register under Criterion D. The site is within the Coastal Council Critical Zone and is not available for development. The only threat to the site, therefore, is continued erosion which appears to be entirely related to natural causes and which dates back to at least the mid-nineteenth century. We recommend that under these circumstances the only prudent and feasible mitigation measure is the preparation of a topographic map of the site to document its current condition.

Site 38CH229, also known as the "Middle Field Site," was identified by Combes, who noted only that while little was found in the original survey, "there is a good chance that a significant site will turn up, so care should be taken with any earth moving" (Combes 1975:A-23).

The Chicora investigations revealed evidence of a thoroughly plowed site covering an area about 250 feet east-west by 200 feet north-south. The central UTM coordinates are E584740 N3608460. The site, a Type 1 midden, is situated on well drained Wando soils at an elevation of 5 to 10 feet MSL. Soil profiles indicate 0.8 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) subsoil.

A series of 20 shovel tests in the area revealed small sherds and a light scatter of crushed shell. Only one Deptford Cord Marked sherd and one UID sherd were recovered from the testing. The site has been heavily impacted by previous cultivation. More recent disturbances include road construction, filling of a portion of Bass Pond, and logging after Hurricane Hugo.

In order to evaluate the National Register eligibility of this site the data sets present need to be considered. The cartographic research combined with the field study revealed that the site has been extensively plowed. In fact, this area was plowed in the mid-nineteenth century and as late as 1939 aerial photographs show extensive cultivation in the area. The 100 plus years of plowing have resulted in fragmentation of artifacts (evidenced by the small sherds recovered during these field investigations), dispersion of the materials, and removal of any features which may at one time have been present (evidenced by the absence of artifact concentrations indicating features still being plowed out). The plowing at this site has been sufficiently intensive to eliminate perhaps the most important aspect of integrity: location. Because of extensive damage this site is not able to address significant research questions and it is recommended as not eligible for inclusion on the National Register of Historic Places. No further work is recommended.

Site 38CH1215 is situated on the northwest end of Bass Pond in an area of well drained Seabrook soils. Soil profiles indicate 0.7 feet of very dark grayish-brown (10YR/2) sand overlying dark yellowish brown (10YR4/4) subsoil. The central UTM coordinates are E584360 N3608180 and the site is at an elevation of about 5 feet MSL. The site is found in an area similar to 38CH229 and it may represent a continuation of small shell middens (Type 1) adjacent to the old Bass Pond drainage.

A series of 15 shovel tests in the site area revealed the presence of only one Deptford Check Stamped sherd and occasional small quantities of crushed shell in seven tests. The site is estimated to cover a maximum area of 50 feet in diameter, with the original size probably smaller. The site area evidenced previous plowing and had been heavily impacted by Hurricane Hugo (although no logging operations had been conducted in this area there is extensive blow-down of trees, creating a dense tangle of vegetation and tree throws).

This site is recommended as not eligible for inclusion in the National Register of Historic Places. The single artifact recovered fails to indicate that substantive data sets are present at the site. The limited, and dispersed, shell also reduces the potential that faunal material may survive at the site. The evidence of plowing, in combination with the low density of remains, suggests

that no subsurface features still exist at the site. The evaluation of the data sets also includes a recognition that the site fails to possess integrity of location (the site has been dispersed), design (it no longer is clearly recognizable as a shell midden), or materials (the assemblage is no longer complete). Simply put, it is unable to address substantive research questions in the areas of site patterning, subsistence, settlement, or ceramic technology. No further investigations are recommended.

Site 38CH1216 is situated at the northwest end of Bass Pond and, like 38CH229 and 38CH1215, may represent a continuation of small, isolated shell middens (Type 1) which have been dispersed by plowing. The central UTM coordinates are E584440 N3608280 and the site is situated on Wando soils at an elevation of about 5 feet MSL. Soil profiles indicate an Ap horizon of 0.6 dark brown (10YR4/3) sand overlying brown 7.5YR5/4) sand.

A series of 10 shovel tests (three positive) produced a single Deptford Check Stamped sherd and a thin scatter of crushed oyster shell. The maximum site size is estimated to be 50 feet in diameter.

This site is virtually identical to 38CH1215 in terms of its reduced and impoverished data sets and in terms of its reduced levels of integrity. For the reasons outlined in our discussions of 38CH1215, this site is recommended as not eligible for inclusion on the National Register and no further work is recommended.

Site 38CH1217 is situated immediately north of the filled section of Bass Pond. It is virtually identical to 38CH229, 38CH1215, and 38CH1216 (Type 1 middens). The central UTM coordinates are E584520 N360820 and the site is situated on well drained Seabrook soils at an elevation of about 5 feet. Soil profiles indicate 0.8 feet of very dark grayish-brown (10YR/2) sand overlying dark yellowish brown (10YR4/4) subsoil.

A series of 10 shovel tests yielded two UID sherds from a single test. The site, therefore, is estimated to cover an area no greater than 50 feet in diameter, although the shell scatter suggests that the plowed out midden may have been as small as 15 to 20 feet. This site area has been ditched for drainage, although no evidence of additional middens was identified in the ditch profiles.

This site is virtually identical to 38CH1215 and 38CH1216 in terms of its reduced and impoverished data sets and in terms of its reduced levels of integrity. Distinct from both 38CH1215 and 38CH1216 is the additional damage caused by the twentieth century ditching. For the reasons outlined in our discussions of 38CH1215, this site is recommended as not eligible for inclusion on the National Register and no further work is recommended.

Site 38CH1218 is similar to those previously discussed in the area north of the filled section of Bass Pond. The central UTM coordinates are E584300 N3608260 and the soils are the well drained Seabrook soils. Soil profiles generally consisted of 0.8 to 1.2 feet of very dark grayish-brown (10YR/2) sand overlying dark yellowish brown (10YR4/4) subsoil. Site elevations are approximately 5 to 7 feet MSL and the site is typical of the Type 1 middens.

A series of 30 shovel tests were excavated in this area. Of the 30 tests ten were positive. These tests revealed a thin scatter of shell over an area about 200 feet east-west by 100 feet north-south, although only one sherd (Irene Complicated Stamped) was recovered. No evidence of intact shell middens was encountered, with Ap soils found to a maximum depth of 1.2 feet. The site area has been impacted by Hurricane Hugo, with evidence of tree throws and extensive blow downs.

Like those site previously discussed in this area of Kiawah, the data set evidenced by the extensive shovel testing is impoverished. In fact, were it not

for the thin scatter of shell midden testifying to what at one time was present, the single, small sherd could be dismissed as an isolated find. The mechanical damage caused by plowing, coupled with the resulting reduced soil alkalinity, makes the survival of faunal material unlikely (none was recovered in this testing). Even the shell remains are extensively crushed through plowing, heavily eroded by the acidic soils, and representative of only a partial assemblage (small and more fragile shells being thoroughly reduced) -- thus diminishing the level of analysis the material will support. Of equal importance, the aspects of site integrity are very low or absent. Consequently, this site is recommended as not eligible for inclusion on the National Register of Historic Places.

Site 38CH1219 is located about 500 feet north-northeast of 38CH123 on the northern edged of Kiawah Island. The central UTM coordinates are E584100 N3608180 and the site is found on well drained Seabrook soils at an elevation of about 5 to 7 feet MSL. Soil profiles indicate 0.8 foot of very dark grayish-brown

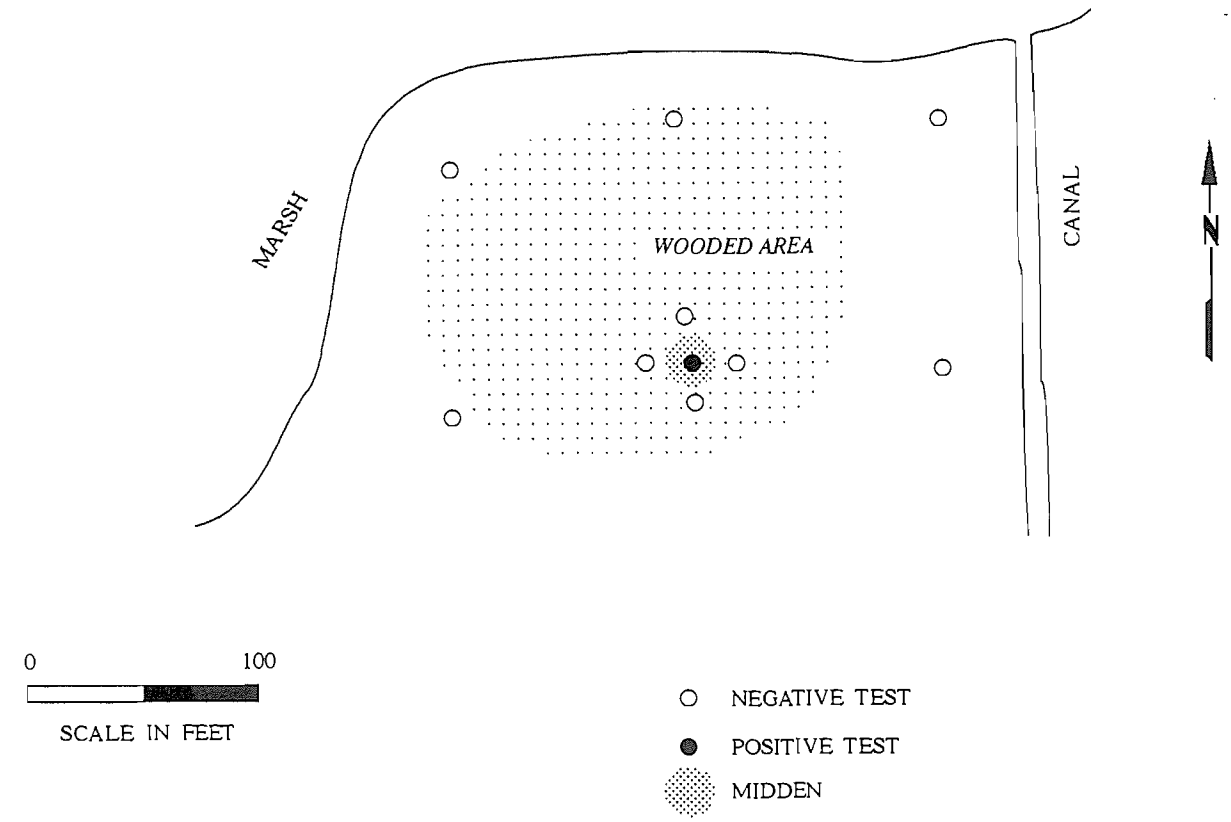


Figure 34. Shovel tests in the vicinity of 38CH1219.

(10YR/2) sand overlying dark yellowish brown (10YR4/4) subsoil. Site vegetation consists of mixed pine and hardwoods and the site, which consists of a small, isolated shell midden, is situated about 100 feet south of the marsh edge. The midden measures about 10 feet in diameter and is about 0.5 feet above the surrounding ground level.

A series of five shovel tests were excavated in and around the midden. The single test in the midden yielded 20 Deptford Cord Marked sherds, one UID sherd, and one lithic. Tests surrounding the midden produced no evidence of adjacent occupation.

This midden appears, based on the admittedly limited data available, to

represent an intact Type 1 example of the plowed middens recorded as 38CH229, 38CH1215, 38CH1216, and 38CH1217. This midden, however, escaped plowing since it is situated in the hardwood vegetation bordering the marsh and on the edge of the agricultural fields.

This survey level testing identified several data sets at the site. The first includes the pottery. All of the identifiable sherds are Deptford and all are cord marked. This homogeneity allows the site to address issues of:

- fabric or paste analysis to distinguish what has been called Deptford from what others (see Anderson et al. 1982) have suggested is Cape Fear (further refining early Middle Woodland typologies), and

- cordage analysis which may assist in the recognition of specific kin groups through comparison at an intersite level, as well as the refinement of typological constructs.

The presence of lithic material at the site may assist in answering questions regarding lithic procurement and use, as well as identification of source areas and possible procurement rounds. Sites which exhibit lithic materials are not common, suggesting that this is a particularly significant data set.

The physical integrity of the midden sets it apart from many other sites on Kiawah, allowing questions of intra-site patterning or activity areas to be explored. Since the size and stratigraphy suggests the site may represent a single episode (which itself needs to be tested) it may be possible to clearly examine site function. The preserved location of the midden will also allow non-midden excavations to be undertaken with some assurance that important data has not been damaged or destroyed by plowing or other dispersive activities.

The presence of dense shell offers a potential for the preservation of vertebrate faunal material. The presence, or absence, of such material will be of considerable significance in the interpretation of the site. Consequently a collection strategy fully capable of recovering the data, if present, must be implemented. Even the shellfish, providing mute testimony that something was being done with oyster, offer research opportunities beyond the obvious. Refinement of seasonal dating may be possible through fine screen recovery of parasites (Russo 1991). While previous research has concentrated on the analysis of oyster (with only occasional attention to hardshell clam), it may be appropriate to supplement species specific research with a more integrated analysis of the shellfish assemblage, basically an environmental approach, in the effort to evaluate what the total assemblage may be telling us about locations collections, seasonality, and collection techniques. In other words, it is appropriate to expand such vertebrate faunal techniques as equitability and diversity into shellfish studies, and 38CH1219 offers the opportunity to begin this research.

Finally, the presence of carbonized material (observed in the shovel tests but not collected) will allow the site to address chronological issues. These include:

- dating the pottery identified at the site, further refining the temporal variation of this particular ware,

- through multiple dates, establishing the temporal parameters of the site, assisting stratigraphic evaluation of single or multiple occupation episodes, and

- through comparison of charcoal and shell dates further evaluate the perceived failure of shell to provide consistently accurate dates.

These data sets, as well as the site's similarity to an apparently common site type in the survey area, abundant and varied artifactual remains, and the presence of intact midden supports a recommendation that the site is eligible for inclusion on the National Register of Historic Places under Criterion D (the site may yield information important in prehistory). The eligibility is recommended at the local level, although many of the research findings may be applicable on a broader extra-local scale.

Location, design, materials, and association are generally the most relevant aspects of integrity under Criterion D. At 38CH1219 there is clear evidence for locational integrity. The midden is intact and there is no evidence that artifacts have been dispersed by plowing or logging operations. The site should be able to address questions of intra-site patterning given this level of integrity. The site also exhibits integrity of design since it is able to convey its significance. Integrity of materials may be viewed as the completeness of the artifact assemblage or as the quality of feature preservation. Both are very good at 38CH1219. The presence of both lithics and pottery indicates a range of cultural materials is likely present. The major feature at the site is, of course, the midden itself, and the survey reveals exceptional preservation. Integrity of association is typically measured in terms of the strength of the relationship between the site's data sets and the important research questions. This site demonstrates a particularly strong association. This small, relatively common type of Deptford midden can answer questions about site function, perhaps addressing the question of food gathering in relation to probable or known base camp areas on the island.

Green spacing is the preferred mitigation technique, although if this approach is not possible, total site excavation should be undertaken with additional investigation around the site periphery. This data recovery recommendation is based not only on the proposed research questions (particularly those relating to intra-site patterning and activity areas), but also to an increasing awareness in the discipline that the level of archaeological excavations often undertaken are inadequate to ensure accurate and meaningful site interpretation. Perhaps the most forceful statement of this finding is the recent article by Dennis O'Neil (1993). O'Neil's conclusion that at least a 50% to 63% sample is necessary for adequate recovery and interpretation is based on work at California shell middens. Of course it is impossible to *know* what an adequate sample size is unless you know what the sampling universe is -- and this can only be known in archaeology after 100% excavation. O'Neil's research begins to illustrate that the very low sampling fractions typically used in much compliance archaeology may be entirely too small, providing a false sense of resource management.

Through 100% excavation it will be possible to address some of the issues associated with sampling at similar sites. This is an ideal site for total excavation since it is well preserved, offers excellent access, and is relatively small (minimizing the expenditure of scarce resources). The methodological advances possible from such work have wide applicability in the management of other resources in the area, although as O'Neil points out, the work must be undertaken at multiple middens in order to devise broad patterns.

Site 38CH1220 is situated on a ridge in Area F, immediately north of the currently developed golf course. The central UTM coordinates are E592540 N360960 and the soils in the site area are the poorly drained Crevassee-Dawhoo complex, although drainage on the ridge is considerably better than in the troughs to the north and south. Soil profiles on the Crevassee ridges indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand. Site elevation is approximately 15 feet MSL. Vegetation in the area consists of live oaks with a thick understory of wax myrtle and yaupon. Some damage has been caused by Hurricane Hugo, although the area has not been impacted by logging operations.

The site is evidenced by approximately eight brick scatters along the crest of the ridge and surface indications suggest that the site measures about 300 feet north-south by about 1000 feet east-west (Figure 35). A series of 66 shovel tests were excavated, both systematically at 25 foot intervals along a transect following the ridge and also judgmentally. These tests produced only one UID nail fragment (a positive test at T28-ST32). Surface collections in the site area, however, yielded one iron axe head, 17 black bottle glass fragments, one blue bottle glass fragment, one UID nail fragment, two UID spike fragments, one strap hinge, and 21 animal bones. During the survey, damage to the site was identified consistent with relic hunting using metal detectors. This damage appears to be minimal, although the activity has taken place over a wide area of the site.

The State Historic Preservation Office requested that a second phase of survey take place at the interior edge of the site, using a metal detector to determine if the site boundary extended further north, past the dirt road and channelized stream (now recognized as a 20 foot wide ditch). While this study is detailed in Appendix 2, the results failed to reveal any materials north of the currently identified boundary. The intensive survey north of the ditch revealed that this area is very low, which much of it being a Corps defined wetland. A metal detector survey along the northern edge of the site (at the road paralleling the site) revealed a low density of both modern (i.e., machine gun bullets) and potentially nineteenth century (axe head and cut nails) remains. While the site may originally have extended southward, into the area now occupied by a golf course, this area is not owned by KRA and is not available for further survey.

The site appears to represent a Civil War encampment. The individual scatters of brick may be related to kitchens, with the tent camp located nearby. Preliminary historical documentation does indicate that Union troops (probably the 54th New York) used this portion of Kiawah Island during the latter period of the war. The only similar sites archaeologically documented in South Carolina are on Folly Island (Legg and Smith 1989) and Hilton Head Island (Legg et al. 1991). The low density of observed archaeological materials is consistent with a military encampment where strict policing of the area was undertaken on a routine basis. Unlike most archaeological sites which consist of either clearly defined structures or sheet midden, such encampments are characterized by localized and discrete features such as privies and wells.

Site 38CH1220 is recommended as eligible for inclusion on the National Register of Historic Places under Criterion D (the site's ability to contribute significant information to history). It is also appropriate to consider the site eligible under Criterion A (association with events which have made a significant contribution to broad patterns of history).

While the testing did not clearly define the data sets present (i.e., it failed to identify regimental buttons), it failed to reveal any reason (erosion, vandalism, logging) why the data sets typically associated with military encampments would not be present, including privy and well features, post hole and tent peg features, and possibly remnants of other landscape features. These remains typically contain large quantities of military items, medicinal remains, personal items, and kitchen refuse. Broad areas of research include regimental subsistence and diet, camp life, and regiment status and supply of goods to troops at a distance from Hilton Head Island.

Anticipating that the expected data sets will be present, it is appropriate to also consider the various aspects, or qualities, of integrity under Criterion D. The evidence for locational integrity is largely negative -- the absence of vandalism and looting, the absence of plowing, the absence of logging damage. Regardless, the presence of distinct brick piles suggests that discernable activity areas are present. There is integrity of design, since there is evidence that the landscape is intact and that the brick piles may be associated with

specific, recognizable site areas. Although we have limited evidence concerning integrity of materials, the testing phase has provided no reason to doubt that intact features typical of military sites exist. In fact, the integrity of the above ground brick concentrations again offers a good indication that below ground features have also been protected. Integrity of association is likely since there are a variety of specific research questions the site may address, including the consistency in the arrangement of military encampments, the comparison of military lifestyles, and a comparison of lifestyles between enlisted and officers. It is also appropriate to note that the military encampment data sets currently available for South Carolina (Folly Island and, Camp Baird) provide information only for African American troops -- no white camps have been studied.

In addition to these aspects, there is also clear evidence for integrity of setting, supporting eligibility under Criterion A. The site's physical setting or environment is very similar to its use during the Civil War. When standing on the site there is little indication of Kiawah's development and the dominant impressions continue to be the overpowering vegetation and sound of the nearby ocean.

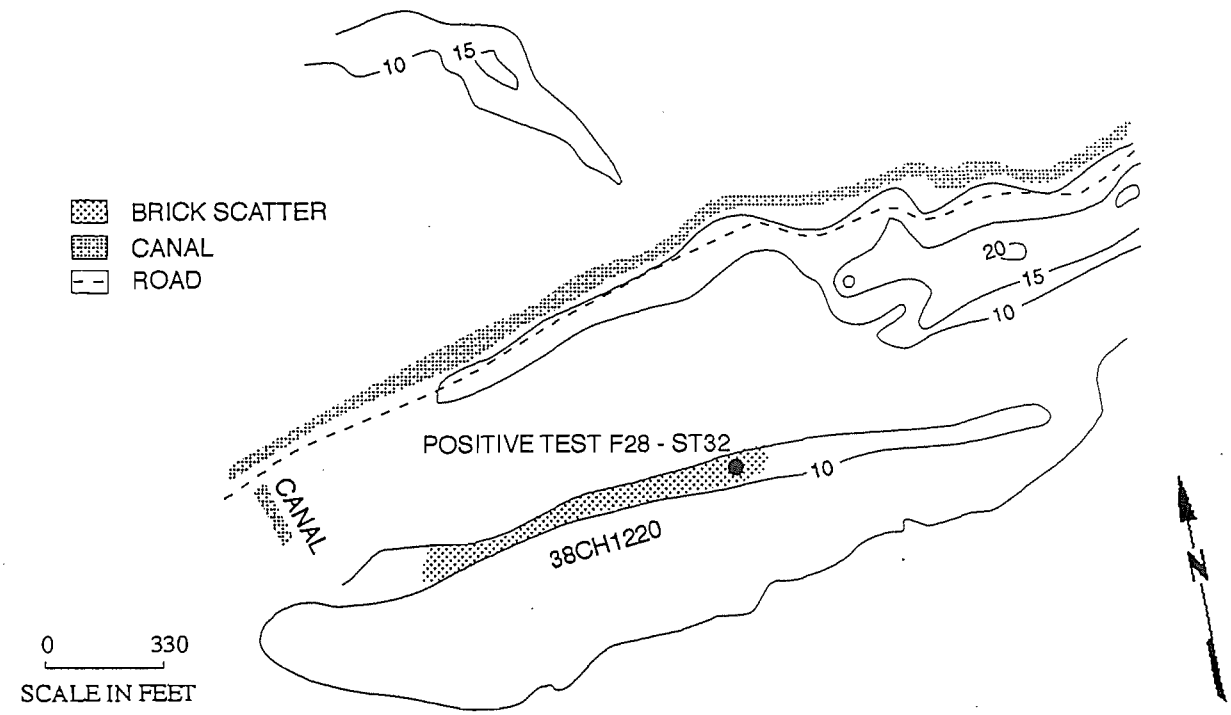


Figure 35. Location of cultural and geographical features associated with 38CH1220.

Green spacing is the preferred alternative at 38CH1220, especially since this may be the last intact military site on Kiawah (at least two additional sites have been destroyed by earlier development activities). If such an approach is not possible, or found not prudent, then data recovery excavations are

recommended. The first phase of this work should be an intensive examination of archival records, utilizing the sources available at the National Archives and the Library of Congress. Following this, it will be necessary to develop a research design which will allow features, such as wells and privies, to be identified for further excavation and/or sampling.

We understand that some scholars have legitimate concerns regarding the ability of such sites to address anthropological questions. Even proponents of archaeological research at such sites, such as Legg and Smith, note the problems inherent in developing anthropological questions given the small sample size or even the inability to use quantification techniques as pattern analyses given the biased nature of the recovered features (Legg and Smith 1989:131,133). At Camp Baird (Legg et al. 1991), even the larger sample size resulted in conclusions which emphasized methodological, not anthropological, issues. It seems essential that any work at 38CH1222 concentrate not only on the very real methodological issues (such as the use of metal detecting and other ground penetrating non-destructive survey techniques), as well as anthropological questions.

Site 38CH1221 is situated on a high sand dune ridge adjacent to Bass Creek in Area F. This dune ridge has suffered extensive erosion and perhaps as little as 10% of the feature is still extant. The "beach" or shoreline area is not available for investigation because of extensive rip rap placed along the shore and up the eroded face of the dune ridge. The central UTM coordinates are E591480 N3609220 and the site is situated in an area described as Crevassee-Dawhoo complex, although because of the elevation (about 10 feet MSL) the soils tend to be relatively well drained. Soil profiles indicate 0.5 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand.

This site is documented on the "Map of the Defenses of Charleston City and Harbor, showing also The Works Erected by the U.S. Forces in 1863 and 1864" (Figure 16) and appears to represent a signal tower used to relay messages up the South Carolina coast. A series of five shovel tests were placed on the remnant dune ridge, which measures about 30 feet by 20 feet. One test yielded one cut nail fragment.

It appears that the bulk of this site, which is expected to have left a relatively faint archaeological footprint at best, has been largely destroyed by natural erosion. Consequently, the site is recommended as not eligible for inclusion on the National Register.

Site 38CH1222 appears to represent a Civil War military site. It is situated in Area F about 2000 feet northwest of 38CH1220 in an area of Crevassee-Dawhoo soils. Soil profiles indicate 0.5 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand. The site elevation is about 5 feet MSL, although the soils are relatively well drained. Vegetation consists of a mixed pine and hardwood forest which has been slightly damaged by Hurricane Hugo.

A series of 22 systematically and judgmentally placed shovel tests were excavated in the site area. The systematically placed tests failed to yield artifacts, although the three tests placed judgmentally (adjacent to relic collector holes) yielded one strap hinge, one pintle, one fireplace hook, one latch, two fragments of strap metal with wood impressions (probably barrel hoops), five UID iron fragments, 11 UID nails, six machine cut nail fragments, one machine cut nail, and one spike fragment. Two fragments of marl blocks were collected from the surface of an adjacent road cut.

This site is shown on the "Map of the Defenses of Charleston City and Harbor, showing also The Works Erected by the U.S. Forces in 1863 and 1864," (Figure 16) although it is uncertain whether it represents a signal tower or a possible encampment. The site initially appeared to measure about 100 by 50 feet, which seemed rather small for an encampment, although it was recognized that the defined area might represent only a portion of the 142nd New York camp.

The State Historic Preservation Office required that a metal detector be used to assist in the determination and/or refinement of site boundaries (perhaps in response to the recommendations offered by Legg et al. 1991:223). Such a survey was performed by Chicora Foundation (described more fully in Appendix 2) with the result that the boundary was increased to 400 by 150 feet, the limits based on topographic features and rapidly diminishing artifacts.

This approach clearly reveals that the metal detector survey can contribute to boundary determinations, a suggestion also made by Heimmer (1992). In addition to assisting in boundary determinations, the metal detector survey also provided information on the nature of the archaeological remains and artifact classes present at the site. It was surprising, especially when the results were compared to the metal detector survey at Folly Island (Legg and Smith 1989:85), that only one clearly military related item was identified (a brass knapsack hook). More abundant were architectural items, such as machine cut nails and large spikes.

Subsequently, the State Historic Preservation Office requested that Chicora undertake additional testing at the site to resolve lingering questions regarding site eligibility. This third phase of survey was to include a series of three stripped transects in order to identify the presence of any features which might exist at the site. This work is also detailed in Appendix 2. Briefly, a series of five transects were opened in order to provide complete coverage of the site area. No features were encountered in any of the transects.

Consequently, the metal detector survey: (1) identified boundaries for the site which are several times larger than originally defined on the basis of shovel testing, but still much less than would be anticipated for a regiment camp; (2) revealed that the site is likely related to military activity, but suggests that the site may be associated with a signal tower (accounting for the large quantity of architectural remains); and (3) supported previous suspicions that the site had been heavily damaged. These conclusions were further supported by the site stripping, with the additional finding that no features were present at the site.

Many of the data sets that this site may possess are similar to those also likely to be present at 38CH1220, with the major difference being that the information present at 38CH1220 exhibits clearer integrity and hence a better ability to address questions considered to be important in the examination of Civil War military sites. Site 38CH1222 has been damaged by relic collectors (with at least one "excavation" apparently destroying a well or similar feature), by the construction of a dirt road and large drainage ditch, and clearing after Hurricane Hugo. This damage, coupled with the absence of additional features, is sufficient to recommended the site as not eligible for inclusion on the National Register of Historic Places.

Site 38CH1223 is situated on a sand ridge in the central portion of Eagle Point, equidistant from Cinder Creek to the north and the marshes of Bass Creek to the south. The central UTM coordinates are E589460 N3609280 and the site is on Crevasse-Dawhoo soils at an elevation of about 7 feet MSL. Soil profiles indicate 0.5 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand. Vegetation has been disrupted by Hurricane Hugo and the area has been clear cut in logging operations. Portions of the site have been used as a burn site for Hugo debris.

A series of 10 shovel tests in the Type 3 midden area revealed extensive disturbance from logging, bulldozing, and burning. No artifacts were recovered in these tests. Surface visibility, however, was very good, and five Deptford Cord Marked sherds were recovered from the site. Based on the dispersion of shell, the site currently covers an area about 700 feet east-west by 800 feet north-south, although the disturbance is so heavy that the original boundaries cannot be determined.

The disturbances at this site have been so serve as to corrupt the data sets. While artifacts are found on the surface, they are not recovered from sub-surface contexts. While shell is found, there was no indication of intact midden deposits. Not only were no faunal materials identified, but the dispersion of the midden has likely resulted in extensive fragmentation and erosion of any material which might have been present. The use of the area for burning has rendered any ethnobotanical collection problematic. No features were identified in the shovel testing and the profiles, indicating swirling and mixing of levels, suggest that none survived the modern use of the site. Combined with these questions regarding the nature and quality of the data sets present at the site, it is equally clear that the site lacks all of the aspects, or qualities, of integrity essential for National Register eligible sites. The site is essentially destroyed. Consequently this site is recommended as not eligible for inclusion on the National Register.

Site 38CH1224 is situated between two dune ridges in Area D and consists of pockets of intact shell middens (Type 3), although the area has been logged. The central UTM coordinates are E590980 N3610560 and the soils are the Crevassee-Dawhoo complex. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand. The site is at an elevation of 5 feet MSL.

The site was encountered in a series of three shovel tests and is estimated to measure about 300 feet southwest-northeast by 100 feet northwest-southeast. Materials recovered consist of seven Wilmington Cord Marked and three Deptford Cord Marked sherds from a single shovel test, as well as three Deptford Cord Marked and two UID sherds from the surface. All three tests revealed relatively intact midden deposits up to about 0.5 feet in depth.

In many respects this site is similar to 38CH1219, although 38CH1224 consists of multiple middens, while 38CH1219 evidences only one shell pile. Another noticeable difference is the range of pottery wares present at the site and perhaps even present within a single midden. Consequently, while many of the same data sets are present at both sites, different (or expanded) research questions may be addressed. For example, in addition to the examination of the fabric, function, and cordage, it is possible to compare the Deptford and Wilmington assemblages to explore their perceived differences and, perhaps, identify areas of compositional and typological similarity. Collection of multiple radiocarbon dates may be useful to further document the ceramic assemblages, suggesting either contemporaneity or, alternatively, dissimilar mixed collections. The presence of multiple middens also offers the opportunity to explore intra-site variation, or the differences between several middens. Coupled with radiocarbon determinations and strictly controlled artifact analysis, it will be possible to speculate on site formation processes or community level behaviors. Exploration of this research will necessarily include examination of midden and/or feature patterning, documenting the relationship of the various middens to both each other and also to essential resources.

In one clear way 38CH1224 is distinct from 38CH1219 -- it is situated in a dune trough, not on a dune ridge. While it will be difficult to explore the importance of this environmental setting, its unusual (although not unique, see 38CH1225 below) contributes to the importance of the research questions. The importance of this particular environment setting may become more apparent as the various data are collected and compared to those collected at other sites.

The aspects of integrity at 38CH1224 are also similar to those discussed for 38CH1219. While the locational integrity may be slightly less at 38CH1224, the design integrity may be greater since their may be more evidence of feature patterning. Certainly the associative integrity is no less, since the research questions posed at 38CH1224 both include and expand on those suggested at 38CH1219.

The site is therefore recommended as eligible for inclusion on the National

Register based on Criterion D (its information potential) at a local level of significance.

Site 38CH1225 is situated about 1000 feet southwest of 38CH1224 and is also found between two dune ridges and consists of pockets of intact shell midden (Type 3). The central UTM coordinates are E590720 N3610340. The soils are the Crevasee-Dawhoo complex and the site is at an elevation of about 5 feet MSL. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand.

The area has been logged, but a series of four shovel tests on two transects identified the site and produced three Deptford Cord Marked and two UID sherds. Surface visibility was good, and surface collection yielded nine Deptford Cord marked and two UID sherds. Areas of intact midden were found during the survey, with the maximum depth of midden deposits being 0.4 feet. The site is estimated to measure 300 feet northwest-southeast by 200 feet northeast-southwest.

Site 38CH1225 is essentially the same type of site as 38CH1224 and as such the same research questions are applicable. In addition, careful evaluation of the site reveals that the aspects, or qualities, or integrity are essentially identical. Consequently the reader is referred to our previous discussions of 38CH1224 (and also 38CH1219). The site is recommended as eligible for inclusion on the National Register under Criterion D at a local level of significance.

It is critical that a number of seemingly nearly identical site types be excavated and examined using identical techniques. Only through such approaches will it be possible to identify broad cultural patterns that are worth of additional attention, or which can accepted as well documented. In the same way that medical research requires multiple tests, and replicability of data findings, archaeological research requires the examination of multiple sites. It is not necessary that every site investigated produce startling, or even new, results. Given that, as anthropologists, we believe that culture and cultural behavior is patterned, there are limits to how often "new" behavior will be found. But multiple sites must be explored before we can convincingly argue that a particular cultural behavior is sufficiently well understood to begin exploration of different issues. This view is expressed by the National Register in the statement that archaeological research "*reinforces*, alters, or challenges current assumptions about the past [emphasis added]" (Townsend 1993:31).

Site 38CH1226 is situated in Area D, about 1000 feet west of 38CH1225. The site consists of heavily damaged shell middens (Type 3) in a dune trough at an elevation of about 5 feet MSL. The soils are classified as the Crevasse-Dawhoo complex and the central UTM coordinates are E590480 N3610280. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand.

The site area has been intensively logged with resulting heavy damage, including rutting, displacement of soil, and erosion. A series of eight shovel tests (two positive) in the site area revealed scattered shell and two Deptford Cord Marked sherds. No areas of intact midden were identified and shell is displaced over an area of about 50 feet in diameter. Surface visibility was good.

This site appears to have originally represented a single small shell midden. It has been destroyed by Hurricane Hugo logging operations and is recommended as not eligible for inclusion on the National Register.

Site 38CH1227, situated on an interior dune ridge on Cinder Point, consists of a small shell midden (Type 3). The central UTM coordinates are E588960 N3609880 and the soils are the Crevassee-Dawhoo complex. Soil profiles indicate 0.6 feet of grayish brown (10YR5/2) sand overlying brownish yellow (10YR6/6) sand. Site elevation is about 5 to 10 feet MSL. The area has been logged, leaving

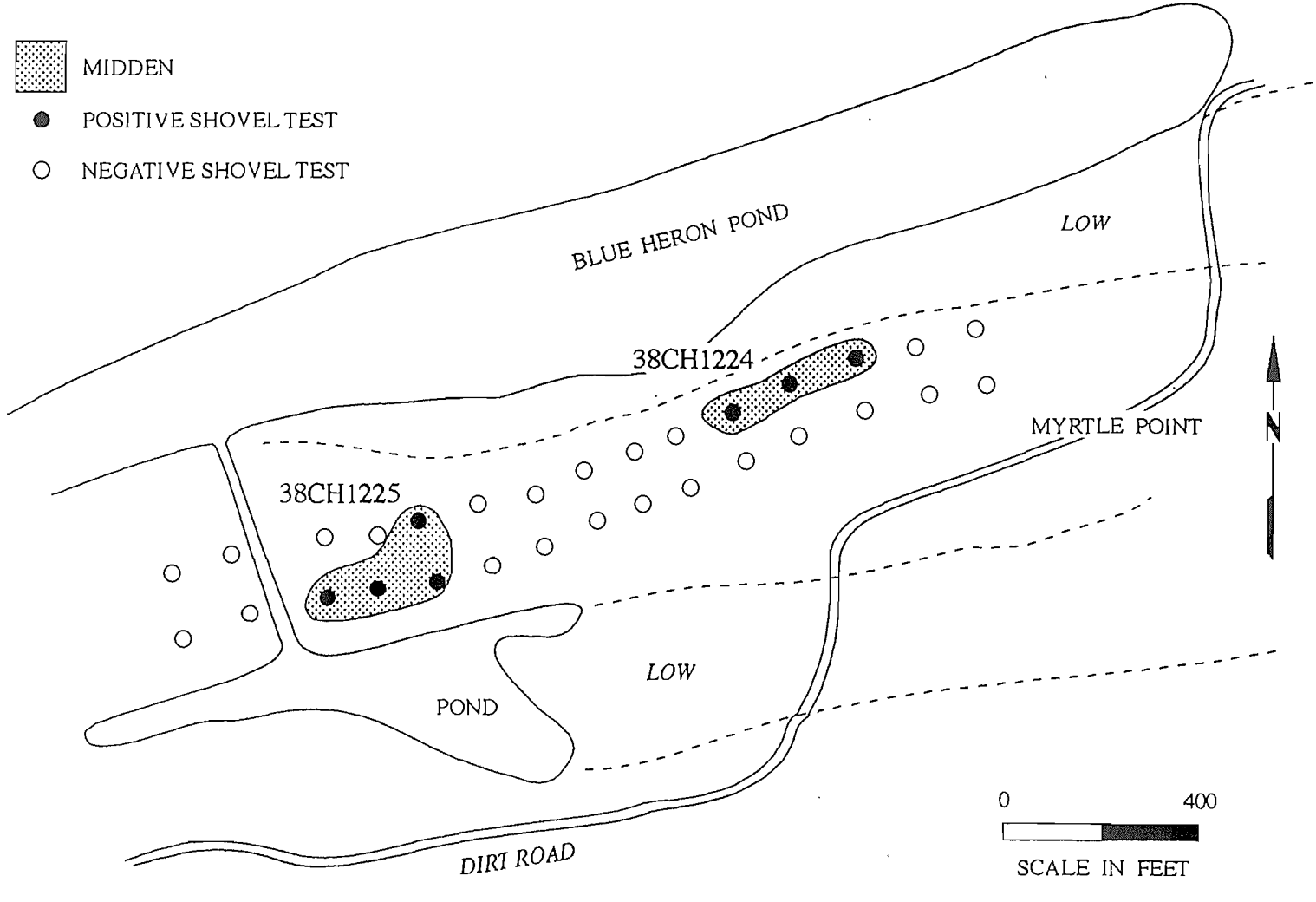


Figure 36. Shovel tests in the vicinity of 38CH1224 and 38CH1225.

only scattered pine and hardwoods.

This site was investigated by a single shovel test which revealed heavy disturbance to a depth of about 0.9 feet. Surface visibility was excellent. The shell midden is sparse and is found in an area about 25 feet in diameter. No artifacts were recovered from the shovel test or the surface.

The absence of pottery, the probability that floral and faunal material has been compromised by disturbances or were not preserved as a result of the thin midden, and the anticipated absence of subsurface features (based on the absence of any shell or artifact concentrations which might suggest intact features being intruded on by the logging operations, indicate that the data sets available for study at this site are unlikely to contribute significant information on questions of ceramic typology, vessel function, fabric analysis, intra-site patterning, or subsistence studies. The limited information the site can contribute to settlement analysis has been collected through its recordation by this survey. The documented level of disturbance also reveals that the site fails to possess the aspects of integrity typically associated with sites eligible for inclusion on the National Register.

This site is therefore recommended as not eligible for inclusion on the National Register of Historic Places.

Site 38CH1228 is a shell midden (Type 2) situated on a low hummock in the marsh about 1200 feet northwest of the mouth of Bass Creek and about 500 feet west of the Stono River. The central UTM coordinates are E592340 N3610700. The site is at an elevation of about 3 to 5 feet MSL and is situated on soils classified as soft tidal marsh.

The shell midden occupies the entire high ground area which forms the hummock, measuring about 150 by 100 feet. The midden, composed almost entirely of whole oyster shell, has a maximum depth of 0.8 feet. Only minimal erosion was observed at the time of the survey. A series of seven shovel tests were excavated in the midden, with one producing a small, unidentifiable sherd. Soil profiles indicate that the midden soils are dark brown (10YR4/3) sand overlying brown 7.5YR5/4) subsoil.

In some respects the data sets from this site are identical to those present at 38CH1219, 38CH1224, and 38CH1225. There are, however, striking differences which increase the importance of 38CH1228 as unique among the group. Obviously we are able to document relatively little concerning the pottery data set. We are uncertain of cultural period and we are also unable to document the probable quantity. On the other hand, pottery is present and even its sparsity is likely an important factor in the interpretation of site function and midden formation. Likewise, the absence of clear information on such data sets as lithics, faunal material, or ethnobotanical remains makes it difficult to include these material in the development of research questions. However, the presence of the intact midden suggests that vertebrate faunal material will be preserved and its absence is as important as its presence in our understanding of site function. The most important data set at this site is likely to be the shells and invertebrate faunal material. These remains, as both individual species and also as an assemblage, may provide the clearest clues to address questions of site location, community patterning, and site function.

The unique environmental location of this site makes it worthy of additional investigation for comparison with other shell middens on Kiawah. Failure to address this environmental difference may result in missing an integral aspect of the settlement system. The site may reflect aberrant behavior, unrecognized geoarcheological features, or an entirely different component in the settlement pattern on Kiawah.

Moving from the data sets to the evaluation of the site's aspects of

integrity there continue to be questions. For example, while the current level of work clearly indicates that the site is intact and evidences no dispersion of material, indicating good locational integrity, the level of materials integrity is not as clear. Nor is there a clear indication of the site's integrity of design. On the other hand, we believe that there is a strong association between the site's data and the need to examine this particular environmental setting -- indicating exceptional integrity of association.

From among these, at times, conflicting evaluations, we have chosen to recommend the site as eligible for inclusion on the National Register of Historic Places under Criterion D at a local level of significance. Given the location of the midden it is unlikely that it will be affected by development activities. The site, however, should be periodically monitored for secondary development impacts, principally erosion.

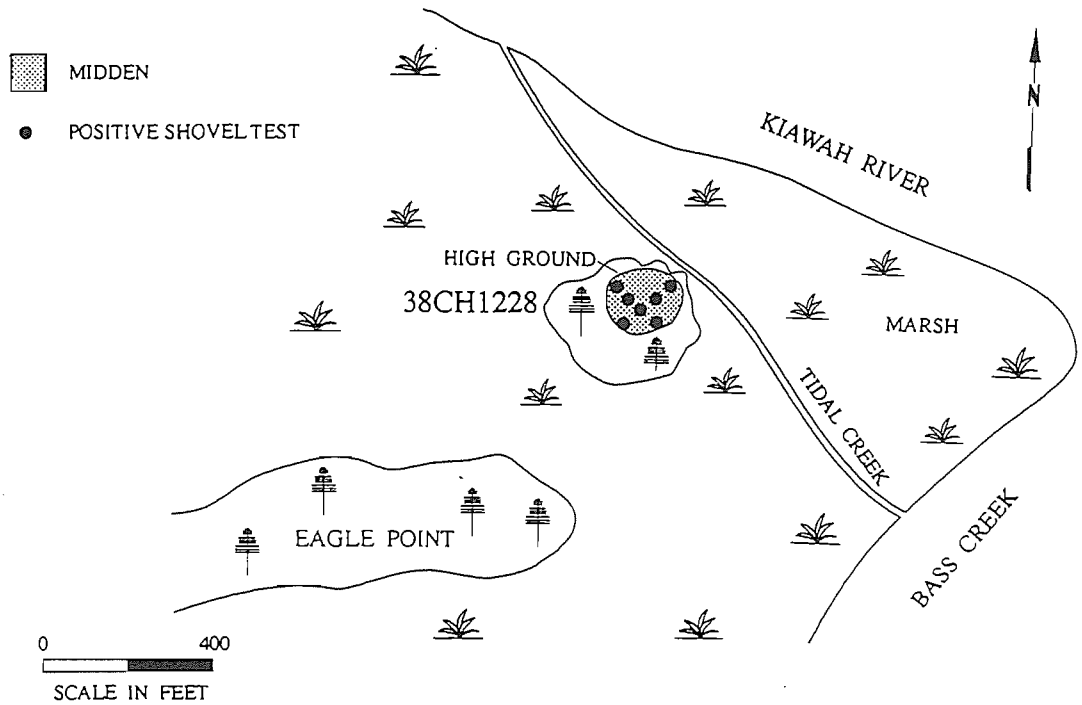


Figure 37. Shovel test locations at 38CH1228.

Site 38CH1229 is situated on a dune ridge in the Cinder Point area. The central UTM coordinates are E589960 N3610360 and the site is found on poorly drained Capers soil at an elevation of about 7 feet MSL. Soil profiles indicate 0.4 feet of dark gray (5Y4/1) loam overlying a wet dark grayish brown (2.5YR4/2) clay. Vegetation in the area is mixed pine and hardwoods.

This site (Type 4) represents the discovery of a single Irene Burnished sherd in a shovel test adjacent to an old dirt road. Additional tests in the area failed to reveal the presence of either associated midden or additional materials. A pedestrian survey along the open road bed likewise failed to reveal the presence of additional materials.

The State Historic Preservation Office correctly observes that this appears more appropriately considered an isolated find than an archaeological site, especially since no other indications of cultural remains were present. We concur with that reasoning, but are retaining the site number to simplify tracking and to avoid abandoning an already assigned site number. Regardless, the "site" is recommended as not eligible for inclusion on the National Register based on the absence of clear site integrity (or even additional site features). No further work is recommended in this area.

Summary

The intensive archaeological survey of the undeveloped areas remaining on Kiawah Island incorporated six tracts totalling approximately 982 acres. As a result of this survey a total of 25 sites have been defined and examined (Table 14). Nine of these sites are recommended as eligible for inclusion on the National Register of Historic Places.

Prehistoric Settlement

There are 19 prehistoric sites recorded from this limited survey for Kiawah Island, 14 (73.7%) of which have produced diagnostic specimens. The remaining five sites are classified as prehistoric based on visual impressions (i.e., thin middens of shell without artifacts) or have yielded eroded pottery which cannot be classified. Of the 14 sites with diagnostic materials, 15 different archaeological components are recognized. This survey level data, however, does not allow statements to be made regarding the intensity of occupation at sites during periods represented. Consequently, these discussions require that all components be given equal weight. In addition, since this survey did not incorporate the entire island it is difficult to assess the bias involved in data collection. It is clear, however, that the surveyed areas are not a representative sample of the entire island. For instance, the vast majority of the area (77.8%) consists of mixed drainage ridge and trough Crevasse-Dawhoo soils while the island itself consists of only 41.3% of those soils. Poorly drained Kiawah, which makes up 30.1% of the island's soils, represents only 6.7% of the survey area. Well drained Seabrook is represented in the survey area by 10.0% while the island consists of 7.7%; and well drained Wando soils consist of 5.5% of the survey area and 15.2% of the entire island. This bias must be considered in discussion of the island's historic and prehistoric settlement patterns.

At the survey level, Deptford sites overwhelm the collection. Although earlier Stallings and Thom's Creek sites are also represented (38CH124 and 38CH125/126), they were not included in the survey and will be discussed in detail later under Prehistoric Archaeological Investigations.

Deptford pottery occurs on 12 sites (80% of the total producing diagnostic specimens) and is all but once found as a single prehistoric component. Of these 12 sites seven (50%) are found on Crevasse-Dawhoo soils, with three occurring primarily on the well drained ridges and three occurring in the poorly drained troughs. The remaining site is on the edge of the marsh. Four sites occur on well drained Wando or Seabrook soils, and one is located on a hummock in the middle of tidal marsh. The majority of Deptford sites (N=8 or 66.7%), are found on well or excessively drained soils, and are generally located on the northern half of the island. No Deptford sites were found on the southern half which is nearest the ocean. These settlement locations correspond with the belief that the area north of Bass Pond is Pleistocene, while remnant dune ridges (eg. Terrapin Point) were formed about 2000 years ago and may have represented first or second line dune ridges adjacent to the ocean (Hayes et al. 1975). Areas further south were later formations.

Table 14.
Summary of Surveyed Sites on Kiawah Island

Site	Period	Location	Soil	Size	Eligibility
38CH123	historic plantation	marsh edge	Wando	1500x600	E
38CH127	historic plantation	marsh edge	Wando	800x600	E
38CH128	historic plantation	marsh edge	Wando	Unknown	?
38CH220	Deptford shell midden	marsh edge	Crevasse-Dawhoo	50x50	NE
38CH222	UID shell midden	marsh edge	Crevasse-Dawhoo	200x200	NE
38CH223	Deptford shell midden	dune ridge	Crevasse-Dawhoo	300x100	NE
38CH224	UID shell midden	dune ridge	Crevasse-Dawhoo	300x100	NE
38CH225/228	Deptford shell midden	dune ridge	Crevasse-Dawhoo	700x3000	E
38CH227	Deptford shell midden/ 19th century fort	river edge	Tidal Marsh	100x300	E
38CH229	Deptford shell midden	sand ridge	Wando	250x200	NE
38CH1215	Deptford shell midden	sand ridge	Seabrook	50x50	NE
38CH1216	Deptford shell midden	sand ridge	Wando	50x50	NE
38CH1217	UID shell midden	sand ridge	Seabrook	50x50	NE
38CH1218	Irene shell midden	sand ridge	Seabrook	50x50	NE
38CH1219	Deptford shell midden	marsh edge	Seabrook	200x100	E
38CH1220	Civil War Encampment	dune ridge	Crevasse-Dawhoo	1000x300	E
38CH1221	Civil War	dune ridge	Crevasse-Dawhoo	15x15	NE
38CH1222	Civil War	dune ridge	Crevasse-Dawhoo	400x150	NE
38CH1223	Deptford shell midden	dune ridge	Crevasse-Dawhoo	700x800	NE
38CH1224	Deptford/Wilmington shell midden	dune trough	Crevasse-Dawhoo	100x300	E
38CH1225	Deptford shell midden	dune trough	Crevasse-Dawhoo	200x300	E
38CH1226	Deptford shell midden	dune trough	Crevasse-Dawhoo	50x50	NE
38CH1227	UID shell midden	dune ridge	Crevasse-Dawhoo	25x25	NE
38CH1228	UID shell midden	marsh	Tidal Marsh	150x100	E
38CH1229	Irene	dune ridge	Crevasse-Dawhoo	10x10	NE

Size: In feet
Eligibility: E = eligible for inclusion on National Register of Historic Places
NE = not eligible for inclusion on National Register of Historic Places
? = eligibility not determined

The settlement pattern during the Deptford phase on Kiawah Island is similar to that noted by Trinkley (1991) for Callawassie and Spring Islands and by DePratter (1978) during the Wilmington phase on Skidaway Island in Georgia. The number of sites increases significantly, and, for Kiawah, the newly formed Holocene dune ridges become new areas of occupation, while the older Pleistocene portion of the island still continues to be occupied. On Kiawah Island settlements appear to focus more on the smaller tidal creeks as opposed to areas adjacent to Kiawah River where the Stallings and Thom's Creek sites are found (Figure 38). Settlement further inland was also noted by Trinkley (1991) and DePratter (1978) for the Beaufort/Savannah area. In addition discrete midden piles are noticed for the first time. While these developments occur earlier in South Carolina than in Georgia is not clear, DePratter suggests that a formative level of horticulture accounted for this change. However, no evidence has been found to support this in either Georgia or South Carolina.

Nearly half (46%) of the Deptford sites are identified as Type 1 middens with the Type 3 middens accounting for 39%. Only 15% of the sites found are classified as Type 2 middens, and no Type 4 Deptford sites were found. This abundance of shell middens closely associated with a water source is similar to the survey findings on Spring Island in Beaufort County (Trinkley 1991:64) and may reflect the Deptford settlement system throughout the lower coastal plain.

By the following Wilmington Phase there appears to be a dramatic decrease in population. Alternatively, Wilmington sites may be found in areas not included in this survey. In this case, settlement locations changed dramatically. Only

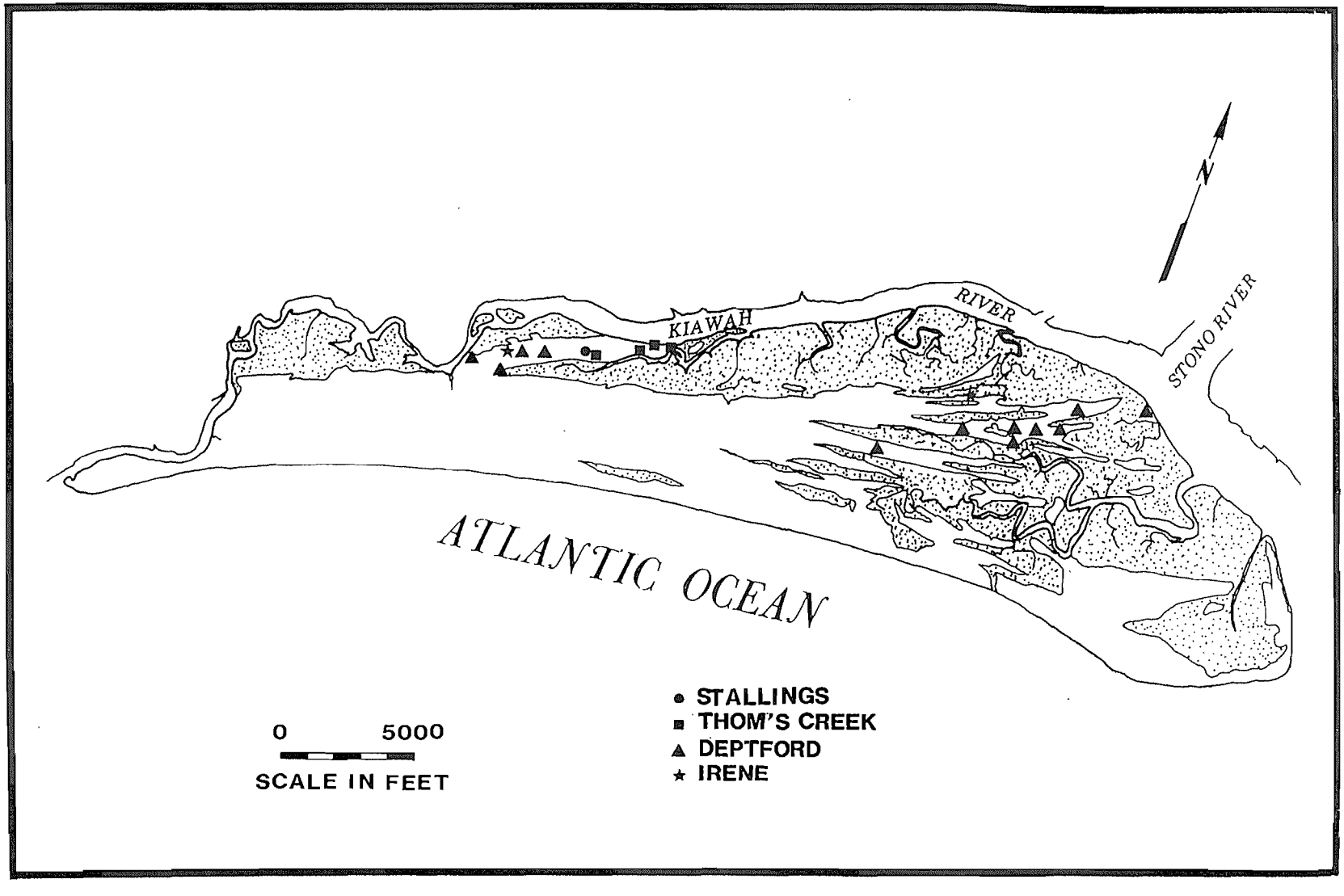


Figure 38. Location of Stallings, Thom's Creek and Deptford sites in the survey area.

one site (8.3% of the total producing diagnostic specimens) was found, which also contained a Deptford component. This site is located on mixed drainage Crevasse-Dawhoo soils.

Irene period sites are also scarce (N=2 or 16.7% of the total producing diagnostic specimens). Both sites are small with only one exhibiting shell midden, and are located on either well drained or mixed drainage soils.

While relatively abundant information was gathered for the Early Woodland Period on Kiawah Island, very little information was found on Middle and Late Woodland settlement, although some (e.g., Anderson et al. 1982) consider Deptford to be transitional between Early and Middle Woodland. Therefore, little can be said about the horticultural societies that might have occupied the island. It is unfortunate that no detailed survey of Kiawah was conducted prior to development, since such a study would likely have provided a much more detailed understanding of prehistoric settlement systems.

Research at Prehistoric Sites

Perhaps the most controversial eligibility recommendations are those concerning shell middens. Recent discussions of shell midden research reveal obvious differences in the interpretation of shell midden research potential and necessary direction of research along the coast of South Carolina (see Trinkley 1993 and Trinkley and Adams 1993 for one published view, cf. Espenshade 1993). But these differences will not be resolved by shrill debate, but only through diligent work concentrating on replicative research designs and careful collection and interpretation of data. "Success" should never be based on eliminating colleagues from the research process or on majority opinion, but rather should be based on the process of gentle persuasion that issues from scholarly work and ultimately results in consensus.

The eligibility recommendations are both individually defensible and, taken together, offer an opportunity to explore prehistoric lifeways on Kiawah Island. Failing to exercise this opportunity to explore these particular sites will result in our lose of information which can be achieved from research at no other sites.

But once the research questions and the site significance have been accepted there remains the need to devise, and operationalize, very specific field research strategies adequate to capture the sought information. Those issues have been discussed at length in Trinkley 1993 and Trinkley and Adams 1993. Minimal methodological requirements for the recovery of the specified data sets at these sites include:

- excavation of relatively large sample sizes, ranging from 100% at 38CH1219 to perhaps 50% at other sites,
- investigation of non-midden areas, perhaps using close interval (10-foot) auger testing couples with computer mapping of artifact density, shell weight, and topographic features (at 0.25 foot intervals), and
- water screening of fill through 1/8 and 1/16-inch mesh.

Minimal analytical requirements for the interpretation of the specified data sets at these sites include:

- fabric analysis of all recovered pottery,
- cordage analysis of all cord marked wares,
- radiocarbon dating of multiple shell middens using carbonized

materials (and possible radiocarbon dating of shell samples for comparative purposes),

- full analysis of floral, vertebrate faunal, and invertebrate materials with special attention to a cohesive, integrated environmental approach, and

- examination of community level settlement patterns, dispersion of artifacts associated with midden and near midden areas, and comparison of these distributions with artifacts from far midden areas (if present).

Historic Sites and Further Research

Turning to historic settlements, three plantation sites (38CH123, 38CH127, and 38CH128) were revisited during survey. All sites are located on well drained soils, adjacent to navigable waterways, therefore fitting the "high ground, deep water" (South and Hartley 1980) pattern of historic occupation. Additional investigation at 38CH123 will offer the opportunity to complete the examination of all the major plantation sites on Kiawah, offering the most cohesive and comprehensive data set available for a single island. The research has the potential to explore the African American settlement, which may represent craftsmen or other specialized workers, similar to the settlement investigated at Cotton Hope on Hilton Head Island (Trinkley 1990a).

One early nineteenth century fort (38CH227) made of piled shell was located on a small hummock at the confluence of the Kiawah and Stono rivers. In conjunction with a similar fort on Cole's Island, it was possible to control the Stono River, which was viewed as the easiest route to both James Island and, from the way of Wappo Cut, to the City of Charleston. Apparently, the fort was reused during the Civil War for the same purpose. Research at this site is limited to the preparation of a topographic map documenting the remaining walls of the fort.

Three additional Civil War period sites were found (38CH1220, 38CH1221, and 38CH1222), all located on what is known as "Cougar Island" in the eastern third of Kiawah. All of the visible remains were located along dune ridges, indicating that tents and other structures were probably located along these higher grounds, whereas the troughs contained wells and privies. We have recommended only one of the three sites as eligible for inclusion on the National Register -- 38CH1220 is the best preserved and its data set is most likely to contribute significant information concerning Civil War military history. 38CH1221 has been almost completely destroyed by erosion. The data sets at 38CH1222 have been reduced by vandalism, construction activities, and logging. A detailed metal detector survey, coupled with site stripping, failed to identify any features (such as wells or latrines). This site may represent a signal post, rather than a regimental camp.

Little work has been performed at Civil War military encampments (see Legg and Smith 1989 and Legg et al. 1991). Site 38CH1220 has the potential to explore camp lifestyles on Kiawah, providing a data set for comparison to that on neighboring Folly Island and more distant Hilton Head where archaeological investigations have revealed military encampments and cemeteries.

CHAPTER 7.
PREHISTORIC ARCHAEOLOGICAL INVESTIGATIONS

Natalie Adams and Michael Trinkley

38CH124

During the intensive survey of the Rhett's Bluff tract by Poplin, the site boundaries for 38CH124 were enlarged (Poplin 1989:Figure 8). In general the site was divided into four loci - locus 1 representing the site area originally defined by Michie (1979), locus 2 representing an area to the west (although as previously discussed, this newly identified loci represents a duplication of the previously identified locus 1), locus 3 to the east, and locus 4 in an area between locus 1 and 2 (Figure 39). Poplin's survey did not attempt to further refine or distinguish between the prehistoric occupation and the historic remains which are now realized as structural and relating to 38CH129.

The proposed investigations at 38CH124 were to include the excavation of approximately 200 square feet in locus 1, approximately 400 square feet in locus 2, approximately 200 square feet in locus 3, and approximately 300 square feet in locus 4. At the conclusion of the work, loci 3 and 4 were to be mechanically stripped in order to reveal, plot, and excavate any additional features which might be identified. This level of investigation was based on Poplin's survey, which included only very limited shovel testing in loci 2 and 3 (a total of eight tests) and no tests placed in either loci 1 or 4 (Poplin 1989), and Michie's (1979) investigations which included the excavation of a series of 25 1-meter (3 foot) units across the site, spaced at 15 meters (45 feet).

Excavations

After 38CH124 had been cleared of vegetation (Figure 40) by Kiawah Resort Associates the site grid was laid out to incorporate all four loci reported by Polin (1989). This grid was established using a magnetic east-west base line and has been tied into the development plan for the site area. A temporary benchmark (a nail in the base of a palmetto tree situated at 132R799) with a mean sea level (MSL) elevation of 8.47 feet was used to maintain vertical control. A total of seven 10-foot units, one 5 by 10 foot unit, and one 5-foot unit were excavated at the site, opening a total of 775 square feet (Figure 41).

The work conducted by Chicora at 38CH124 meets the proposed data recovery requirements, although only 75 square feet were excavated in locus 2. The preliminary Chicora survey of the site and the various loci failed to reveal any evidence of the dense Thom's Creek shell middens reported by Poplin (1989:44) for locus 2 on the ground surface. The survey, however, did locate one of Poplin's shovel tests identified on flagging tape as Transect 31, Shovel Test 2, although this test was only 30 meters from locus 1, rather than 60 meters as it is shown by Poplin (1989:Figure 14). In order to more fully examine this area a series of four transects were laid out at 30 foot intervals, with two oriented north-south and two oriented east-west, bisecting the supposed area of locus 2. Shovel tests were excavated at 30 foot intervals with all soil screened through 1/4-inch mesh. These tests identified several small Middle Woodland shell middens, but failed to identify any evidence of dense Early Woodland midden.

It appears that Poplin's survey began shovel testing with Transect 30 on the edge of locus 1, rather than 30 meters to the west as shown by his Figure 14 (Poplin 1989:Figure 14). This resulted in "duplicating" the Thom's Creek midden defined as locus 1 and reporting it as locus 2. Through consultations with the SC SHPO and Kiawah Resort Associates, Chicora reduced the level of investigations in the area of locus 2.

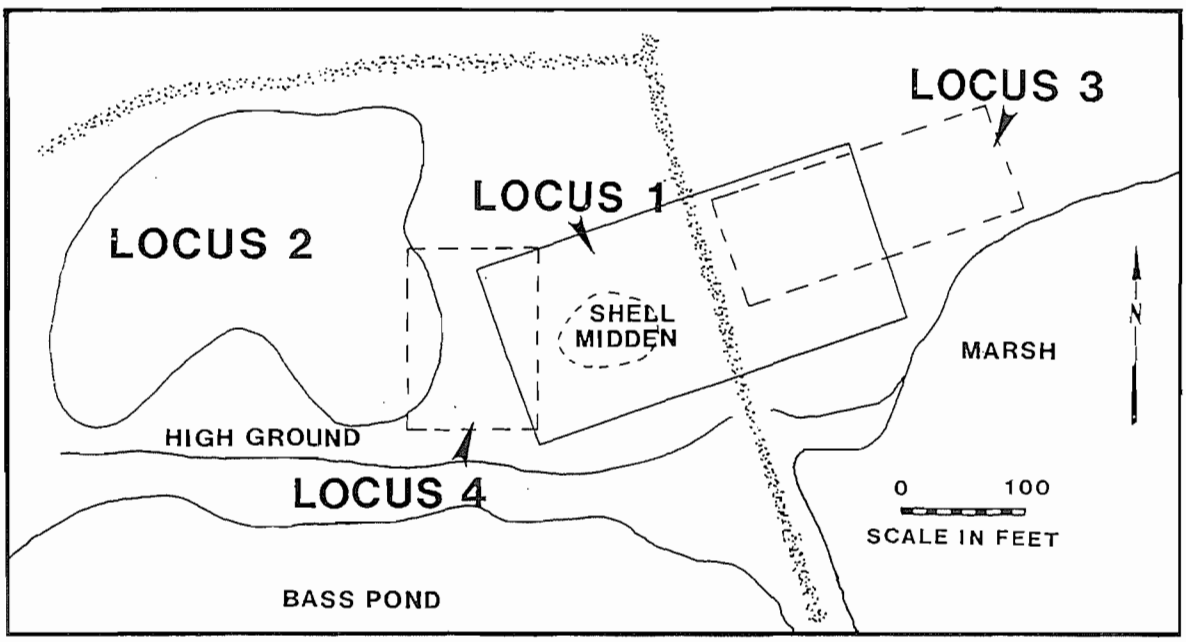


Figure 39. Site 38CH124 loci as defined by Poplin (1989).

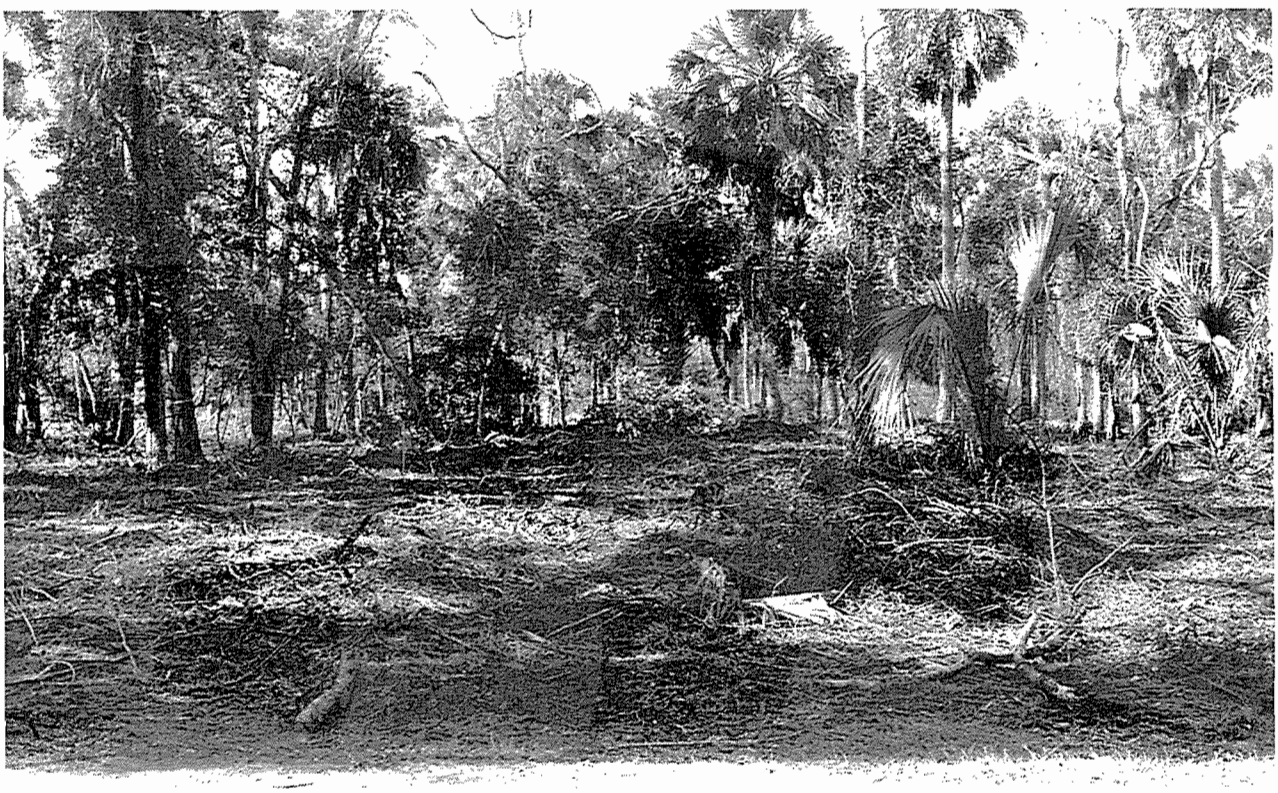


Figure 40. 38CH124, area of loci 1, 2, and 4, view to the west.

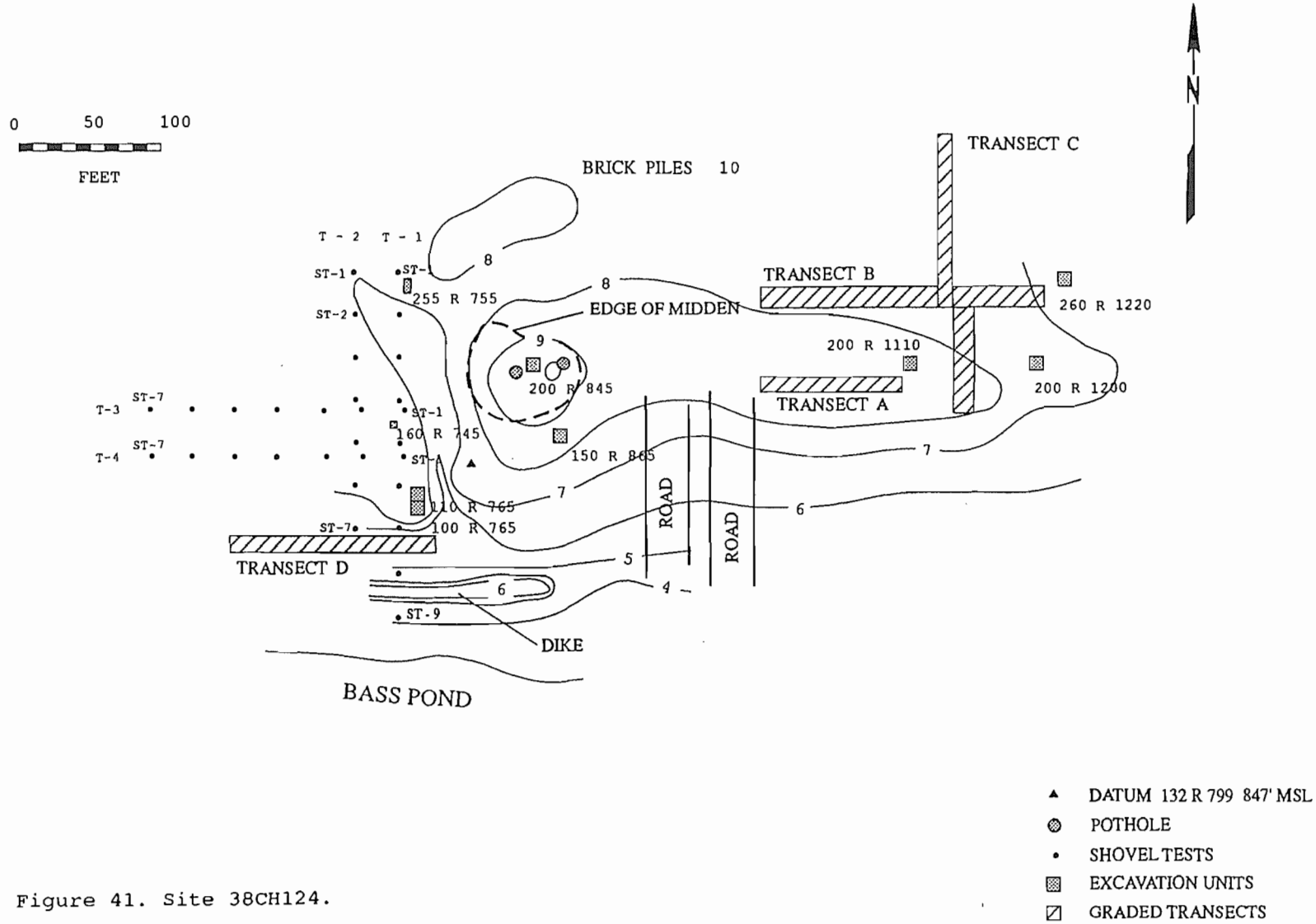


Figure 41. Site 38CH124.

The stripping proposed in the data recovery plan for loci 3 and 4 is in areas of hardwood vegetation. Under these circumstances, Chicora consulted with the SC SHPO and Kiawah Resort Associates, proposing that the stripping be limited to areas with no tree cover. This proposal was accepted by both parties and a series of four 20 foot transects were stripped, three in locus 3 (totaling 500 linear feet or 10,000 square feet) and one in locus 4 (totaling 150 linear feet or 3000 square feet) (Figure 42).

The excavations throughout the site used gross natural stratigraphic zones. Zone 1 consisted of brown humic sand varying in depth from about 0.3 to 1.9 foot. Zone 1 was divided into from two to three levels 0.5 foot in depth in order to better control cultural stratigraphy. Generally, historic and Middle Woodland materials were found in Zone 1, Level 1, while Thom's Creek material increased in density into Zone 1, Levels 2 and 3. Zone 1A was used to designate shell midden deposits underlying Zone 1 soils, regardless of their cultural affiliation. Zone 1A varied from 0.5 to 2.0 feet in depth, with the densest midden, of course, associated with locus 1. Zone 1A was also divided into levels of 0.5 foot where appropriate. Underlying Zone 1A is a reddish-tan soil which is designated Zone 2. This zone, up to 1.0 foot in depth, tended to become sterile within the upper 0.5 foot, but was divided into 0.5 foot levels as well.

Zone 1 and 2 soil from the various units in locus 2, 3, and 4 was dry screened through 1/4-inch mesh using mechanical sifters. Zone 1A soil, regardless of locus, was either waterscreened or dry screened through 1/8 inch mesh. Shell was routinely separated out and weighed prior to being discarded in the field (hand picked samples, however, were collected, and a 2.25 foot square column sample of shell, representing a 5% sample, was retained from each area where Zone 1A was present). Units were usually troweled at the base of Zone 2 (or Zone 1A), photographed in b/w and color slides, and plotted. Plotting of units at the base of Zone 1 was found to be impossible because of the dark soils.

The 2.25 feet shell column samples were weighed prior to sifting and the shell, collected for more detailed analysis, was weighed after screening. This provided a quantified statement of shell density for each of the midden areas investigated. The shell/soil weight ratios range from 1:2.4 in smaller middens to 1:0.8 in the midden located at 210R845 in Locus 1 (see Table 15). The density of the 38CH124 shell middens is not particularly unique -- being similar to the Middle Woodland middens at 38BU464 on Callawassie Island, Beaufort County (see Trinkley 1991:Table 3). It is clear, however, from Table 15 that the midden in 210R845 consists of lenses which have a highly variably density of shell. While comparable information was not available for other Thom's Creek phase middens, the shell midden at Bass Pond appears significantly less dense than middens excavated at shell ring sites such as Lighthouse Point or Stratton Place (see Trinkley 1980).

A total of two 10-foot units were excavated by Chicora at locus 1 (Figure 38). Unit 210R845 was placed to sample the dense shell midden reported by Michie (Figures 43 and 44). The excavation revealed a midden which incorporated rather large amounts of soil (see Table 15). Shellfish remains are dominated by oyster, although both periwinkle and ribbed mussel are locally dense. Minor species

Table 15.
Shell/Soil Ratios for 38CH124 Middens

Midden		Shell/Soil Ratio
150R865, Zone 1A		1:2.4
210R845, Zone 1A,	Level 1	1:1.0
	Level 2	1:0.8
	Level 3	1:1.7
	Level 4	1:0.8
255R755, Zone 1A		1:1.7

Figure 42. Dozer Transect A at 38CH124, locus 3, view to the east.

Figure 43. Unit 210R845, east profile, showing Thom's Creek midden.

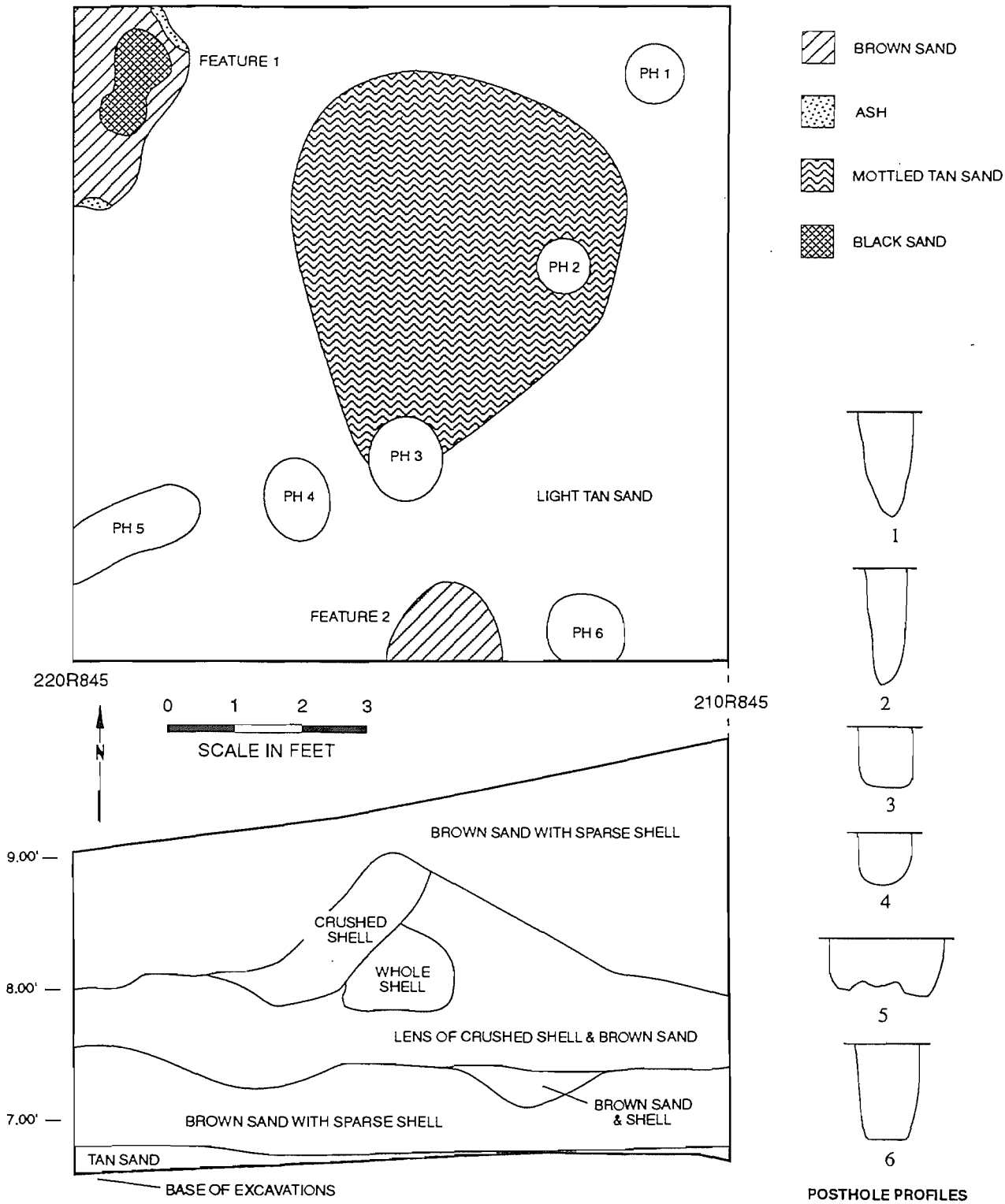


Figure 44. Unit 210R845, plan view and east profile.

included whelks, moon snails, stout tagelus, and cockles (see Chapter 8 by Lawrence for additional information). Radiocarbon samples were collected from Zone 1A, level 2 and Zone 1A, level 4 in an effort to provide some indication of occupation duration.

The quantity of animal bone was found to be dense, especially in the midden of 210R845. Both 1/8-inch dry screening and waterscreening resulted in the recovery of large quantities of fish remains, although both small and large mammals were also present (see Wilson's examination of these remains in Chapter 9). Ethnobotanical remains are equally dense. Field examination revealed large quantities of hickory nut shell (see Chapter 10 for additional information on the ethnobotanical collection).

Over 61 grams of coprolites, tentatively identified as human (based on size and comparison with previously identified specimens from Lighthouse Point), were also recovered from the shell midden levels of 210R845. These remains were preserved by the alkaline environment of the shell midden and the organic material in the specimens gradually has been replaced by a calcium solution, so that all are rather thoroughly calcified (the samples were sufficiently calcined to prevent any substantive rehydration using an aqueous solution of trisodium phosphate). Parasite analysis, often conducted on coprolites from dry cave settlings, have been found to be relatively non-productive for samples such as those from Bass Pond where there has been extensive calcification. Previous investigations (see Trinkley 1980b:226) have also found that it is difficult, if not impossible, to reconstitute coprolites from shell middens and that gentle dry crushing and examination is the best technique developed.

A typical specimen from Bass Pond measures 29.4 mm in length, 29.0 mm in diameter, and weighs 4.53 gm. Like those previously examined from Lighthouse Point (see Trinkley 1980b:226-230), the bulk of the stools from Bass Pond are composed largely of fish remains, including vertebra, spines, and skull fragments. The live weight of the fish consumed, based on two intact vertebra from the examined stool fragment, would have ranged from 15 to 30 grams (Casteel 1976:85). Minute fragments of wood charcoal were identified on the exterior of the stool sample, but these likely represent materials incorporated while the stools were fresh. No evidence of non-calcified organic material, such as seed fragments, was identified.

As discussed from Lighthouse Point (Trinkley 1980b:231), these coprolites reflect stools that are a medical anomaly. The large quantity of fish bones found in the stools could produce at least three types of gastroenerological problems: perforations and tears in the intestines, blockage between the stomach and small intestine, and a possible increased incidence of appendicitis. All are potentially life threatening. In spite of this, it appears that the Thom's Creek diet consisted in large part of small fish, eaten with minimal preparation.

Coprolites at Lighthouse Point were identified from only one area of the midden. No such patterning was found at Bass Pond, although the coprolites were only found in association with dense midden areas and the Thom's Creek assemblage. It seems likely that the dense midden is a prerequisite for preservation of the stools through calcification. Their absence at Deptford middens is probably related to both the diminutive nature of the shell piles and the slow rate of midden formation. It is clear that the Bass Pond midden was forming quickly enough for the stools to almost immediately covered, assuring preservation.

Examination of the unit profiles reveals evidence of at least two distinct periods of occupation. The first is evidenced by the lowest level band of crushed shell about 0.4 foot in depth. This level indicates the presence of a "sheet" midden which has been disrupted by pedestrian traffic. The second episode is revealed by overlying dumping of shell and includes evidence of periwinkle and ribbed mussel pockets.

At the base of 210R845 evidence was found for an even earlier occupation episode. A series of five post holes were discovered which form approximately one-quarter of a circular structure estimated to be 17 feet in diameter. The post holes comprising the structure range from 1.5 to 3.5 feet apart and, at the point of excavation, were from 1 to 1.5 feet in depth. Each post was about 0.5 foot in diameter. Post hole 5 represents two posts in very close proximity, suggesting a replacement. The Bass Pond structure, therefore, is indicative of a rather substantial structure with around 226 square feet of floor space. The observed data suggests that a bent frame structure is unlikely, given the size of the post holes. A conical post and beam structure lacking daub (which was not recovered, even in small quantities) is more likely.

Feature 1, at the center of the structure (and in the northwest corner of 210R845), is an amorphous lens of gray ashy loam which appears to represent a hearth for the Thom's Creek period structure (see Figure 44). The size of the exposed feature is 0.8 by 1.5 feet, although the estimated size is 2 by 2 feet. The feature is relatively shallow basin having a maximum depth of 0.8 feet. It contained sparse amounts of oyster shell, bone, and Thom's Creek sherds.

This structure is second reported Thom's Creek house from the South Carolina coastal area. At Sol Legare Island a 10-foot line of post holes 0.4 to 0.5 foot in diameter and 0.2 to 0.4 foot in depth were found at the base of a plowzone containing abundant Thom's Creek pottery but only sparse shell (Trinkley 1984:18). At the time it was suggested that this feature represented either a chickee structure or a very temporary lean-to shelter. In retrospect, the latter seems more likely.

There are some ethnohistoric parallels for structures such as that found at Bass Pond (and also at Sol Legare Island), although it can be argued that similarities stretched over nearly 4000 years are virtually meaningless. Nevertheless, the Algonquin town of Assawompset evidences similar post hole patterns and the 1732 drawing of a structure in an Acolapissa Indian village is clearly similar (Nabokov and Easton 1989:55, 93). Closer to South Carolina, La Moyne shows several houses at Port Royal, each of which is round with a domed roof likely covered in thatch (Waddell 1980:45).

Depending on the specific species used, the house would likely have stood for upwards of 10 years (see Scheffer and Cowling 1966), indicating some degree of permanence. This is supported by the replacement of at least one post and the presence of a hearth within the structure.

Feature 2 is a basin-shaped pit bisected by the N210 wall of 210R845, outside the posited structure (Figure 44). The size of the exposed feature is 0.6 by 0.8 foot, and the estimated size is 1.0 by 0.8 feet. The fill was medium brown in color, and contained very sparse oyster shell and fish bone.

Unit 150R865 was excavated off the midden toward Bass Pond and revealed the presence of a small Middle Woodland shell lens or pit overlying a dense Thom's Creek non-shell midden occupation(Figure 45). This unit was virtually identical to the remains uncovered in units 200R1100 and 200R1200 from locus 3. In each case later remains (historic and/or Middle Woodland prehistoric) were found in Zone 1, level 1, but level 2 and 3 tended to exhibit dense Thom's Creek occupation. No evidence, however, of Thom's Creek features were found in any of these units.

Unit 260R1220 in locus 3 revealed less dense cultural materials than were found in 200R1110 and 200R1200, although a greater mixture of historic remains was detected. At the base of Zone 1, level 2 two bisecting ditches were discovered which appear to be related to historic cultivation. Unit 260R1220 also yielded a thin lens of Middle Woodland shell midden.

In general, Locus 3 did produce a significant quantity of artifacts. In

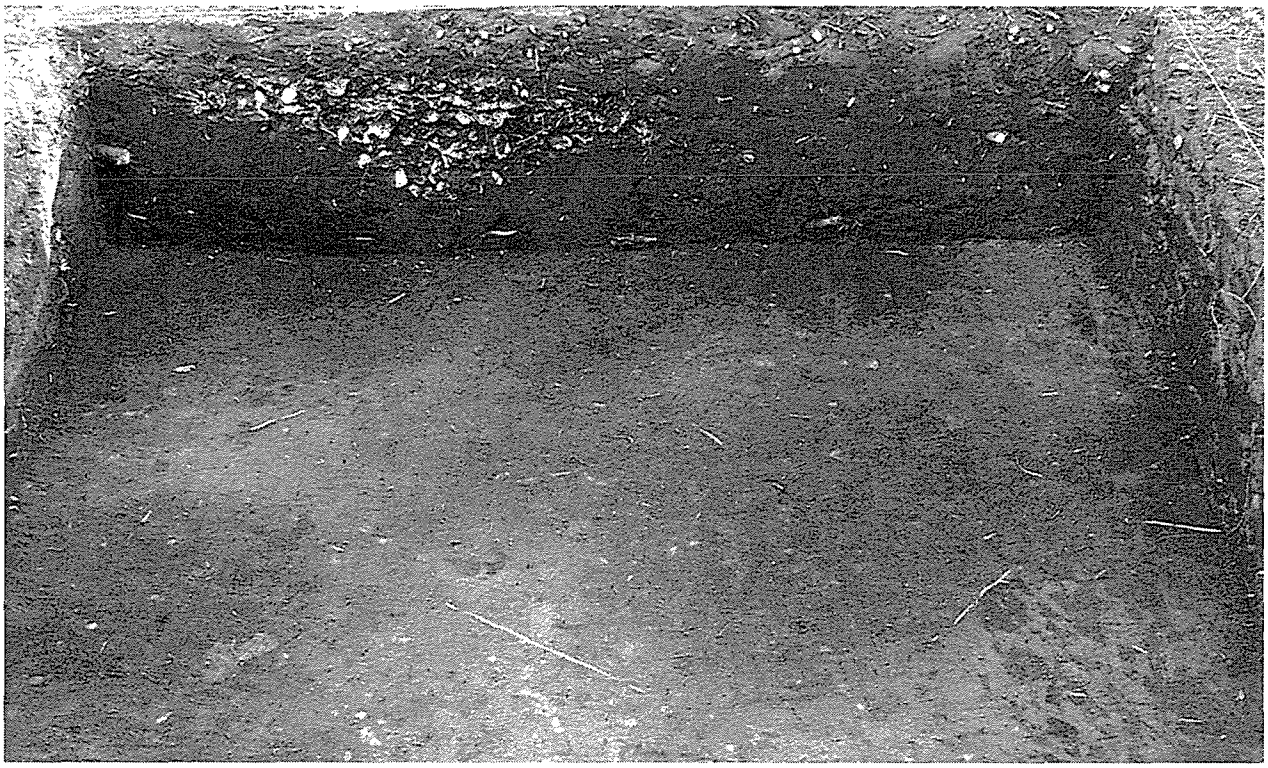


Figure 45. Unit 150R865, Deptford shell midden overlying Thom's Creek soil zone, view to the south.

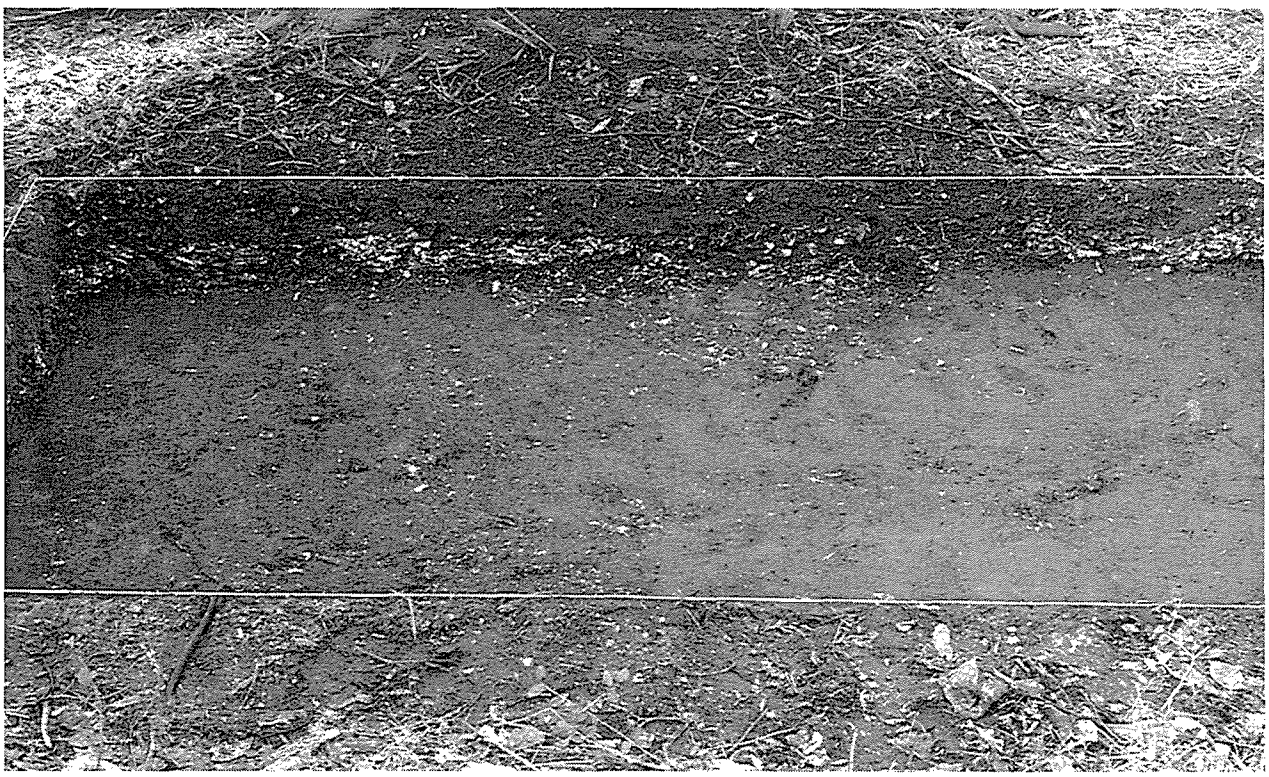


Figure 46. Unit 255R755, base Zone 1a, view to the west.

spite of this, no evidence of features or structures were encountered in either the controlled excavations or the extensive stripping undertaken in the project. The context of the remains found in Locus 3 are, in virtually all respects, identical to the context of those found at 38CH125/126. They appear to represent sheet midden, absent any evidence of intensive occupation.

Locus 4 was examined by the excavation of two 10-foot units, 100-110R165. Both revealed a very thin (ca. 0.5 foot) Zone 1 overlying sterile Zone 2 soils. Artifact density was very low and included a mixture of Early and Middle Woodland materials. These excavation units yielded no evidence of any occupation or structures in this site area.

As previously discussed, locus 2 does not represent a second Thom's Creek midden, although shovel tests and the excavation of 75 square feet (units 255R755 and 160R745) did reveal several Middle Woodland shell middens (Figure 46). These scattered thin middens appear to be found within the entire area of the Thom's Creek occupation and samples of subsistence and pollen were obtained for comparison with the denser and earlier Thom's Creek occupation.

Radiocarbon Dating

Two dates were obtained from the Bass Pond site, both from pine and hickory nut charcoal recovered in the shell midden at 210R845. The first sample was recovered in association with Deptford and Wilmington phase pottery and yielded an age of 1320 ± 150: A.D. 630 (Beta-42580). The second sample was recovered from a Thom's Creek period zone and yielded an age of 4040 ± 90: 2090 B.C. (Beta-42581).

Deptford has usually been given a terminal date of about A.D. 500, after which the Wilmington phase is assumed to be dominant until about A.D. 1000 (DePratter 1979:111). While both potteries were recovered in relatively equal amounts from this unit, the Wilmington phase has not been well defined for the Charleston region, and it is reasonable to expect that Deptford may continue well into the late Middle Woodland or perhaps even early Late Woodland.

Spanish Mount in Charleston County has yielded a radiocarbon date of 2220 ± 350 B.C., the earliest radiocarbon date obtained for the Thom's Creek phase (Sutherland 1974; Trinkley 1980a). It continues to at least 935 ± 175 B.C., based on a radiocarbon date from the Lighthouse Point Shell Ring, also in Charleston County (Trinkley 1980b:191-192). The date obtained for 38CH124 is one of the earlier dates for a Thom's Creek site in the region.

Although no terminal date was obtained for the Thom's Creek phase at Bass Pond, occupation began at the end of second millennium B.C. and probably continued for a fairly short period of time, based on the size of the site, and density of features and artifacts. After a hiatus of perhaps 1000 or more years, the site was again occupied by Native Americans producing Deptford and Wilmington pottery.

Artifact Analysis

Prehistoric artifacts consist of 14,927 specimens (99%) out of the 15,057 artifacts recovered.

A total of 14,578 prehistoric sherds were recovered from 38CH124, with 32.3% (n=4705) over 1-inch in diameter (Table 16). Of these large sherds (which were suitable for analysis) five (0.1%) are Stallings, 4557 (96.9%) are Thom's Creek, 72 (1.5%) are Deptford, 62 (1.3%) are Wilmington, two (>0.1%) are Savannah, and seven (0.1%) are Irene.

The Thom's Creek wares are dominated by Thom's Creek Plain (71.3%, n=3247), followed by Thom's Creek Finger Pinched (11.6%, n=527), Thom's Creek Reed

Punctate (8.8%, n=402), Thom's Creek Drag and Jab (4.3%, n=196), Thom's Creek Finger Smoothed (2.6%, n=119), Thom's Creek with mixed decorative motifs (0.4%, n=19), Thom's Creek Shell Punctate (0.8%, n=38), and Thom's Creek Simple Stamped (0.2%, n=9).

The Thom's Creek Series has been previously described in detail by Trinkley (1980a) and the Thom's Creek wares recovered from 38CH124 fit the previous type descriptions without any significant variation. The 38CH124 sherds tended to be toward the thicker and more friable end of the Thom's Creek spectrum, especially when compared to the ceramics from 38CH125/126 discussed in a following section. Thom's Creek Plain is the most common type, although plain pottery in the Thom's Creek Series comprises a significant percentage of even the decorated vessels.

It is difficult to compare this analysis of the Thom's Creek wares to that of Michie (1979) since he has used a different typological framework and provides data only in form of sherd weights (rather than counts). Regardless, it seems clear that Thom's Creek Plain (which he termed Awendaw Plain) dominated Michie's collection, followed by Thom's Creek Reed Punctate (which he called Awendaw Nail-gouged, Thom's Creek Stick-Punctate, and Thom's Creek Reed-Punctate), Thom's Creek Finger Pinched (which he called Awendaw Finger Pinched), and Thom's Creek Simple Stamped. Consequently, the only significant difference is the larger quantity of Thom's Creek Simple Stamped sherds in Michie's collection than found during the current investigation. This disparity, however, is reduced when it is recognized that Michie included Thom's Creek Finger Smoothed in the Simple Stamped category.

The most common Deptford ware is cord marked, accounting for 64.8% (n=70). This is followed by Deptford Plain (30.6%, n=33), Deptford Fabric Impressed (2.8%, n=3), and Deptford Check Stamped (1.9%, n=2). Type descriptions of Deptford are offered by DePratter 1979, although the fabric-impressed materials have never been formally described. While present at 38CH127, and other sites in the area, fabric impressed pottery is consistently a minority type.

The Wilmington pottery is also dominated by cord marking (82.0%, n=44). Simple stamped is the next most common (10%, n=8), followed by plain (4%, n=5), and fabric impressed (4%, n=5). The Wilmington Series was first typed by Caldwell and Waring (1939) and revised by DePratter (1979). Like Deptford, fabric impressed Wilmington has never been formally described, although South (1960) does provide a type description for Hanover Fabric Impressed pottery.

Only two Savannah wares were recovered with one being plain and the other exhibiting check stamping. The Irene wares (n=7) were all curvilinear complicated stamped.

All of these ceramics were recognized by Michie (1979) as being minority components at the site, largely confined to the upper 1.5 foot of the midden. He classified all of the cord marked wares as "Cape Fear," now sometimes recognized as an obsolete series, replaced by the late Early to Middle Woodland Deptford/Deep Creek, Santee or McClellanville (or used as a type variety ware as suggested by Anderson et al. [1982]), and Wilmington/Hanover series.

Other clay artifacts consist of 96 hones, all of which were made from Thom's Creek sherds, typically with a sandy, although not gritty, paste. These artifacts have been recovered from almost every Thom's Creek site reported and the tool is found into the Middle Woodland in South Carolina and to the Proto-Historic Period in Georgia. Both Michie (1979:64-67) and Thomas and Larsen (1979:44-46) discuss a number of wear patterns on pottery sherd abraders. The four major types include those with rounded edge damage, faceted (i.e., flat) edge damage, flat surface abrasion, and shallow groove damage. This latter type consists of shallow groove and excludes sherd hones, with deep, sharp grooves.

Sherds which evidence these deep, sharp grooves, are very common at Thom's

Table 16.
Recovered pottery from excavated units at 38CH124

		Thom's Creek												
	S.	P.	FP.	FS.	SS.	SP.	RP.	DJ.	MM.	D.	W.	SV.	I.	Small
100R765, zone 1		2								5				42
110R765, zone 1		2						2			4			85
100-110R765, trow.														8
150R865, zone 1, level 1		13	3				1				9			369
level 2			3				6	1		15				494
zone 1A		7	1				2							104
zone 2, level 1		254	30	3		1	55	1						677
zone 2, level 2		300	30	1		5	65	4		1				407
zone 2, level 3		61	8				5	1						128
trow.		2						1						18
160R745, zone 1		2								1				22
200R1110, zone 1, level 1		5	3				1	1						264
level 2		733	101	45	5	20	108	28	1	8				2678
level 3		141	18	17	1	1	21							447
trow.		3												35
zone 2, level 1		68	17	6		1	22				2			87
trow.														23
200R1200, zone 1, level 1	2	1	1	1									1	167
level 2	1	23	3	2			4						1	97
zone 2, level 1	1	3	1	1									1	12
210R845, zone 1		41	10				2			2		1		370
zone 1A, level 1		145	52	8			23	4		3	7	1		410
level 2	1	154	25	2			7	3			4			512
level 3		202	57	4			19							320
level 4		155	84	1			18			2				931
zone 2, level 1		21	13	1			2							136
level 2		2	1							1				16
trow.		1	3											12
255R755, zone 1														5
zone 1A										5	19		3	33
trow.											1			2
zone 2, level 1											13			9
level 2		8					3							8
260R1220, zone 1, level 1										2				52
level 2			1							6				67
level 3								1		5	3			52
trow.														6
zone 1A		2								12			1	64
trow.										2				2
Dozer, transect A														
surface		70	19	10	1	2	22							45
0-50 ft., level 1		166	2				2	22	4					326
level 2		159		13		1	2	52						144
50-100 ft, level 1		98	2				5	24	1					128
level 2		22	6		1			10	1					48
Dozer, transect B														
0-50 ft, level 1														7
level 2		11				1		2						15
50-100 ft, level 1		1						1						10
level 2		154	1		1	3	2	28	3					98
100-150 ft, level 1														1
level 2		11	1			1								4
150-200 ft, level 1		1	1											1
level 2		18	4	2					1					11
Dozer, transect C														
0-50 ft, level 1		167	23	1		2	5	9	8					34
50-100 ft, level 1		11	2	2				1						10
100-150 ft, level 1														4
150-200 ft, level 1		1	1											
Dozer, transect D														
0-50 ft, level 1		5	1							2				4
50-100 ft, level 1		1												
Totals	5	3247	527	119	9	38	402	196	19	72	62	2	7	9873
%	0.3	22.3	3.6	0.8	0.06	0.2	2.8	1.3	0.1	0.5	0.4	0.01	0.05	67.2

Key:
S=Stallings; P=Thom's Creek Plain; FP=Thom's Creek Finger Pinched; FS=Thom's Creek Finger Smoothed; SS=Thom's Creek Simple Stamped; SP=Thom's Creek Shell Punctate; RP=Thom's Creek Reed Punctate; DJ=Thom's Creek Drag and Jab; MM=Thom's Creek mixed motif; D=Deptford; W=Wilmington; SV=Savannah; I=Irene.

Creek sites. At 38CH124 these hones have a deep groove up to about 4 cm in length and from 5 to 10 mm in width. The specimens are similar to those found by Trinkley (1980b) at the Thom's Creek phase Lighthouse Point Shell Ring (38CH12) and the Fish Haul site on Hilton Head Island (Trinkley 1986).

These grooved abraders appear to have been held stationary and had a hard, rounded object rubbed across their surfaces. The size of the grooves suggests that they were used in the production of bone pins, to smooth the roughly shaped pin during the final stages of manufacture. Acute, rounded damage to the end of sherds suggests abrasion of soft items, such as fiber or hides, which ground the sherd, rather than wearing it down evenly. The flat surface abrasion is suggestive of a sand-paper like action on a relatively soft, yielding object. While the entire range of abrading activities is unknown, there is evidence of sufficient variety to document the importance of this tool type. Abraders were tools of convenience and opportunity -- picked up from a nearby refuse pile and used for a specific purpose, only to again be discarded.

The ratio of the worked bone pins to sherd hones is 1:12, identical to that found by Michie (1979) during previous work at 38CH124. In contrast, Lighthouse Point Shell Ring yielded a pin to hone ratio of 1:2 and Stratton Place Shell Ring (38CH24) yielded a ratio of 1:4 (Trinkley 1980b), suggesting that while common, they are not as common as expected from shell ring sites.

The function of the 13 recovered fired clay ball and ball fragments is uncertain, although they are often presumed to represent replacements for rocks for use in "stone boiling." Most are fragmented with evidence of perforations and grooving, but are similar to South's (1971) "melon shaped" specimens from Charles Town Landing or those recovered from the Fish Haul site (38BU805) on Hilton Head Island. Intact examples from 38CH124 average about 35 mm in diameter, while those from Fish Haul averaged 45 mm. Similar baked clay objects are common on Stalling's sites at Thom's Creek sites (see Sassaman 1991:147-152. Anderson et al. (1982:320) also report similar objects from later in the Woodland Period, and at Sol Legare Island, Trinkley (1984:29) found evidence of their presence at least as late as 900 B.C.

Those examples from 38CH124 exhibit a fine to medium sand texture. The objects have been thoroughly fired in an oxidizing atmosphere and have buff to light reddish-brown colors. Fragments exhibit a homogenous paste, as though the clay had been carefully worked prior to forming and firing. Two of the clay objects were daub-like, exhibiting abundant vegetation impressions.

Sassaman (1991:151-152) briefly reviews the probable mechanical performance of baked clay objects and concludes that they were more likely used in pit roasting than in moist-cooking as replacements for "stone boiling." This same conclusion, based on phosphate levels, was suggested by research at Fish Haul (Trinkley 1986:212).

Small quantities of daub were found at the site, although it is probable that these objects have resulted from hearths or natural firings. Anderson et al. (1982:323) note that daub was common at Mattassee Lake, apparently originating in and around hearths, even in the absence of wattle and daub structures. The general absence of daub may indicate that the structure was designed to relieve heat and humidity by ensuring air flow. Daub was perhaps more useful when used on a "winter house" to exclude the cold and winds, as suggested the DeSoto chronicles which mention that north of Florida different house types occurred -- "Throughout the cold country every Indian has a winter house, plastered inside and out" (Nabokov and Easton 1989:93).

One clay disk was also recovered from the excavations. Measuring 26 by 24 mm, this disk was made from a Thom's Creek Plain sherd and was recovered from a sealed, Thom's Creek context. While this type of artifact has not been previously observed at a Thom's Creek site, there is little doubt that it dates from the

Early Woodland.

A total of 34 lithic specimens were recovered from 38CH124. The 15 flakes include four (26.7%) examples of Coastal Plain chert, four (26.7%) examples of fossiliferous chert, three (20%) examples of silicified sandstone, three (20%) examples of a relatively low grade jasper, and one (7%) of quartzite. Of these 15 examples, two secondary flakes (second flakes struck from a pebble, nodule, or tabular piece of stone with a dorsal surface that is only partially covered with cortex) were recovered, one quartzite and one Coastal Plain chert; one non-cortical (flakes which exhibit no cortext, representing a biface thinning flake in this collection) Coastal Plain chert flake was found; and the remainder were either pressure flakes (thin flakes with small platforms and bulbs of percussion) or non-cortical flake fragments.

While the sample is very small, the majority of the flakes represent thinning and sharpening of curated tools. The absence of large Allendale chert flakes or cortical flakes of other materials, and the low count of secondary flakes, also tends to support the belief that no early stage reduction took place at the site.

The jasper, identified by Keith Derting (South Carolina Institute of Archaeology and Anthropology), has been singled by for special attention by individuals studying lithic raw material source areas. There appear to be only two source areas for jasper -- the Lake Secession area from Anderson and Abbeville counties and the Wadesboro Triassic Basin from the Darlington County area (Keith Derting, personal communication 1993; Upchurch 1984:137). Although the quarries for materials such as rhyolite are no closer than those for jasper, rhyolite may be found as flow material in the Pee Dee, bringing the potential source somewhat closer to Kiawah. Perhaps more importantly, rhyolite sources are fairly common, while jasper is not only found in few locations, but it is also never found in large beds, making is procurement more difficult. It is tempting to suggest that jasper, like soapstone discussed below, may have been a commodity in long-distance exchange networks not previously recognized as so dramatically affecting the economic and political organization of the region.

Four fragmentary bifaces were recovered. Three were manufactured from Coastal Plain chert while the fourth was quartzite. One Coastal Plain chert drill was recovered with a length of 42.47 mm, width of 9.03 mm, and a thickness of 6.96 mm. Nine projectile points were recovered. Five (55.6%) are Coastal Plain chert, three (33.3%) are silicified sandstone (one reworked into a knife), and one (11.9%) is made of quartzite. Table 17 provides measurements for these projectile points.

All of the complete projectile points, or hafted bifaces, can be categorized as one of two "types" defined in the regional literature: either Small Savannah River Stemmed or Gypsy Stemmed (Coe 1964; Oliver 1981). Basic metric data (Table 17) on the various bifaces fall easily within standard published ranges for similar typed examples from the Carolinas and are comparable to those found at Fish Haul (Oliver et al. 1986:188). Table 18, which presents the means for the two types at 38CH124, tends to support the validity of the groupings. It also reveals that overall measurements such as haft width, thickness, and blade length (measurements which tend to be the least affected by resharpening and reworking) decrease through the various categories and, according to Oliver (1981), through time.

Although Michie (1979) reports 14 projectile Points from his work at 38CH124, only three are sufficiently complete for metric or typological study. Two are consistent with the established Small Savannah River Stemmed and one may be a Gypsy Stemmed. Michie also found that the majority of flakes were characteristic of resharpening, leading him to conclude, "that bifacial implements were entering the Bass Pond site as preforms, if not in the completed form" (Michie 1979:60).

Table 17.
Measurements (in mm) for Savannah River Stemmed Points from 38CH124

Material	Haft width	Haft height	Blade width	Total length	thickness	type
Coastal Plain chert	19.82	12.44	30.57	46.03	13.13	SSR
Coastal Plain chert	19.99	11.85	33.53	47.03	11.13	SSR
Coastal Plain chert (heavily reworked)	16.75	14.09	29.65	39.08	8.74	SSR
Coastal Plain chert (heavily resharpened)	20.83	11.77	23.52	31.25	8.51	Gypsy
Coastal Plain chert (base only)	19.69	9.64	-----	-----	-----	SSR?
Silicified Sandstone	15.66	11.69	28.79	48.16	11.01	SSR
Silicified Sandstone (point broken)	15.56	12.36	32.82	-----	10.28	SSR
Silicified Sandstone	16.82	10.05	26.91	32.79	10.92	Gypsy
Quartzite (heavily resharpened)	12.55	8.01	20.96	30.55	9.83	Gypsy

SSR = Small Savannah River Stemmed

Table 18.
Mean Metric Data (in mm) for Small Savannah River and Gypsy Stemmed Points from 38CH124 (standard deviations in parentheses)

	mean haft width	mean blade width	mean thickness
Small Savannah River	17.9 (1.96)	31.1 (1.82)	10.9 (1.42)
Gypsy Stemmed	16.7 (3.38)	23.8 (2.43)	9.8 (1.73)

Four chunks of silt stone were recovered, possibly representing potential raw material discarded as unsatisfactory. One soapstone atlatl weight fragment was recovered. It is a circular winged variety which is broken at the shaft insert.

Soapstone, particularly as perforated slabs, has recently been studied by Sassaman (1991; see also 1993), who convincingly argues that soapstone was brought into the Coastal Plain, to sites such as Bass Pond, through an exchange network. He notes that soapstone, quite distinct from lithic raw materials used for projectile points, does not assume a normal fall-off rate. Instead, Sassaman suggests that "the flakes stone data therefore provide supporting evidence for discrete sociocultural entities above and below the Fall Line . . . while soapstone appears to represent a medium through which the two articulated" (Sassaman 1991:236). This articulation, at least for soapstone slabs, was fairly short-lived, apparently terminating sometime around or shortly after 2250 B.C., correlating, Sassaman suggests, with the emergence of distinct sociocultural entities on the coast. Within this context the single soapstone artifact from 38CH124 takes on new importance, perhaps providing some evidence for this exchange network. Beyond this, the occurrence of the single, broken, artifact also indicates that at Bass Pond, like elsewhere along the coast during at the end of the second millennium, soapstone was declining in importance.

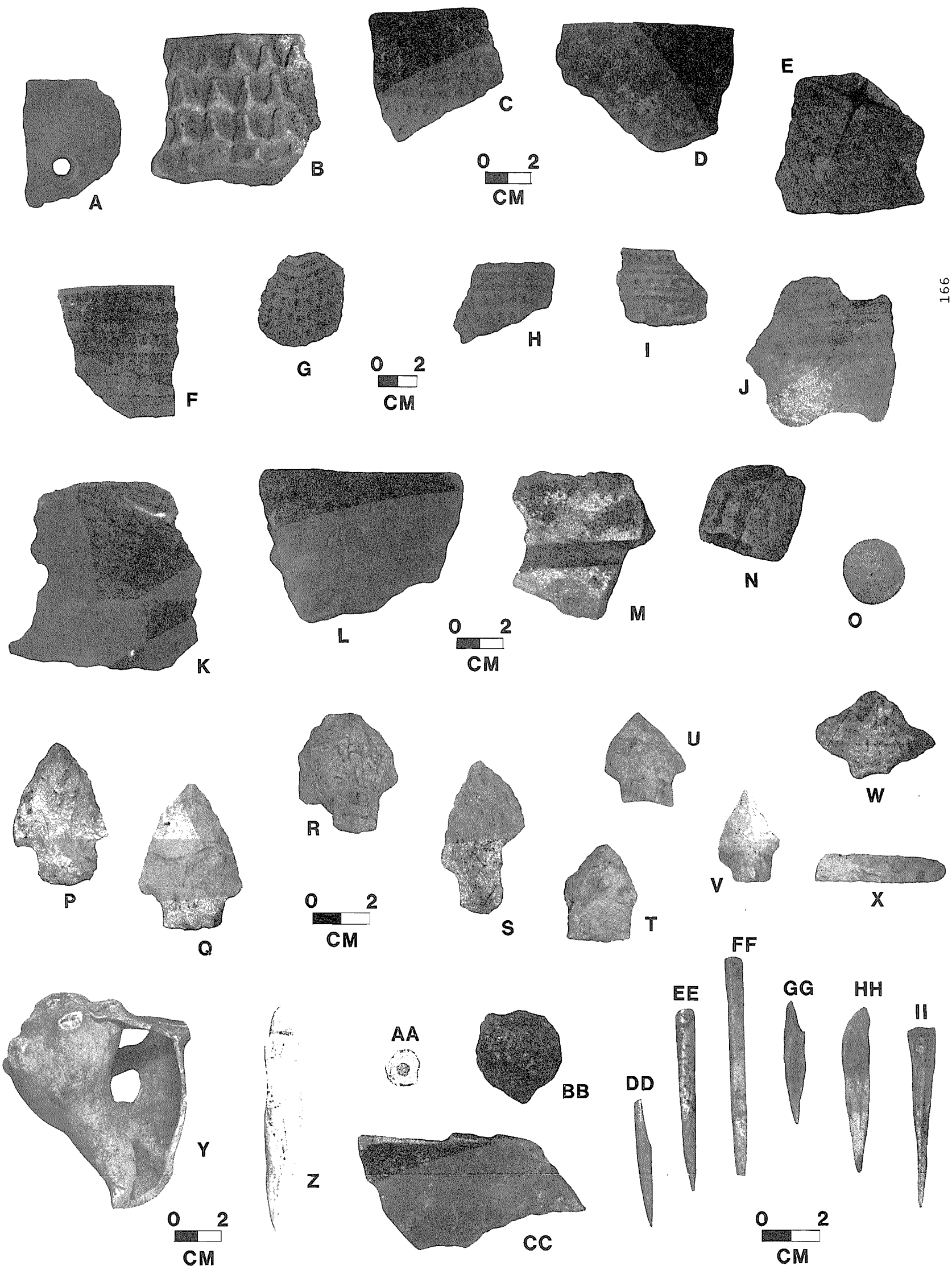


Figure 47. Artifacts from 38CH124. A, Thom's Creek Plain with mend hole; B, Thom's Creek Finger Pinched; C, Thom's Creek Shell Punctate; D-F, Thom's Creek Reed Punctate; G-I, Thom's Creek mixed motifs; J, Thom's Creek Simple Stamped; K, Deptford Cord Marked; L-M, Thom's Creek hones; N, baked clay balls; O, ceramic disk; P-S, Small Savannah River Stemmed points; T, resharpened Savannah River Stemmed point; U-V, Gypsy Stemmed points; W, bifacial tool; X, drill; Y-Z, whelk tools; AA, shell bead blank; BB, coprolite; CC, soapstone atlatl fragment; DD-FF, bone pin fragments; GG-HH, bone awls; II, unfinished bone awl.

Modified bone is typically abundant at Thom's Creek shell rings. At sites such as 38CH124, it tends to be less common. Eight bone tools were found, including five pin fragments and three awls or awl fragments. The bone pins are all tip or shaft fragments and appear to be examples of the Type I pin as defined by Trinkley (1980b:214). These are described as slender, cylindrical pins with round heads. They are completely smoothed with no articulatory surface remains. None were engraved. Previous work has suggested that these tools were used in weaving (as shuttles or needles) or net making (see Trinkley 1980b:218).

Michie recovered seven bone pins, six of which were plain. Of these only three pins can be typed: two are Type II and one is an aberrant Type II with a "T"-head.

Two complete awls were recovered. The first measured 59.5 mm in length and 10.6 mm at its widest point. The second was unfinished, with only the point having been smoothed. The upper 3/4ths still exhibited surfaces where the bone fragment had been separated from the shaft. This awl measured 64.9 mm in length and 10.1 mm at its widest point. The remainder represented only the tip half of an awl.

Antler fragments were also recovered from the excavations at 38CH123, although all were in a poor state of preservation. Consequently, it has not been able to determine if the recovered specimens were worked or otherwise used. Research at sites such as Lighthouse Point has revealed a wide range of artifacts manufactured from antler, including socketed points, antler batons, and cut antler.

Three shell objects were found. One is a shell bead made from what appears to be a thin (probably juvenile) whelk shell. It is roughly shaped, measuring 9.2 by 8.5 mm, and 1.4 mm in thickness. A well drilled hole, measuring 2.25 mm in diameter, is found in the approximate center of the disk. There is no microscopic evidence of wear around the central hole. This, coupled with the roughly shaped exterior margin, suggests this may have been a bead blank.

Two shell beads have also been reported from the Lighthouse Point Shell Ring. All are approximately the same diameter and have a very similarly sized central hole. One is made of ribbed mussel, while the other appears to be made from oyster. Sassaman also reports the excavation of at least four disk shell beads from the Midden Point site in Burke County, Georgia (Kenneth E. Sassaman, personal communication 1993). These seven specimens suggest that there was an active bead industry, using a variety of shellfish. So few appear to be found because of their fragile nature and only occasional use by archaeologists in the past of ⅛-inch (or finer) mesh.

A single specimen of a Type A (Trinkley 1980b:209) whelk tool was encountered in the excavations at 38CH124. These whelk tools are characterized by at least one carefully executed hole in the shoulder of the body whorl close to the aperture, and a heavily worn or smoothed columella and outer lip. This was the most commonly identified whelk tool at Lighthouse Point (Trinkley 1980b:209) and is frequently seen in other shell midden collections. The specimen measures 97.7 mm in height and the hole in the body whorl is more than 23 mm from the edge (the exact distance cannot be determined because of damage to the tool). The size of the hole is 24.6 by 15.6 mm, well within the range observed at Lighthouse Point. The angle of wear on the columella is 30°.

In the past these tools have been interpreted as digging implements, similar to a hoe (Bragg 1925). Of course, careful examination reveals that the wear pattern of smoothing and grinding is entirely inconsistent with that of a hoe. Trinkley (1980b:213) suggests that these whelks were hide preparation tools, used to remove the skin and hair in the absence of stone tools.

The final example is the interior columella of a whelk which is either

highly eroded or has been smoothed. These items have commonly been interpreted as awls or punches. While the use of these columella as tools cannot be discounted, similar breakage patterns are observed naturally. Additional work on a larger collection is necessary before any conclusive statement can be made.

In addition to the prehistoric artifacts, 130 historic artifacts were recovered which appear to relate to the Shoolbred Plantation (38CH129) based on the proximity of 38CH124 and 38CH129. These artifacts include 76 Euro-American ceramics, 20 sherds of bottle glass, 13 fragments of window pane, 12 nails (wrought and cut), one pipe stem, two pipe bowls, two buttons (South's [1964] types 16 and 31), one brass clamp, and three pieces of flat ferrous metal.

Table 19.
Artifact Pattern from 38CH124

Kitchen Group	73.8%
Architecture Group	19.2%
Furniture Group	0.0%
Arms Group	0.0%
Tobacco Group	2.3%
Clothing Group	2.3%
Personal Group	0.0%
Activities Group	2.3%

Table 20.
Mean Ceramic Date for 38CH124

Ceramic		(xi)	(fi)	fi x xi
Underglazed blue Porc.		1730	1	1730
NA Salt glazed Stoneware		1866	4	7464
Creamware,	annular	1798	3	5394
	hand painted	1805	4	7220
	undecorated	1791	34	60894
Pearlware,	poly hand painted	1805	5	9025
	blue hand painted	1800	3	5400
	blue trans printed	1818	3	5454
	edged	1805	3	5415
	annular/cable	1805	1	1805
	undecorated	1805	7	12635
Whiteware,	poly hand painted	1848	1	1848
	blue trans printed	1848	1	1848
	sponge	1853	1	1853
	undecorated	1860	2	3720
TOTAL			73	131705

131705 ÷ 73 = 1804.2

Enough artifacts were recovered to perform a pattern analysis (South 1977) which is presented in Table 19. In addition, 73 of the 76 Euro-american ceramics are datable. These sherds revealed an MCD (mean ceramic date) of 1804.2 (Table 20) which is consistent with the beginning of occupation at Shoolbred Plantation. In addition, an 1802 plat of the plantation (see Figure 11) shows a series of structures in the vicinity of Bass Pond labeled "New Settlement".

The earthenware assemblage consists primarily of undecorated wares (n=43), with a relatively large amount of hand painted wares (n=13), followed by annular (n=4), transfer printed (n=4), edged (n=3), and sponge (n=1). This is a middling status assemblage and, considering the complete absence of Colono ware, possibly represent an overseer's occupation.

38CH125/126

Excavations

The site identified by Poplin (1989) as 38CH125/126 is situated at the east end of Wall or Shulbred Point (now known as Rhett's Bluff). It is bordered to the north by the Kiawah River and to the south by Bass Pond Creek (a tributary of Kiawah River). Elevations range from about 7 to 8 feet MSL, with the site core situated on the higher elevations of the sandy ridge. Investigations by Poplin revealed the presence of primarily Thom's Creek wares, although a small quantity of possible Wilmington pottery and several historic artifacts were also reported (Poplin 1989:32).

The proposed investigations at 38CH125/126 were to include the excavation of 75 2-foot units (representing 2.4% of the site core to be impacted) at 15-foot intervals within the site core as identified by previous investigations (Poplin 1989). Following this field work, all identified features and artifact concentrations would be plotted on the site map. At the conclusion of this work Chicora would contact both Kiawah Resort Associates and the SC SHPO regarding the necessity of additional work. If features or other structural remains associated with the prehistoric occupation were identified, the site would be mechanically stripped, with features plotted and excavated.

The work conducted by Chicora exceeded these requirements with the excavation of 80 2-foot squares and a 5 by 10 foot trench. No features were identified and there appeared to be no reason to continue work at the site. The recovered materials and associated data should provide sufficient documentation for additional research.

These 80 2-foot units were systematically placed across the site area in order to investigate artifact density and the potential to recover intact features such as post holes and pits. The site grid, established N7°45'E, roughly oriented with the site core established by previous surveys, was tied into a surveyed lot marker in order to maintain long-term horizontal control. This base line is considered grid north-south. Given the limited site area (210 by 60 feet), only one permanent grid point was established, at the northwest edge of the site. Vertical control was maintained through the use of a nearby temporary benchmark (a nail in the base of an oak tree) with a mean sea level (MSL) elevation of 7.84 feet.

The tests were placed at 15 foot intervals (using the southeast corner of the test) on the established grid, with each test assigned a sequential number from west to east and north to south. The first 75 tests provided coverage of the originally defined site core, but an additional five units were placed in the south central portion of the site in order to further explore site variability toward Bass Pond Creek (Figure 48).

The test units were excavated in natural stratigraphic zones. These included Zone 1, a brown loamy sand, Zone 2, a reddish brown sand, and Zone 3, a light reddish-brown sand. Zone 1 varies in depth from 0.6 to 1.2 foot, while Zone 2 varies from 1.0 to 1.8 foot in depth. Zone 3 was penetrated a maximum of 0.4 foot. Zone 1 was identified as a plowzone. Artifacts within this zone are uncommon and tend to be small (i.e., heavily plow damaged). The densest concentration of artifacts consistently occurred in the upper half of Zone 2, with the density gradually declining toward the base of the zone. Zone 3 was found to be culturally sterile.

Several of the tests also revealed a lens of black loamy sand immediately underlying the Zone 1 soils. These lenses were designated Zone 1a. This zone contained primarily historic remains, including shell mortar, occasional brick fragments, several historic artifacts, and small quantities of daub. The excavations eventually revealed Zone 1a to represent the remnants of a probable sheet midden associated with a historic period occupation. It is found, however, only in plowscars and has been heavily damaged by agricultural activities.

In several of the tests a thin lens of shell (consisting entirely of oyster) was encountered. These lenses vary from 0.2 to 0.3 foot in thickness and appear to represent the basal remnants of heavily plowed middens. While no artifacts were encountered in the shell lenses, their stratigraphic position suggests that they are associated with the historic occupation at the site.

All soil was sifted through 1/4-inch mesh and artifacts were bagged by provenience. Shell was weighed and discarded in the field, although a sample of left oyster valves was collected for more detailed analysis (see following section by Lawrence for more information). Soil samples were also collected from several representative units. The profile of each unit was troweled and a drawing was made at a scale of 1 inch to 1 foot. Selected profiles were photographed in black and white and color.

In addition to the small test units, a 5 by 10 foot unit (designated TP 81) was excavated in the area of TP 69 (which produced a large quantity of prehistoric remains as well as a very clear Zone 1a). This unit was excavated using the same stratigraphic zones as previously discussed, although Zone 2 was divided into two levels. Soil in this unit was also sifted through 1/4-inch mesh. Plan drawings and photographs were made at the base of Zone 1; Zone 2, level 1; and Zone 2, level 2.

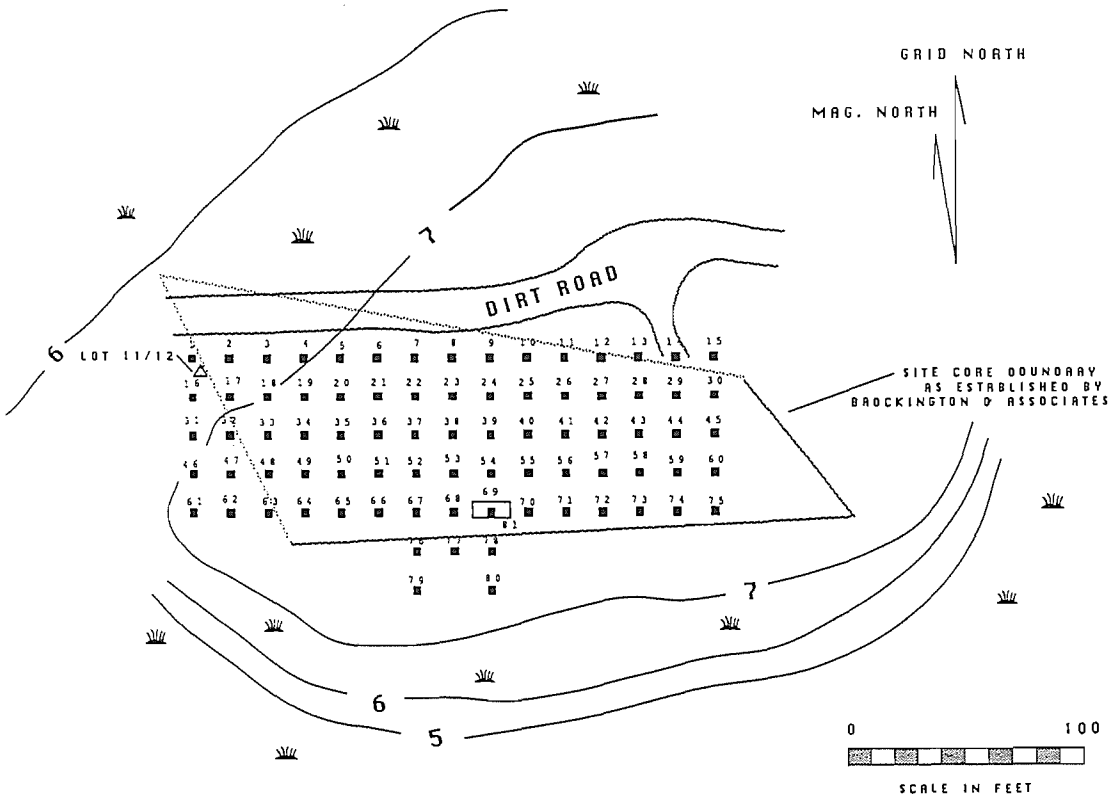


Figure 48. 38CH125/126 site area.

Figure 49. Site 38CH125/126, view to the east.

Animal bone is very rare at the site, with the few examples identified all being calcined. They probably represent burnt animal bone and they are preserved by virtue of this burning. Ethnobotanical remains consist of very occasional fragments of wood charcoal and relatively common remains of hickory nut shell. The animal bone and nutshell fragments were confined to Zone 2.

None of the 2-foot unit revealed any evidence of either prehistoric or historic features (excluding the very thin remnants of the probable historic shell middens and the sheet midden). Several of the tests, however, clearly revealed plow troughs and ridges in plan or profile views. TP 81 yielded evidence of three tree stains, one of which was found to be the source for the abundance of prehistoric remains found in the original 2-foot test unit.

Artifact Analysis

Prehistoric artifacts consist of 3235 (99.8%) items of the total 3240 collected from the site. Pottery represents 97.5% (n=3156) of the total prehistoric collection with 656 (21.5%) over one inch in diameter, and suitable for analysis. Of this collection, Stallings represents 3.8% (n=5), Thom's Creek 93.8% (n=635), and Deptford 2.4% (n=16). All Stallings sherds were plain.

The most prominent decorative type found in the Thom's Creek collection at 38CH125/126 was Thom's Creek Reed Punctate. It accounts for 43.3% (n=293) of the collection, followed by Thom's Creek Plain (35.3% or n=239), Thom's Creek Drag and Jab (n=58 or 8.6%), Thom's Creek Shell Punctate (5.8% or n=39), Thom's Creek "Mixed Motif" (0.4% or n=3), Thom's Creek Finger Smoothed (0.3% or n=2), and Thom's Creek Simple Stamped (0.1% or n=1). No Thom's Creek Finger Pinched pottery was recovered.

The Deptford assemblage included seven Deptford Check Stamped (43.8% of the assemblage), five Deptford Plain (31%), and four Deptford Cord Marked (25%).

Other pottery artifacts consisted of two hones with deep, sharp grooves, both made from Thom's Creek pottery sherds.

Site 38CH125/126 yielded 77 lithic specimens, twice as many as collected at 38CH124. Of these, 72 (93.5%) represent debitage. All flakes are small and represent either pressure flakes or non-cortical flake fragments. Of these flakes 56 (77.8%) are Coastal Plain chert, seven (9.1%) are rhyolite, six (7.8%) are jasper, two (2.8%) are silicified sandstone, and one (1.4%) is siltstone.

One unifacially worked non-cortical flake of Coastal Plain chert was recovered, as well as three stem portions of probable Small Savannah River Stemmed projectile points of the same material. None were measurable. One possible quartzite hammerstone was also recovered. This collection, like that from 38CH124, suggests that the resharpening of tools was the only reduction activity taking place at 38CH125/126.

Figures 50 and 51 illustrate the distribution of Thom's Creek pottery and lithics at 38CH125/126. The eastern portion of the site appears to have been the area where tool resharpening occurred, while pottery concentrated in the eastern and southern portions of the site. This work also reveals that the site originally extended further to the east.

No other prehistoric artifact categories (such as bone or shell tools) were found at this site. The presence of the two sherd hones suggests that some minimal amount of bone working was undertaken at the site, although less than at nearby 38CH124. Preservation of bone or shell tools is expected to be low, absent a dense shell midden to create an alkaline environment suitable for preservation.

While not a primary emphasis of this project, the historic materials identified at the site are of more than passing interest. The materials recovered include both nineteenth century (such as a machine cut nail and a whiteware ceramic) and eighteenth century (a lead glazed slipware ceramic and a wrought nail) specimens. The origin of the nineteenth century remains could not identified, although the eighteenth century remains appear to be associated with a probable structure at the south central edge of the site core. Also present in this area were small quantities of shell mortar, small brick fragments, and clay daub.

Unfortunately, these remains have been heavily damaged by agricultural activities and it is unlikely that intact historic deposits could be identified. These structural remains are strongly reminiscent of those identified by Chicora Foundation at 38CH1214 on Spring Island in Beaufort County (Trinkley 1991). This site represented an isolated slave structure, possibly relating to herding or "crop tending" activities. The historic component at 38CH125/126 may have represented a small, isolated structure relating to the early history of stock raising on Kiawah.

Comparison of 38CH124 and 38CH125/126

Major functional and temporal differences can be noted between these sites, in terms of artifact assemblage and archaeological features. Locus 1 of 38CH124 (the Bass Pond site) is characterized by structural features, dense shell middens, a diverse assemblage of artifacts including pottery, projectile points, lithic debitage, bone awls and needles, atlatl weights, fired clay objects, hones, shell tools, and antler. Also, discovered were well preserved faunal and ethnobotanical remains, as well as coprolites. The presence of these features and the diverse assemblage suggests a relatively permanent seasonal base camp settlement.

In contrast, 38CH125/126 did not yield evidence of structural features, middens associated with the Thom's Creek period occupation, nor a diverse artifact assemblage. The artifacts recovered consisted only of pottery,

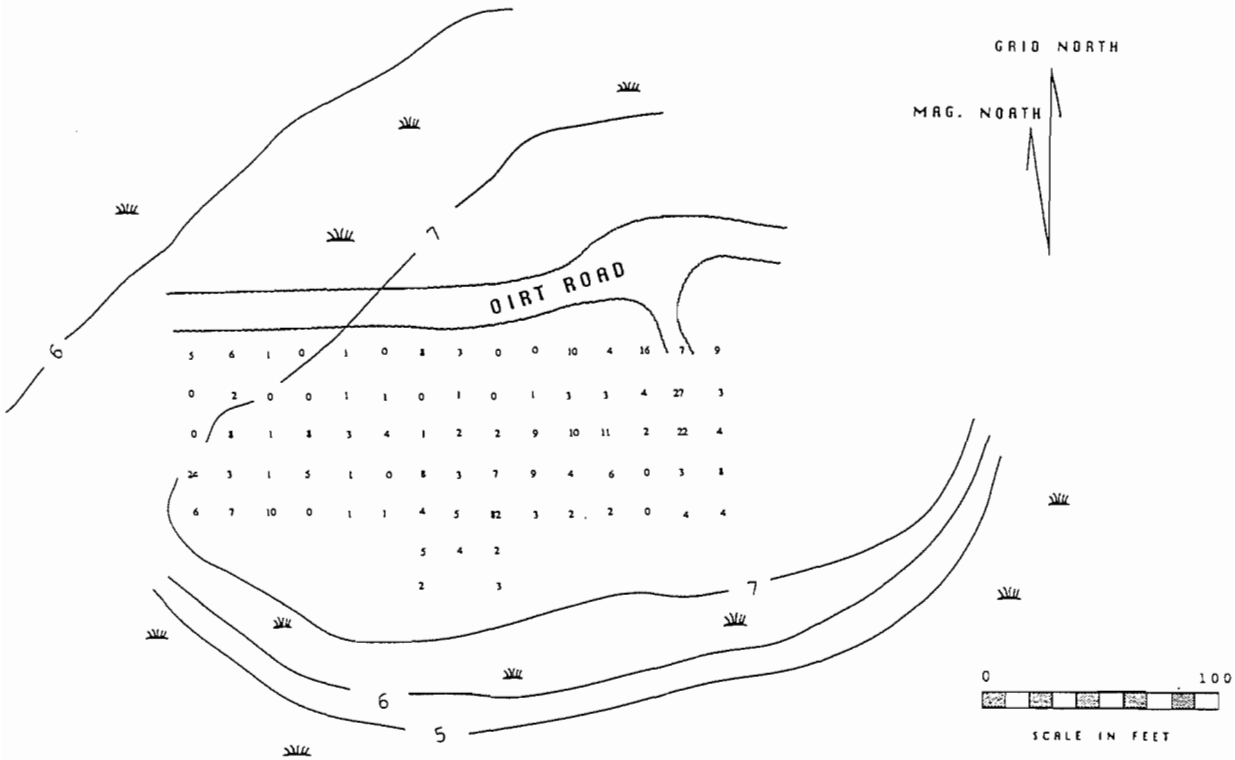


Figure 50. Distribution of Thom's Creek pottery at 38CH125/126.

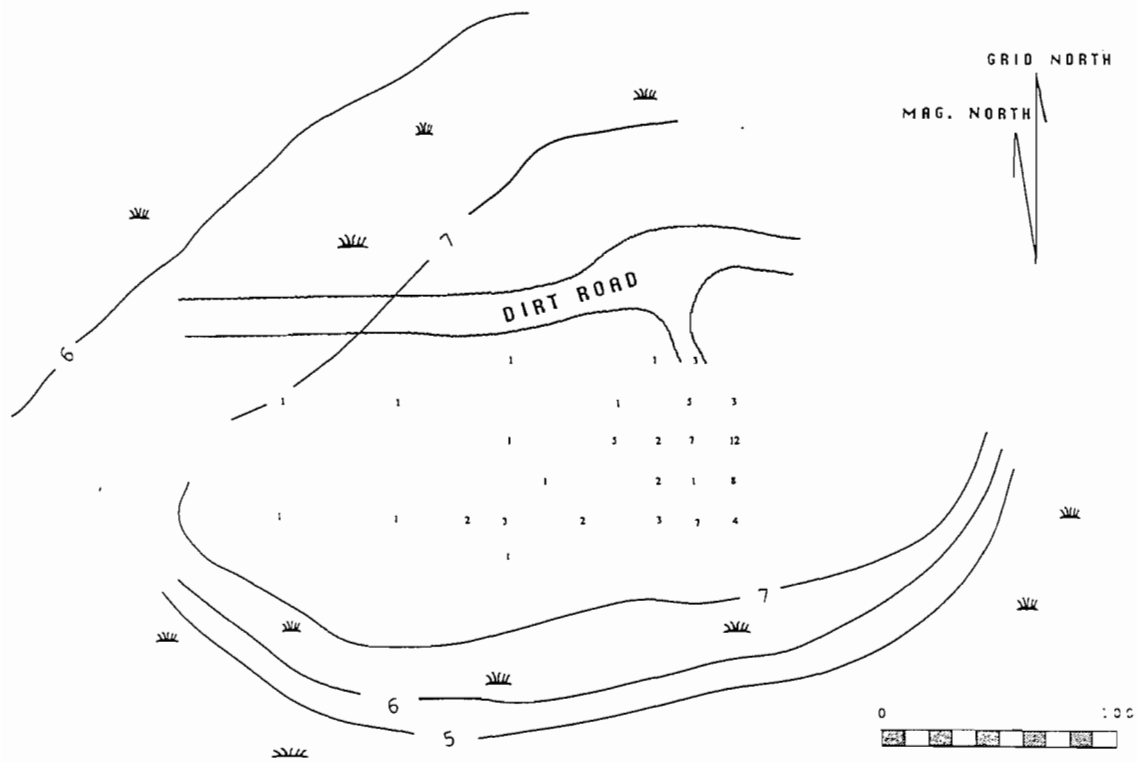


Figure 51. Distribution of lithics at 38CH125/126.

projectile points and lithic debitage, and two hones. This assemblage is essentially identical to that associated with Locus 3 of 38CHl24.

Due to the absence of midden, if other more delicate artifacts of either bone or shell existed they have deteriorated leaving behind little evidence of their manufacture. It is likely that 38CHl25/l26 and Locus 3 of 38CHl24 reflect a staging area for subsistence activities such as fishing and gathering of hickory nuts. As a slight variation on this explanation, these areas may reflect short-term seasonal habitations which did not involve shellfish collecting. When the sparse lithic tool assemblage at 38CHl25/l26 is examined, it seems to reflect a somewhat specialized, highly curated technology. Projectile points and flakes from resharpening existing tools dominate the collection. Situational gear and site furniture (using Binford's [1979] terminology) are almost non-existent. The near absence of site furniture (relatively non-portable items such as nutting stones, hammer stones, and cores) correlates with the absence of features and post holes, both typically associated with sites of longer duration.

In contrast, Locus l of 38CHl24 reflects a site occupied for longer periods of time, or occupied more often, or both. The stratigraphy of the Thom's Creek midden at 38CHl24 is suggestive of multiple episodes of occupation, while the occurrence of soil lenses is suggestive of periods of site abandonment. The lithic assemblage has a relatively high proportion of personal gear -- typically task specific, curated items such as projectile points and other formal tools. While not stone, the assortment of bone and shell tools may be considered similar. The sherd hones are more akin to "situational gear," or tools that are non-anticipatory in nature. Overall, the assemblage is suggestive of well-planned, possibly specialized activities. The presence of features and seemingly wide range of subsistence resources offers additional support for a more permanent settlement. Perhaps the best evidence for this, however, comes from the structure found at the site. The morphology of this feature suggests a structure built for more than temporary (i.e., a few days' or even a few weeks') use.

Trinkley (1980a:22) has suggested a seriation for Thom's Creek wares, based on data gathered from Fig Island, Spanish Mount, Lighthouse Point, and Stratton Place. Based on this information, he has suggested that Thom's Creek Plain is the oldest pottery acknowledging that it will be found on all sites and represents the undecorated portion of otherwise decorated vessels. This is followed by Thom's Creek Reed Punctate, then Thom's Creek Shell Punctate. Thom's Creek Finger Pinched appears to follow the Shell Punctate wares, while Thom's Creek Finger Smoothed is probably the latest type. This suggestion is supported by a radiocarbon date on animal bone from the Venning Creek site of 980 B.C.

Recently Sassaman (1991, see also 1993) has offered a somewhat similar analysis of Stallings wares. Based on a series of attributes he defined three phases:

> Phase I span the interval 4500-3800 B.P. [2550-1850 B.C.], and is characterized in the early centuries by plain pottery with thickened or flanged lips, and by plain and decorated vessels in the later centuries. Phase II, spanning 4800 to 3400 B.P. [1850-1450 B.C.] marks the period of abundant and elaborate decoration of pottery. Phase III encompasses all fiber-tempered pottery assemblages post-dating 3400 B.P. [1450 B.C.], and is characterized by a high degree of interassemblage variability (Sassaman 1991:215).

He further suggests that "the distributions of punctation styli, incising and simple stamped lips suggest that distinct clusters are discernible during Phase II, but not before or after that" (Sassaman 1991:229). During Phase I he suggests that shell, and hollow or solider cylinder punctations are common, although incision and simple stamping (or grooving) are absent, finger pinching is nearly absent, and subtriangular pointed styli are limited to a few examples of drag and jab punctation.

There are some clear similarities between the early work on the temporal sensitivity of Thom's Creek motifs and the more recent work on Stallings ware. For both plain wares appear to be the oldest, although Sassaman reports a resurgence of plain Stallings pottery in Phase III and the research on Thom's Creek pottery suggests that a plain variant, known as finger smoothing is found late in the Thom's Creek phase. Shell punctations appear relatively early for both Stallings and Thom's Creek pottery. Finger pinching is very late in the Stallings wares, while it may be thought of as late to very late in the Thom's Creek chronology. In other words, there is considerable similarity in the two studies.

It is possible then to compare the Bass Pond (which dates from the latter third of Sassaman's Phase I) and 38CH125/126 assemblages to the design technique distributions proposed for both Thom's Creek and Stallings wares.

At the Bass Pond site (38CH124) Thom's Creek Plain dominated the assemblage, followed by Thom's Creek Finger Pinched, Thom's Creek Reed Punctate, Thom's Creek Drag and Jab, Thom's Creek Finger Smoothed, Thom's Creek Shell Punctate, and Thom's Creek Simple Stamped. The large quantity of finger pinched wares suggests a relatively late site, supported by the low incidence of shell punctate.

This is in sharp contrast to 38CH125/126 where Thom's Creek Reed Punctate dominated, followed by Thom's Creek Plain, Thom's Creek Drag and Jab, Thom's Creek Shell Punctate, Thom's Creek Finger Smoothed, and Thom's Creek Simple Stamped. No specimens of Thom's Creek Finger Pinched wares were found here whereas at Bass Pond, they represented the second most common type. This suggests that 38CH125/126 post-dates Bass Pond, being occupied primarily during the middle period of the Thom's Creek phase, during the time that reed punctations were dominant.

Curiously, the radiocarbon date from Bass Pond (2090 B.C.) indicates an early, not late, date for the site. At first glance this may be taken to suggest that the chronology developed for Thom's Creek sites is flawed. Sassaman's work, however, provides additional support to the chronology previously developed and suggests that the date itself is flawed, the Thom's Creek chronology may be more complex than previously assumed, or there are multiple episodes of occupation causing confusion in both dating and ceramic chronology.

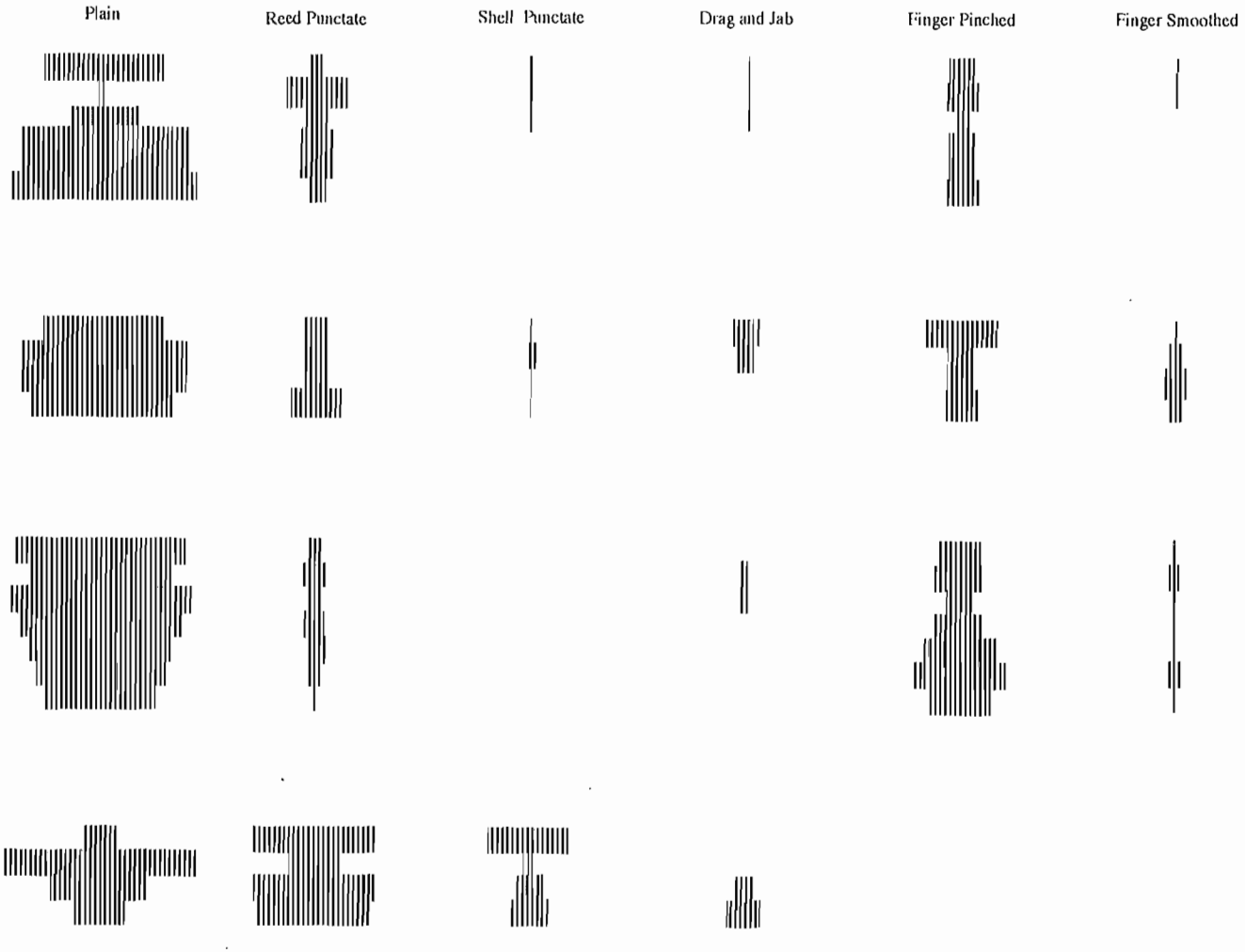
We are not inclined to dismiss the date. The sample was from a "good" context (meaning there were no obvious intrusions), it was well protected, the laboratory has an excellent reputation, and the sample was on hickory nutshell (reducing the potential that the date was flawed either by use of shell or by the use of non-cultural wood charcoal). If the date is accepted as valid, then the other explanations must be examined.

It is entirely feasible that previous work has oversimplified what is, in reality, a much more complex chronology. Since half of the sites analyzed by Trinkley (1980a) were surface collected (Lighthouse Point and Stratton Place being notable exceptions) it is possible that there were problems with the seriation.

At Bass Pond (38CH124) three units contained enough stratigraphy and material to construct a seriation. Unfortunately, the unit sizes and integrity of 38CH125/126 did not allow for reliable seriation. Although TP 81 was large enough and yielded a substantial amount of sherds, plowing as well as the presence of several large tree roots make it an unreliable source of information. Nonetheless, it is presented in Table 21 along with three units at Bass Pond.

Profiles of both 100R745 and 210R845 at Locus 1 of 38CH124 are quite similar with a gradual increase in Thom's Creek Reed Punctate and a decrease in Thom's Creek Finger Pinched, although Thom's Creek Plain decreases in the lower

Table 21.
Stratigraphic Distribution of Thom's Creek pottery from 38CH124 and 38CH125/126



levels at 210R845 and increases in 100R745. Analysis of Michie's (1979) data at Bass Pond shows a similar profile of those three types. In terms of stratigraphic distribution this does not correspond with Trinkley's (1980a) findings that Reed Punctate predates Finger Pinched. It is possible that the absence of Thom's Creek Finger Pinched means that it had gone completely out of use, rather than not having yet been developed. With only one radiocarbon date from the Bass Pond site, it is difficult to know just how long the midden was occupied.

Alternatively, we may examine only the level at which the radiocarbon date was obtained to see what pottery is associated with the dated material. The date was obtained from level 4 of the Zone 1A shell midden which is at the base of the midden. At this level Thom's Creek Plain represents more than half (59.8%) of the pottery recovered, followed by 32.0% Thom's Creek Finger Pinched, 6.9% Thom's Creek Reed Punctate, and 0.4% Thom's Creek Finger Smoothed. This suggests that Finger Pinched was significantly more prominent than Reed Punctate at that time, and that Thom's Creek Finger Pinched is not one of the latest expressions of Thom's Creek. Another Charleston County site (38CH779) revealed a profile similar to Bass Pond, with the majority of the sherds being Thom's Creek Plain, and Thom's Creek Finger Pinched becoming more scarce in the upper levels, although Reed Punctate slightly decreases as well. At level 5, the lowest level, Thom's Creek Plain represented 71% of the collection, followed by Thom's Creek Finger Pinched (19.4%), Thom's Creek Reed Punctate (5.4%), Thom's Creek Simple Stamped (3.2%), and Thom's Creek Finger Smoothed (1.2%) (see Trinkley 1984).

While placing Thom's Creek Finger Pinched earlier than Thom's Creek Reed Punctate is premature, it is at least clear that the creation of a Thom's Creek seriation is far more complicated than previously thought. It may be that other quantitative analyses such as tempering or sherd thickness in association with decorative motifs or mixed motifs will prove useful in refining a Thom's Creek sequence.

There is good evidence in the stratigraphy that Bass Pond saw at least three episodes of occupation. The process of repeated occupations, with the excavation of new pits, the scattering and inclusion of both new and old materials, and the creation of new zones of refuse, has the potential to rather thoroughly mix cultural materials. The most likely explanation is that the Bass Pond site represents several temporally discrete occupations. With this in mind, it may be that the levels used at the site were too coarse to allow accurate stratigraphic definition of pottery frequencies.

Although the exact meaning of the pottery assemblage may be debated, it illustrates the need for additional work to refine assemblage profiles, using more precise fabric and stylistic analyses, perhaps coupled with compositional analysis. It also clearly reveals the significance of work such as that undertaken by Sassaman, who has attempted to expand the research beyond purely typological grounds, exploring the distinct cultural manifestations of various Stallings wares. The development of areas of stylistic clustering for Stallings suggests that similar clustering may also be recognizable for the Thom's Creek wares. Likewise, the refinement of Stallings punctation motifs used by Sassaman offer an opportunity to explore the consistency between types. While others may criticize that such research was not conducted as part of this project, and we appreciate this criticism, it was not within the scope of the work. We recognize, however, that the approach instigated by Sassaman (1991, see also 1993) should be extended into Thom's Creek research.

CHAPTER 8.
OYSTERS FROM BASS POND, 38CH124

David Lawrence

Introduction

Archaeological oysters [*Crassostrea virginica* (Gmelin)] from the Bass Pond Site (38CH124) on Kiawah Island, Charleston County, South Carolina have been examined for evidences of their cultural contexts, and the results of this analysis are summarized in this section. From such settings oysters can provide insights into the source areas being utilized by site occupants, the nature of the gathering process, the primary (and perhaps secondary) uses of the oysters, and other behavioral aspects of ancient coastal zone inhabitants, as well as contribute to the determination of subsistence patterns of people of bygone times.

The primary and column sample materials came from three excavation areas at Locus 1 of the site: Unit 255R755 (a Middle Woodland [Deptford] shell midden), Unit 150R865 (another Middle Woodland [Deptford] shell lens or pit), and Unit 210R845 (a large and older [Thom's Creek] shell midden) as discussed in a previous section of this study. The site was visited on January 17 and 19, 1991. At that time the smaller excavations had been completed and, by courtesy of Chicora Foundation, these units (including 255R755) had been left open for inspection. Excavations at 150R865 had not yet begun but those at 210R845 were nearly completed; indeed the basal and "sheet" midden at 210R845 was first fully exposed during this January interval of time. Thus all but one of the proveniences examined in detail (Table 22) have been seen in their original and field contexts. These emphasized column samples were supplemented by oysters hand-picked by Chicora Foundation personnel from the three proveniences noted above, plus similar materials from 200R1200 and 260R1220 (small, Middle Woodland shell lenses or middens) at Locus 3 of the site.

Following a general discussion of the fauna and the oysters, some details of the individual samples of oysters are noted in this report, using the temporal and geographic framework outlined above. Because large suites of oysters, from proveniences containing Thom's Creek ceramics, have never been examined in detail, special care was taken to inspect a considerable volume of material from all proveniences, to provide adequate comparison and contrast between the shellfish of Deptford and Thom's Creek occupations. In the column samples, standard working methods included separation of taxa and the initial sorting of oysters by valve and size. Intact and larger (height equal to or greater than three inches, which is the minimum marketable size for oysters in the State of South Carolina) left valves are ordinarily emphasized in reconstructions for a number of reasons, including the notions that they are good indicators of original oyster source areas and, as adults, possess ligament growth patterns which can be examined for evidence of seasonality. Samples were sorted until either: (1) at least 70+ larger left valves had been found, or (2) the materials were exhausted. These counts were used to examine the possibility of valve sorting during aboriginal use of the oysters (Table 22). Similar numbers of intact and smaller valves (both left and right) were also set aside for detailed examination, and all the larger left valves were scrubbed clean for close examination of seasonality. All valves from the hand-picked samples, regardless of provenience or age, were examined for any evidences of their cultural contexts.

The recreations proposed here are thus based upon a considerable fraction of the oyster material available from the various proveniences. Archaeological reconstructions of the oysters follow the methods and ideas of Lawrence (1988)

Table 22.
Numbers of Larger Valves of the American Oyster
from Column Samples of Various Proveniences at 38CH124

Unit/Level (context)	# left valves	# right valves	left/right valve ratio
225R755 (Deptford)	82	32	1:2.6
150R865 (Deptford)	55	24	1:2.3
210R845, Zone 1a (Thom's Creek)			
Level 1	53	38	1:1.4
Level 2	80	55	1:1.5
Level 3	74	52	1:1.4
Level 4	96	36	1:2.7

Larger valves are those with a height equal to or greater than 3 inches

as later modified to incorporate the complementary work of Kent (1988). One version of these amended guidelines or gauges may be found in Lawrence (1989); a most recent version has not yet entered the informal literature of archaeology (Lawrence 1991b). General descriptions of the shellfish are freely adapted from previous analyses of similar faunas elsewhere in the State of South Carolina (e.g. Lawrence 1990a, 1991a).

The Total Fauna

The shellfish biota from 38CH124 is quite diverse, and is summarized in Table 23. In addition to the oysters, this biota includes the Marsh Periwinkle (*Littorina irrorata* [Say]), the Shark Eye or Moon Snail (*Polinices duplicatus* [Say]), the Channeled Whelk (*Busycon canaliculatum* [L.]), the Knobbed Whelk (*Busycon carica* [Gmelin]), the lettered Olive (*Oliva sayana* [Ravenel]), one unidentified gastropod snail (most likely an oyster drill), the Incongruous Ark (*Anadara brasiliana* [Lamarck]), the Transverse Ark (*Anadara transversa* [Say]), the Atlantic Ribbed Mussel (*Geukensia demissa* [Dillwyn]), the Giant Atlantic Cockle (*Dinocardium robustum* [Solander]), the Stout Razor Clam (*Tagelus plebeius* [Solander]), the Northern Quahog (*Mercenaria mercenaria* [L.]), an indeterminate boring/burrowing bivalved mollusc, and crab claws (taxonomy largely from Shoemaker et al. 1978). Barnacles, encrusting bryozoans, boring clionid sponges, and polydorid bristleworms appear as oyster shell epibionts or endobionts.

The periwinkles are common in the two Deptford column samples (50-200 individuals) but are especially abundant in the Thom's Creek provenience where, by numbers, they are the predominant organism. Although the periwinkles occur throughout the vertical column exposed at 210R845, there are local concentrations apparent at various levels. Repeated observations have yielded no evidence of scrapings or other modifications of the aperture, as would be expected in the forceful removal of meats. But the abundance and stratigraphic concentrations point toward food use and the small size of these organisms suggests use in soups or stews. This cooking could have separated meats from the univalved shell, softened the small and thin opercula and rendered these tissues unobjectionable, or even separated the opercula from the meats, allowing their easy removal by pot skimming. In this interpretation, the local concentrations represent "dumps" of residual shells after the pot contents had been eaten. Along the southeastern United States coast, these snails live primarily upon the stems of the cordgrass *Spartina*, and they can be found in these settings today in high marshes adjacent to site 38CH124. Thus likely source areas were quite close by.

The mussels display the same distributions and concentrations as the periwinkles (Table 23). The valves of this mollusc are quite thin, with

Table 23.
Shellfish from Column Samples at 38CH124

	Deptford		Thom's Creek			
	255R755	150R865	210R845			
			L.1	L.2	L.3	L.4
GASTROPOD MOLLUSCS						
Marsh Periwinkle	X	X	X	X	X	X
Shark Eye			X	X	X	X
Channeled Whelk			X	X	X	X
Knobbed Whelk	X	X	X	X	X	X
Lettered Olive					X	
Oyster Drill (?)	X					
BIVALVED MOLLUSCS						
Incongruous Ark		X	X	X	X	X
Transverse Ark		X	X	X	X	X
Atlantic Ribbed Mussel	X	X	X	X	X	X
Giant Atlantic Cockle	X	X	X	X	X	X
Stout Razor Clam	X		X	X	X	X
Northern Quahog	X	X	X	X	X	X
borer/burrower	X					
DECAPOD CRABS			X	X		X

individual subunits quite brittle and subject to dissolution, breakage, and exfoliation. The shells are relatively difficult to extract from sediments in both geologic and archaeologic settings, and display their typical broken and exfoliated nature in the samples from the Bass Pond site. Because of this preservation, details of their use, quite likely as food, cannot be deciphered. The possibility exists that they were also eaten in soups or stews. The mussels are common associates of oysters in the southeastern United States, and can be quite conspicuous members of high intertidal communities throughout this region. Proximal source areas are again indicated.

The Channeled Whelk and the Knobbed Whelk are both present in the collections, with the latter species more widespread and predominant (Table 23). Worked columella are present but uncommon in the Deptford materials; these univalves, from all proveniences, are mainly entire shells or broken, not worked, fragments. No body whorl holes, suggesting forceful meat extraction, are present in the materials examined and there is no unequivocal evidence to demand that these snails were gathered while alive; potential food use, however, cannot be discarded as an explanation for their occurrence in the materials from 38CH124. In southeastern coastal settings, these snails range from offshore to intertidal in occurrence, and may live upon or within sand or shell. Knobbed whelks are relatively common around oyster beds, and are known to be major predators of the hard-shelled clams or quahogs (Shoemaker et al. 1968). Gathering (alive) during oystering is one very likely reason for their presence in these middens, and the same origins can be proposed for the decapod crab remains. The oyster drill is most likely another by-product of oystering activities.

Nearby intertidal sand flats and sand bars were also visited during both Thom's Creek and Deptford occupations, as evidenced by the presence of the quahogs and razor clams (Table 23). Both of these bivalves must be dug up because they live within sediments and feed from material in suspension in the overlying water column, through the use of elongate posterior tubes or siphons. The shells of the razor clam are relatively thin and entire valves are rare in the collections. Most likely they were frequently gathered in small numbers to serve as a dietary supplement. Because the fragile shells are easily broken, no patterns of valve opening (by humans) are preserved in the materials. Hence the details of food preparation and use remain unknown. By contrast, marginal valve

chippings are preserved on some of the more intact and robust quahog valves, allowing the strong inference that at least some of these individuals were gathered live for food use.

Beach and likely offshore or river mouth settings were also used by site inhabitants for shellfish gathering. Organisms from such settings include the shark eye or moon snail, the single olive specimen, the arks, and the cockle (Table 23). The cockles all consist of valve fragments and no determination of gathered live vs dead can be made. These shells (and the olive) can be prominent or eye-catching objects on present-day beaches, and the possibility exists that they were collected dead, from such settings, for use as implements (cockle) or as an object of curiosity (olive). The moon snails are restricted to the Thom's Creek midden. Although at least two of these snails were gathered dead, most likely the majority were indeed alive when collected, for they are present in too high numbers (24+ to 55+ in the various levels) to suggest anything but food use. Unfortunately, the moon snail shells and their friable valve margins yield no evidence of food preparation techniques. Perhaps they were stewed along with other shellfish. The arks occur in both Thom's Creek and Deptford settings but are most prominent in the older proveniences. Both species occur throughout the Thom's Creek midden but at each level the transverse ark is pre-eminent (Table 24). Although several arks were collected dead, the numbers present again suggest food use. One recognized (and rearticulated) valve pair displays needle-sized marks on the opposing valve margins, suggesting easy separation of the two valves. Perhaps these clams were also stewed, serving as a varietal foodstuff.

In summary, the Bass Pond site inhabitants utilized a variety of coastal zone sites in shellfish gathering, ranging from the high intertidal marsh, through oyster beds and sand bars or flats, to the open beach and likely offshore or river mouth settings. One most striking temporal difference is the increased reliance upon periwinkles and mussels, as foodstuffs, during the older and Thom's Creek occupation; this difference may reflect, at least in part, increased consumption of soups or stews during the older time of site use.

Table 24.
Minimum Number of Individuals of Incongruous and Transverse Arks from the 210R845 Column Sample at 38CH124

Level	Incongruous Ark	Transverse Ark	Incongruous/ Transverse %
1	3	39	8
2	1	51	2
3	3	49	6
4	3	24	13

The Oysters

Significant differences are also present in the oysters of the Thom's Creek vs Deptford periods of occupation of 38CH124. One convenient way to describe these distinctions involves working backward through time, first describing the nature of the Deptford oysters, and then comparing and contrasting the older, Thom's Creek oysters from the site.

Deptford Occupation

Oysters gathered during the Middle Woodland (Deptford) occupation of site 38CH124 came from environments similar to those in which present-day oysters can be found in the State of South Carolina. Elongate and relatively thin-shelled individuals came from intertidal mudflats within major channels of the region; some individuals with this form may have had sources in clusters

lining the creek banks of the area. More ovate and robust individuals were scattered nearby, most especially in the topographically lower portions of the intertidal or highest subtidal zones; large samples of scatter oysters with a high incidence (typically >20 percent) of shell epibionts such as clionid sponges, which characterize truly subtidal source areas, are not present in the Deptford materials examined in detail. Thus all of the oysters could have been collected, by walking and wading, from these environments during low tide. Except for materials from 255R755, low intertidal or highest subtidal scatter oysters predominate throughout the Deptford samples, thus lending at least some support to the proposal (Lawrence 1991a) that Middle and Late Woodland period coastal zone inhabitants actively preferred such oysters. If these notions are correct, then resource depletion arguments can be used to suggest that the midden from 255R755 may represent the latest episode of Middle Woodland period occupation at 38CH124, among the proveniences from which oysters were examined.

Samples include truly juvenile individuals and oysters collected dead are present in every large lot; these shellfish were gathered in bulk, with any sorting of organisms or their remains taking place at the occupation sites. The excesses of left valves (Table 22) may be due to the arbitrary definition of size classes in the oysters. The right valves of cluster individuals are fragile and commonly cracked during shucking, thus decreasing the size class to which the remains belong; right valves of scattered oysters have broad and fragile ventral margins or "bills" and the loss of these during shucking can also decrease the size of preserved valves. Active valve sorting, during or after the time of food preparation and use, need not be invoked to explain the observed left-right valve ratios.

Indeed, oysters from each and every provenience examined were used as food. Support for this interpretation comes from preserved valve marginal features and, secondarily, from valve discolorations and textures. The most common evidences of forceful separation of the valves, by humans, are stabbing notches. Both single and multiple notches are present and can be observed on large and small, left and right valves. Ventral valve exfoliation often accompanies evidence of the stabs. Right valve cracks also occur and are most prominent in the thinner, elongate cluster oysters, especially those from 255R755. Some of the ribbed oysters display stabs *between* the position of the left valve ribs; this suggests that those oysters were shucked by holding the left valve in the palm of the hand and stabbing *at* the position of the complementary right valve ribs, using some instrument. Some of the most robust valves show very subtle or no obvious evidence of valve opening, suggesting that shucking was done rather easily. In the column samples from both 255R755 and 150R865, brown to beige valve discolorations and pearly, iridescent, or sucrose valve interiors point toward heating of the oysters during food preparation, thus likely leading to easy valve separation. The largest lot from Locus 3 (260R1220, Zone 1A) does not contain valves with strikingly glossy, pearly, or sucrose interiors, and arguments for heating of this sample are equivocal.

Season or seasons of gathering have been difficult to decipher for the Deptford column samples. Suggestions of the late Spring-early Summer interval are present but inferences are not strong. In many cases, the annual ligament growth pattern for the year *before* the oysters were gathered cannot be interpreted, and this determination is critical to the use of the ligament seasonality model (Lawrence 1988).

Thom's Creek Occupation

The Thom's Creek oysters (210R845, column) do show some striking differences from the characters noted above. First of all, the oysters are commonly and partially covered with botryoidal or mammiform overgrowths of brown calcite. Dissolution of the mussel shell layers composed of the unstable calcium carbonate mineral aragonite, and reprecipitation of these chemicals in the stable calcite mineral form, is one very likely source for these

overgrowths.

Secondly, shell epibionts and endobionts are numerous in these older oysters. Encrusting bryozoans are obvious only in the Thom's Creek materials and are quite common; evidences of polydorid bristleworms are widespread; barnacles may cover a significant fraction of valve exteriors. The galleries and perforations of clionid sponges are also present in these materials but are less prevalent than the three above-named oyster associates.

Thirdly, valve outlines, thicknesses, and attachment areas are distinctive. Although thin and intertidal cluster-like oysters are present, each level of the column contains numerous, rather large, thin-valved, not especially well-cupped, ovate-to-spatulate-to-trigonal oysters. Attachment areas of some of these latter oysters are quite small but in other individuals, especially those with heavy barnacle infestations, attachment may extend over 73 mm along the dorsoventral body axis. These peculiar oysters have the characteristics of those which might come from small clusters within the subtidal zone. Such oyster occurrences are not at all common today and similar oysters, as a significant fraction of individuals, have not been observed in numerous samples from the Middle and Late Woodland periods from throughout the State of South Carolina. These oysters may have come from a resource setting in which they no longer exist or are widespread. Maximum left valve heights do not significantly change through the Thom's Creek column section, so resource depletion by the site occupants cannot be cited, but the possibility of human effects upon this distinctive oyster occurrence should not be overlooked in studies of other localities yielding Thom's Creek ceramics.

The Thom's Creek oysters were gathered as bulk or "grab" samples including both juveniles and dead organisms. The preserved left-right valve ratio (Table 22) is the only significant difference among samples from the four levels of this midden, and this difference may be explained by the presence of numerous, intact clusters of left valves in Level 4 materials, along with the consequences of right valve cracking mentioned under the discussion of Deptford oysters. These oysters were also used as foodstuffs. Common marginal stabbing notches, gray to brown valve discolorations, and pearly to sucrose valve interiors suggest that at least some of these organisms were heated before they were shucked. A strong inference of Spring to early Summer season of gathering can be made for Levels 1, 3, and 4 materials.

Possible Evidence of Human-Fabricated Structures

In the sample from one Deptford midden (150R865), one scatter oyster lived attached to the exterior of a circular rod approximately 8 mm in diameter, and persisted in a fixed position for at least two years. Valve cupping suggests that this substrate rod was oriented horizontally (Figure 52).

Such occurrences have elsewhere (see Lawrence 1988) been interpreted (following Nelson 1942) to indicate the presence of human fabricated structures such as fish weirs. Arguments for this interpretation include the notion that, under normal conditions, naturally occurring objects could not have been responsible for the preserved evidence.

Oyster Summary

Oysters from the various Bass Pond proveniences were gathered for use as foodstuffs, and the preserved evidence suggests that many (perhaps all) of them were heated during food preparation processes. The distinctive, patchy, and dark discolorations of oyster baking (Kent 1988) are not present in any samples and steaming appears to be a more likely method of preparation. Thom's Creek occupation oysters, from both the basal "sheet" midden and the overlying lenses, were collected during the Spring or early Summer months; no strong inferences of

collecting season can be made for the oysters from the Deptford occupation. These Deptford oysters primarily came from intertidal clusters and from "scatters" of oysters occurring in lower portions of the intertidal zone. The Thom's Creek occupation oysters include those which display characters that can be interpreted to record origins in subtidal clusters. Such oyster occurrences are not common in South Carolina today, and the possibility of human contributions to this habitat change (through overfishing) deserves further consideration. One oyster left valve from the Deptford occupation displays attachment to hollow cylinder or rod-like objects. Such attachment has elsewhere been interpreted as evidence of human-fabricated structures such as fish weirs. Several oysters (see following section) display abraded form characters like those of oysters interpreted as worked scrapers from Middle and Late Woodland sites in Beaufort County, South Carolina, but the number of such valves from Bass Pond is not sufficient to make any strong inference in this regard.

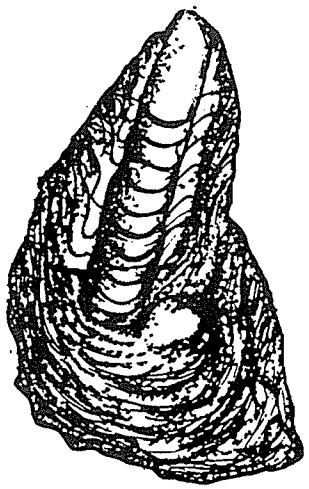


Figure 52. Deptford midden oyster displaying attachment to the exterior of a cylindrical rod about 8 mm in diameter (full size).

Notes on Individual Samples

Deptford Component

150R865, column plus hand-picked

Scatter oysters predominant. Larger left valves include chalky individuals, pearly to iridescent valve surfaces, brown discolorations, and sucrose valve interiors. One possible valve scraper (see Lawrence 1990b, 1991a).

255R755, column plus hand-picked

Intertidal cluster oysters predominant; only 9 of 82 larger left valves truly ovate and these are not strikingly robust or thick-valved. Shell epi/endobionts not at all common. Pearly left valve interiors are present but valve discolorations are the main evidence for heating during food preparation. Boring clams penetrate from valve interior on one individual collected dead. No unequivocal evidence of valve scrapers.

200R1200, hand-picked
Zone 1, Level 1
Zone 1, Level 2

Scatter oysters predominant. Largely chalky individuals in Level 2; entirely chalky valves with pearly to sucrose interiors in Level 1. Boring clam in life position in clionid sponge-riddled left valve, suggesting it was collected at the sediment substrate level; possibly a truly subtidal occurrence for at least that one individual from Level 2. No undoubted scrapers. Midden contains one of the few, significantly worked whelk columellas from the Bass Pond site.

260R1220, hand-picked
Zone 1, Level 2
Zone 1, Level 3
Zone 1A

Scatter oysters predominant throughout. Basal Zone 1A materials include at least seven oysters with holes made by boring clams, including those with clam penetration from valve interior, suggesting grab sampling at the sediment substrate level, possibly subtidally. Evidence of boring clams also in Level 3 materials. Zone 1A oysters lack significant glossy, pearly, or sucrose valve interiors; chalkiness and pearly lusters increase up-section. One knobbed whelk with abraded columella end in Zone 1A; one possible right valve scraper in Level 2.

Thom's Creek Component

210R845, column plus hand-picked
Zone 1A, Level 1
Zone 1A, Level 2
Zone 1A, Level 3
Zone 1A, Level 4

Encrusting bryozoans are themselves overgrown by the botryoidal calcite, making incidence levels difficult or impossible to determine, yet these oyster associates are quite common throughout the column samples. Preserved and intact clusters of oysters most common in Level 3 and (especially) Level 4 materials. Maximum height of left valves from samples: Level 1 = 149 mm; Level 2 = 141 mm; Level 3 = 151 mm; Level 4 = 159 mm.

210R845, hand-picked
Zone 2

Qualitatively and subjectively, these oysters appear smaller than those of the overlying, main Thom's Creek midden. They show less covering by the mammiform overgrowths and appear to have largely come from (subtidal?) clusters.

CHAPTER 9.
THE FAUNAL REMAINS FROM THE THOM'S CREEK COMPONENT AT 38CH124

Jack H. Wilson, Jr.

Introduction

The vertebrate faunal collections from the Thom's Creek component of 38CH124, were analyzed for this study. The faunal collection from this site consists of more than 6075 bone elements and fragments that weigh 11,867.4 grams. Material was recovered by dry-screening or waterscreening soil from the Thom's Creek shell midden through 1/8 inch mesh screen.

The report sections that follow provide a description of the animal species represented in this faunal collection, the results of the zooarchaeological analysis of the remains, and a comparison of the data obtained from the Thom's Creek component at 38CH124 with that for other sites of the prehistoric period from the coast of the Carolina Province.

Environmental Background

The Carolina Province marks the transitional zone between the tropical fauna of the southern Atlantic and the temperate fauna of the northern Atlantic, and is located between Cape Hatteras, North Carolina and Cape Canaveral, Florida (Briggs 1974; Ekman 1953). Kiawah Island is part of the Sea Island section of the coast that lies south of the Santee River into northern Florida, with the area north to Cape Fear, North Carolina forming the northern embayed section (Emery and Uchupi 1972). Along the edge of the Continental Shelf, the warm Florida Current flows northward, bringing tropical species north as far as Cape Hatteras. Closer inshore, the cold Labrador Current flows southward, and temperate marine species may be found in these cool waters as far south as Cape Canaveral.

The Sea Islands possess a relatively uniform temperature, rainfall, topography, and vegetation cover (Johnson et al. 1974; Mathews et al. 1980). Today, Kiawah Island exhibits three major ecosystems, the maritime ecosystem which consists of the upland forest area of the island, the estuarine ecosystem of deep water tidal habitats, and the palustrine ecosystem which consists of essentially fresh water-non-tidal wetlands (Sandifer et al. 1980:7-9). The maritime ecosystem is comprised of four subsystems, including sand spits and sand bars, sand dunes, transition shrub, and maritime forest (Sandifer et al. 1980:108-109). Of these four, the maritime forest in the vicinity of 38CH124 is likely to have been a very important exploitation zone for the prehistoric inhabitants the site.

The estuarine ecosystem in the vicinity of the island consists of areas of deep-water tidal habitats and adjacent tidal wetlands. The north side of Kiawah Island is bordered by the saltwater marshes associated with Kiawah River. The estuarine system is an important resource for use by the prehistoric inhabitants of the island given the high biomass the ecosystem contains.

The freshwater palustrine ecosystem comprises all wetland systems, such as swamps, bays, savannas, pocosins, and creeks, where the water salinity measures less than 0.5 ppt. Remnant spring fed sloughs and freshwater ponds comprise the palustrine ecosystem on Kiawah Island.

Combined the maritime forests, transition shrub, freshwater sloughs and ponds, saltwater marsh, and tidal creeks and rivers that mark the environment of

Kiawah Island define a number of diverse habitats that could be exploited for food resources by the prehistoric inhabitants of the area.

Analytical Techniques

The faunal collection from the Thom's Creek component at the 38CH124 was studied by the author using standard zooarchaeological procedures and the Chicora Foundation comparative faunal collection. The bone material was sorted to class, suborder or species, and individual bone elements were identified. The bones of all taxa and other analytical categories were also weighed and counted. The Minimum Number of Individuals (MNI) for each animal category was computed using paired bone elements and age (mature/immature) as criteria. A minimum distinction method (Grayson 1973:438) was used to determine the MNI for each of the six archaeological components. This method provides a conservative MNI estimate based on the total faunal assemblage from each cultural component present in the study.

As a measure of zooarchaeological quantification, MNI has a number of problems (Grayson 1973:438; 1984:28-92; Klein and Cruz-Uribe 1984:26-32). How one aggregates the MNI will affect the number of individuals calculated. If MNI is calculated based on the entire site, the number will be smaller than if it is calculated for each excavation unit and totaled for the site. Use of MNI emphasizes small species over large ones. For example, a collection may have only a few large mammals, such as deer, and scores of fish. Yet, the amount of meat contributed by one deer may be many times greater than that contributed by a score or two of fish.

Given the problems associated with MNI as a zooarchaeological measure, an estimate of biomass contributed by each taxon to the total available for use by the inhabitants of the site is also calculated. The method used here to determine biomass is based on allometry, or the biological relationship between soft tissue and bone mass. Biomass is determined using the least squares analysis of logarithmic data in which bone weight is used to predict the amount of soft tissue that might have been supported by the bone (Casteel 1978; Reitz 1982, 1985; Reitz and Cordier 1983; Reitz and Scarry 1985; Reitz et al. 1987; Wing and Brown 1979). The relationship between body weight and skeletal weight is expressed by the allometric equation $Y = aX^b$, which can also be written as log Y = log a + b(log X) (Simpson et al. 1960:397). In this equation, Y is the biomass in kilograms, X is the bone weight in kilograms, a is the Y-intercept for a log-log plot using the method of least squares regression and the best fit line, and b is the constant of allometry, or the slope of the line defined by the least squares regression and the best fit line. Table 25 details the constants for a and b used to solve the allometric formula for a given bone weight X for each taxon identified in the archaeological record. In using allometric calculations to predict proportional biomass from bone weight it is important to note that the weight of bone used in the calculation obviously influences the results. There a number of factors, such as differential preservation or discard practices, that may affect the weight of the bone recovered from an archaeological site. Thus, this technique of analysis may not give the precise results that the final numbers would appear to indicate.

In order to investigate questions concerning the variety and degree of specialization exhibited by the vertebrate faunal assemblages (at least those with a minimum of 500 bone elements), measures of diversity and equitability were calculated for both MNI and biomass based on the identified species present. The diversity of a sample indicates the variety that is present and gives some indication of the richness of the sample. The equitability measures evenness and richness of the sample. Diversity is measured here using the Shannon-Weaver formula and the equitability is measured using the Sheldon formula.

Table 25.

List of Allometric Values Utilized in this Study to Determine Biomass in Kilograms (kg) Based on Bone Weight Expressed in Kilograms.

Faunal Category	log a	b	r^2
Mammal	1.12	0.90	0.94
Bird	1.04	0.91	0.97
Turtle	0.51	0.67	0.55
Snake	1.17	1.01	0.97
Chondrichthyes (shark)	1.68	0.86	0.85
Osteichthyes (boney fish)	0.90	0.81	0.80
Non-Perciformes	0.85	0.79	0.88
Siluriformes (catfish, sea catfish)	1.15	0.95	0.87
Perciformes (sea bass, bluefish)	0.93	0.83	0.76
Sparidae (porgy)	0.96	0.92	0.98
Sciaenidae (drum)	0.81	0.74	0.73
Pleuronectiformes (flounder)	1.09	0.89	0.95
Callinectes (crab)	0.99	0.82	0.58

Derived from Table 4 in Reitz (1985:44) and Table 2.3 in Quitmyer (1985:440).

These variables are used to solve the formula $Y = aX^b$, or log Y + log a + b(log X); where Y is the biomass in kilograms, X is the weight of the bone in kilograms, a is the Y-intercept, b is the slope, and r^2 is the proportion of total variance explained by the regression model (see Reitz 1985:44; Reitz and Scarry 1985:67).

The Shannon-Weaver (1949:49) formula used to determine the diversity of a sample is:

$$H = - \sum p_i(\ln p_i)$$

where H is the measure of diversity, and p_i is, in this case, either the MNI or the biomass of each species/taxon "i" divided by the total MNI or total biomass as appropriate for the sample. Thus, for each identified species/taxon that has a MNI count, p_i is calculated by dividing the MNI for that species by the total number of MNI from the sample. The diversity measure H is the sum of all the p_i multiplied by the natural log (ln) of each p_i. A similar procedure is used to calculate the diversity index for the biomass, with the biomass figures being substituted for the MNI in the above explanation. Diversity measured by the Shannon-Weaver formula has a scale that runs from 0 to 4.99, with 4.99 indicating high diversity.

The Sheldon formula (Pielou 1966; Sheldon 1969) used to determine the equitability of a sample is:

$$H' = H/(\ln N)$$

where H' is the measure of equitability, H is the Shannon-Weaver diversity measure calculated for the sample, and N is the total number of cases, observations, or, in this situation, species/taxon for which MNI or biomass was calculated in the sample. Equitability is simply the diversity measure divided by the natural log (ln) of N, the number of species/taxon for which the MNI was calculated or the number of species/taxon for which the biomass calculations was made. Equitability is measured on a scale that goes from 0 to 1.0. A low equitability value near 0 indicates that one taxa is considerably more abundant than all other taxa. A value near 1 on the scale indicates an even distribution of taxa. A value in the vicinity of the midrange of the scale, 0.5, indicates a more normal distribution of taxa.A

normal distribution in this case indicates that there are a few abundant taxa, a moderate number of common taxa, and many rare taxa.

The results of the analysis of the faunal collections from the Thom's Creek component at 38CH124 on Kiawah Island will be split into three sections. The first section will provide an overview of the animal resources present in the area. Following this, the results of the analysis and the interpretation of the faunal remains from 38CH124 will be presented. A comparison of 38CH124's Thom's Creek faunal assemblage with other prehistoric faunal assemblages from the coastal region closes this section,

Identified Fauna from the Thom's Creek Component

Before considering the results of the zooarchaeological study of the faunal remains recovered from site, the general use and habitat preference for each identified species will be considered. Table 26 lists the various animal species identified in the archaeological collections recovered from the excavations within the identified shell middens and features at 38CH124.

Wild Mammals

The most numerous of the wild mammals is the white-tailed deer (*Odocoileus virginianus*). A variety of uses exist for the different parts of this animal, so that almost all of a deer was utilized in some manner prehistorically by the Indians (Runquist 1979:169; Swanton 1946:249). Deer metatarsals were used as beamers and split to make needles; ulnae were used as awls; and antlers were made into flakers, projectile points and fish hooks (Swanton 1946:249; see also Trinkley 1980). Rattles, flutes, bracelets, and beads were also made from deer bone (Swanton 1946:249). Sinew and entrails were manufactured into bow strings, rawhide, throngs, and "thread" (Swanton 1946:249). Deer brains were combined with green corn to tan leather (Lawson 1967:217). The skins, hooves, and antlers were rendered into glue. Heads, skins, and antlers were used as decoys in hunting and as status/clan indicators. Hides were sewn into clothing, and used as coverings for houses/doors (Swanton 1946:249). In general, the deer's preferred habitat is the edge of deciduous forests and open forests, although they will move to mudflats around marshes to feed on the grasses found there.

Male deer tend to grow antlers beginning in May, with full development of hardened antler occurring in September. Antlers are usually dropped between the middle of January and the beginning of February. Females and their young form small family groups from the spring through the summer. These small family groups tend to become larger during the rutting season in September, October and November, with mature males moving amongst the females of small deer bands. Once the males have dropped their antler they stay with the small bands of females and young deer through the winter months. Just prior to the spring fawning period these bands break-up into small family units, with the males departing and becoming part of all-male groups, which are usually small in number (Smith 1975:18-19).

Raccoon (*Procyon lotor*) bones are present in small numbers in the prehistoric collections. Raccoons served as a food resource for the Indians, the furry skin was used for clothing, and claws were utilized as ornaments (Swanton 1946:250). This mammal is able to adapt to a variety of habitats, although they prefer wooded areas near water.

Remains of the opossum (*Didelphis virginiana*) are present. The opossum was used as a food resource and its hair was woven into textiles (Swanton 1946:250). The preferred habitat of the opossum, a nocturnal mammal, is wooded areas near water, but they are often found in and around human settlements.

Two rabbit species are common to the study area, the eastern cottontail (*Sylvilagus floridanus*) and the marsh rabbit (*Sylvilagus palustris*). Besides

Table 26.
Minimum Number of Individuals (MNI), Number of Bones, Weight, and Estimated Meat Yield by Species for the Thom's Creek Component at 38CH124.

SPECIES	MNI #	MNI %	NUMBER OF BONES	WEIGHT gm	WEIGHT kg	Biomass %
White-tailed Deer, *Odocoileus virginianus*	10	17.24	1179	8874.2	94.0225	78.94
Raccoon, *Procyon lotor*	2	3.45	42	96.3	1.6024	1.35
Opossum, *Didelphis virginiana*	3	5.17	10	38.2	0.6979	0.59
Rabbit, *Sylvilagus* spp.	3	5.17	12	7.9	0.1690	0.14
Gray Fox, *Uroycon cinereoargenteus*	1	1.72	5	29.6	0.5547	0.47
Deer Mouse, *Peromyscus* spp.	2	3.45	3	4.8	0.1079	0.09
Mole, *Scalopus aquaticus*	1	1.72	1	0.2	0.0062	0.01
Unidentified Mammal	-	-	695	976.1	12.8962	10.83
Turkey, *Meleagris gallapavo*	2	3.45	33	78.1	1.0773	0.90
Duck, *Anas* spp.	3	5.17	29	58.0	0.8217	0.69
Passenger Pigeon, *Ectopistes migratorius*	1	1.72	5	3.0	0.0555	0.05
Unidentified Bird	-	-	79	59.2	0.8372	0.70
Box Turtle, *Terrapene carolina*	2	3.45	79	97.3	0.6793	0.57
Snapping turtle, *Chelydra serpentina*	1	1.72	12	35.6	0.3463	0.29
Mud Turtle, *Kinosternon* spp.	5	8.62	181	106.9	0.7235	0.61
Cooter, *Chrysemys floridana*	1	1.72	17	37.4	0.3580	0.30
Catfish, *Ictalurus* spp.	10	17.24	73	27.1	0.4274	0.36
Gar, *Lepisosteus* spp.	3	5.17	41	29.4	0.4565	0.38
Bowfin, *Amia calva*	1	1.72	14	5.9	0.1243	0.10
Herring, Clupeidae	2	3.45	41	5.5	0.1174	0.10
Drum, Sciaenidae	19	5.17	19	59.5	0.8005	0.67
Unidentified Fish	-	-	1209	109.8	1.3272	1.11
Copperhead (?), Crotalid	1	1.72	1	1.1	0.0152	0.01
Water Snake, *Natrix* spp.	1	1.72	4	1.1	0.0152	0.01
Crab, (*Callinectes sapidus* ?)	-	-	111	52.6	0.8732	0.73
Unidentified	-	-	2180	1072.7	-	-
TOTAL	58	100.0	6075	11,867.4	119.1126	100.

being used by the Indians for food, the skins of rabbits were made into robes (Swanton 1946:250). Rabbit innominates and scapulae were used as beads by the Indians (Wilson 1984:519). Rabbits occupy a number of different habitats, but are usually found in thickets, in overgrown fields, and along the edge of forest clearings and forest edges. Important to rabbits in their choice of habitats is access to escape cover offered by thickets, weed patches, and dense high grass. The marsh rabbit generally prefers damper ground than does the eastern cottontail, and is somewhat more likely to be found in locations near marshes.

Another mammal present at the site is the gray fox (*Uroycon cinereoargenteus*). Although Lawson (1967:130) noted that he had not observed the use of gray fox as a food resource by the Indians occupying the Carolina coastal plain during the early 1700s, the fractured condition of this animal's bones at

38CH124 suggests that it was a food resource. Swanton (1946:250) stated that fox skin was used to make wrist guards and pouches. The gray fox prefers wooded habitats, and is sometimes found in open forests. They usually avoid cleared areas, and places that humans inhabit.

Wild Birds

Three wild bird species, turkey, duck and passenger pigeon, are present in the collection. Turkey (*Meleagris gallapavo*) is an animal that was almost as useful to prehistoric Indians as the deer. The animal was used as a food resource, and its bones were fashioned into tools such as awls, beamers, and spoons. Beads and other ornaments were make from various turkey skeletal elements, primarily the phalanx of the wing and the long bones. Feathers were prized for making headdresses and cloaks, and in the manufacture of weapons (Swanton 1946:250). Turkeys are able to survive in a number of different habitats, but they generally prefer forested areas.

The remains of a migratory waterfowl, duck (*Anas* spp.) is also present in the faunal assemblage. A number of duck species, including the mallard (*Anas platrhynchos*), black duck (*A. rubripes*), common teal (*A. crecca*), and American wigeon (*A. americana*), commonly winter along the Carolina coast, and a small number may live year-round on the coast (Potter et al. 1980:89-90).

A few skeletal elements of the passenger pigeon (*Ectopistes migratorius*), now extinct, are found at 38CH124. These birds were seasonal occupants of the Carolinas, as they spent the spring and summer months in the northeastern United States. It is thought that these birds began their migration to the south in early September. Their flocks were unpredictable in roosting habits from year to year. Passenger pigeons were usually located in forested areas (Mershon 1907). These birds were used for food, their feathers and the oil they produced when cooked (Lawson 1967: 50, 217).

Aquatic Reptiles: Turtles

A total of four turtle species are present in the faunal collection from 38CH124--snapping turtles, eastern box turtle, mud turtle, and cooter. Snapping turtles (*Chelydra serpentina*) are the largest of the turtles present in the faunal assemblage. Snapping turtles are found in diverse forms of water such as ponds, rivers, and canals. This turtle is a true aquatic inhabitant of the bank regions of water sources, only rarely leaving the water (Obst 1986:109-111). It would have been used as a food resource.

The second turtle species present is the eastern box turtle (*Terrapene carolina carolina*). This turtle is widespread throughout the southeast and is adaptable to both aquatic and terrestrial habitats. Box turtles can be found near permanent bodies of water, or in open, mixed forests where the climate is hot and dry in the summer and the winters are mild (Obst 1986:106). Box turtles were used as a food resource, and their shells were made into rattles by the Indians (Swanton 1946:252).

Another turtle present in small quantities in the faunal collection is the mud turtle (*Kinosternon* spp.). This turtle also dwells in the water, and it is usually found near freshwater sources (Obst 1986:109) and on occasion in brackish water. Mud turtles could possibly have been used as a food resource.

A fourth turtle species identified in the prehistoric faunal assemblage is the cooter (probably *Chrysemys floridana*). This turtle can be found primarily in and around bodies of freshwater such as ponds, lakes, rivers, and canals (Obst 1986:109-111), and on occasion in brackish waters. These turtles use the land to lay their eggs at some distance from water, to sun themselves, and

occasionally to feed. As with the other turtles, the cooter could have served as a food resource, and their shell could have been made into rattles by the Indians.

Pisces

Remains of fish are an important part of the prehistoric Thom's Creek faunal assemblage analyzed for this study. The fish present are found in both freshwater and tidal creek habitats, anadromous (live in salt water estuaries and spawn in the freshwater rivers), or are those found in a marine setting (that is they spawn in the estuary or use the area as a nursery). The former comprise catfish, gar, and bowfin. The anadromous taxa is herring. The marine taxa consists of drum.

A number of catfish (*Ictalurus* spp.) are present in the faunal collections. The bullhead catfish (*Ictalurus natulus*) is found in pools and backwaters of sluggish streams, usually in areas of heavy vegetation (Lee et al. 1980:442). The most common freshwater catfish found in the sluggish waters and low salinity areas of South Carolina estuaries is the white catfish (*Ictalurus catus*) (Wenner et al. 1981). Catfish tend to be more plentiful within estuarine habitats in the fall of the year.

Gar (probably longnose gar, *Lepisosteus ossues*) is one of the identified fish that could have been taken from a freshwater habitat as well as an estuarine setting. Longnose gar are commonly found up to 150 centimeters in length and inhabit both fresh and brackish waters of larger streams and coastal inlets throughout the Coastal Plain of the Carolinas (Lee et al. 1980:49-50).

The bowfin (*Amis calva*) is commonly found in sluggish, clear, often vegetated, lowland waters of the Carolina Coastal Plain, and average between 45 and 87 centimeters in total length (Lee et al. 1980:53-54).

Herring (Clupeidae) comprise a number of anadromous species that ascend most coastal rivers during spring spawning migrations. These fish generally range between 20 and 30 centimeters in length. Typical species that may have been present in the South Carolina estuaries include blueback herring (*Alosa aestivalis*), American shad (*A. sapidissima*), and hickory shad (*A. mediocris*) (Lee et al. 1980:61-68).

The only marine fish species present is the drum. Marine species are those fish that either spawn in the estuary, use the area as a nursery, or use the area to feed (see Boschung et al. 1983). Members of the drum family (Scianidae) include black drum (*Pongias cromis*), silver perch (*Bairdiella chrysoura*), seatrout (*Cynoscion* spp.), spots (*Leiostomus xanthurus*), red drum (*Sciaenops ocellatus*), star drum (*Stellifer lanceolatus*), and Atlantic croaker (*Micropogonias undulatus*). All of these drums are commonly found in bays and estuaries. The star drum and the Atlantic croaker are good seasonal indicators, being present in the estuarine system from early spring with a maximum availability in the late fall.

Commensal Species

Commensal species include animals commonly found near human occupations that are not generally considered to be food resources. Such animals include pets, pests, vermin, and animals that prey on pests and vermin, such as snakes, amphibians, moles and mice. The three commensals present in the faunal assemblage include deer mouse. The deer mouse (*Peromyscus* spp.) is usually found in forested areas, but is also present at forest edges, in open clearings, and in overgrown clearings. Another commensal species present is the Eastern mole (*Scalopus aquaticus*). The Eastern mole prefers well-drained, loose soils and is found in open or thin woods and in cleared areas of all kinds (Runquist 1979:166). The snakes present include a terrestrial species of crotalid

(probably copperhead, *Agkistrodon contortrix*), and water snake (*Natrix* spp.).

Analysis and Interpretation of the Faunal Remains

The prehistoric vertebrate faunal remains analyzed for this study total 6075 bone elements and fragments that weigh 11,867.4 grams. Table 26 summarizes the MNI and biomass calculations by faunal category for the Thom's Creek component. The rank of the ten most important species/taxa by MNI total and biomass that may have served as food resources at 38CH124 are listed in Table 27.

Table 27.
Rank of the Ten Most Prominent Fauna Species by Biomass and MNI for the Thom's Creek Component, 38CH124.

Species	MNI Rank	Biomass Rank
White-tailed Deer	1	1
Raccoon	8	2
Turkey	8	3
Duck	4	4
Drum	4	5
Mud Turtle	3	6
Opossum	4	7
Box Turtle	8	8
Gray Fox	13*	9
Gar	4	10
Catfish	1	11
Rabbit	4	14
Herring	8	16

* Tied with seven other species.

In the faunal collection from the Thom's Creek component, the wild mammals comprise the largest faunal category based on both MNI (19, tied with fish) and biomass (97.0465 kg) calculations (Table 28). Included in this group are deer, raccoon, opossum, rabbit, (either the cottontail *Sylvilagus floridanus* or the marsh rabbit *S. palustris*), and gray fox. The first four, including the cottontail rabbit, are species that could be found near the marsh, although only the marsh rabbit prefers the wetlands. Deer would normally be found in the vicinity of the maritime forests, especially along its edge. Raccoons and opossum would usually be found near fresh water sources. However, deer, raccoon and opossum occasionally visit the marsh area to feed. The gray fox would usually be found only in the forested areas around the site, although this animal might also visit the marsh area to feed.

The wild mammal category is dominated by deer in terms of both MNI (10) and biomass (94.0225 kg). This is not unexpected, given the importance of this mammal in the diet and economy of the prehistoric Indians. Raccoon is the second most important species by biomass and tied for eighth in MNI. Opossum ranks seventh in biomass and is tied for fourth in MNI. Rabbit is fourteenth according to biomass and tied for fourth in MNI. And the gray fox is ninth in biomass and tied for thirteenth in MNI. Deer would have been purposefully hunted, while the other mammals (raccoon, opossum, rabbit and gray fox) could have been trapped or taken opportunistically in the course of other activities. Information concerning season of site occupation is present in the form of three antler pedicals (skull attachments) present in the faunal remains from 38CH124. These

pedicals indicate that the antler was still attached to the skull and had not been shed. This would indicate that the male deer which possessed these pedicals were taken between September and February of the year, i.e., during the fall and/or early winter seasons.

Table 28.
Summary of the Thom's Creek Component Faunal Categories Expressed as Counts and Percentages for MNI and Biomass, 38CH124.

	MNI		Biomass	
FAUNAL CATEGORY	#	%	kg	%
Wild Mammals (Deer, Raccoon, Opossum, Rabbit, Gray Fox)	19	32.76	97.0465	94.06
Wild Birds (Turkey, Duck, Passenger Pigeon)	6	10.34	1.9545	1.89
Aquatic Reptiles (Turtles)	9	15.52	2.1071	2.04
Fish (Drum, Herring, Bowfin, Gar, Catfish)	19	32.76	1.9261	1.87
Commensal Species (Mouse, Mole, Water Snake, Crotalid)	5	8.62	0.1445	0.14
TOTAL	58	100.0	103.1787	100.00

Tied with the mammal category as the most abundant food resource in numbers, with an MNI of 19, are fish. However, by biomass (1.9261 kg) fish are third behind the aquatic reptiles. If the unidentified fish biomass (1.3273 kg) is added to the identified fish total, this category becomes second to the mammals. All five fish species/taxa -- gar, catfish, herring, bowfin, and drum -- are present in the estuaries of the marshland located in the vicinity of 38CH124. It is possible that many of the bone elements in the unidentified "Pisces" are herring. In general, the low numbers of each identified fish species present would indicate that their capture was by hook-and-line or gigging. However, mass recovery of fish by nets or seines by the Thom's Creek period inhabitants of 38CH124 cannot be ruled out at this time, especially given the possible large numbers of herring present. These species are important food resources, ranking fifth (drum), tenth (gar), eleventh (catfish), fifteenth (bowfin), and sixteenth (herring) by biomass in the assemblage. By MNI, catfish is tied for first with deer (n=10), drum and gar are tied for fourth (n=3), herring is tied for eighth (n=2), and bowfin is tied for thirteenth (n=1). The presence of catfish and drum in the collection tentatively supports a fall season habitation for the site.

The third most important faunal category according to MNI (n=9) are aquatic reptiles, although this category ranks second behind mammals in biomass (2.1071 kg) if the fish category is based on identified species alone. The aquatic reptiles consist of mud turtles, box turtles, snapping turtles, and cooters. All these turtles live in the vicinity of the marsh adjacent to 38CH124. The turtles could be taken by hook-and-line and in traps, or harvested by hand. These aquatic reptiles are important secondary food resources for the people who lived at 38CH124, ranking sixth (mud turtle), eighth (box turtle), twelfth (cooter) and thirteenth (snapping turtle) according to biomass. By MNI, mud turtle ranks third in number (n=5) behind only deer and fish. Box turtle is tied for eighth, and cooter and snapping turtle are tied for thirteenth according to MNI. These turtles could be caught using handlines, traps, or by hand.

The fourth most important category of potential animal food resources are the wild birds -- turkey, duck, and passenger pigeon. Turkey ranks third, duck fourth, and passenger pigeon seventeenth in importance on the biomass list. Duck

is tied for fourth, turkey is tied for eighth and passenger pigeon is tied for thirteenth on the MNI list. Both the turkey and passenger pigeon were probably taken in the maritime forest near the site. Duck would have been available in the marshland and the Kiawah River adjacent to 38CH124. The presence of two migratory bird species, ducks and passenger pigeons, suggests that the site was occupied in the fall and/or winter.

The commensal species present are what one would typically find in an area inhabited by humans. Moles tend to live in open areas or forest edges. Deer mice like disturbed cover. Water snakes would typically be found in the or adjacent to the marsh. All these habitats would have been present in the immediate area of the site. The other snake present, a Crotalid that was probably a copperhead, would have been in the vicinity of its food resources, of which mice and moles would be two.

Although crabs are not a vertebrate species, their remains were found in the faunal material analyzed for this report. The total number of claw fragments (111), which weigh 52.6 g, represent all the crab recovered from the site. The biomass yield for crab (0.8732 kg) would have placed it fourth on the biomass importance list immediately in front of duck (see Table 28). Crabs are found on mud, shell and sand bottoms in salt and brackish waters, especially in the estuaries and the mouths of tidal creeks in the vicinity of sea grass. Crabs are usually taken in historic times by Euro-Americans between March and November (Freeman and Walford 1976). Most of the crab remains are probably of blue crab (*Callinectes sapidus*) (cf. Turner and Johnson 1972: 182).

Diversity and Equitability Measures

Diversity and equitability indices were calculated for the biomass and MNI totals of those species/taxa represented by a MNI figure (Table 29). Crab were also included in determining the indices for biomass. These figures were determined using the Shannon-Weaver (1949) diversity formula and the Sheldon formula (Pielou 1966; Sheldon 1969) for determining equitability of a sample. The diversity measure for biomass (0.5717) is very low (on a scale that goes from 0 to 4.9), as is the equatibility measure (0.1850 on a scale that goes from low, 0, to high, 1). For MNI, the diversity figure (1.19895) is toward the low end of the scale, although the equitability (.6436) is high, that is above 0.50. These figures, especially the diversity indicae for biomass, are interpreted to mean that a small number of species/taxa supply the bulk of the food that could have been obtained from animal resources. Deer is the primary and by far the most important meat resource of the wild mammal group that dominates the collection. The other species/taxa (including the wild mammals other than deer) and faunal categories pale in comparison. Still, the high equitability indicae for MNI indicates that a number of faunal species/taxa were being exploited from all three of the major habitats (maritime forest, marshland, and estuaries), and possibly the palustrine habitat, adjacent to 38CH128. Although deer is obviously the most important meat resource for the inhabitants of the site, a number and variety of other wild animals were also used for food.

Comparison of the 38CH124 Faunal Assemblage with other Faunal Collections

The faunal assemblage from 38CH124 represents a fairly large collection. A number of other sites in the coastal areas of the Atlantic seaboard in South Carolina, and Georgia possess prehistoric period faunal remains with which 38CH124 can be compared (Table 30). These include a slightly earlier Stallings site (38BU805) on Hilton Head Island, SC (Wilson and Wilson 1986); a slightly later Deptford site (38BU1214) from Spring Island, SC (Wilson 1992); and two collections that date some 1000 years after the Thom's Creek period, Savannah faunal assemblages from 38BU464 on Callawassie Island, SC (Wilson 1992) and a shell midden site (9CAM171) in King's Bay, Georgia (Smith et al. 1981 in Reitz and Cordier 1983).

Comparing the biomass profile for the faunal collection from 38CH124 with the selected sites, it obviously differs greatly from the others. The wild mammal total at 38CH124 exceeds by the total for mammals in an earlier Stallings Island collection (38BU805), a slightly later Deptford faunal assemblage (38BU1214), and the two later Savannah components from 38BU464 and 9CAM171.

Table 29.
Diversity and Equitability of the MNI and Biomass Calculations for the Prehistoric Faunal Samples Analyzed for this Study.

SITE	DIVERSITY	EQUITABILITY	N	BIOMASS
38CH124	1.9895	0.6436	21	58

SITE	DIVERSITY	EQUITABILITY	N	BIOMASS
38CH124	0.5717	0.1850	22	104.0519

The Shannon-Weaver (1949:49) formula used to determine the diversity of a sample is:

$$H = - \sum p_i(\ln p_i)$$

where H is the measure of diversity, and p_i is, in this case, either the MNI or the biomass of each species/taxon "i" divided by the total MNI or total biomass as appropriate for the sample. Thus, for each identified species/taxon that has a MNI count, p_i is calculated by dividing the MNI for that species by the total number of MNI from the sample. The diversity measure H is the sum of all the p_i multiplied by the natural log (ln) of each p_i. A similar procedure is used to calculate the diversity index for the biomass, with the biomass figures being substituted for the MNI in the above explanation. The scale goes from 0 (low diversity) to 4.9 (high diversity).

The Sheldon formula (Pielou 1966; Sheldon 1969) used to determine the equitability of a sample is:

$$H' = H/(\ln N)$$

where H' is the measure of equitability, H is the Shannon-Weaver diversity measure calculated for the sample, and N is the total number of cases, observations, or, in this situation, species/taxon for which MNI or biomass was calculated in the sample. Equitability is simply the diversity measure divided by the natural log (ln) of N, the number of species/taxon for which the MNI was calculated or the number of species/taxon for which the biomass calculations was made. The scale goes from 0 (low equitability) to 1.0 (high equitability).

Also, except for commensals, the wild bird, reptile and fish categories are all greatly reduced when compared to the biomass totals for the other sites in this comparison. It is possible that differences in season, activities scheduling, and environment available for exploitation contributes to these differences.

It would appear that the Thom's Creek site at 38CH124 was occupied in the fall and/or early winter season of the year. The presence of numbers of migratory birds (duck and passenger pigeon), and certain fish (drum and catfish) that are more abundant during this time of the year supports this thesis. Also, the deer antler and pedicals present in the faunal collection supports a fall/early winter habitation of the site. It would appear that the inhabitants

Table 30.
Comparison of the Faunal Category Patterns from Selected Prehistoric Sites by MNI and Biomass Percentages.

	38BU805[1]		38CH124		38BU1214[2]		38BU464[2]		9CAM171[3]	
Faunal Category	MNI	BIOMASS	MNI	BIOMASS	MNI	BIOMASS	MNI	BIOMASS	MNI	BIOMASS
Wild Mammals	29.4	66.5	32.8	94.1	50.0	62.9	19.4	49.7	1.9	33.6
Wild Birds	17.7	4.5	10.3	1.9	0.0	5.8	4.2	3.0	0.8	0.2
Reptiles	17.7	14.9	15.5	2.0	25.0	9.7	5.6	6.8	3.8	8.9
Fish	17.7	13.2	32.8	1.9	25.0	21.5	61.1	37.9	88.7	56.3
Commensals	17.7	0.9	8.6	0.1	0.0	0.0	9.7	2.5	4.7	0.8
Total Percent	100	100	100	100	100	100	100	100	100	100
Total MNI	17		58		12		72		257	
Total Biomass	2.89kg		103.18		2.79kg		7.56kg		6.27kg	

[1] Wilson and Wilson 1986:Table 31 (Stallings Island Component).
[2] Wilson 1991 (38BU1214-Deptford Component; 38BU464-Savannah Component).
[3] Smith et al. 1983:Table 3 (Savannah Component).

of the site made heavy use of collection strategies that emphasized the taking of mammals as food resources, especially deer. The fall/early winter is also the season when deer would have tended to congregate into larger groupings for the rutting season (Smith 1975:18). The environment surrounding 38CH124, marshland with an adjacent maritime forest, would have been ideal for exploiting deer and other mammals at this time of year.

Comparing the pattern at 38CH124 with the other sites selected for comparison, differences in the areas of seasonality, scheduling and available environment can be seen. It would appear that the other four sites all represent habitations during other seasons of the year, primarily spring and summer. It is possible that the greater reliance on fish, reptile and wild bird food resources reflect the seasonal exploitation of food resources other than mammals by small bands of people. The paucity of material from both the Stalling Island component at 38BU805 and the Deptford component at 38CH1214 both suggest a short-term occupation by a small number of people. Activities scheduled by the inhabitants of these two sites would have placed more emphasis on exploiting the marine and marshland animal foods (fish and turtles). The emphasis on utilizing mammals would still remain, but the seasonal dispersal of deer into small groups during the spring and summer would mean that it would be more difficult to exploit these animals than during the fall and winter. It is possible that the faunal usage pattern exhibited for the later Savannah component at 38BU464 reflects a situation similar to that noted here for 38BU805 and 38BU1214.

The later Savannah faunal assemblage from 9CAM171 indicates a greater reliance on fish than is seen for the three Early Woodland period sites, including 38CH124. For 9CAM171, this may reflect the fact that the site is located in the middle of a marshland with no adjacent maritime forest. This would have reduced the availability of mammals as food resources, especially deer, who tend to prefer living within forest edge habitats.

Conclusions

The Thom's Creek faunal collection from 38CH124 possesses 58 identified individuals and approximately 3200 identifiable bone elements. The former is not more than the threshold minimum of 200 MNI required to document that a representative sample is being studied, but the number of identifiable bone elements is greater than the 1400 threshold set for this category (see Grayson 1979; Wing and Brown 1979). The faunal analysis indicates that the site was occupied by a number of people during the fall and/or early winter of the year. This habitation could have been by a microband of between 20 and 30 people, which

would have split into smaller bands during the other portions of the year. A focus of the hunting strategies appears to have been the taking of deer, which would have been in seasonally greater numbers due to it being the rutting season for these animals. The other animals available during this time of year would have been exploited on an opportunistic basis, which would be supported by the small numbers and/or biomass calculations for the fish, reptile, and wild bird faunal categories in the faunal assemblage from 38CH124. Other seasonal indicators are the migratory birds and some of the fish recovered from the site.

The information provided by the archaeology at 38CH124 is important in reconstructing and understanding the adaptation of the Thom's Creek peoples to the coastal environment. This large site appears to be but one aspect to the yearly changes in group size, environments exploited, and differential emphasis of various animal food procurement strategies that characterized these peoples past lifeways. Further research involving archaeology at both large and small habitation and camp sites will produce additional information on these past lifeways. The data from 38CH124 provides a valuable source with which information collected by these future excavations can be compared and used to synthesize a better understanding of the Thom's Creek peoples.

CHAPTER 10.
ETHNOBOTANICAL REMAINS FROM BASS POND

Michael Trinkley

Introduction

Ethnobotanical remains were recovered from several excavation proveniences associated with the Bass Pond site, primarily from ⅛-inch water screening of Zone 1A shell midden fill. This study, however, incorporates only the data recovered from unit 210R845, from which the best evidence of the posited Thom's Creek structure was recovered (see **Chapter 7 - Prehistoric Archaeological Investigations**). Materials examined include waterscreened samples from Zone 1A, levels 2, 3, and 4; flotation samples from Features 1 and 2; handpicked charcoal samples from the post holes associated with the structure; and a single flotation sample from Zone 1A, level 3. This strategy emphasized the examination of a broad range of materials clearly associated with the Thom's Creek occupation, including materials likely associated with the identified structure.

Flotation samples, offering the potential to recover very small seeds and other food remains, are expected to provide the most reliable and sensitive subsistence information. Samples of 10 to 20 grams are usually considered adequate, if no bias was introduced in the field. Popper (1988) explores the "cumulative stages" of patterning, or potential bias, in ethnobotanical data. She notes that the first potential source of bias includes the world view and patterned behavior of the site occupants -- how were the plants used, processed, and discarded, for example. Added to this are the preservation potentials of both the plant itself and the site's depositional history. Of the materials used and actually preserved, additional potential biases are introduced in the collection and processing of the samples. For example, there may be differences between deposits sampled and not samples, between the materials recovered through flotation and those lost or broken, and even between those which are considered identifiable and those which are not.

In the case of Bass Pond the soil samples were each 5 gallons in volume (representing soil prescreened to remove the large shell) and were water floated (using a machine assisted system) after the excavations at Chicora's Columbia laboratories. While field flotation is often preferred, since it allows the sample size to be increased, this is less of a factor at Bass Pond than at many other sites since neither Feature 1 or 2 had the potential to contribute more than the originally collected sample. Of course the midden itself (Zone 1A, level 3) could have been tapped for a larger sample, but in light of this study there is little reason to believe that a larger sample would produce significantly different results.

Handpicked, or even waterscreened samples, may produce little information on subsistence since they often represent primarily wood charcoal large enough to be readily collected during either excavation or screening. Such handpicked samples are perhaps most useful for providing ecological information through examination of the wood species present. Such studies assume that charcoal from different species tends to burn, fragment, and be preserved similarly so that no species naturally produce smaller, or less common, pieces of charcoal and is less likely than others to be represented -- an assumption that is dangerous at best. Such studies also assume that the charcoal was being collected in the same proportions by the site occupants as found in the archaeological record -- likely, but very difficult to examine in any detail. And finally, an examination of wood species may also assume that the species present represent woods intentionally selected by the Native Americans for use as fuel -- probably the

easiest assumption to accept if due care is used to exclude the results of nature fires. While this method probably gives a fair indication of the trees in the site area at the time of occupation, there are several factors which may bias any environmental reconstruction based solely on charcoal evidence, including selective gathering by site occupants (perhaps selecting better burning woods, while excluding others) and differential self-pruning of the trees (providing greater availability of some species other others). Smart and Hoffman (1988) provide an excellent review of environment interpretation using charcoal which should be consulted by those particularly interested in this aspect of the study.

Procedures and Results

The three flotation samples were prepared in a manner similar to that described by Yarnell (1974:113-114) and were examined under low magnification (7 to 30x) to identify carbonized plant foods and food remains. Remains were identified on the basis of gross morphological features and seed identification relied on Schopmeyer (1974), United States Department of Agriculture (1971), Martin and Barkley (1961), and Montgomery (1977). All float samples consisted on the charcoal obtained from 5 gallons of soil (by volume). The entire sample from this floated amount was examined. The results of this analysis are provided in Table 31.

Ignoring the uncarbonized component in each sample, the collections are composed largely of wood charcoal (which clearly dominates the two features and which represents just over half of the Zone 1A sample). Hickory nutshell is common in all three samples, with the percentage by weight ranging from a low of 17.6% in Feature 2 to a high of 37% in the Zone 1A sample. Seeds are not common, but species identified include knotweed (*Polygonum* sp.), chenopod (*Chenopodium* sp.), grape (*Vitis* sp.), two probable grass seeds (Gramineae), and two unidentifiable fragments (which probably represent "weedy" species).

There are four hickories common to the Charleston area -- bitternut (*Carya cordiformis*), water (*C. aquatica*), mockernut (*C. ovalis*), and pignut (*C. glabra*). These species occur on a variety of soil types, from dry woods to rich or low woods to swamp lands. In South Carolina they fruit in October, although seeds are dispersed from October through December (Bonner and Maisenhelder 1974:269; Radford et al. 1968:363-366). Good crops of all species are produced at intervals of up to three years when up to about 16,000 nuts may be produced per tree (Bonner and Maisenhelder 1974:271). Complicating this simple seasonality is the ability of the nuts to be stored for up to six months.

The presence and diversity of hickories is significant given their suspected contribution to the prehistoric diet. The occurrence of hickory nutshell at Stallings-Thom's Creek sites has been previously noted (see Trinkley 1976, 1986; Harris and Sheldon 1982) and is perhaps most significant because of its high protein and fat content, providing a caloric value equal to that of many meats (Asch and Ford 1971; Hutchinson 1928:261).

In addition to the probable use of hickory nuts, the flotation samples indicate the presence of knotweed, chenopod, grape, and "weedy" species. Knotweed is an annual or perennial herbaceous plant which can be found in a variety of habitats, including dry, open ground, wet or swampy ground, and disturbed ground. Species flow and fruit from May through November (Radford et al. 1968:406-414). This plant may be indicative of a disturbed habitat (e.g., Yarnell 1974:117), although it is also used as food source among some groups (Struever and Vickery 1973) and Morton (1974:115) notes that while the plant contains tannin, the young shoots may be cooked and eaten as greens. Chenopod (also known as goosefoot or pigweed) is an erect, annual herb, frequently found as a weed in rich cultivated soils. The plant flowers and fruits from June through December (Radford et al. 1968:418-420). Chenopod is frequently found at prehistoric sites and appears to have been a significant aspect of the diet -- providing calcium,

Table 31.
Flotation sample components, weight in grams

Provenience	Wood wt	Wood %	Uncarb. Organic wt	Uncarb. Organic %	Shell wt	Shell %	Bone wt	Bone %	Hickory Nutshell wt	Hickory Nutshell %	Seeds wt	Seeds %	Total	Seeds
Feature 1	5.92	67.6	0.81	9.2	0.05	0.6	0.12	1.4	1.84	21.0	0.02	0.2	8.76	1 knotweed 2 UID frags
Feature 2	8.92	77.9	0.50	4.4	-	-	-	-	2.01	17.6	0.01	0.1	11.44	1 chenopod
210R845	17.21	50.5	2.98	8.7	0.98	2.9	0.28	0.8	12.59	37.0	0.03	0.1	34.07	2 Gramineae 1 grape

Table 32.
Waterscreened sample components from 210R845, weight in grams

Provenience	Wood wt	Wood %	Uncarb. Organic wt	Uncarb. Organic %	Shell wt	Shell %	Bone wt	Bone %	Hickory Nutshell wt	Hickory Nutshell %	Seeds wt	Seeds %	Total	Seeds
Z.1A, L.2	10.71	67.5	2.13	13.4	0.31	2.0	-	-	2.71	17.1	-	-	15.86	-
Z.1A, L.3	11.89	64.9	1.99	10.9	0.10	0.5	0.05	0.3	4.23	23.1	0.07	0.3	18.33	1 palmetto
Z.1A, L.4	11.73	66.8	2.60	14.8	0.06	0.3	0.10	0.6	3.05	17.4	0.02	0.1	17.56	1 cedar

Table 33.
Analysis of wood species from the waterscreened samples, by percent

Provenience	pine	hickory	oak	dogwood	sassafras	holly	UID wood	Rosin
Z.1A, L.2	78.2	4.2	-	-	1.0	1.2	15.0	0.4
Z.1A, L.3	85.4	1.1	1.0	1.0	-	-	11.5	-
Z.1A, L.4	82.0	3.6	10.1	-	-	-	4.3	-
post holes	93.1	1.3	-	-	-	-	5.6	-

iron, riboflavin, and ascorbic acid. The plant is a volunteer, so it too may indicate disturbed ground. Wild grapes are deciduous, woody vines found throughout the coastal plain. The muscadine grape (*V. rotundifolia*) is found in low woods and even on sand dunes. Grapes typically fruit from the late summer through the fall. The grass seeds could not be identified, but typically such plants suggest disturbed, or open ground. Seeds for most native grasses are produced from the very late summer into the fall.

The ⅛-inch waterscreened samples were bagged in the field after the removal of obvious cultural material, such as pottery, shell beads, and worked bone. There was no effort made to sort floral material from the large matrix of shell debris. Consequently, the samples examined for this study were collected through supplemental hand flotation using water. This removed the bulk of the shell, leaving relatively clean ethnobotanical samples.

The waterscreened samples are very similar to the flotation materials, with the exception that the diversity is considerably reduced. The primary components are wood charcoal and hickory nutshell, although the samples did produce one example of a carbonized palmetto seed (*Sabal* sp.) and one cedar seed (*Juniperus*, probably *J. silicicola*). The results of the three levels within the midden zone are so similar that it appears there was very little diversity in the activities which resulted in the deposition of the carbonized remains over time. The results of the analyses are shown in Table 32).

The palmetto seed may represent either the *Sabal palmetto*, which has a tree form, or the *S. etonia* (cabbage palmetto), which is a low palm with a subterrean stem. The cabbage palm is very common and while it has few commercial uses, it is extensively used by the rural residents -- the bud provides food and the leaves are used in weaving. While there is no evidence that the fruits were used by the Native Americans, they are eaten by animals and birds (Schopmeyer 1974:744). The fruits ripen in the late fall or winter. The cedar seed most likely represents the southern red cedar (*Juniperus silicicola*) which is found along the coast, often associated with shell middens. The fruit ripens from October through November, although the seeds have delayed dispersal, often extending into March (Schopmeyer 1974:462).

The waterscreened samples also examined under low magnification with the larger pieces of wood charcoal identified, where possible, to the genus level, using comparative samples, Panshin and de Zeeuw (1970), and Koehler (1917). Wood charcoal samples were broken in half to expose a fresh transverse surface. The results of this analysis are shown in Table 33.

Wood charcoal, as previously mentioned, is abundant in all of the Thom's Creek proveniences. This study found that it consists almost entirely of pine (*Pinus* sp). Other species include hickory (*Carya* sp.), oak (*Quercus* sp.), dogwood (*Cornus florida*), sassafras (*Sassafras albidum*), and a possible holly (*Ilex* sp., possibly *I. opaca* or American holly).

Discussion

Both the flotation and waterscreened samples are dominated by wood charcoal, primarily pine, and a single plant food remain -- hickory nutshell. The study perhaps contributes to a better understanding of the site environs, as well as the activities of the Thom's Creek people who lived around Bass Creek.

The charcoal represents woods which could reasonably be associated with a maritime forest, such as hickory and oak. The dogwood, sassafras, and holly represent typical understory trees. The presence of the palmetto, cedar, and grape seeds are consistent which such an environmental reconstruction. The dominance of pine, however, suggests a fire sub-climax pine forest with minor components of oak and hickory. The choice of reconstruction is therefore determined by the weight given to the pine -- does it represent the species'

occurrence prehistorically, or does it represent intentional cultural selection (perhaps as fuel)?

The most conservative, and hence safest, approach is simply to note that these taxa were present in the Bass Creek area about 1500 B.C. when the site was occupied. If, however, the ethnobotanical record from other Late Archaic and Early Woodland sites in the coastal region is examined, pine seems to consistently dominate the collections. While this suggests that we are observing a consistent pattern, it still cannot tell us whether the pattern in cultural (i.e., the Thom's Creek occupants selected for pine) or whether the pattern accurately represents the taxa present for use (i.e., pine was simply the most common tree in the site area). There are good arguments on both sides. Autecology reveals that a fire sub-climax is possible in the project area and ethnohistoric accounts are replete with examples of Native Americans affecting their natural environment through the use of fire. Likewise, pine is an excellent self-pruner, provides hot fires, and is easy to ignite -- all qualities which would support intentional selection.

It is impossible for the Bass Pond data to provide a clear answer to this question. Future research at other Thom's Creek sites, combined with extensive pollen studies, will be necessary for anything approaching a definitive explanation. Existing pollen studies (e.g., Cohen 1991) suggest that pine, in fact, dominated the aboriginal landscape and that its occurrence in the archaeological record parallels its presence "on the ground." If this is found to be the case, then the dominance of hickory nutshells becomes that much more significant. In the midst of oak-pine forests, presumably maintained through fire, sites like Bass Pond may represent "islands" where hickory resources were especially prevalent. Even today on Kiawah, hickories tend to be found in small, localized areas. Being intolerant of salt, they also avoid maritime forests and near marsh areas.

It therefore becomes important that the only plant food remains found at Stallings and Thom's Creek sites have been hickory nutshells and acorn (see Trinkley 1974, 1976, 1986; Trinkley and Zierden 1983). In each case acorn is so rare as to suggest accidental inclusion (even recognizing the differential preservation potential). As previously mentioned, the hickory is a high quality protein with a caloric value equal to that of many meats. It appears reasonable, given the ubiquity and abundance of the nutshell fragments, to interpret these Late Archaic-Early Woodland people as using hickory as a major food source.

The hickory nuts suggest a fall or winter occupation of the site, although they can be collected and stored for future use, perhaps as late as March or April. Knotweed, chenopod, and grape might all be available in the October and November season, as would palmetto and cedar seeds. While grass seeds are often late summer, there are many which extend their seeding into the fall or even early winter in the moderate coastal climate.

The ethnobotanical remains seem clearly to suggest that at least some activities took place in the fall or early winter months. Occupation during other seasons, of course, cannot be ruled out based on this evidence.

The presence, albeit minimal, of "weedy" taxa suggests that the Bass Pond site was typical of a disturbed habitat, open to colonizing by grasses and similar vegetation. In fact, it is perhaps surprising that weed seeds were not more common, given the anticipated periodic abandonment of the site. The small size and fragility of these seeds likely accounts for their low density at this, and other Thom's Creek sites.

It seems likely, therefore, that hickory nuts were an important subsistence resource at Bass Pond, representing a relatively focused floral economy, although fleshy fruits were gathered as well. It is possible that the encampment was located to take advantage of nearby hickory resources, although since hickories

are not salt-tolerant, the site was primarily oriented toward either shellfish or mammal resources and not floral taxa. The non-food plants suggest a fire sub-climax pine forest with areas, probably around the settlement, of disturbed ground. Fuel wood was primarily pine, although other species were occasionally gathered. While a warm season occupation cannot be eliminated by the available data, a fall-winter occupation is clearly indicated by the recovered materials.

CHAPTER 11.
HISTORICAL ARCHAEOLOGICAL INVESTIGATIONS OF THE SHOOLBRED PLANTATION SITE (38CH129)

Natalie Adams and Debi Hacker

Introduction

Background

Site 38CH129 was originally reported by Combes (1975), based on his reconnaissance survey. Combes' investigations revealed relatively little about the site and it was described simply as evidencing "a small amount of late Indian ceramics and an historic component on the surface, probably 19th and early 20th century" (Combes 1975:A-18). Michie (1979), during test excavations at 38CH124, found considerable evidence of historic occupation and associated it with the Shoolbred occupation, although not specifically relating it with previously identified site 38CH129. Michie also identified the nearby graves of James Shoolbred and his wife, Mary Middleton Shoolbred (Michie 1979:83).

During the intensive survey of the Rhett's Bluff tract by Poplin (1989), the site boundaries for 38CH129 became somewhat better defined (Poplin 1989:Figures 9 and 10). Two structures were identified (38CH129-1 and 38CH129-2), as well as the Shoolbred graves previously mentioned by Michie. This survey, however, was clearly hindered by the large quantities of hurricane debris still on the site and an absence of sufficiently detailed historical research.

Following the intensive survey Poplin (1989) conducted additional testing

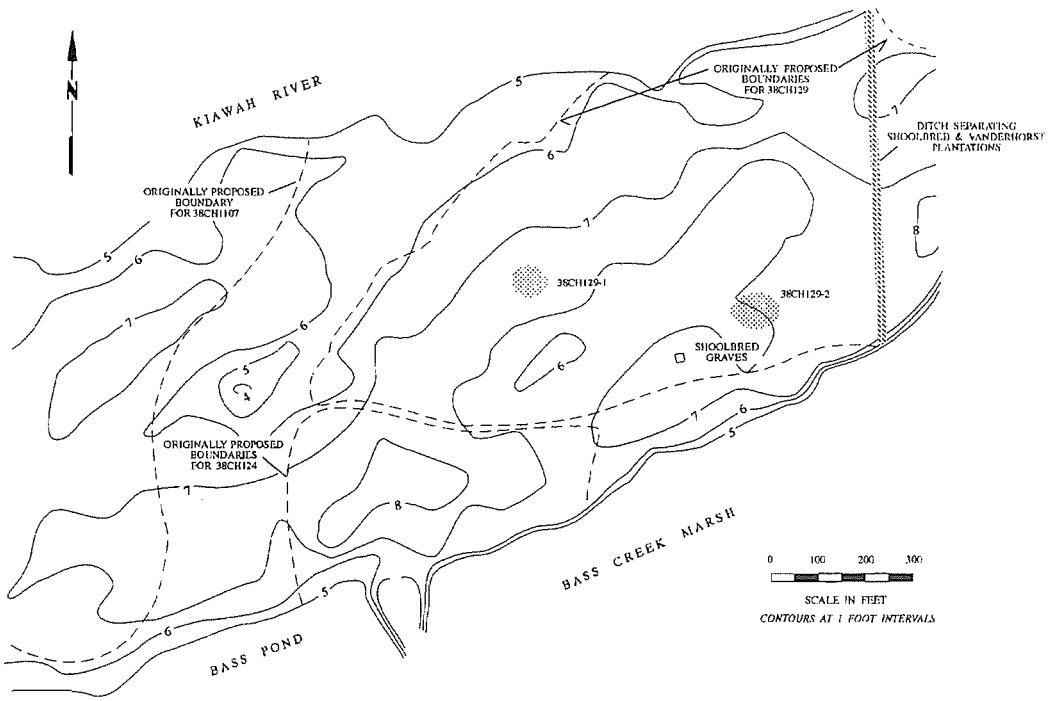


Figure 53. Site 38CH129 as originally defined (adapted from Poplin 1989:Figure 8).

at 38CH129-2, opening a total of 7 square meters (80 square feet) on the south wall of the structure. These excavations, in addition to revealing the southeast and southwest corners of the structure, also identified what was described as a "stoop or narrow patio adjacent to the structure" (letter report from Dr. Eric Poplin to Mr. Ray Pantlik, dated March 19, 1990). These tests became the basis for the data recovery plan at 38CH129-2.

The historical research conducted for Poplin's intensive survey yielded an 1803 plat (Figure 7) showing the location of Shoolbred's "New Settlement" in the vicinity of 38CH129. This plat indicates the existence of four structures arranged along an east-west line. Poplin (1989:39) attributed the two identified structures to the linear arrangement. The survey work was not able, however, to identify the remaining two structures shown on this plat. Further, while Poplin (1989:19) suggests that the structures shown on the 1803 plat are identical to those illustrated in a 1870 painting by Mary Drayton (Figure 21), this painting illustrates eight structures, leaving six unaccounted for by Poplin.

The historical research previously outlined suggest that the original plantation house was probably constructed by James Shoolbred in the last decade before the nineteenth century. During this period the settlement at Kiawah was shifted from what is known as the "Old Settlement" (38CH122 and 38CH123) to the "New Settlement" (38CH129). There are clear indications that the slave settlement and associated utilitarian structures, however, remained at 38CH122 and 38CH123 throughout this period (although it is likely that the settlements went through successive phases of rebuilding or perhaps even relocation).

The "New Settlement," as discussed by Poplin (1989) is clearly shown on the 1803 plat (Figure 7) as consisting of four structures, three arranged in an east-west pattern and grouped together, while the fourth is set apart and slightly to the south. This arrangement suggests a main house with two flankers (accounting for the cluster of three structures) and a somewhat isolated structure set off to the east from the main complex.

A letter written in the 1870s indicates that the Shoolbred house was first vandalized and then burned during the Civil War, indicating that Mary Drayton's painting was from memory. The 1870s were a period of nostalgia for Southerners bemoaning the "lost cause" and remembering the grandeur of the past. A careful examination of the 1866 and 1870 Coastal Survey map of the area, which is based on surveys conducted between 1849 and 1865 (Figure 19) reveals a similar arrangement. It also indicates that there was a north-south causeway or road giving access to the property located very closely along the alignment of the existing causeway. Immediately west of this causeway, on the first high ground north of Bass Pond, there is a fifth structure shown -- the structure which has been nebulously identified both in this study and the previous investigations by Michie (1979).

Comparing the 1803 plat, the 1866 survey (conducted between 1849 and 1865) and the 1870 painting, there is a consistency which provides a high degree of reliability to all three. Equally important, it allows greater trust to be placed in the painting, allowing it to be used for comparison with the architectural and archaeological discoveries. This painting (Figure 21), viewing the plantation from the Kiawah River, illustrates a total of eight buildings, three closely grouped together to form the main complex, one structure isolated on the right edge (west) of the view, one isolated on the left edge (east) of the view, one between the eastern most structure and the main complex, one between the western most structure and the main complex, and a small Romanesque pavilion on the water's edge. A formal garden arrangement is seen between the main complex and the water.

The central complex consists of a two and a half story "T" plan house, with the back wings having a gable roof and two dormer windows situated on the upper floor. The central element also consists of gable roof, with the gable end

looking toward the water. The gable (or north) elevation consists of a five bay facade associated with a porch. A staircase ascends to the porch from the east and west and there is an arched entryway to the lower floor or basement. The two flankers both are two stories with gable roofs oriented east-west. They appear to have a door flanked by one window on each side at the ground elevation, with three windows above.

The structure at the west edge of the painting appears to be a simple two-storied structure with a gable roof, perhaps representing a barn or other storage facility. Other details are not clear. The structure at the eastern edge of the painting appears somewhat similar to the two flankers at the main complex, although it appears to be one story. The structures between the main complex and the eastern and western most buildings appear to be single story, hipped roof structures with a central second story, somewhat akin to a spire or tower. The function of these buildings is not know, although they may have served as a stable, dairy, plantation office, wash house, ice house, or a variety of other functions.

Following the convention established by Poplin (1989), the main house is identified as 38CH129-1, while the second structure, identified as 38CH129-2 is attributed to the structure at the extreme left (or east) edge of the painting. The two flankers were not identified by Poplin's survey, although the current archaeological investigations have yielded evidence of the western flanker, which will be discussed as 38CH129-3. The eastern flanker is assumed to have been identical to the one found during Chicora's investigations. While not excavated, its location was verified through the presence of a large amount of brick rubble and a scatter of ceramics found during clearing activities. The bulk of this structure is now incorporated into a parking area for the Rhett's Bluff community dock and is identified as 38CH129-5. The structure at the right (or west) edge of the painting and identified in the area of 38CH124 will be discussed as 38CH129-4. The structure lying between the eastern flanker and the eastern most structure was identified in the field as a difuse scatter of brick, slate roofing material, ceramics, and marble. This structure is identified as 38CH129-6. The matching structure to the west was recognized as a scatter of brick rubble north of 38CH124 and is designated 38CH129-7. An exhaustive examination of the Kiawah River frontage failed to identify any architectural remains which might be associated with the Rosmanesque landing.

Thus, while seven of the eight structures throught to be shown in the ca. 1870 watercolor were identified during these investigations, excavations were conducted at only three. The other three structures, which were not identified during the initial survey, have recieved only minimal surface examination. Subsequent to these investigations a nineth structure, given the site number 38CH1502, was located just beyond the west edge of the site as defined by Poplin (1989). Preliminary investigations suggest that this site was associated with the main plantation complex.

Archaeological investigations were begun at 38CH129 by a crew of six (including the principal investigator) on November 12, 1990 through January 4, and March 12 through March 21, 1991. A total of 1305.5 person hours were spent in the field and an additional 224.5 person hours were spent on laboratory analysis and field processing (with 661.5 person hours of field time and 170.5 person hours of laboratory time at 38CH129-1, 429 person hours of field time and 21.5 person hours of laboratory time at 38CH129-2, 215 person hours of field time and 32.5 person hours of laboratory time at 38CH129-3). As a result of this work 1175 square feet of site area were opened at 38CH129-1, 1050 square feet were opened at 38CH129-2, and 750 square feet at 38CH129-3. This resulted in the excavation of 1857.5 cubic feet of soil at 38CH129-1, 1322.5 cubic feet of soil at 38CH129-2 and 439 cubic feet of soil at 38CH129-3, all screened through 1/4-inch mesh. The work at 38CH129-1 resulted in the movement of nearly 35,000 pounds of brick and mortar rubble, the work at 38CH129-2 moved 13,992 pounds, and at 38CH129-3 3,792 pounds of brick were moved.

The proposed investigations at 38CH129-1 were to include the excavation of approximately 200 feet in the north and west yard areas, excavation of 5-foot trenches bisecting the structure, excavations at each corner of the structure, and excavations in different room partitions. A total of 1550 square feet of excavation were planned. Work at 38CH129-2 was to include the excavation of 1050 square feet in and around the structure. The scope of work for the project defined by Kiawah Resort Associates and accepted by the S.C. SHPO was based on the survey conducted by Poplin (1989). This survey included test excavations at 38CH129-2, but the investigations at 38CH129-1 were limited to 29 shovel tests and seven 50 centimeter units (the latter placed largely on the periphery of the site) (Poplin 1989).

The work conducted by Chicora at 38CH129-2 meet the proposed data recovery requirements, fully investigating the structure, architectural remains, and associated yard areas. Work at 38CH129-1 revealed a structure larger, more complex, and differently situated than originally suspected. Through consultations with the S.C. SHPO and Kiawah Resort Associates, Chicora excavated 1925 square feet, rather than the originally proposed 1550 square feet, with the bulk of these excavations being confined to the two structures (38CH129-1 and 38CH129-3).

Methods

Excavations were conducted at all three structures using a grid oriented N8°E, which was believed to approximate the orientation of the buildings based on visible, above-ground remnants and initial excavations at 38CH129-1 used to locate intact architectural features. At 38CH129-1 and 38CH129-3 site datums were located at 100R50 and 100R100, and at 38CH129-2 datums were located at 100R95 and 100R200. The grid used by Poplin (1989) for his work was tied into the current excavations. Vertical control was maintained at each site through the use of one or more temporary benchmarks (typically nails at the base of trees) with known mean sea level elevations. Poplin's datum from 38CH129-2 has been incorporated into the overall site plan and converted from the assumed elevation originally used to a mean sea level elevation.

The excavations at 38CH129-1 and 38CH129-3 were conducted using gross natural stratigraphic zones. In the vicinity of structures, Zone 1 consisted of dense brick, mortar, and plaster rubble, varying in depth from 0.5 to 2.5 feet. Below this are the remnants of the old humic zone at the site, termed Zone 1A, which varies from 0.3 to 0.6 foot in depth. Zone 1A largely produced prehistoric materials and may represent a plowzone predating the construction of the buildings. Below Zone 1A a tan to yellow sandy subsoil was found. Although finer stratigraphic zones were considered for use within the main house, initial efforts failed to yield significant results and the time required was considered excessive given the need to expose large areas in order to understand the architectural remains. This situation was discussed with Chicora's architectural historian, Colin Brooker, who agreed that little was to be gained, given the extensive fire damage and post-depositional disturbance to 38CH129-1. It was possible, however, to fairly consistently note upper and lower levels to the Zone 1A rubble at the main house (38CH129-1). The lower level represented undisturbed wall fall, while the upper level represented post-demolition robbing and associated activities. No difference in artifact content, however, was observed.

The Zone 1 rubble decreases in depth quickly as one moves away from the structures and it is replaced by a brown humic sand, also termed Zone 1A. This zone evidences localized disturbances (including probable pre- and post-structural plowing, as well as bulldozing activities). These disturbances appear to decrease in frequency and severity as one moves further away from the structure areas. Some evidence was found that an attempt had been made some time in the past (probably between 1960 and 1980) to concentrate the ruins in a single area.

At 38CH129-2 Zone 1 consists of dense brick and mortar rubble, varying in depth from 0.5 to 1.5 feet. Some areas of the site revealed an upper and lower level within Zone 1, with the upper level representing primarily mortar debris from the robbing and cleaning of bricks, while the lower level represented undisturbed rubble from the initial demolition. Here again the Zone 1 rubble decreases in depth quickly as one moves away from the structure and it is replaced by a brown humic sand, termed Zone 1A. This zone evidences localized disturbances (including pre-structure plowing). Below this zone are the remnants of the old humic zone at the site, termed Zone 2, which varies from 0.5 to 0.8 foot in depth. Zone 2 largely produces prehistoric material and represents a plowzone predating the construction of the structure (plowscars were observed at the base of Zone 2 and are intruded into by the structure). Below Zone 2 lays a light tan to yellow sandy subsoil.

Archaeological Investigations

38CH129-1

A total of 24 units (two 10-foot squares, 17 5 by 10 foot units, and five 5-foot units) were excavated by Chicora at 38CH129-1 (Figure 54). All but two of these units were placed to examine architectural remains, although several of these structural units also provide yard information. The bulk of the yard excavations (including 30L15, 60R105,and 130R105) suggest that little trash or debris was deposited around the structure. Even the excavation in the vicinity of the well (30L15) indicates a low density of material.

The remainder of the excavation units were placed in consultation with Chicora's architectural historian, Colin Brooker, in order to maximize recovery of architectural information in the available time. There are clearly many unanswered questions regarding this structure, both on a general and on a variety of very specific architectural levels. The archaeological investigations have been able only to document the structure at the ground level, the higher elevations remain largely undocumented (excepting what information may be obtained from a detailed examination of the 1870 painting; Figure 21).

Excavations in 130R65 and 130R92 (Figures 54 and 55) yielded architectural evidence for staircase supports at the west and east corners of the main house which appear to have lead to an upper level wrap-around porch on the river side of the house. Three units, 100R70, 106R90, and 115R90, provided clear evidence of porch lateral supports, indicating that the north porch, approximately 8 to 10 feet in depth, continued around the east and west sides of the structure (having a depth on the sides of 8 feet, based on a porch support identified in 95R95). The front stair supports were constructed somewhat like fireboxes, with the north and south "arms" laid up in Engligh common bond to form a 13-inch wall. The "rear" wall was 9-inches, also laid in English common bond. Both opened to the east and the western support had been almost totally removed by robbing. The interior of these "boxes" had been filled with brick rubble to form a solid support.

Underneath the porch was brick paving (a portion of which may be seen in Figure 55). This flooring was steped down, away from the structure, presumably to provide for draiage away from the half basement level. Leading out (east) from the steps was evidence of laid marble forming a pathway. Just south of the eastern stairway was found the remnant of what appears to a boot scraper inbedded in the brick flooring. The flooring in 125R90, under the porch , was found to be laid with a thin bed of lime mortar on top of a crush shell lens for drainage. This shell has been placed directly on top of the old humus at the site.

Excavations in 106R90, 115R90, 100R70 and 115R70 contained evidence for the robbed-out portion of the front (north) and side (east and west) walls of the front room. In the southwest corner of this northern room (100R70) there was a concentration of bottle glass, and east of the wall in 106R90 were large

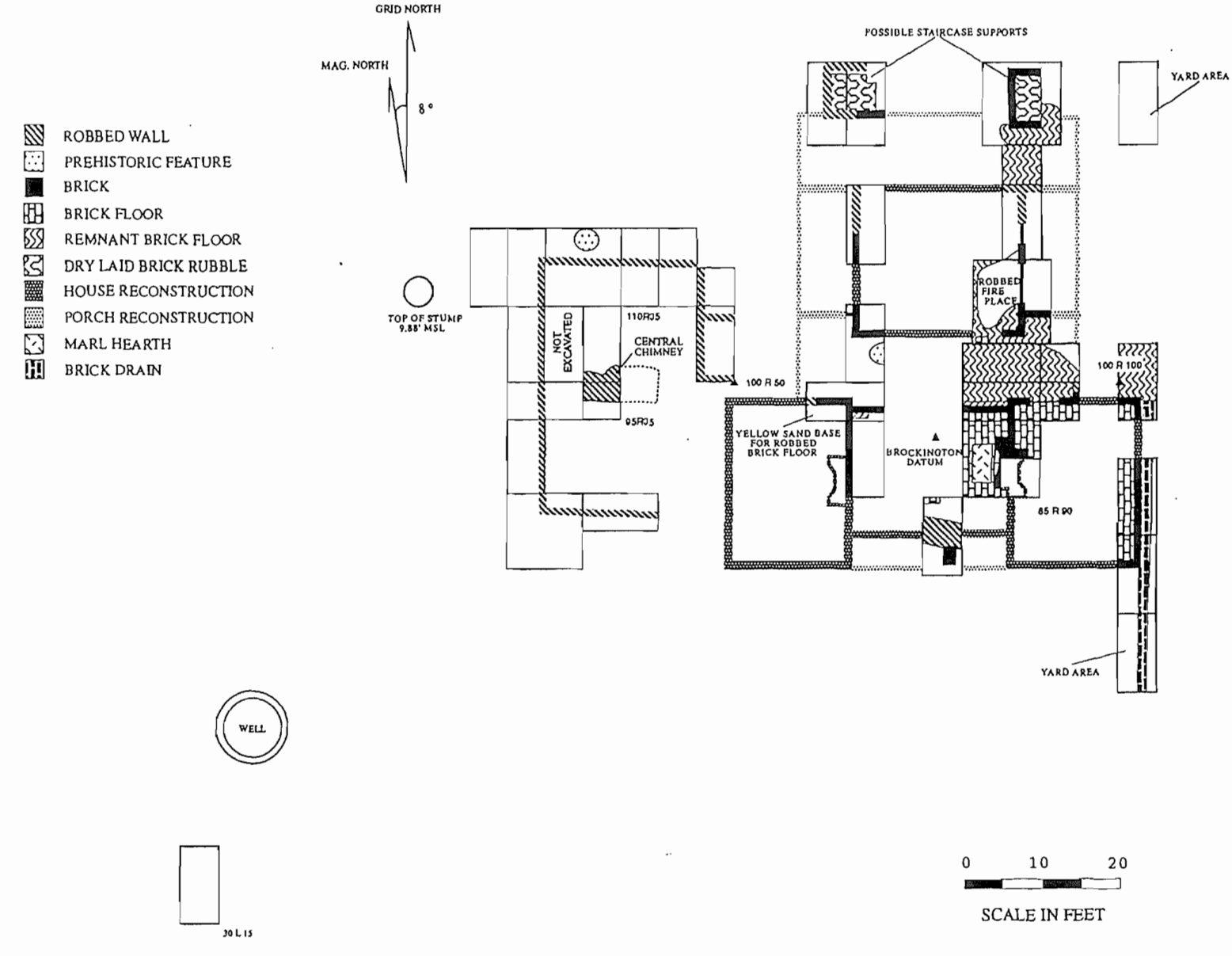


Figure 54. Excavations at 38CH129-1 (Shoolbred main house) and 38CH129-3 (west flanker).

Figure 55. Stairway support and brick paving in 130R192, main house.

Figure 56. Double chimney in 85R85, 85R90, and 90R90 at the Shoolbred house, view to the south.

quantities of burned bottle glass and ginger beer bottles (often associated with Civil War encampments). This may be evidence of the vadalism mentioned by Arnoldus Vanderhorst during his visit to the Shoolbred Plantation during the Civil War. Also in the unit is evidence for a thoroughly robbed interior chimney centered on the eastern wall and interior brick flooring. While the sotheast and southwest corners of this northern room were intact, the northeast and northwest corners had been badly damaged by robbing. This northern room measured 19 feet east-west by 16 feet north-south.

No excavations were conducted along the north wall to investigate possible openings, although the extensive robbing noted in the northern corners suggests that further excavations in this area would have served little purpose. Clear evidence of a doorway was found in 106R90 leading from this northern room into a central east-west hall or corridor measuring about 8 feet in width. No evidence to suggest that this central hallway was closed in at either east or west end was identified, althought the brick flooring continued from the northern room, through the hallway and outside the structure, tying into the brick apron which appeared to surround the structure. The brick walls of this hallway were also plastered.

To the south of this central hallway was a room identical to that found in the north, again measuring 19 feet east-west by 16 feet north-south. As in the north room there is some evidence that the east and west walls were intended to be load bearing, being 15 inches in width and laid in English common bond, while the north and south walls were only 9 inches. This southern room was well preserved, evidencing a dry-laid brick floor, finely executed three coat plaster over the brick walls (with the plaster extending to the floor). Along the east wall was a chimney (Figure 56), with an opening measuring 3.5 feet at its mouth, 1 foot at the back, and 1.3 feet in depth. The fire place was floored in fired brick, although the hearth area was composed of three pieces of cut marl, covering an area nearly 2 by 6 feet. The fireplace evidenced plastering, with some inset material along the right and left sides now missing. Along the west wall of this room large amounts of marble, some evidencing decorative carving, and slate were recovered.

To the east and west of this southern room are two additional rooms, providing the "T" floor plan for the Shoolbred mansion. The eastern wing was explored through the excavation of 95R105, which recovered the northeast corner; 70-80R105, which invesigated the eastern wall and southeastern corner; 95R95, which identified the north wall for the wing and the northwest corner; and 85-90R90, which investigated the chimney. The west wing was less intensively investigated though the excavation of 95R70.

These two wings, while very similar, present some significant interpretative problems at the Shoolbred main house. Based on the east wing, they measure 15 feet east-west by 19 feet north-south, with all of the walls being 16 inches in width and laid in English common bond. In the east room there is evidence of brick flooring, identical to that in the central hall and the southern room. There is also a chimney opposite and just slightly to the south of that found in southern room, forming a double chimney. The opening measured 3.2 feet by 1.0 foot by 1.3 feet, nearly identical to that in the south room, although the east wing chimney did not have a marl hearth. In addition, it became clear that the east chimney had been added after the final construction of the wing, since the walls behind the fire box were plastered. A matching, single chimney is suggested for the western wing. Plastering in the eastern wing is a finely applied three-coat type, which apparently met a kick molding 6 inches from the floor.

Access to the east wing was by way of an opening on the north elevation, about 2 feet east of the open hall, under the porch overhang. Access to the west wing is less clearly established, but a burned timber found in the excavation of 95R70 suggests a similar arrangement. The reconstructed floor plan, therefore,

allows circulation from the north to south rooms, via a central open hallway or corridor, but acess to the wings could be achieved only by way of exterior doors. This reconstruction, of course, is applicable only for the basement level; no evidence is available, outside of the 1870 painting, which would allow any hypothesized floorplan to be constructed for the upper stories. The basement represents approximately 1330 square feet, including the open hallway or corridor.

What was originally thought to be a remnant of brick flooring spanning this room east-west, was found upon further investigation to represent a massive east-west wall segment which was not tied into the eastern wall of the wing. The purpose of this wall segment could not be determined from these investigations. It may represent an earlier, and otherwise undetected building episode; it may represent a change in plans by the builders; or it may represent a load bearing support for some overhead feature which cannot be identified from the archaeological remains. This eastern wing, constructed on sloping ground, clearly presented some signifant problems to the builders, who brought in rubble and soil to level the floor (for the western wing clean yellow sand was used).

Along the outside eastern wall of the east wing is a brick drain (Figure 54) that runs downslope from the northeastern corner of the room south for at least 15 feet beyond the southeastern corner of the structure. This drain consists of stretchers laid on edge to form the western edge and bricks laid flat to form the bottom of the drain. Along the exterior (i.e., eastern) edge, bricks were laid flat to the corner of the wing, where the builders switched to stretchers laid on edge. Such drains tend to be found in the eighteenth century, but continued into the nineteenth century as evidence of a craft tradition in building. Fill in the drain consisted entirely of burned materials and rubble, including a large quantity of nails and architectural hardware, indicating that until the destruction of the house this drain had been kept clean.

38CH129-2

A total of 20 units (three 10-foot squares, 13 5 by 10 foot units, and four 5-foot units) were excavated by Chicora at 38CH129-2 (Figure 57). Twelve (550 square feet) of these units were placed to examine architectural remains, while an additional eight units (500 square feet) were placed to examine related yard areas.

These excavations revealed the brick foundation for a structure measuring 44 feet north-south by 32 feet east-west. No evidence for internal supports or partitioning was observed, nor was there evidence for any chimney features. The foundation, 15-inches in width and laid in English common bond, with a footer, is capable of supporting at least a story and a half, and quite probably a two to two and a half story building (Figure 58). These investigations, however, found no evidence that the basement functioned as a half story and it is likely that the foundation incorporated a sill and joists for the first floor slightly above ground level. No evidence was found which would point to, or rule out, a second story. Architectural hardware, excepting cut nails, is exceedingly sparse in the structure, as is window glass.

The brick "stoop or narrow patio" identified by Poplin's test excavations was found to be a dry laid brick drain (Figure 59), identical to that found at 38CH129-1, running along the southern wall of the structure. This drain, although robbed from the northern elevation and partially robbed along the southern wall, confirms the existence of a gable roof. Occasional fragments of slate at the site suggest that 38CH129-2, like the main house, originally had a slate roof.

Artifacts, excluding architectural items, are uncommon. Some indication of late nineteenth century materials (such as manganese glass) were found, usually associated with the upper level of Zone 1. These materials are attributed to the

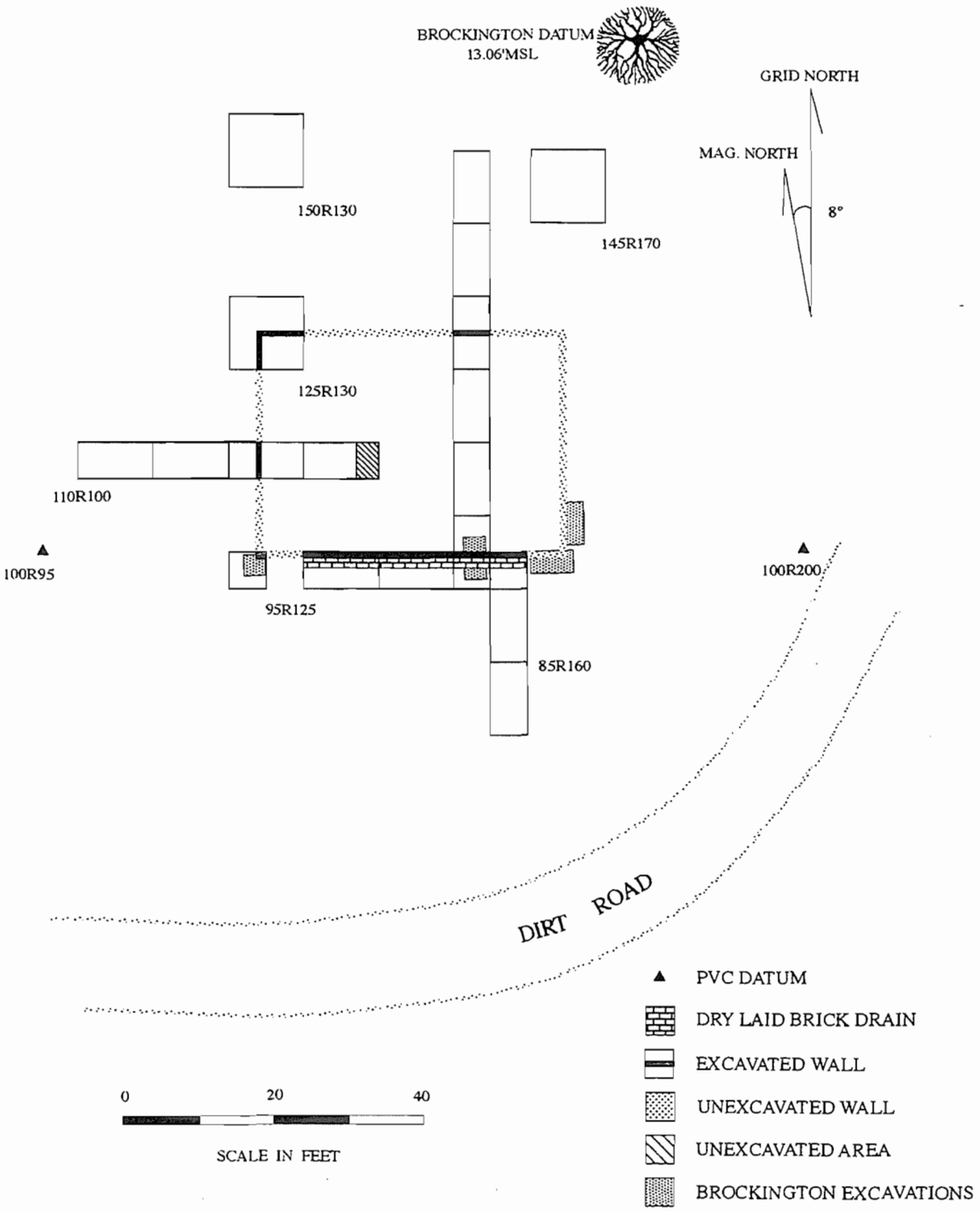


Figure 57. Site 38CH129-2.

Figure 58. Excavation in the interior of 38CH129-2, view to the southwest.

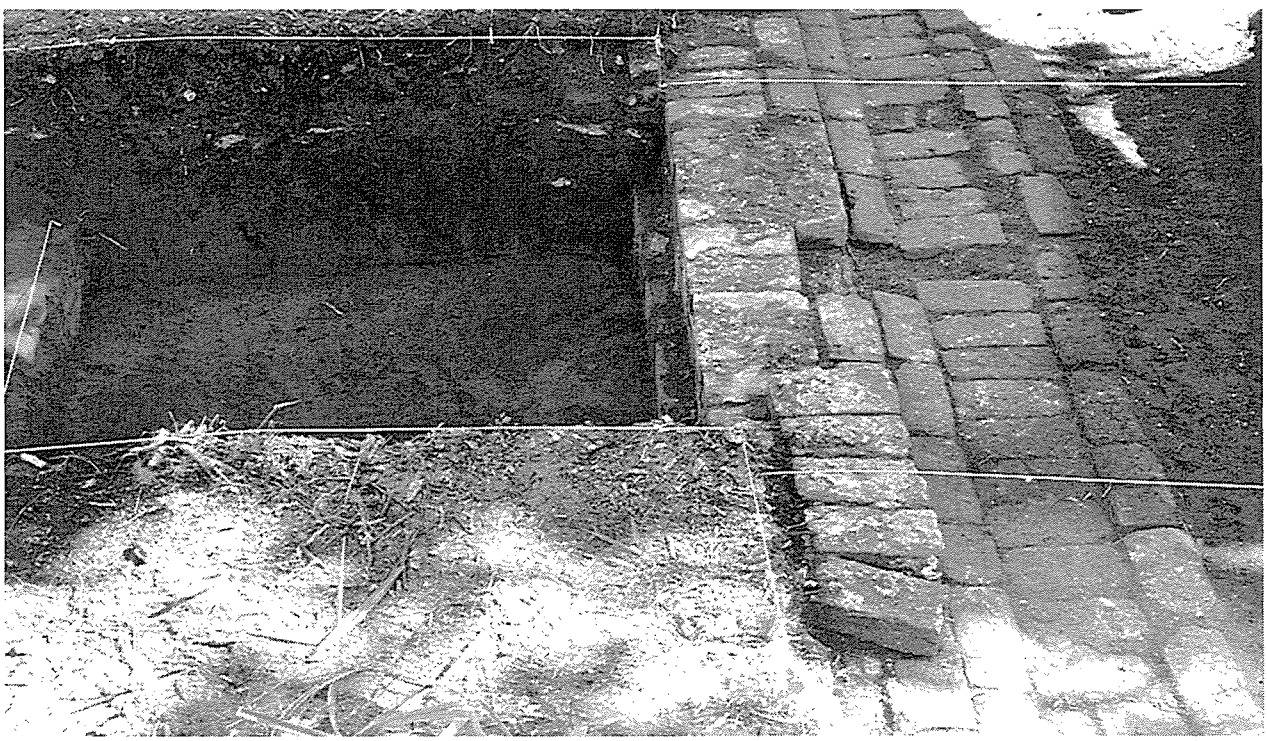


Figure 59. Drain and south wall of 38CH129-2, view to the east.

various robbing episodes rather than the use of the structure. Likewise, material remains in the yard areas are exceedingly sparse, suggesting that this structure was not domestic. However, there appears to be no significant quantity of Activities Group artifacts (such as stable/barn hardware or tools) which would be expected at a barn or similar utilitarian structure. The artifact assemblage appears appropriate for a context of agricultural product storage.

38CH129-3

A total of 15 units (one 10-foot square, 12 5 by 10 foot units, and two 5-foot units) were excavated by Chicora at 38CH129-3 (Figure 54). All of these units were placed to examine architectural remains.

These excavations revealed the brick foundation for a structure measuring 34 feet north-south by 22 feet east-west (Figure 60). No evidence for internal supports or partitioning was observed, although the thourghly robbed remains of a central brick chimney were found. It is estimated that the base for this chimney covered an area measuring approximately 10 feet east-west by 4 feet north-south. The foundation is completely robbed out, with the exception of a small section along the south wall in 80R50. In that unit excavations revealed a 15 inch wall of English common bond laid on a footer about 18 inches wide. A narrow builder's trench was associated with this wall section. Based on the painting of the Shoolbred house, the flanker was at least two-stories in height. It is likely, based both on the archaeological evidence and the painting, that the foundation incorporated a sill and joists, raising the first floor slightly above ground level.

A covered brick drain (Figure 61) ran under the southern wall of the flanker at a northwest-southeast angle. This drain is 1.3 foot deep and about 0.6 foot wide, originally capped with brick. The walls of the drain are four courses high, with bricks laid perpendicularly over the top. The fill contained sparse remains, including wood, animal and fish bone, and egg shell. Clearly pre-

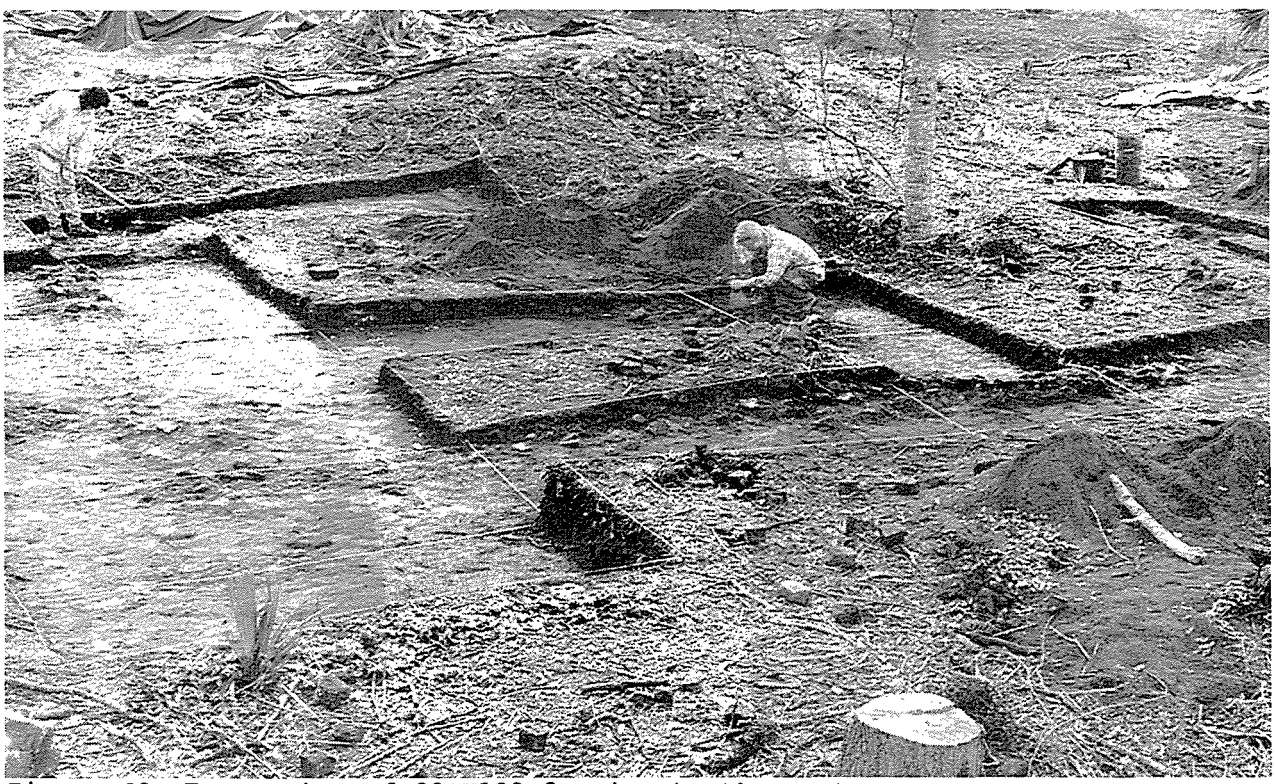


Figure 60. Excavation of 38CH129-3, view to the west.

Figure 61. Unit 80R40, showing standing wall and drain, view to the east.

Figure 62. Shoolbred well.

dating the structure, this drain is thought to be associated with the drainage system of the main house and general yard area (the slope of this drain is from west to east).

The eastern wall of the flanker, in unit 100R50, revealed two east-west wall segments. The north wall corresponds with the posited locations of a porch support on the main house. The south wall is about 2 feet north of the posited north wall of the west flanker. These walls apparently tied the flanker into the main house structure, although the exact nature of these architectural features could not be examined in the time available. The current reconstruction places the west flanker within 3 feet of the main house. If symetry is assumed, this proximity may help explain the imporance, and unusual construction features, of the brick drain identified along the east edge of the east main house wing.

While the 1870 painting shows a flanker with a three bay fascade and with a long dimension oriented east-west, the archaeological investigations at 38CH129-3 clearly reveal a rectangular structure with its long axis oriented north-south. The presence of a central chimney is consistent with the painting and suggests at least two rooms. The west flanker had just under 750 square feet per floor.

Interpretations

These excavations have explored a relatively small fragment of the late eighteenth and early nineteenth Shoolbred "New Settlement." Identified and investigated by this study are the main plantation house (38CH129-1), the west flanker (38CH129-3), and a probable cotton store house (38CH129-2). These appear to be three of the eight structures shown in the 1870 painting of the Shoolbred plantation. While there are strong correlations between the painting and the architectural remains uncovered during these excavations, there are numerous questions concerning the structures which cannot be answered. For example, at the main house, how were the porch and north facade arranged, how was the southern facade organized, what was the internal organization, how was circulation in the structure achieved, what was the relationship of the main core to the flankers, and what are the precise dates of construction and/or renovation.

We have achieved the goals of documenting a significant portion of the main structure and have revealed evidence of very elaborate architectural detailing such as the marble floors and decorative elements. In addition, we have been able to speculate on both the evolution and devolution of the house. No clear archaeological features have been identified which would indicate either an earlier structure in this area, or a phased construction. The east-west wall in the eastern wing was unexpected, but insufficient information is available to allow meaningful speculation. Brick sizes and colors, shell lime mortar, bonding patterns, and construction techniques all appeared consistent throughtout the excavations. The structure exhibits evidence of skilled laborers, but not craftsmen. Intricate corners are thrown together, forming a coherent whole, but lacking the refinement and detail expected in a craft tradition. Likewise, the plan suggests some knowledge of archtitectural traditions and themes, but not careful adherence to any one particular plan.

At the ground level the structure appears to have a "T" plan with two rooms measuring about 16 by 19 feet separated by a central hall about 8 by 19 feet. Each of these rooms had a single fireplace situated on the eastern wall. The basement floors were originally paved in brick and one fireplace evidences a marl hearth. The wings each measure about 15 by 19 feet and may have been either one and a half or two and a half stories. The eastern wing had a fireplace on the west wall (adjoining the fireplace on the east wall of the central element) and it is probable that the west wing had a similar fireplace on its western wall. The basement floors of these wings have been leveled and are paved in brick.

There is evidence of a porch wrapping around the northwest, north, and

northeast sides of the structure, extending about 8 feet from the house and tying into the two wings. There is evidence, largely incomplete and difficult to interpret, of a staircase on the north elevation. At the south there is evidence of a narrower porch situated between the two wings, extending outward about eight feet. Although no in situ evidence of stairs on this south elevation were found it seems logical that they existed. It ispossible, based on similar architectural styles, that the "front" of the structure faced north toward the Kiawah River, with Bass Creek being toward the rear. There is strong archaeological evidence, however, that both the north and south elevations were given equal, although different, treatments.

The disolution of the structure can also be seen in some detail in the archaeological record. There is evidence of very limited salvaging (i.e., removal of door knobs and some brick floors) before the structure burned. Afterwards there is evidence of renewed, and intensive, attempts at salvage culminating in efforts simply to remove large portions of the structure, possibly to allow easier cultivation. This salvaging, however, was directed only at the recovery of brick -- there is little or no evidence for the salvage of architectural hardware.

The limited excavations around the main house have revealed relatively clean yard areas, confirming the 1870 painting's dipection of formal garden areas surrounding the structure. The intricate drains, taken with the brick apron around the house, evidence further efforts to control and alter the landscape of the plantation complex.

The west flanker (38CH129-3), previously unidentified by survey work, was found during the archaeological investigations of the yard area and extensively examined. This structure shows more divergence with the 1870 painting than either of the other investigated structures. While having a central chimney, the structure's orientation requires the gable ends of the roof to face north and south, rather than east and west as shown in the painting. This also results in a noticable change in proportions. Further, the flanker is within feet of the main structure.

Although no work was conducted on the east flanker (38CH129-5), concentrations of brick rubble and probing in the area suggest a very similar, if not identical, arrangement. The drain found along the exterior edge of the east wing may have been necessary to carry water away from the narrow amount of ground between the flanker and the wing.

The eastern most structure shown in the Drayton painting appears to be that uncovered at 38CH129-2. It represents a relatively large and massively constructed storehouse, possibly for cotton. The construction details, including bricks, mortar, bonding patterns, and so forth, are all similar to those found at 38CH129-1 and 38CH129-3. There is no reason to doubt that the structures are roughly contemporaneous.

The western most structure (38CH129-4), while not clearly identified archaeologically, is certainly located in the immediate vicinity of 38CH124 (see the discussion of historic artifacts at 38CH124). Both Michie (1979) and Poplin (1989) found historic materials in this area, although the previous work failed to identify historical sources, or conduct sufficiently intensive testing to reveal the nature and extent of the historic component. Although these current investigations do not incorporate these remains into the research, it seems likely that 38CH129-4 represents an overseer's structure. While Michie (1979:81-82) provides very little information on the historic materials recovered, the remains appear to be of relatively middling status. In addition, they appear to span a longer time period than the main house. Brick debris recovered from the area appears to be identical to that associated with 38CH129-1 and 38CH129-2, suggesting contemporaneous construction.

The structure identified only as 38CH129-8 appears, based on surface examinations, to represent a stable or similar utility building. Present are brick remains, slate, marble, nails, and occasional fragments of utilitarian metal artifacts. Ceramics and other domestic refuse were not found.

The structure lying between the posited cotton stordehouse (38CH129-2) and the eastern flanker (38CH129-5), has been identified only on the basis of brick rubble, artifacts, and marble fragments found on the surface just east of the Shoolbred cemetery. This structure, identified as 38CH129-6, appears to have contained very similar architectural remains and to have dated from the same construction episode.

No evidence of the waterfront pavilion shown in 1870 painting were identified during the survey by Poplin (1989). The majority of the main plantation complex was not incorporated into this study. Likewise, the well associated with the plantation complex was not investigated and is being greenspaced by Kiawah Resort Associates.

Analysis of Material Culture

Introduction

The 1990 and 1991 excavations at 38CH129 have produced 23,943 historic period artifacts, the bulk of which date from the late eighteenth through mid-nineteenth centuries. All of these remains are attributable to those living at Shoolbred Plantation or to Civil War activities taking place in the area.

The investigations at 38CH129 intensively examined three structures. We have chosen to discuss the remains in one section, in spite of their dispersed distribution. Following the descriptive statements, we have dealt with the topics of dating, patterns, and status and in each case we offer these observations by structure, as appropriate.

The previous excavation section provides a thorough discussion of the various units and features and should be consulted for detailed information. These data, however, are synthesized here for the convenience of those using this section:

38CH129-1 (1175 square feet) - These units explored the architectural details associated with the Shoolbred Plantation house. Excavations revealed a complex floorplan with evidence of brick drains and alterations.

38CH129-2 (1050 square feet) - These explored a probable cotton storehouse associated with Shoolbred Plantation. Here, similar architectural features were used, such as a brick drain.

38CH129-3 (750 square feet) - These units examined architectural details associated with a structure which flanks the Shoolbred house to the west. Evidence was found for a central brick chimney and a breezeway or connector to the main house.

Descriptions and Interpretations

The 23,943 historic artifacts from the 38CH129 excavations will be discussed using South's (1977) artifact groups (e.g., kitchen, architecture, etc.) since such an approach allows the quantification and discussion of artifacts in a broad functional framework. Several modifications of South's original classificatory scheme, however, are worthy of mention. First, following the lead of Garrow (1982b:57-66), Colono ceramics will be discussed with (and tabulated in) the Kitchen Artifact Group. In addition, the stub stem pipes have been included in the Tobacco Artifact Group (rather than in the Activities Artifact Group). While some of the artifacts which are not exclusively military

(such as glass and ceramic bottles) were in fact probably primarily deposited by troops, their association is not clear and were left in the Kitchen Artifact Group rather than moved to the Activities Group.

A large quantity of the historic artifacts from Shoolbred have required some form of conservation by Chicora prior to curation by The Charleston Museum, and these treatments have been previously discussed in detail in the **Research Strategy and Methods** section. No reconstruction of artifacts was attempted at this stage.

As previously discussed, the materials from the Kiawah investigations have been accepted for curation by The Charleston Museum as Accession Number 1991.8 and have been cataloged using that institution's accessioning practices (ARL 41174-41470, 41730-41772, 41778-41828, 41999-42001, and 41829-41998). Specimens were packed in plastic bags and boxed. All material will be delivered to the curatorial facility at the completion of the conservation treatments.

Kitchen Artifact Group

Excavations produced 3606 Kitchen Group artifacts. These include 1240 Euro-American ceramics (34.4% of the group total); 2 colono ceramics (0.05% of the group total); 2267 glass container fragments (62.9% of the total); 40 specimens of tableware (1.1% of the group total), including 14 tumblers, two goblets, one stemmed glass dish, and one unidentifiable glass vessel; and 57 kitchenware items (1.6% of the group total), including 48 container fragments, one can key, one fireback, one stove part, two fragments of a soapstone griddle, two iron utensil handle fragments, one bone utensil handle, and one bone handled two-pronged iron fork.

The ceramics include a variety of both eighteenth and nineteenth century wares. Those with mean ceramic dates (MCD) typical of the eighteenth century include 38 underglazed blue Chinese porcelain (MCD 1730; South 1977:210), three sherds of lead glazed slipware (MCD 1733; South 1977:211), two specimens of plain delft (MCD 1720; South 1977:212), and 106 specimens of creamware (South 1977:212).

The creamware is recognized by an off-white (cream colored) paste and a distinctive yellowish lead glaze which exhibits a greenish color where thickly puddled (Brown 1982:15-16; Norman-Wilcox 1965:139). Types identified include eight specimens of hand painted creamware (MCD 1805, with a range of 1790-1820; South 1977:212), and 98 examples of undecorated creamware (MCD 1791; South 1977:212).

The nineteenth century specimens include 52 specimens of pearlware, 166 examples of whiteware, and one sherd of yellow ware. In addition, gray or brown salt-glazed stonewares account for 76 specimens, and slip-glazed stoneware bottles account for 643 sherds. A total of 10 fragments of white porcelain were also recovered. Red earthenwares, which have a very long temporal range (see, for example, Lasansky 1979:6), account for an additional seven specimens and include clear, black and brown lead glazed, as well as unglazed examples. A total of 136 burnt ceramics were recovered from the site and further classified.

Pearlware, characterized by a cream colored paste and a blue to white glaze, was perfected by Josiah Wedgewood in 1779 (Noel Hume 1970:128; Price 1979; South 1977:212). The most common type at Shoolbred is undecorated (N=26), which probably represents fragments of an edge decorated ware and has a Mean Ceramic Date of 1805 (South 1977:212). Decorated pearlwares include two polychrome hand painted examples (MCD 1805; South 1977:212), one blue hand painted specimens (MCD 1800; South 1977:212), nine specimens of blue transfer printed pearlware (MCD 1818; South 197:212), one specimen of blue edged ware (MCD 1805; South 1977:212), and 13 examples of annular ware (MCD 1805; South 1977:212).

The annular decorated fragments suggest an earlier date range because of the earthen color palette (Noel Hume 1970:131; Price 1979:18). The blue transfer printed pearlwares are found primarily in a dark cobalt blue, as are the hand painted specimens. The polychrome hand painted pearlware specimens exhibit earthen colors (Noel Hume 1970:128-129; Price 1979:20-21).

The largest category of ceramics from 38CH129 consists of whitewares (N=166). The difficulty distinguishing between whiteware and ironstone has been discussed by South (1974:247-248), who uses an "ironstone-whiteware" category, and Price (1979:11), who uses a "whiteware" category which includes ironstone. Both researchers point out that differentiating between whiteware and ironstone using vessel hardness (or degree of vitrification) is an uncertain or even invalid approach (cf. Worthy 1982). For the purposes of this study, whiteware will encompass both categories of ceramics. In general, however, there are very few examples of ceramics which might be potentially classified as "ironstone" at Shoolbred.

Undecorated whiteware includes 69 specimens. Price notes that while undecorated whitewares "were probably introduced somewhat earlier [than decorated varieties], undecorated whiteware vessels were most common in the period following the Civil War" (Price 1979:22). It seems likely, therefore, than many of the fragments simply represent undecorated portions of decorated vessels.

Rather than using the broad category of "whiteware" for dating all specimens, regardless of decoration, we have chosen to use the dates offered by Bartovics (1978) and Orser et al. (1982). Plain whiteware has a Mean Ceramic Date of 1860 (South 1977:211). Other specimens include one polychrome hand painted example (MCD 1848), 24 blue transfer printed (MCD 1848), 52 non-blue transfer printed examples (MCD 1851), and five annular wares (MCD 1866).

Only two whiteware ceramics evidence legible marks. The first is printed with the decorative style "Emerald Flower." Nothing has been found to suggest who manufactured this style or when. The second is stamped "WARRANTED" which is commonly found on wares dating to the 1890s (Kovel 1986:234). Because this type was datable, it is listed for mean ceramic dating purposes as "Warranted" and given a mean date of manufacture of 1895.

Yellow ware, distinct from the yellow-glazed earthenwares of the eighteenth century, is a simple kitchen and table ware with a buff or yellow paste and a clear glaze (Ramsay 1947:7). It occurs both plain and with bands of white, blue, and black decoration. One specimen were recovered from 38CH129 and the Mean Ceramic Date is 1853 (Bartovics 1978). The example appears to be from American manufacturers, although it is not marked.

Two major categories of nineteenth century stonewares are present at 38CH129: salt-glazed (N=76), and slip glazed (N=643). Salt-glazing was introduced in England during the late 1600s, however, no eighteenth century example were recovered. The nineteenth century examples, however, are typically industrial, wheel-thrown pottery. A total of 76 examples were recovered. The process and types of salt-glazed pottery are described by Greer (1981:180-192). The texture of salt-glazing may vary from a very fine salt texture with a thin glaze to a well-developed "orange-peel" texture to an extremely heavy salt texture with runs and agglutinations. Colors, reflecting impurities in the clay, include gray, beige, and brown.

The last category, that of clay or slip glazes, includes only those pieces having no evidence of salt-glazing, e.g., Albany and Bristol slips. Greer notes that these slips were becoming significant by the beginning of the nineteenth century and the Albany slip was discovered in 1825 (Greer 1981:194). The 643 examples from 38CH129 are all stoneware bottle sherds, exhibiting an off white glaze with a yellow-ochre colored slip on the top half.

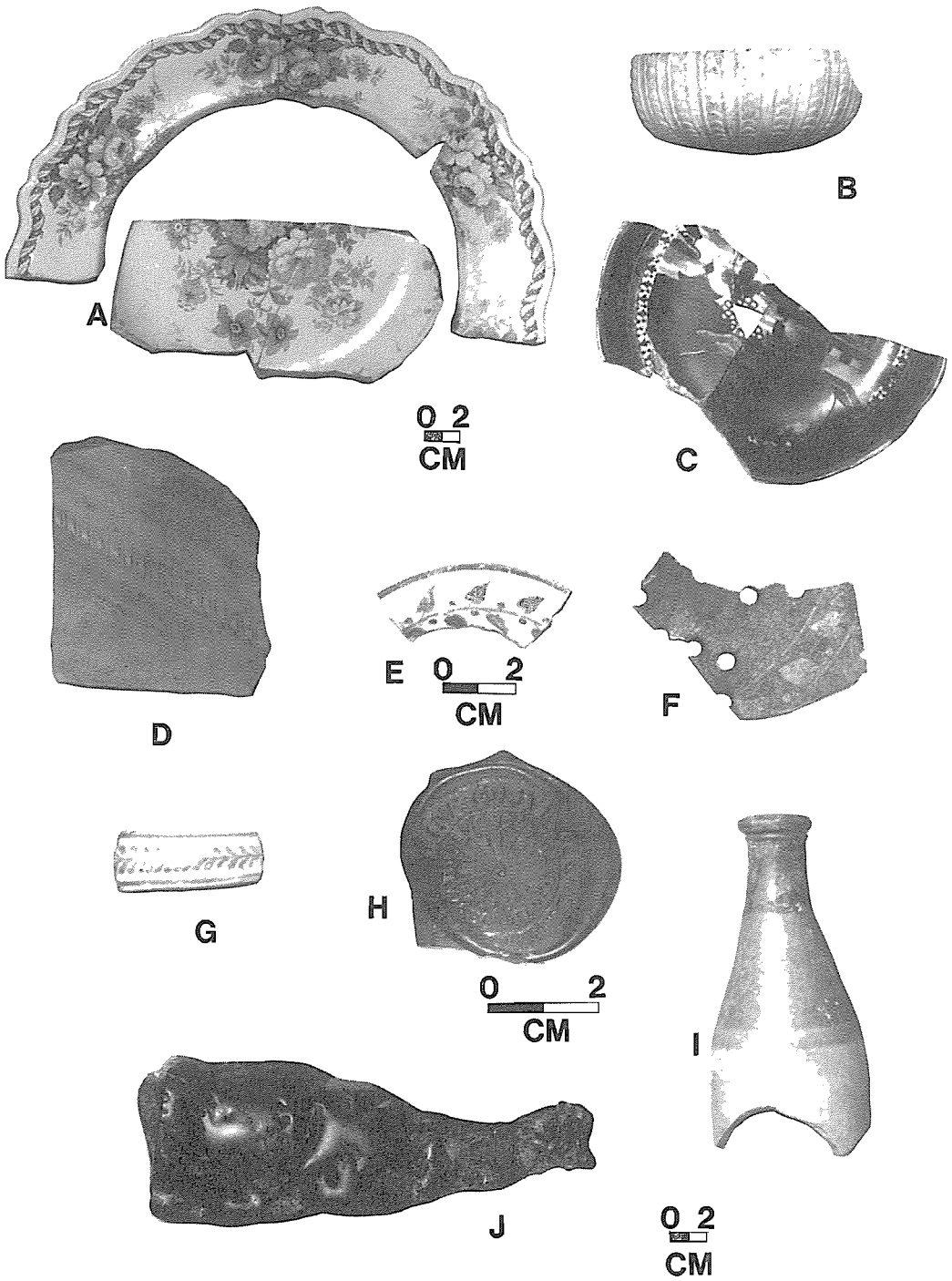


Figure 63. Kitchen Group artifacts from 38CH129. A, green transfer printed whiteware ("Emerald Flower" pattern); B, bisque porcelain; C, burnt gilt trim blue transfer printed whiteware; D, coarse redware; E, gilt whiteware; F, burnt earthenware colander fragment; G, blue hand painted pearlware; H, olive oil bottle seal; I, ginger beer bottle; J, melted ale bottle fragment.

Table 34.
Major Types of Pottery at 38CH129

Slipware	3	
Delft	2	
Creamware	106	
Pearlware	52	
Whiteware	166	
Yellow ware	1	
Red ware	7	
Total Earthenwares	338	30.6%
Salt-glazed	76	
Slip glazed	643	
Total Stonewares	719	65.1%
Underglazed Blue	38	
White	10	
Total Porcelains	48	4.3%

The major types of pottery from 38CH129 are summarized by Table 34. Stonewares are the most common, accounting for over 65% of the total collection. While this is uncommonly high for stonewares, the slip glaze wares may be attributed to the military activity taking place at Shoolbred Plantation. If the slip glazed wares are removed, then stonewares only account for 16.5% of the total collection. This results in earthenwares representing 73.2% of the collection, and porcelains representing 10.4% of the collection. This distribution seems more reasonable for a high status coastal plantation site.

Each of the structures have sufficient quantities of ceramics to warrant application of South's Mean Ceramic Date Formula (South 1977:217-218). The dates range from about 1806 to 1852 (Table 35).

Structure 129-1 yields a mean date of 1851.6 which is much later than the mean historic occupation of 1826.5 (1790-1863). However, removal of the ginger beer bottle fragments (attributed to the Civil War vandalism of the plantation) yields a mean date of 1823.6, very close to the anticipated mean historic date. Structure 129-2 yields a mean date of 1831.7, and Structure 129-3 yields a mean date of 1806. While this latter date is early, it may be that the structure changed in function which could account for the lack of later period ceramics.

The sherds of Colono pottery bear special, if only brief, attention. The most cogent published discussion of these wares is provided by Wheaton et al. (1983:225-250), who suggest that the low-fired earthenwares were produced by black slaves for their own use. Pottery called River Burnished or Catawba is similar and was produced by Indians for sale or trade (see also Ferguson 1985). While there are a number of attributes separating the two wares, thickness and paste are of primary utility given the small specimens from 38CH129. The Colono sherds tend to be thicker and have a coarser paste than the Catawba or River Burnished pottery, which is very similar to the paste of modern or dated Catawba vessels.

Wheaton et al. (1983:225, 239) note that Colono pottery appears late in the seventeenth century, peaks in popularity (or at least abundance) during the eighteenth century, and appears to die out by about 1830. Research at the freedmen's village of Mitchelville on Hilton Head Island, however, found evidence of Colono pottery occurring into the third quarter of the nineteenth century (Trinkley and Hacker 1986:232). At 38CH129 only two sherds of low-fired earthenware were recovered, and both are all typed as Colono.

The next collection to be considered in the Kitchen Artifact Group is the container glass. A total of 2,267 fragments were recovered, most of which were burned. In addition, 4,860 sherds of melted aqua colored glass were recovered, but they have not been included in the totals because many may actually represent window glass. Of the 2,267 bottle or container fragments, 1706 (75.3%) are an olive green color (appearing black in reflected light), 52 are unmelted aqua

Table 35.
Mean Ceramic Dates for 38CH129

		38CH129-1		38CH129-2		38CH129-3	
Ceramic	Mean Date (xi)	(fi)	fi x xi	(fi)	fi x xi	(fi)	fi x xi
Underglazed blue porcelain	1730	36	62280	1	1730	1	1730
NA salt glazed stonewares	1866	53	98898	19	35454	4	7464
Slip glazed stoneware bottles	1860	643	1195980				
Lead glazed slipware	1733	2	3466	1	1733		
Plain Delft	1720	2	3440				
Creamware, hand painted	1805	5	9025			3	5415
undecorated	1791	13	23283	67	119997	18	32238
Pearlware, poly hand painted	1805	1	1805	1	1805		
blue hand painted	1800					1	1800
blue trans printed	1818	1	1818	8	14544		
edged	1805	1	1805				
annular	1805	3	5415	9	16245	1	1805
undecorated	1805	2	3610	9	16245	15	27075
Whiteware, poly hand painted	1848			1	1848		
blue trans printed	1848	5	9240	18	33264	1	1848
"Warranted" ware	1895			15	28425		
non-blue trans	1851	50	92550			2	3702
annular	1866	2	3732	3	5598		
undecorated	1860	16	29760	53	98580		
Yelloware	1853			1	1853		
Total		835	1546107	206	377321	46	83077
MCD		1851.6		1831.7		1806.0	

(2.3%), 350 (15.4%) are clear, 116 (5.1%) are green or light green, with the remainder (2%) including brown, manganese, and blue.

The "black" glass fragments are typical of wine or ale bottles. Bottle fragments with thicker walls, gentle lines, and kick ups are attributed to champagne, wine, or brandies, while those with thinner walls, pronounced shoulders, and flat bases are characteristic of stout or ale. Examples of both are found at the site, although it is impossible to exclude the bottles' use for other purposes after the original contents were consumed. In addition three black glass bottle seals were recovered. One reads "WASHINGTON MORTON/BORDEAUX/BEST/OIL", the second reads "FINE OLIVE OIL/NARTGUE & BIGOURDAN/BORDEAUX/[R]ARIFIED", and the other seal is illegible. Seals such as these are most often found on bottles dating prior to 1840 (Hume 1978:62). The minimum vessel count is 50.

The green and light green glass collection appears typical of non-alcoholic soda (and possibly mineral) water. Bottle necks and lips suggest cork closures. These bottles date from the mid-nineteenth century, with their popularity in

Charleston, South Carolina, at its height from the late 1840s through the late 1880s. The minimum vessel count for these bottles at 38CH129 is one (which clearly under-represents these containers).

Six examples of clear or aqua panel bottles were recovered. These bottles probably contained proprietary or "patent" medicines. While these concoctions frequently contained a high percentage of alcohol, Wilson notes that it would be a mistake to assume these preparations were primarily consumed for their alcohol. He notes that nineteenth century living conditions were such that there were a "plethora of fevers and aches" to which proprietary medicines were routinely applied (Wilson 1981:39). That these "medicines" were frequently used as intended is evidenced by Cramp (1911, 1921, 1936).

Two examples of possible whiskey bottles were also identified in the collection. Whiskey was usually transported in barrels or kegs and repackaged by the local vender in glass containers (Wilson 1981:13-14). Whiskey bottles might be colorless, amber, or occasionally brown and came in a variety of sizes and shapes (see Wilson 1981:16).

The excavations at 38CH129 have produced a minimum of two clear glass jars in the collection. One aqua flask, one aqua octagonal-sided vessel, and one clear vessel with a pressed diamond pattern are also in the collection. The remainder of the glass collection consists of five clear bottles, one manganese bottle, three aqua bottle, all of unknown functions. It is possible that the clear glass bottles include food or condiment containers. The various containers are itemized by structure in Table 36.

Table 36.
Glass Containers (MNI) Recovered from 38CH129

Vessel	38CH129-1 #	38CH129-2 #	38CH129-3 #
Black wine/ale	41	7	2
Green soda		1	
Clear/Aqua panel	6		
Whiskey	2		
Jars			2
Aqua flask		1	
Aqua octagonal		1	
Clear, pressed diamond		1	
Clear, cylindrical	2	2	1
Manganese, cylindrical			1
Aqua, cylindrical	1	1	

The drinking containers from 38CH129 consist of 14 tumbler fragments recovered representing a minimum count of 14 tumblers. These vessels include 11 plain clear glass examples, and three paneled examples. Two goblets were also represented in the collection. One was plain, while the other exhibited continuous fluting from the stems to the body. Thirteen fragments of one stemmed cut blown glass dish or bowl were recovered. One ribbed vessel was also found, although its form is unknown (Table 37).

Table 37.
Other Glass Vessels (MNI) from 38CH129

Vessel	38CH129-1 #	38CH129-3 #
Tumblers, clear, plain	1	10
Tumblers, clear, paneled		3
Goblets, clear, plain		1
Goblets, clear, fluted		1
Dishes/Bowls, clear, cut	1	
UID, clear, ribbed		1

Kitchenware items include one iron fireback and one iron stove part from 38CH129-1, two iron utensil handles from 38CH129-2, one bone utensil handle, and one bone handled 2-pronged iron fork, both from 38CH129-3. The utensils represent primarily common, iron utensils of mass production which were inexpensively available. The bone handled utensils are the only exceptions. The fire back was intended ot reflect heat and protect the back of the fireplace from severe heat. Stoves date from the late eighteenth century and were well developed by the 1840s (Eveleigh 1983).

Tin or light gauge iron containers are evidenced at 38CH129 by the recovery of 48 fragments from 38CH129-2. All appear to represent cans. One has a hole in cap closure and a flanged end. Rock (1984) states that these cans were available by 1847 and were common until the 1880s. This can has a diameter of 4 1/4". One can lid contained stamped lettering with the words "REFINING CO[MPANY]". Also recovered at this location was a can key. Key-wind opened containers were manufactured from 1866 on (Rock 1984).

Architectural Artifact Group

Excavations at 38CH129 produced 19,217 Architectural Group artifacts (Table 38). These remains include primarily nails (N=16753 or 87.0% of the group total). Other remains include 2324 fragments of glass, 129 construction hardware and door lock fragment items, and 18 spike fragments. Not included in the totals, but briefly discussed in this section, are examples of marble, marl, slate, Portland stone, and brick.

Two types of nails have been recovered from 38BU96 -- hand wrought (N=4737 or 24.6% of the recovered nails) and machine cut (N=5842 or 30.3% of the recovered nails). The remainder were unidentifiable. The hand wrought specimens, which range in size from 2d to 40d, date from the seventeenth through nineteenth centuries, with the peak popularity during the eighteenth century (Nelson 1968). The shanks are rectangular in cross-section and both round "rose head" and "T head" examples are found. While these two head patterns did serve different functions, it seems likely that they were used interchangeably at 38CH129. Only 3126 (66%) are sufficiently intact to allow penny weight measures.

"Modern" machine cut nails account for the majority of the collection, although only 2058 (35%) are sufficiently intact to allow penny weight measures. These nails were first manufactured in the late 1830s and have uniform heads and shanks with burrs on the edges (Nelson 1968:7; Priess 1971:33-34).

In addition, 33 wire nails were recovered. One 4d, one 7d, one 9d, and seven 10d nails were represented. These nails, which were widely used by the 1880s (Nelson 1968), post-date the occupation of the main house and the flanking structure. These specimens, all of which came from 38CH129-2 (the barn), may indicate the structure's use through the late nineteenth century.

Because different size nails served different self-limiting functions, it

is possible to use the relative frequencies of nail sizes to indicate building construction details. Nails were early designated by their penny weight, which compared the weight of a nail to that of a silver penny. Gradually the term came to designate length rather than weight, but the equivalence varied over time and it was not until the 1890s that penny weights were thoroughly standardized (Orser et al. 1982:675). To avoid confusion, Table 39 lists both the penny weight size and the Standard Average European (SAE) size for the nails which were sufficiently complete for analysis.

Table 39, however, provides only limited information, revealing peaks at 3d and 7-9d sizes in 129-1, a significant concentration of nails in the 4d to 6d size at 129-2, and a peak at 6d for 129-3. One of the commonly accepted rules in nail length is "to have the nails a full three times as long as the Sheathing Board is thick" (Bettesworth and Hitch 1981:2:n.p.). Within certain broad limits the size of nails used to perform a certain task is flexible, depending on the craftsman and the supply of nails. This variation is reflected in Orser et al. (1982:677). A rough guide, however, is provided by Table 40.

Table 38.
Architectural Artifacts from 38CH129

	38CH129-1	38CH129-2	38CH129-3	Total
Wrought nails	3002	48	76	3126
Wrought nail frags	1573	26	12	1611
Cut nails	992	272	794	2058
Cut nail frags	2126	533	1125	3784
Wire nails	0	10	0	10
Wire nail frags	0	23	0	23
Unidentifiable nails	5228	400	512	6140
Spikes	10	8	0	18
Window glass	719	103	1502	2324
Construction hardware	53	5	20	78
Door lock frags	35	3	7	45

Table 39.
Intact Nails from Structures 129-1, 129-2, 129-3
at Shoolbred Plantation

		38CH129-1		38CH129-2		38CH129-3	
Penny Weight	SAE	Wrought	Cut	Wrought	Cut	Wrought	Cut
2d	1"	476	0	3	4	9	15
3d	1 1/4"	964	27	5	11	30	75
4d	1 1/2"	206	42	15	53	4	39
5d	1 3/4"	65	161	7	48	5	28
6d	2"	80	155	3	119	8	278
7d	2 1/4"	321	110	2	8	6	46
8d	2 1/2"	190	131	3	8	3	63
9d	2 3/4"	158	93	4	8	2	70
10d	3"	318	121	1	7	3	58
12d	3 1/4"	223	50	3	1	5	36
16d	3 1/2"	24	97	1	4	1	71
20d	4"	4	4	1	1	0	15
30d	4 1/2"	2	1	0	0	0	0
40d	5"	1	0	0	0	0	0

Table 40.
Probable Function of Intact Nails for
Structures 129-1, 129-2, and 129-3 at Shoolbred Plantation

	129-1		129-2		129-3	
Function	#	%	#	%	#	%
Small timber, shingles (2-5d)	1941	48.2	143	45.1	205	23.6
Sheathing, siding (6-8d)	987	24.5	143	45.1	404	46.4
Framing (9-12d)	963	23.9	24	7.8	174	20.0
Heavy framing (16-50d)	133	3.3	7	2.2	87	10.0

Structure 129-1, attributed to the late eighteenth century, evidences a distribution of nails which appears typical for architecture during that period. The majority of the nails served roofing and finishing purposes with a smaller amount for sheathing and siding. The large quantity of small nails is consistent with a high status site where there was much fine architectural detail. A small amount were used for framing or heavy framing, which suggests pegged construction. This is consistent with the late eighteenth century construction date.

Structure 129-2 contains a distribution of nails that is relatively consistent with its posited non-domestic function. Few framing or heavy framing nails were found, suggesting pegged construction. The remaining nails are evenly distributed between roofing and finishing purposes and sheathing and siding. This suggests that the barn was well built and well roofed. This conclusion, as well as the field interpretation of the structure containing a raised floor, is consistent with its posited function as a cotton storage barn.

Structure 129-3 contains a majority of sheathing and siding nails, with most of the remaining nails function as roofing or finishing nails and framing nails. The reason for such a distribution of nails is unclear, however it does seem to indicate that fine detailing work was not as prevalent as in the main house.

It is interesting to note that 75.2% (N=3002) of the measurable nails from 129-1 are wrought, while only 14.5% (N=48) and 8.7% (N=76) at Structures 129-2 and 129-3, respectively, are wrought. This would suggest an earlier construction date for 38CH129-1, based on the prevalence of wrought nails, although other lines of dating, such as the mean ceramic date, provide very different results. It seems likely that the occurrence of wrought nails may be more related to function and/or availability, than to temporal period of use.

The category of window glass includes 2324 fragments of primarily light green rolled glass. These specimens were classified as window lights based on thickness, degree of clarity, color, and lack of curvature. A large number of melted aqua colored glass was recovered, of which some may be architectural (see Kitchen Group discussion). These were not included in totals due to their unknown function. Of this collection 30.9% (N=719) come from 129-1, 4.4% (N=103) from 129-2, and 1502 (64.6%) are associated with 129-3. The paucity of window glass from 129-2 is consistent with its non-domestic function.

Previous work in the region (see, for example, Trinkley and Hacker 1986:241-242 and Michie 1987:120-130) has attempted to use window glass thickness to determine the mean construction dates. The major shortcoming of this technique is that the regression formulae have a number of correction factors (for a detailed discussion see Adams 1980 and Orser et al.1982). Studies by Jones and Sullivan (1985) have cast doubt on the validity of this dating technique. They comment that, "the very nature of window glass suggests that one should take great pains to avoid using it for dating except under special circumstances" (Jones and Sullivan 1985:172). Based on this advice and the generally poor

results obtained in previous studies, no effort has been made to date the recovered window glass from 38CH129.

The 18 spikes recovered from the site are fragments found at structures 129-2 and 129-3. The category of construction hardware is summarized in Table 41 and door lock parts in Table 42.

Of the 29 strap hinge and strap hinge fragments four have been found, during conservation treatments, to be impressed with what may be blacksmith marks. These marks are "RJ" or "RT", "IM" (two hinges), "RW" and "JR". All but one are the hinge and pintle type. The remaining is a plain cross-garnet hinge typical of the late 18th century (Streeter 1974:11). While no record of similar marks has been found, Garvin (1976) notes icon marks on wrought bars used as

Table 41.
Construction Hardware from 38CH129

Item	129-1 #	129-2 #	129-3 #
Strap hinges and fragments	24	1	4
Pintles (inc. those found with strap hinges)	7	0	6
HL hinges	7	0	1
Butt hinges and fragments	5	0	0
Skew hinge cast butt	3	0	0
Skew joint butt hinges	0	0	2
Hinge hooks	1	0	0
UID hinge part	1	0	0
Shutter catches and fragments	3	3	3
Shutter ring pull clinch	0	0	1
Shutter staples	4	0	1
Lead caning	0	0	2
Window sash pulleys	0	0	1
Inside corner brace	1	0	0
L-brace	1	0	0

lentels. Somewhat similar marks have also been found on the iron stirrups of roof trusses (Anonymous 1975).

Door lock parts are listed in Table 42. These consist of a variety of locks and latches including slide bolt locks, rimlocks, Suffolk and Norfolk latches, thumb latches, and door knobs. Both Suffolk and Norfolk latches are thumb latches; however, Norfolk latches have a full-length mounting plate, whereas the Suffolk latches are mounted on cusps which are an extension of the handle (Streeter 1971:12). Thumb latch parts that did not include diagnostic parts were simply called thumb latches.

The majority of lock parts came from 129-1, the main house. These consist primarily of slide bolts which were probably used on shutters although they could have been used on doors. Four slide bolts were also found at 129-3, the flanking structure. The lack of slide bolts at 129-2 indicates a structure with few, if any, windows, further indicating its function as a support building. The complexity of architectural features at 129-1 explains the large quantity of door lock parts, hinges and pintles found there. The size of the structure at 129-3 as well as the lack of interior foundation supports suggests that it contained only a few rooms that had doors requiring latches or locks.

A few statements can be made about the datability of the architectural

hardware from 38CH129. Both Suffolk and Norfolk latches were introduced at about the same time. The cast iron latches may have been produced before the end of the eighteenth century, since cast iron butt hinges were being made in relatively large numbers by 1780; and a jointed hinge calls for technology equal to the thumb latch. Thumb latches have been documented back to the first decade of the nineteenth century where they were advertised as available with cast or wrought plates. The cast iron latches were cheaper, but apparently did not drive the wrought variety out of use as the cast iron butt hinge did the HL hinge (Streeter 1971:12-17). HL hinges were manufactured as early as the late 17th century. These early ones had ground surfaces, beveled edges, and the nail holes were staggered. The HL hinges at 38CH129 are of late eighteenth/early nineteenth century manufacture. The surfaces are untreated and the nail holes are aligned and less numerous (see Streeter 1983:6). Skew joint hinges, which had the joints filed sloping so the door would rise as it opened and would be self closing, were manufactured by the late eighteenth century (Streeter 1973:23).

The cast iron butt hinge, invented in 1775 in England, was being manufactured in the United States by 1815, if not earlier. At this point the HL hinge was driven out of use (Streeter 1973:47-49). The dominance of HL hinges over cast butt hinges at 38CH129 is consistent with the late 18th century construction date. They may reflect repair or reoplacement parts added to the building's fabric over its approximately 60 year life span.

Table 42.
Door Lock Parts from 38CH129

Item	129-1 #	129-2 #	129-3 #
Keyhole surrounds	0	0	1
Suffolk latch parts	0	0	2
Norfolk latch parts	3	0	0
Slide bolts and slide bolt back plate fragments	11	0	4
Rimlocks and rimlock parts	3	0	0
Door latch fragments	0	1	0
Brass door stop	0	1	0
Door lock escutcheon	2	0	0
Brass door pull	3	0	0
Lock strike	1	0	0
Lock boxes and lock box fragments	9	0	0
Thumb latch fragments	2	0	0
Tumble for door lock	1	0	0
Iron/Brass door knob fragments	3	0	0

In addition to these metal architectural items, a number of other artifacts were collected consisting of brick, marble, marl, Portland stone and slate. While not all of these artifacts found at the site were not saved, they were weighed and samples of the various types of items were collected. The work at 38CH129-1 resulted in the movement of nearly 35,000 pounds of brick and mortar rubble, the work at 38CH129-2 moved 13,992 pounds, and at 38CH129-3 3,792 pounds of brick were moved. Marble from 38CH129-1 weighed 380 lbs., while none was found at the other two locations. Figure 65 shows the distribution of marble at 38CH129-1, illustrating that the majority of it was found in the vicinity of fireplaces or near the stair supports.

Structural or fired brick measured 9 x 2-2½ x 4-4¾ inches. Three examples of "altered" brick were recovered. One fragement appears to evidence a "frog," or depression which provided a key for the mortar (Gurcke 1987:112). The other two appear to be examples of rubbing bricks, or "rubbers." These were bricks, typically soft with a high proportion of sand, which could be rubbed or carved

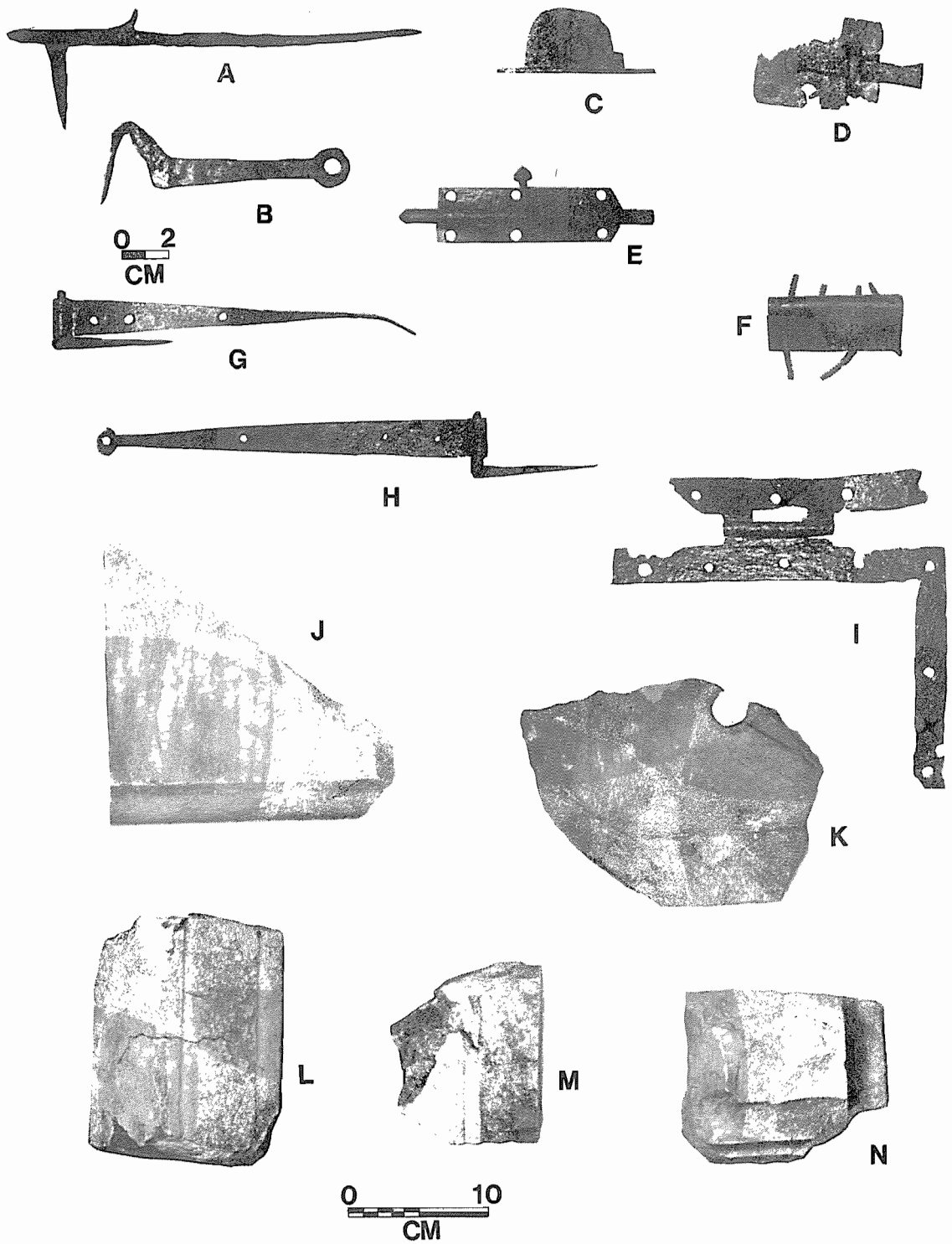


Figure 64. Architectural items from the Shoolbred Plantation. A, hinge hook; B, hook; C, window pully; D, Norfolk latch; E, slide bolt latch; F, butt hinge; G-H, strap hinges; I) HL hinge; J, marble fireplace mantle fragment; K, column support; L-M, column fragments; N, column base.

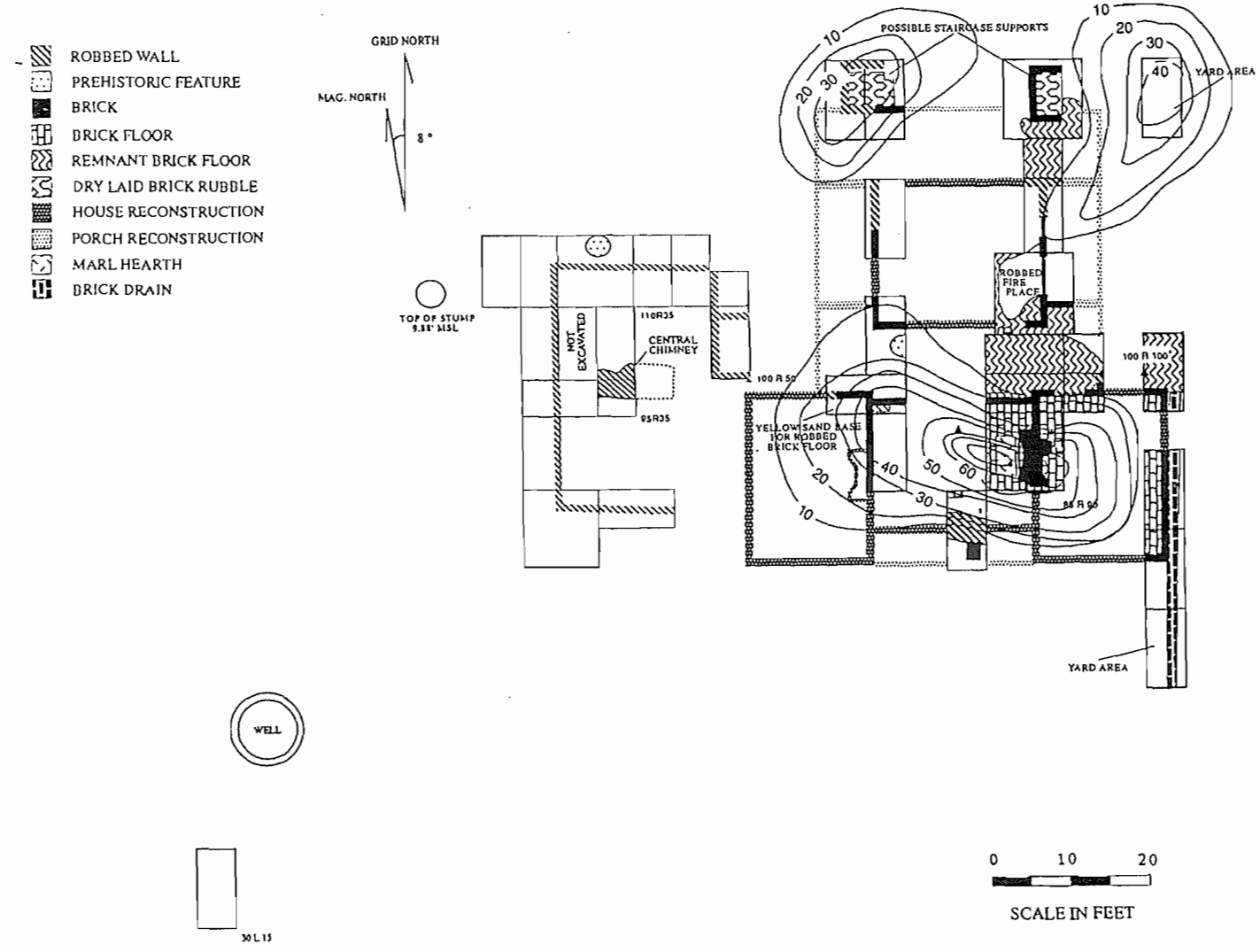


Figure 65. Distribution of marble at 38CH129-1.

on the building site to suit a certain need or create a particular design element (Gurcke 1987:128; McKee 1973:53). One fragment contained a shallow groove, running the width of the brick. Another brick was completely unaltered on one end, but beginning in the center was sloped down to a width of 3 1/2 instead of 4 1/2 inches, forming an edge skew. The exact use of these altered bricks is unknown, although they further reinforce the decorative and elaborate constuction of the Shoolbred mansion.

Examples of paving bricks are also present at the Shoolbred site. These bricks were commonly made from a blend of impure shales and clays which tend to produce a harder, denser brick. Two distinct sizes of paving brick were found. Most measured 7½ x 1¾ x 3½. Paving bricks measuring 4¾ x 1¾ x 4½, are present, but uncommon.

Marble items consist of tiles, columns, column supports, fireplace surrounds, mantles, and other unidentifiable pieces. The tiles consisted of 9.3 by 9.3 inch squares with one finished and one unfinished face. They are approximately 1 inch thick. These were found in situ immediately east of the east stair support as well as immediately north of the house and probably paved a ground level patio or walkway. Others were found in the house excavations and may have been moved there after the house was destroyed.

One marble column base was recovered which measured approximately 8 by 8 inches square. The column shaft measures approximately 3½ by 3½ inches square. The profile of the base is simple, consisting of three levels or tiers before beginning the shaft of the column. A column mid section was collected which fits the size suggested by the column base and may have part of this column type. The mid section is decorated with vertical grooves flanking the sides of the face. Because of its size, this column was probably used as a decorative portion of a fireplace surround. It is likely that it came from one of the upper floors since the excavated fireplaces at ground level appear to have been very simple.

Two fragments of a marble fireplace surround were recovered. It contains three finished edges and measures 6 inches wide, 19/32 inch thick, and has an unknown length. Another possible fireplace surround was collected which measures 5 inches wide, and 2-7/32 inches thick and has an unknown length. The top (or bottom) front has a decorated edge consisting of a depressed border 51/64 inch wide, reducing the thickness at that end to 1-51/64 inches.

Two different fireplace mantles were identified. Both consist of identical types of marble and are the same in thickness. One of these was approximately 33% reconstructible. It measures about 4 feet in length, 1 1/2 feet in width, and 1 inch in thickness. The front edge was beveled, although not completely straight in profile.

Other marble items collected consist of one fragment which may be part of another mantle, but only measures 3/4 of an inch and is, therefore, different from the other two. Two edges are finished and neither is beveled. Another item may have functioned as a support for one of the porch columns. This piece contains a finished surface and one edge. It is 2-11/16 inches thick and contains an ill defined depression on the finished surface. In addition, there is a hole which has been drilled all the way through the marble which possibly functioned to drain water which gathered at the base of the column therefore helping to protect the column from rot or deterioration. Based on the location of the hole which is assumed to be the center of the support, and the size of the depression, the column measured, at most, 8 inches in diameter. The base is probably 16 by 16 inches square. It is unclear whether the column itself was square or cylindrical. Several example of poor quality marble were found which exhibit a profile in which two sides are 90 degrees with a third side curving to meet the other two sides. These items measure 4 by 4 inches with an average length of 6-1/2 inches. They may have been used as coping around the entrance steps.

One red sandstone item was collected. It appears to be a column support measuring 12 by 12 inches and 1 1/2 inches thick. In the center is a square depression, leaving a raised border 2 inches wide along the edge. The thickness in the depression is 0.9 inches. The borders are decorated with etched diagonal lines. In what is interpreted to be the center of the depression there is a hole one inch in diameter, probably used for drainage. Based on the location of the hole and the two intact edged, the column measured, at most, 8 inches square.

One Portland stone fragment was collected which is probably part of a stair step. One rounded prepared edge is represented and the piece is 1-13/64 inches thick.

All slate collected from the site is a uniform dark gray in color (N3/0, using the Munsell Rock-Color Chart), and based on the thickness of the fragments (all less than 1/4 inch) represent roofing slate. The origin of this material is unknown. As Francis Dimes notes, "the identification of slates used for building and particularly for roofing presents complex problems, partly because few slates have been microscopically studied and compared" (Dimes 1990:140). In addition, optical microscopes cannot resolve thin-sections of slate and X-ray diffraction reveals essentially uniform mineralogy.

Samples of the Shoolbred (and Vanderhorst) slates were sent to Francis Dimes, the foremost authority on building and decorative stones. He observed that the dark gray slates were, solely on the basis of macroscopic examination, similar to North Wales slates. However, he also observed that such an assessment would be more reliable if possible United States slate sources could be ruled out (Francis G. Dimes, personal communication 1993). To that end a sample was provided to George Fore, an architectural conservator specializing in Southeastern structures. He suggests that the material may represent what is called Buckingham slate, quarried from Virginia during the eighteenth century (George Fore, personal communication 1993).

Furniture Artifact Group

A total of 38 furniture items were recovered from the excavations at 38CH129, including two brass tacks, two brass drawer pulls, two iron furniture casters, one slate table top fragment, one andiron, three brass handle and escutcheon fragments, one threaded brass lamp fitting, 23 glass lamp chimney fragments, one chandelier crystal with brass hook attached, and two unidentified hardware items. All of these items were recovered at Structure 129-1 except for the two brass tacks and one furniture caster which were found at Structure 129-3. Virtually all of these items reflect high status furnishings. The brass tacks were frequently found on chairs as both ornaments and as anchoring devices (Noel Hume 1970:227). The slate table top fragment measures 1-29/32 inches thick and probably belonged to some sort of utilitarian table as might be found in a kitchen. The andiron is small and exhibits a fleur de lis pattern, which suggests that it was not a kitchen andiron. The glass lamp chimney fragments resembles a lamp patented in 1784 (Sullivan and Gusset 1984:59). It consisted of a narrow chimney with a deep constriction above the flame and narrower at the top than at the bottom.

Arms Artifact Group

This group includes 12 specimens, including three minie balls, one gunflint, three percussion caps, and five 12-gauge shotgun shells. Marks are included on several: "REM/[]UMO/No. 12/NEW CLUB", "REM/[]UMO/No. 12/NITROCLUB", "PETERS/No. 12/TARGET", AND "PETERS/MADE IN USA/12/VICTOR". The shotgun shells post-date 1870. These five items are therefore considered intrusive into the archaeological record at Structures 129-1 and 129-3, but may be contemporaneous with 129-2.

The lead minie balls, or rifle-musket bullets are .577/.58 caliber and

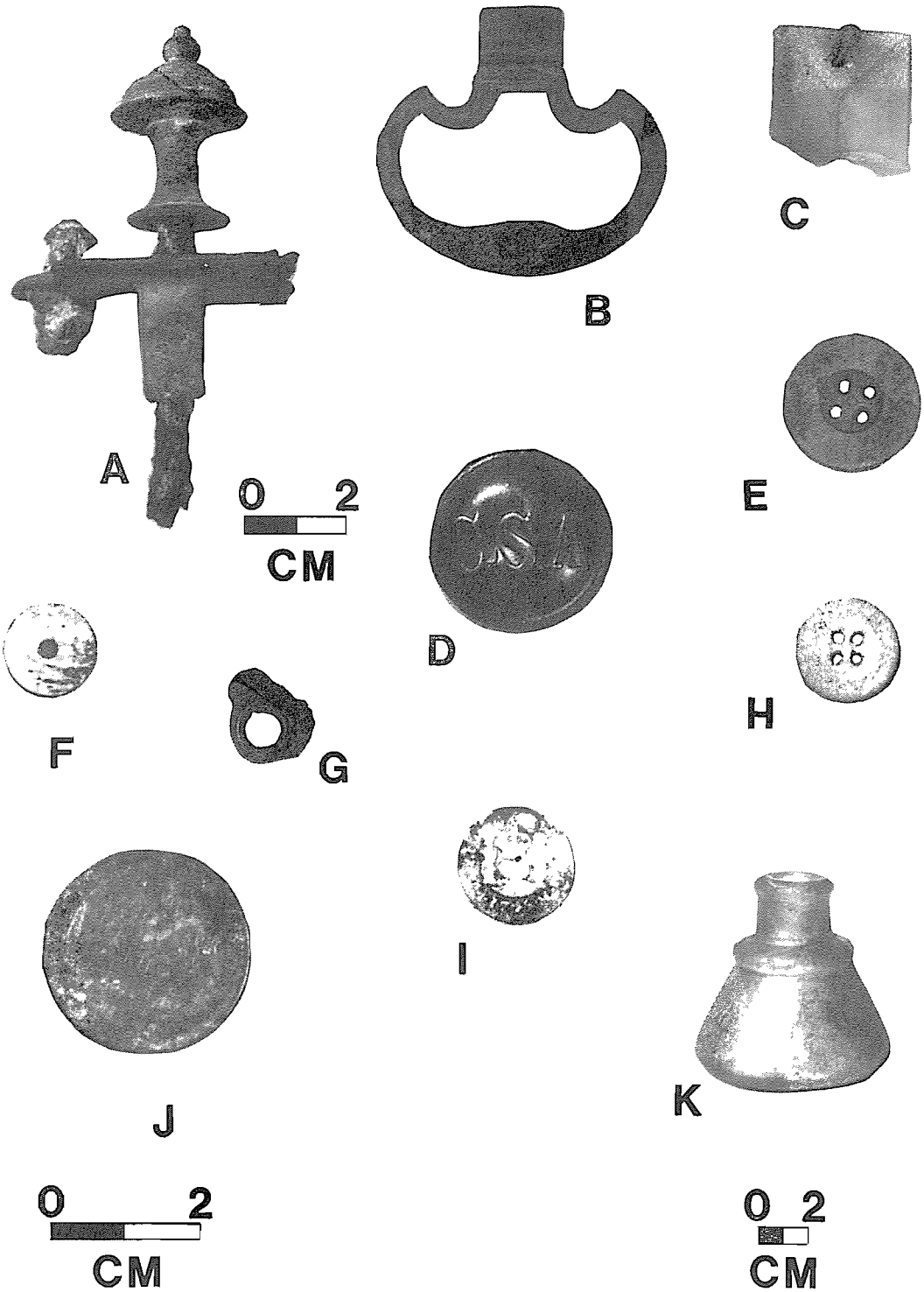


Figure 66. Furniture, Arms, Tobacco, Clothing, Personal, and Activities items. A-B, brass furniture items; C, chandelier crystal; D, Confederate standard issue button; E, South's Type 20 bone button; F, shell button; G, brass gromet with leather attached; H, South's Type 23 porcelain button; I, silver half real coin with punched hole; J, Cracker Jack™ token; K, ink well.

appear to be of molded manufacture and post-date 1850 (Coggins 1962:31; Peterson 1964:219). The three percussion caps are all examples of the "top hat" variety commonly used for military arms, most likely a musket (Moore 1963:77). These items probably date from the Civil War military occupation of 38CH129. Their occurrence is not surprising, since both Confederate and Union troops were stationed here. The one gunflint is small and brown in color. This was probably used with a sporting rifle.

Clothing Artifact Group

Recovered from the excavations at 38CH129 are 13 clothing items, including six buttons, five iron buckles, one brass thimble and one small brass shoe grommet.

Four buttons from 38CH129 can be placed in South's button taxonomy (South 1964), one untyped brass button, and one military button (which is not placed in South's taxonomy because of its specialized nature).

The non-military buttons include one brass button (Type 7) measuring 12 mm, one bone 4-hole button (Type 20) measuring 17mm, and two porcelain 4-hole buttons (Type 27) measuring 13mm. The Type 7 button is eighteenth century while the remainder are attributed to the nineteenth century. The unidentifiable button is a one piece domed brass button with an eye cast in place. It measures 9.5mm in diameter.

While all were mass produced and inexpensive, they probably served different functions. The porcelain buttons tend to be found on shirts and undergarments, while the metal and bone buttons would be found on pants and other work or outer clothes.

The porcelain style is known as a "small china" or "Prosser" button after the inventor, Richard Prosser (Peacock 1972:98). The style dates from the nineteenth century and Luscomb (1967:183) notes that most were between ⅜ and ¾ of an inch in diameter.

The one military button recovered is a general issue two piece confederate button with the initials "CSA" stamped on the front. A maker's mark appears on the rear: "S. BUCKLEY & CO./BIRMINGHAM" (Albert 1969:357).

The thimble is brass, measuring ⅛-inch in height and is crushed. The rim is folded, with a floral design above the rim.

The remaining clothing items all tend to be utilitarian items characteristic of the nineteenth century. While the iron buckles were probably used with belts, Stone (1974:25) cautions that such functional assessments are largely subjective and the items may have been harness or spur buckles.

All clothing items were recovered from 38CH129-2, except one iron buckle recovered from 38CH129-1.

Personal Artifact Group

The Personal Artifact Group consists of three specimens including an ink well, a silver coin, and one jewelry part.

The ink well is a complete aqua, umbrella-shaped specimen. This item is machine made and has an embossed "3" on the base.

The coin was found is a silver half real minted in Mexico in 1747 during the reign of Philip V. This coin has a hole punched for use as jewelry, possibly on a bracelet or necklace (see Chamberlain and Reinfeld 1960:181).

The jewelry part is a small silver ring, possibly used to attach an item to a necklace or bracelet.

Tobacco Artifact Group

The tobacco category includes 24 items, including five pipe bowls and 19 pipe stems. All are manufactured from kaolin clay with nine of the stems having a 4/64-inch bore, eight a 5/64-inch bore, and two a 6/64-inch bore. Three of the bowls are plain while one is decorated with five rows of raised dots and one exhibits ribbing. Three of these items were recovered from 38CH129-1, 16 from 38CH129-2, and five from 38CH129-3.

Activities Artifact Group

The activities artifact group contains 1051 items. These include two tools, one toy, 17 storage items, 101 miscellaneous hardware, and 930 other items (Table 43). Tools include one brass saw screw and one spade fragment. The toy consists of a tin "Cracker Jack" token measuring 25.5 mm. The front contains a human portrait with the lettering "THE PRESIDENT, USA/1841 DIED/HENRY HARRISON". On the rear is stamped " 'OLD TIPPECANOE'/JOIN/CRACKER JACK/MYSTERY CLUB/SAVE THIS COIN//TR[]". The storage items consist of 15 strap iron fragments, the back and interior portion of a padlock, and one bucket lug. No stable/barn items were recovered.

Miscellaneous hardware consists of 101 items. These include 71 wood screws, six brass nails, five nuts, five bolts, one carriage bolt, one L hook (commonly used to hang frames), two gate hooks, one pot hook, three drive hooks, one brass rivet, two iron rivets, two links of brass chain, and one iron wire fragment.

Other artifacts consist of 930 items. Unidentifiable iron fragments made up the majority of this category including 663 pieces. Melted lead consists of 69 fragments, and unidentifiable or melted brass fragments include 15 specimens. The remaining consist of three flint cobble fragments, one "modern" battery core, and 179 redware flowerpot fragments.

Table 43 shows a relatively equal distribution of types and ratios of items between 129-1 and 129-3, and more utilitarian items at 129-2. The large amount of redware flowerpot sherds at 129-1 indicates that small plants were being grown either to be transferred to a garden or for some other reason. It is likely that they sat on or at the base of porch of the house where watering and sunlight could be more easily monitored.

Surface Collections from 38CH129-5

Surface collected from the area of the east flanker of Shoolbred Plantation were 21 artifacts. These include eight historic ceramics, nine fragments of bottle glass, one fragment of window glass, two unidentifiable nail fragments, and one small unidentifiable prehistoric sherd. This small sample does not allow for pattern analysis, however a mean ceramic date of 1824.2 was calculated for the historic sherds, which is consistent with mean dates yielded for the rest of the site. These ceramics include one undecorated creamware, one undecorated pearlware, four blue transfer printed pearlware, one undecorated whiteware, and one annular whiteware.

Prehistoric Artifacts from 38CH129

A number of prehistoric artifacts were recovered from excavations at 38CH129, although National Register eligibility included only the historic component.

Table 43.
Activities items from the Shoolbred Plantation

Item	129-1 #	129-2 #	129-3 #
Tools		2	
Toys		1	
Storage	12	3	2
Miscellaneous Hardware			
Wood Screws	45	1	25
Brass Nails	1	2	3
Nuts/Bolts	5	2	3
Carriage Bolt		1	
Hooks	6		1
Rivets	1	2	
Chain		2	
Wire		1	
Other			
UID iron	495	44	124
Melted lead	28	2	39
UID brass	8	2	5
Flint cobble fragments			3
Battery core		1	
Redware flowerpot sherds	179		

At 38CH129-1 prehistoric ceramics were represented by 238 examples with 53 (18.6%) being suitable for further analysis. This collection consists of one Stallings (1.9%), two Thom's Creek (3.8%), 22 Deptford (41.5%), 24 Wilmington (45.3%), and four Irene (17.4%).

The Stallings and Thom's Creek examples were plain. The Deptford pottery included one plain (4.5%), 19 cord marked (86.4%), one fabric impressed (4.5%), and one simple stamped (4.5%). All of the Wilmington sherds were cord marked, and all the Irene sherds were curvilinear complicated stamped.

Lithics included 10 specimens. These were represented by seven chunks of siltstone, one chunk of quartz, one coastal plain chert flake, and a Caraway siltstone projectile point, measuring 1.4 cm in width and 2.4 cm in length.

At 38CH129-2 prehistoric ceramics were represented by 732 examples with 184 (25.1%) being suitable for further analysis. This collection consists of six Stallings (3.2%), 52 Thom's Creek (28.3%), 64 Deptford (34.8%), 47 Wilmington (25.5%), one Savannah (0.5%), and 14 Irene (7.6%).

The Stallings sherds consist of five plain and one reed punctate. Thom's Creek consists of eight plain sherds (15.4%), 42 reed punctate (80.8%), and two shell punctate (3.8). The proximity of 38CH129-2 to 38CH125/126 may account for these proportions. The Deptford pottery included seven plain specimens (10.9%), 55 cord marked (85.9%), and two simple stamped (3.1%). Wilmington sherds were entirely cord marked, and the Savannah example was check stamped. Irene sherds consist of three plain examples (21.4%) and 11 curvilinear complicated stamped.

Lithics consisted of 19 small chunks of siltstone. These may have been worked but were found unsuitable to make tools. Other artifacts consist of 64 pieces of fired daub, and one possibly drilled oyster shell.

At 38CH129-3 the prehistoric pottery was represented by 271 examples with

61 (22.5%) being suitable for further analysis. This collection consists of four Stallings (6.6%), seven Thom's Creek (11.5%), 23 Deptford (37.7%), and 27 Wilmington (44.3%).

All Stallings sherds were plain. The Thom's Creek pottery included three (42.9%) plain and four (57.1%) reed punctate. Deptford pottery consists of one (4.3%) plain, 21 (91.3%) cord marked, and one (4.3%) fabric impressed sherds. All but one of the Wilmington sherds were cord marked, representing 96.3% of the collection.

Lithics consisted of five chunks of siltstone, one silicified sandstone flake, and one jasper flake. In addition two unidentifiable projectile point tips were recovered which appear to be made of siltstone, and one nearly complete Savannah River Stemmed projectile point made of coastal plain chert.

Dating Synthesis

The historical research for Shoolbred Plantation document that the "New Settlement at 38CH129 was built at least by 1803 and was probably under construction shortly after James Shoolbred married Mary Middleton in 1797. The house apparently burned about 1863 or 1864, toward the end of the Civil War. Even before, this, however, there is some evidence of declining fortunes. With Shoolbred's death in 1847, the property was passed on to Mary Drayton, who apparently lived on the plantation. At her death in 1855, however, the house was owned by the Drayton brothers and then by Isaac Wilson, none of whom probably lived on Kiawah.

Using this historical information, it is possible to suggest a beginning historical date of 1797 and a terminal occupation date of 1855, which yields a mean historic date of 1826. Using 1864 as the terminal date, the mean historic date for the plantation would be 1830.5.

The previous discussions have indicated that a number of artifacts may provide temporally sensitive information with which to date the various components at 38CH129. Ceramics, in particular, have been shown to be useful for obtaining mean occupation dates (South 1977). Other artifacts, while useful in dating, are often not found in sufficient numbers to provide confidence in their associations. Some artifacts are useful for providing terminus post quem (TPQ) dates, or a date after which the assemblage was deposited. Most artifacts, however, provide only a general time frame, such as "typical of the nineteenth century."

The ceramic dates have been previously considered in Table 35, with the site yielding early to mid-nineteenth century dates. It is useful to examine the various loci from the perspective of the proportion of eighteenth (i.e., creamware, lead glazed slipware), early nineteenth (i.e., pearlware), and mid-nineteenth (i.e., whiteware) ceramics identified.

Structure 129-1, with the mean ceramic date of 1851.6 (or 1823.6 without the ginger beer fragments which are likely not associated with the plantation operation, but rather the Civil War occupation of the house), represents the Shoolbred Plantation main house. Of the 192 ceramics recovered, 30.2% date from eighteenth century, 4.2% from the early nineteenth century, and 65.6% date from the mid-nineteenth century. This would suggest a relatively light early nineteenth century occupation at the site, or at least the discard of relatively few early nineteenth century ceramics.

Structure 129-2, with a mean ceramic date of 1831.7, represents a utilitarian structure, perhaps a cotton storehouse, at the plantation. Of the 206 datable ceramics, 33.4% date to the eighteenth century, 13.1% to the early nineteenth century, and 53.4% to the mid-nineteenth century. Within the whiteware group, 15 sherds marked "WARRANTED" date to the 1890s. This assemblage,

as well, suggests heavier use of the structure in the antebellum period, or at least greater discard of ceramics during this period. In addition, it appears that the barn was used even after the destruction of the main house in the 1860s based on the whiteware examples.

Structure 129-3, with a mean ceramic date of 1806, is the west flanker associated with the main house. Of the 46 datable sherds, 47.8% date to the eighteenth century, 37% date to the early nineteenth century, and 15.2% date to the mid-nineteenth century.

The array of data appears, at first glance, to be contridictory. Yet, upon more careful analysis, it seems that most of the observed information is reasonable, given the historical information available.

The main house yields a mean ceramic date of 1823.6, only 1.6 years different than the mean occupation date by the Shoolbreds and only 2.4 years different than the mean occupation date for the Shoolbreds and Mary Drayton. The near absence of pearlwares in the collection may be a reflection of Shoolbred's life as a widower from 1808 until his death in 1847. While clearly a wealthy individual, he may have found no need to replace his creamware patterns on remote Kiawah Island.

The flanker has produced an early mean ceramic date, about 25 years younger than the mean historic date. This, coupled with the proportion of the different ceramics, suggests that the flanker fell into disuse shortly during the first quarter of the nineteenth century. One explanation for this may, again, be the death of Mary Shoolbred in 1808. Alternatively, as discussed in a following section, the function of this flanker may have been such that new or modern ceramics were rarely introduced into the archaeological record.

The barn or storage building yielded a mean ceramic date of 1831.7, nealy identical to the mean historic date of 1830.5 for the plantation. The presence of postbellum ceramics indicates that this structure was still standing during the period and was probably used as dwelling for a family of freedmen.

Pattern Analysis

Up to this point South's artifact groups and classes have been used as simply a convenient and logical means of ordering data, clearly recognizing that other methods are available (e.g., Sprague 1981). In this section these functional categories will be used for an "artifact pattern analysis" developed by South (1977) who believes that the patterns identified in the archaeological record will reflect cultural processes and will assist in delimiting distinct site types. South has succinctly stated that, "we can have no science without pattern recognition , and pattern cannot be refined without quantification" (South 1977:25). The recognition of patterns in historical archaeology is not an end in itself, but rather should be one of series of techniques useful for comparing different sites with the ultimate goal of distinguishing cultural processes at work in the archaeological record (South 1988).

There can be no denying that the technique has problems (see, for example, Joseph 1989), some of which are very serious. Regardless, no more effective technique than South's has been proposed. While a number of factors influence the construction of the pattern, Joseph states:

> [w]hatever its flaws, the value of artifact patterning lies in the fact that it is a universally recognized method for organizing large collections of artifactual data in a manner which can be easily understood and which can be used for comparative purposes (Joseph 1989:65).

Even at this level of a fairly simple heuristic device, pattern analysis

has revealed five, and possibly seven, "archaeological signatures" -- the Revised Carolina Artifact Pattern (Garrow 1982b; Jackson 1986:75-76; South 1977), the Revised Frontier Artifact Pattern (Garrow 1982b; South 1977), the Carolina Slave Artifact Pattern (Garrow 1982b; Wheaton et al. 1983), the Georgia Slave Artifact Pattern (Singleton 1980; Zierden and Calhoun 1983), and the Public Interaction Artifact Pattern (Garrow 1982b), as well as the less developed and tested Tenant/Yeoman Artifact Pattern (Drucker et al. 1984) and the Washington Civic Center Pattern (Garrow 1982b) which Cheek et al. (1983:90) suggest might be better termed a "Nineteenth Century White Urban Pattern." Recent work at the freedmen's village of Mitchelville on Hilton Head Island has revealed a loose clustering of artifact patterns midway between that of the Georgia Slave Artifact Pattern and the Tenant/Yeoman Artifact Pattern (Trinkley and Hacker 1986:264-268). Several of these patterns are summarized in Table 44. A careful inspection of these patterns surprisingly reveals no overlap in the major categories of Kitchen and Architecture, which suggests that these two categories are particularly sensitive indicators of either site function (including intra-site functional differences) or "cultural differences" (see Cheek et al. 1983:90; Garrow 1982a:4; Joseph 1989:60; South 1977:146-154).

Table 45 presents the artifact patterns for the various Structures excavated at 38CH129. A comparison of Tables 44 and 45 reveals that none of these structures conform to any published pattern. Due to the utilitarian nature of 129-2 it is not surprising that it does not fall within any of these ranges. For the other two structures, the location of the units on top of the architectural features may account for the high percentage of architectural material. In addition, it is possible that the sparcity of kitchen, personal, and clothing items may represent an organized effort to leave the island because of Civil War activities. Also, very little trash was found in the yard areas or around the well, suggesting an effort to "police" the grounds. Nonetheless, patterns at 38CH129-1 and 38CH129-2 are very similar, suggesting that they both were domestic in function.

Status and Lifestyle Observations

Miller (1980) has suggested a technique for the analysis of ceramic collections to yield information on the economic value of the assemblage which, as Garrow notes, "theoretically provides a means of roughly determining the economic position of the household that used and discarded the ceramics" (Garrow 1982b:66; see also Spencer-Wood and Heberling 1987 and Garrow 1987). While this technique could revolutionize our perception of the economic status of historic peoples, it has not been embraced by all historic archaeologists. It is limited to the cream colored wares (and a few other ceramics) of the nineteenth century, its methodology has not been perfected, and index values do not exist for all of the decoration/wares types for all of the time periods. Although Miller (1991) has recently published revised indexes, using them unfortunately makes the results uncomparable to previously calculated indices. Therefore, they have not been used in this study. In spite of these problems it, like South's pattern analysis, provides another significant analytical technique.

Application of Miller's technique to the Shoolbred assemblage is shown in Tables 47-48. The index values range from 1.17 to 2.02. The index values for plates were the highest for 38CH129-1 (2.36) while the indices were 1.46 and 1.18 at 38CH129-2 and 38CH129-3. Bowls all were relatively low status with indices between 1.00 and 1.23, and cups and saucers ranged from 1.00 to 1.59. It is not surprising that what is thought to be a storage building (38CH129-2) exhibits the lowest average index value, while the main structure (38CH129-1) reveals the highest average index value. In spite of the apparently "correct" relative placement of the various indices, all are low, especially the values for the main house. This may be partially the result of Miller's formula not including procelains. At the main house porcelain wares were common, representing 17.1% of the total collection and 11.8% at the west flanker. Not surprisingly, porcelains were found in lower proportions at the storage barn (2.8%). These data suggest,

Table 44.
Various Archaeological Pattern Comparisons

Artifact Group	Revised Carolina Artifact Pattern[a]	Revised Frontier Artifact Pattern[b]	Carolina Slave Artifact Pattern[c]	Georgia Slave Artifact Pattern[d]	Piedmont Tenant/ Yeoman Artifact Pattern[e]
Kitchen	51.8-65.0%	35.5-43.8%	70.9-84.2%	20.0-25.8%	45.6 (40.0-61.2)
Architectural	25.2-31.4%	41.6-43.0%	11.8-24.8%	67.9-73.2%	50.0 (35.8-56.3)
Furniture	0.2-0.6%	0.1-1.3%	0.1%	0.0-0.1%	0.4
Arms	0.1-0.3%	1.4-8.9%	0.1-0.3%	0.0-0.2%	-
Clothing	0.6-5.4%	0.3-1.6%	0.3-0.8%	0.3-1.7%	1.8
Personal	0.2-0.5%	0.1%	0.1%	0.1-0.2%	0.4
Tobacco	1.9-13.9%	1.3-14.0%	2.4-5.4%	0.3-9.7%	-
Activities	0.9-1.7%	0.5-5.4%	0.2-0.9%	0.2-0.4%	1.8

Sources:

[a]Garrow 1982

[b]Garrow 1982

[c]Garrow 1982

[d]Singleton 1980:216

[e]Drucker, et al. 1984:5-47 (no range was provided, but has been partially reconstructed for the Kitchen and Architectural Groups)

Table 45.
Artifact Patterns at 38CH129

	38CH129-1	38CH129-2	38CH129-3
Kitchen Group			
Ceramics	873	210	213
Colono Ware	2		
Glass	1514	506	247
Tableware	14		13
Kitchenware	4	51	2
Total	2405	769	475
Percentage	14.2	33.1	10.2
Architecture Group			
Window glass	719	103	1502
Door lock parts	57	2	7
Construction hardware	38	34	21
Cut nails	992	272	794
Cut nail fragments	2126	533	1125
Wrought nails	3002	48	76
Wrought nail fragments	1573	26	12
Wire nails		33	
UID nail fragments	5228	400	512
Spikes	10	8	
Total	13745	1449	4049
Percentage	81.0	62.5	87.1
Furniture Group			
Furniture hardware	35		3
Total	35		3
Percentage	0.2	0.0	0.06
Arms Group			
Arms artifacts	2	9	1
Total	2	9	1
Percentage	0.01	0.4	0.02
Tobacco Group			
Pipe stems	3	11	5
Pipe bowls		5	
Total	3	16	5
Percentage	0.02	0.7	0.1
Clothing Group			
Buttons		7	
Other clothing	1	5	
Total	1	12	
Percentage	0.006	0.6	0.0
Personal Group			
Personal items	3		
Total	3		
Percentage	0.01	0.0	0.0
Activities Group			
Tools		2	
Toys		1	
Storage items	12	3	2
Miscellaneous hardware	60	10	31
Other	711	52	81
Total	783	68	114
Percentage	4.6	2.9	2.4

Table 46.
Ceramic Index Values at 38CH129-1

Plates	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1824)	4	4.00
edged	1.33 (1824)	1	1.33
hand painted	2.18 (1836)	2	4.36
transfer print, large	3.22 (1824)	4	12.88
transfer print, small	3.21 (1824)	4	12.84
		15	35.41

Average Value = 2.36

Bowls	Index Value Assigned (date)	Number	Product
annular	1.20 (1824)	5	6.00
		5	6.00

Average Value = 1.20

Cups/Saucers	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1802)	1	1.00
		1	1.00

Average Value = 1.00

Average Index = 21÷42.41 = 2.02

if only tentatively, that Shoolbred's wealth, in so far as it was evidenced by his ceramics, was placed in porcelains, rather than earthenwares.

Tables 49, 50, and 51 examine the percentage of flatware, hollowware, serving pieces, and utilitarian vessels from Structures 129-1, 129-2, 129-3 respectively. Structure 129-1 reveals a heavy dependence on plates, which account for 60.7% of the total vessels, and the total tableware accounts for 89.3% of the collection. When compared to Otto's (1984) work at Cannon's Point, the total percentage of tablewares exceeds that found at slave, overseer, or planter contexts and the reliance on plates, rather than bowls, is most similar to the planter's assemblage.

The assemblage from Structure 129-2 reveals that 96.4% of the collection are tableware items. The distribution of vessel shapes from Structure 129-2 indicates a reliance on bowl forms (50.0%) which is similar to the proportion found at the Cannon's Point slave settlement. While this structure served as a barn, it is possible that some slaves engaged in activities there ate at the work place.

Structure 38CH129-3, the west flanker, contains relatively equal proportions of plates and bowls which corresponds most closely with the slave assemblage at Cannon's Point (Otto 1984). In addition there are large amount of utilitarian wares similar to what was found at the planter's kitchen at Cannon's Point although one would expect that platters and serving bowls would be present.

Another potentially revealing analysis concerns the surface decoration of ceramics at the various structures under consideration. Otto (1984:64-67) found

Table 47.
Ceramic Index Values at 38CH129-2

Plates	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1833)	6	6.00
blue transfer print	3.21 (1833)	1	3.21
flow blue transfer print	2.50 (1855)	1	2.50
		8	11.71

Average Value = 1.46

Bowls	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1833)	6	6.00
annular	1.29 (1833)	6	7.74
blue hand painted	1.71 (1833)	2	3.42
		14	17.16

Average Value = 1.23

Cups/Saucers	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1846)	1	1.00
		1	1.00

Average Value = 1.00

Average Index = 23÷29.87 = 1.30

that at Cannon's Point the slaves tended to use considerably more banded, edged, and hand painted wares than the plantation owner, who tended to use transfer printed wares. The overseer appears to have been intermediate on this scale, although the proportions of decorative motifs were generally more similar to the slaves than the owner. Part of the explanation, of course, involves the less expensive cost of annular, edged, and undecorated wares compared to the transfer printed wares. And while transfer printed specimens were present in the slave assemblage at Cannon's Point, they represented a variety of patterns and Otto (1984:66) suggests that either the planter purchased mixed lots of ceramics for slave use, or the slaves themselves occasionally made such purchases. An additional, often advanced, explanation, involves the use by slaves of discarded ceramics from the main house. While it is known that the Shoolbred house was occupied by a planter, proportions of decorative types can reveal something about the owner's economic means.

Table 52 reveals that the majority of vessels from 129-1, the main house, are transfer printed. At 129-2, the majority of the vessels were either undecorated or annular, while only 17.4% were hand painted or transfer printed. This is consistent with its being a slave dominated area. At 129-3, 81.8% of the vessels are plain, with the remaining being hand painted. Since this represents an extension of the main house, this high proportion of undecorated wares is surprising. While in essence it is probably a fairly accurate representation, there were only 11 identifiable vessels recovered.

Table 48.
Ceramic Index Values at 38CH129-3

Plates	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1802)	3	3.00
hand painted	1.67 (1796)	1	1.67
		4	4.67

Average Value = 1.18

Bowls	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1842)	5	5.00
		5	5.00

Average Value = 1.00

Cups/Saucers	Index Value Assigned (date)	Number	Product
undecorated	1.00 (1802)	1	1.00
hand painted	2.17 (1814)	1	2.17
		2	3.17

Average Value = 1.59

Average Index = 11÷12.84 =1.17

Table 49.
Shape and Function of Ceramic Vessels from Structure 38CH129-1

Shapes	#	%
Tablewares		
Plates/saucers	17	60.7
Bowls	7	25.0
Serving	1	3.6
Tea and Coffeeware	1	3.6
Utilitarian	2	7.1

Table 50.
Shape and Function of Ceramic Vessels from Structure 38CH129-2

Shapes	#	%
Tablewares		
Plates/saucers	10	35.7
Bowls	14	50.0
Serving	3	10.7
Tea and Coffeeware	0	0.0
Utilitarian	1	3.6

Table 51.
Shape and Function of Ceramic Vessels from Structure 38CH129-3

Shapes	#	%
Tablewares		
Plates/saucers	6	31.6
Bowls	7	36.8
Serving	0	0.0
Tea and Coffeeware	1	5.3
Utilitarian	5	26.3

Table 52.
Decoration of Ceramic Vessels from Shoolbred Plantation

	38CH129-1		38CH129-2		38CH129-3	
Type	#	%	#	%	#	#
Undecorated	5	23.8	13	56.5	9	81.8
Annular	5	23.8	6	26.1	0	0.0
Edged	1	4.8	0	0.0	0	0.0
Hand painted	2	9.5	2	8.7	2	8.2
Transfer printed	8	38.1	2	8.7	0	0.0

These analyses may actually provide very significant information on the functions of structures at 38CH129. Clearly the high status artifacts from 38CH129-1 are consistent with its function as a plantation main house. Site 38CH129-2 contains the artifact assemblage as well as the low status indicators to convincingly argue for its function as a plantation support building. Structure 38CH129-3 yielded some interesting, and confusing, results. The ceramics are generally earlier than those found on the rest of the plantation and are low status, mainly undecorated wares. Bowls and plates are equally represented which suggest a slave occupation, however there are some very high status items such as goblets and bone handled utensils. All of these results may be explained if the west flanker was the residence for house slaves. The large amount of utilitarian wares (26.3%) corresponds most closely with a planter's kitchen assemblage (Otto 1984), although it is much higher than found at Cannon's Point. In addition, most of the tablewares from 38CH129 were found here.

Garrow emphasizes the importance of converging evidence, stating, "the use of converging lines of evidence, as opposed to the use of one or even two of the techniques in question, should yield accurate statements concerning the relative socioeconomic status level of the household or group that generated the study collections" (Garrow 1987:230). Taken in combination, these data suggest that Structure 38CH129-1 represents a planter's dwelling, Structure 38CH129-2 represents a storage barn, and Structure 38CH129-3 may represent a dwelling for house slaves which also functioned as the planter's kitchen, considering the large amount of utilitarian wares and the presence of high status tableware and kitchenware.

The possibility of the western flanker functioning as a kitchen may seem somewhat unlikely to some since there was not an unusually large amount of animal bone found in the excavations, and animal bone seems a natural by-product of

plantation kitchen activities. While such expectations appear, on their face, reasonable, a careful analysis of archaeological literature and the historic context, suggest otherwise. Regrettably few archaeological studies have been conducted at documented plantation kitchens, and several of those which have been undertaken, have never been published. There is, in fact, no good archaeological documentation to guide expectations.

Examining the historic context, it seems unlikely, given the effort to control water through drains, landscape the plantation yard, and remove debris from around the house, that Shoolbred would have allowed animal bone to be "tossed out" in the yard surrounding the kitchen. The structure itself seems suitable for a kitchen, being conveniently located adjacent to the main house and close to the well, possessing a large central fireplace and adequate floor space, and lacking evidence of the elaborate architectural detailing seen in the main house. While the construction of dual flankers was required by Georgian symmetry, it seems clear that builders rarely knew how to use the resulting space. At Kiawah, the use of the west flanker as a combined kitchen and quarters for house servants may be indicated by the artifact assemblage.

Summary

The Shoolbred Plantation, in spite of seemingly extensive excavations, remains enigmatic. There is circumstantial evidence, consisting of historical documents and plats, that it was constructed after 1797 by James Shoolbred. Archaeological evidence for an initial construction date was not forthcoming. The domestic artifacts recovered from the excavations generally support a late eighteenth and early nineteenth century date. This statement, however, provides considerable latitude, perhaps from 1790 to 1810. The architectural artifacts reveal an interesting mixture of both late eighteenth century specimens, such as rim locks and HL hinges, as well as nineteenth century specimens, such as butt hinges. Again, there is the potential for considerable range.

The archaeological excavations suggest that whenever the structures were constructed, they were built on a virgin site, there being clear evidence only for a pre-existing Native American settlement. The few builder's trenches present provide no indication of an earlier structure and the rubble used to level the east wing consisted primarily of brick and mortar rubble, with no artifacts. Even this conclusion, however, is tempered by the identification of an anomalous wall running through the east wing of the main house.

Structure 1 was clearly a large, and elaborate, building. The use of marble fireplace surrounds, mantles, columns, supports, and tiles, coupled with evidence of carved brick, extensive plaster work, wood moldings, and a slate roof indicate some expense on the part of the plantation owner. In spite of this, the workmanship suggests skilled laborers, but not craftsmen. Equal wealth is evidenced by Structure 2. Thought to represent a storage building, it was constructed of brick and roofed in slate. While certainly the preferred techniques for safeguarding a crop such as cotton, these were steps taken by relatively few planters.

Examining the yard around the structures, it is clear that Shoolbred worked diligently (or rather instructed his slaves to work diligently) to control and harness nature. The yard was kept clean, water was drained away from the buildings, and landscaping promoted Kiawah as a "country estate," a place of leisure, at least for the owner. Surrounding the main house was a rather extensive network of support structures. Present was the cotton storehouse, under the watchful eye of the overseer, if not the owner; two flankers; and a series of other structures of largely unknown functions. Slavery, typical of the picturesque movement in the early nineteenth century, was removed from view, or made "acceptable" by reference to yeoman ideals of hard work and industry. In the case of Shoolbred's plantation, the slave settlement was left at the "Old Settlement" (38CH122 and 38CH123).

Shoolbred's estate, unlike Vanderhorst's seems to have been oriented to the water. While there was treatment of the south entrance and an avenue leading to the house across Bass Pond, excavations at 38CH124 also reveal that this area was ditched, probably for crops.

Kiawah was not quickly abandoned, like the plantations on Hilton Head Island, in the face of a "sudden and terrible assault" of Union troops during the Civil War. The owners on Kiawah had ample time to assess the situation and remove both property and slaves. By this time the Shoolbred Plantation had passed to Isaac Wilson who was working to once again make Kiawah a productive cotton enterprise. It seems likely that he would have protected his investment by moving what he could off the island in early 1862. Even so, Vanderhorst remarked that by March 1862 Confederate troops, "vandals," had so thoroughly damaged the Shoolbred house that it might never be habitable by a "descent family." Archaeological evidence for this vandalism reveals a significant quantity of trash deposited in the basement and efforts to rob easy to remove bricks (such as those of the basement floor).

In 1863, the Shoolbred mansion was burned. The archaeological evidence suggests a rather intense fire, apparently concentrated in the rear, possibly the eastern wing. Also burned was at least the western flanker. These structures burned with nearly their full complement of architectural hardware -- shutter laches, door locks, hinges, and so forth. There seems to have been little effort either before the fire, or afterwards, to salvage, these typically expensive and sought after items. What was salvaged, and with a vengeance, were the bricks. The episodes of robbing were intense and thorough. While a few rear sections of the main house have survived, virtually all of the western flanker has been torn apart, with only piles of mortar left behind. Oral history explains that the barn was robbed by one of the island's twentieth century owners to begin Kiawah's first development. The brick veneer of small ranch style houses being all that is left of this massive two-story structure.

What couldn't be robbed seems to have been pushed in piles, opening up more area for cultivation. This cultivation thoroughly disrupted whatever was left of the western most structures at the site, and isolated the barn (38CH129-2) from the remaining complex. The diffuse scatter of both prehistoric and historic artifacts observed over the site area bears witness to the agricultural activity of the late nineteenth and early twentieth centuries.

The artifact assemblage at 38CH129 stands in stark contrast to the architectural remains. While the latter are elaborate, the former are almost meager and mean. The only real exceptions to this are the presence of porcelains and transfer printed wares, crystal stemware and tumblers, and a few personal items.

It seems likely that four features account for this spartan collection. Kiawah, while a "country seat," was also isolated and out of the social circle of the plantation elite. What conspicuous display of wealth occurred was carefully controlled by Shoolbred and probably resulted in little refuse. With the death of Shoolbred's wife in 1808, it may be that his active interest in Kiawah declined, reducing the high status assemblage present at the site. Further, it seems likely that the refuse disposal practices on the plantation were also carefully controlled with the intent to keep the yard areas clean and clear of all debris. And finally, the plantation was not suddenly deserted or burned -- the evacuation was planned and may have involved the removal of much movable property.

CHAPTER 12.
THE ARCHITECTURE OF THE SHOOLBRED MANSION

Colin Brooker

Introduction

In the previous chapter Adams and Hacker have described investigations at 38CH129-1 where excavation exposed portions of Shoolbred Plantation's main residence. It will be obvious from the commentary that many fundamental questions remain unanswered about the structure; excavation having produced neither unambiguous evidence for first floor circulation nor an explanation of how the building's core was related to its presumed flankers. More over, while structural features allow speculation concerning the nature and character of upper level planning, there exists no firm basis for any rational reconstruction showing original building height, massing, elevational treatment or roof shape.

On these last topics, Adams and Hacker imply indirect information may be gained through analysis of a late nineteenth century painting (see Figure 21) attributed to Mary Drayton (Historic Charleston Foundation). Given correlations already noted, this suggestion is attractive, offering an opportunity to: (a) resolve problems surrounding the building's overall organization, (b) examine archaeological findings in the context of local architectural traditions, and (c) through stylistic analogy propose a likely construction period.

Of course inquiry along such lines is predicated upon reasonable certainty that the painting mentioned and building excavated correspond -- a correspondence which is as yet unproven. While correlations are striking, so too are certain discrepancies. In the following discussion these convergent and divergent points are examined with the object of testing how useful or otherwise an interpretive document the painting might be and what it can tell us concerning the architecture of the Shoolbred house.

As a preliminary, limitations and results of excavation at 38CH129-1 and 38CH129-3 are briefly re-examined in summary form, the reader being referred to Adams and Hacker's discussions for full details concerning the various units investigated and architectural materials found. A following section considers the paining on its own terms, relating the architecture illustrated to regional developments in plantation building c. 1780-1795. Then differing solutions to difficulties associated with the massing of excavated structures are examined and explored against information gained or inferred from the Drayton painting.

Summary of Excavation at 38CH129-1 and 38CH129-3

General

It is perhaps worth repeating that before Chicora's excavations commenced, almost nothing was known about the structures now designated 38CH129-1 and 38CH129-3. Poplin (1989) conjectured a rectangular main house, but once vegetation had been cleared from surviving wall alignments, inspection raised strong doubts about his supposition. Poplin's conjecture was further undermined as excavation proceeded, preliminary study showing that rather than being rectangular, the main house probably incorporated three linked building masses. This unexpected discovery caused revision of the original research design. While the time allowed for investigation remained constant, a much larger dwelling than anticipated demanded priority be given to areas likely to yield maximum architectural information.

Several circumstances complicated the task. Initial tests indicated structural elements had been destroyed down to or just above foundation level while the site proved burdened with heavy concentrations of disassociated brick rubble, making excavation slow and difficult. It also seemed probable that any plan revealed would exhibit a high degree of individuality, since among local plantation houses ordered on tripartite principles no two are exactly alike, the corpus taken together indicating an experimental and innovative attitude towards domestic accommodation. Furthermore, comparable buildings, often (but not always) resulted from more than one construction phase, later wings having enlarged older dwellings of traditional form.

Full exposure of the main Shoolbred house being impossible, it was therefore decided to, at first, focus attention upon areas where brick rubble concentrations were least dense. Within these confines, excavation sought to establish spatial arrangements governing household activities and determine if interfaces between various building masses gave evidence of alteration or addition. From the outset, we recognized that constraints already mentioned only allowed partial transects through the site and many architectural features would go unrecorded.

Recapitulation of Results

Data recovery gave evidence of a central block with its long axis oriented N12°E raised up upon brick piers and perhaps surrounded on three sides by open porches. Looking north over the Kiawah River this fronted two brick enclosed components extending right and left (the east and west "wings" referred to by Adams and Hacker) to produce a "T" shaped plan configuration. Between the two wings, excavation exposed part of an area fronted by an entrance porch centered on the building's southern elevation. Brick paving here and a hearth (built integral with the west exterior wall of the east "wing") indicated that the like (like lower level "wing" areas) probably housed activities other than simple storage. If so, these activities were separated from upper living rooms, no trace having surfaced suggesting internal stairs communicating between first and second floors.

Flanking the west "wing" stood another block (38CH129-3, the "west flanker"), again brick built at ground level, incorporating one central chimney stack and aligned (like the composition's centerpiece) with its long dimension oriented almost north/south. Assuming symmetry, an identical building component probably flanked the east "wing", although excavation was not sufficiently extensive to confirm the case.

Several peculiarities in first floor construction deserve comment. First, both "wings", with their solid brick enclosing walls, suggest a certain degree of formal or functional autonomy, an impression reinforced by the fact that neither area communicated directly into the heated link space extending between them. Instead, entry was gained through doorways opening north into an east/west corridor or passageway which also accessed the link space south, portions of the central block perhaps enclosed during an alteration phase (i.e., Adams and Hacker's "north room").

Second, the west "wing" and west "flanker" although distanced only about three feet apart, seemed independently structured, each featuring solid brick wall construction 14 1/2 - 15 inches wide. This curious and expensive structural duplication is difficult to understand as it must have produced an almost unusual slot between the "wing" and "flanker". Evidence for brick built connective elements linking construction with the west "wing" and a possible entrance via the east/west passageway presents another puzzle, similar features not emerging during excavation of the east "wing's" corresponding external corner as one might expect if two flankers once existed.

By contrast, construction of the central block was conventional,

incorporating brick piers which, at second floor level, must have supported a timber framed superstructure. Peripheral piers transmitting porch loads proved poorly preserved but for internal "L" shaped corner elements were recognized during excavation, the two southern examples defining one side of the passageway already mentioned. Pilasters, clearly designed to receive porch beams seen projecting on north faces of both "wings" show these two areas and the central block were conceived together, a conclusion supported by common base foundation levels.

What remains much less certain is how the structural systems described were resolved above first floor level. Beyond an underlying symmetry, principles governing massing of the building assemblage are elusive. The combination of continuous wall and discontinuous pier supports hints at differential loading, of variation in wall height or an architectural play of solid against void. The marked east/west cross axis created by the passageway extending along north faces of the two wings suggests porches might have linked two flanking elements.

Whether or not these "flankers" (only one of which is definitely known) housed service activities or constituted living areas for the owner and his family is one of the most troubling questions posed by excavation especially when it is realized that the west "flanker" alone enclosed 750 square feet at ground level - an area about equivalent to half the combined total footprint of al other attested first floor spaces. Also troubling are porches interpreted as surrounding the central block on three sides. The interpretation is feasible, likely even, but other resolutions are possible involving lateral porch extensions linking flank construction.

Therefore, while we have a somewhat defective and incomplete plan, the key to its three dimensional translation seems lost unless the Drayton painting is topographical rather than fanciful and pertains to Kiawah Island.

The Drayton Painting

Provenance

Apparently executed c. 1870 (i.e., about seven years after Shoolbred Plantation's main residence burned) the unsigned painting attributed to Mary Gibbes now in the Historic Charleston Foundation collection came from the Drayton family - a family connected with Kiawah through marriage of Charles Drayton II (1814-1844) and Mary Shoolbred in 1813 (see Lewis 1978: Appendix A and Lewis 1978:46-47 for discussion of Drayton drawings including an accomplished c. 1845 example by Lewis Gibbes, grandson of Charles Drayton II). When the Shoolbred painting was identified and on what basis is not known, Leland (1977) first reproducing the work under the caption "Painting of the Schulbred House (Thought to have been on Kiawah)" although nothing certain was then understood about Shoolbred Plantation's main house or outbuildings.

But, there can be no doubt that the artist illustrates a plantation layout organized about "picturesque" landscape features, showing in elevation near the center of her(?) image three principle structures: a two story residence flanked at some distance by paired flankers each incorporating two floors and one central chimney.

Description

The main house shown is "T" shaped, comprising two building ranges set at right angles with main living accommodation raised a full story height above ground. Dormers interrupt roof planes suggesting garret spaces existed over both the central block (seen in the foreground) and rear, gable ended, building range. Perhaps approached from a river, the building's central element is (at second floor level) surrounded on three sides by open porches reached via two opposed external staircases supported upon brick arches. Two more arches carry peripheral

porch construction right and left. Upper level construction is timber framed and weather boarded, the facade nearest to the observer incorporating two windows flanking an entrance doorway. Above, the main roof form is difficult to read - it may be gable ended or, if the opening depicted represents a dormer window, hipped. Four second floor window openings paired symmetrically (two positioned each side of the intersecting central block) suggest the rear range (which again seems timber framed at this level) featured a seven bay treatment on its hidden long facade.

Style and Architectural Relationships of the Main Building Group Depicted

Although invention or idealization cannot be excluded, the main house portrayed carries conviction, tripartite massing and porch arrangement furnishing firm links with an architectural vocabulary current locally ca. 1780 through ca. 1825. The vocabulary evolved from new strategies which balance demands of long established precedent and traditional building methods against the Low Country's specific environmental and climatic conditions. Starting with the compact and commonplace through-hall plan, observes over a relatively short time span, transitions towards linear and fragmented solutions, "T" shaped planning forms playing critical roles in the development.

Tripartite houses began appearing about the Southeast towards the end of the eighteenth century (for Virginia see Lane 1984b:132). Early examples exhibit heavy dependence upon pattern book models, Lane (1985:111) relating numerous North Carolina "T" shaped plantation residences to design sources including William Halfpenny's *Useful Architecture* (London 1752; 1755; 1760, see Archer 1985:419-420) and Robert Morris's *Select Architecture* (London 1755; 1757, see Archer 1985:585-587). Halfpenny described and illustrated designs containing "a two story core flanked by one-story wings" and fronted by another single height space (Archer 1985:420); variant structures being found at The Grove, Halifax, N.C. (ca. 1790); the Thomas Blount Hill House, Tillery, N.C. (ca. 1793); Solomon Graves House, Yanceyville, N.C. (ca. 1790); William Bethel House, Rockingham County, N.C. (ca. 1790) and the now destroyed ca. 1810 Reid-Williams-Macon House located near Airlie, N.C. (see Lane 1985:111-121). Along the Roanoke River Valley, Bishir explains how:

> [the] form was well suited to tobacco farmers whose engagement in the market economy whetted the taste for fashion but produced only modest fortunes, for it provided a formal and obviously stylish house on economical terms (Bishir 1990:90).

One great disadvantage was "that the plan did not allow for a ...stair" (Lane 1985:112). North Carolina builders displaying indecision over where vertical circulation might best be places.

In Beaufort, South Carolina, "T" shaped forms quickly became ubiquitous (the Palladian inspired Barnwell Gough House ca. 1780 probably being the earliest surviving example), owner solving staircase difficulties by combining new and traditional spatial envelopes. Several dwellings (of which the ca. 1818 Berners Barnwell Sams House, 310 New Street, is least altered) feature a raised, two story high, central through-hall and staircase arrangement. At Marshlands (ca. 1815?), Beaufort, S.C. massing was analogous before twentieth century disfigurement except that single story porches, elevated upon arched brick piers, surrounded the main, double height entrance block on three sides.

Among South Carolina's coastal plantations, tripartite planning formulae are often seen, some compact and quite obviously "T" shaped (i.e., Haig Point House, Daufuskie Island, see Brooker 1989) other loosely organized, lateral wings giving pronounced linear emphasis (Sams House, Dataw Island, S.C. see Brooker 1990:141, Figure 24) or producing "U"-like fore-courts (i.e., El Dorado on the Santee, see Leiding 1921 illustration facing p. 106); the Edwards House, Spring

Island (see Brooker 1990:134-135, Figures 21 and 22), and Whitehall Plantation near Ridgeland, S.C.

The Drayton painting's main house expresses linear qualities through the central block's elongated proportion, qualities underscored by a long, unusually low, rear facade. Where the central block transects the rear building range, a sense of one spatial volume penetrating another breaks with local late Georgian conventions, substituting (like El Dorado), vigorous articulation for flat, unadorned building planes. Porches surrounding the central block (cf., Marshlands, Beaufort, S.C.), blur distinctions between indoor and outdoor space, emphasizing perhaps (like the Edwards House, Spring Island) everyday dramas or arriving or departing by river.

But, the characteristic which ties the Drayton house portrait to regional "schools" flourishing soon after the Revolution (see Stoney 1964:44) is the same characteristic which makes its classification into any neat, stylistic category impossible. The formal language employed is neither wholly polite or vernacular, the style neither completely Georgian or Federal. What we see is an emergent architecture filled with half remembered quotations; selective borrowings, transformations and simplifications.

Designs of this kind combined old plan forms in new ways and created surprising massing and circulation patterns. No single hand directed change-innovation was a matter of individual taste and experiment. And, despite being inarticulate, faltering or spawning odd hybrids (i.e., Bellevue, Camden County, Georgia, ca. 1820) architectural evolution slowly produced buildings uniquely responsive to local environments. As Stoney (1964:44-45) observed, "these houses with their elaborated wings, mark attempts to give some architectural distinction more and better spaces for windows and the cross ventilation so necessary for comfort in the Low Country.

Analogous design processes are well known to art historians; Kubler (1978:272, 404) following Adolf Goldschmidt and Erwin Panofsky, using the term "form-splitting" (*Formenspaltungen*) for related aesthetic phenomena. Hubka describes the concept, stating:

> Folk designers solve design problems by relying on past precedent, but it is inaccurate to say that they merely copy.... It is more accurate to say they generate design ideas by disassembling or decomposing existing forms and composing new forms out of the abstracted ideas of bits and pieces of existing [ones] (Hubka 1986:430).

"Form splitting" can be traced around the Santee Delta, along shorelines of the Broad River estuary in Beaufort County and at Shoolbred Plantation on Kiawah Island. Many resultant buildings, including Hampton, Georgetown County, S.C. (for drawings see Stoney 1964:141; Lane 1984:36) and nearby Harrietta (1797) retain overt classical references, exemplified by Hampton's extraordinarily overscaled Tuscan entrance porch (ca. 1790) or Harrietta's finely detailed south elevation (see Stoney 1964:191).

In the Drayton painting, attributes of classicism are abandoned, the "orders" - Doric, Ionic, and Corinthian, each governed by proportional harmonies, finding little reflection. Columns enclosing porches looking out towards the observer become mere posts, the classical temple-like front conspicuous among pattern book exemplars (i.e., William Halfpenny's designs) is expanding into a projecting block crowned by gabled or hipped roof forms masking the building's somewhat awkwardly conceived rear range.

Along with change, the same image records it opposite - two double height flankers showing that, when accommodating functions which custom dictated should be separated from the main house (i.e., kitchen activities, servant sleeping

spaces) plantation proprietors easily fell back upon long established precedent. Flanking dependencies have a southeastern history extending back into the mid-eighteenth century (for example, plans made by John Hawks for the Governors Palace, New Bern, N.C., ca. 1767, see Lane 1985:43-47) and ultimately derive via numerous intermediaries from Andre Palladio, who through his villas built for Venetian aristocrats during the late 1500s provided models for later elites intent on exploitation of agricultural hinterlands. Accidently or otherwise, the Drayton painting's layout apparently echoes Palladio's precept that:

> if one can build on a river it will be very convenient and beautiful because one can carry the produce at any time at small cost into the city...as well as bringing coolness in the summer and making a more beautiful view, and one can irrigate the possessions and the gardens and the orchards which are the soul and recreation of the villa (Palladio, I *Quattro Libri* II:45, cited in Burns et al. 1975:163).

But, while it would be instructive to pursue what an orchestrated landscape depicted meant with its garden temple and towered outbuildings, our intent here is one of identification; the question being if Mary Gibbes (assuming she was the artist) illustrated Shoolbred Plantation.

Correlations and Discrepancies

Considering the main house, certain correlations between image and reality are obvious: the "T" shaped core structure; porches surrounding a central block; proportional relationships between "front" and rear building ranges. Discrepancies include apparent divergences of external stair detail; articulation or the lack of it in the rear building range and the position of attendant flankers.

Concerning external stairs leading to the central block, our painting shows paired and symmetrical features, however, excavation in corresponding positions produced foundation elements of two different kinds, aligned about different axes. Also, nothing surfaces suggesting either landing supports (which the painting shows as arched forms constructed of brick), or other brick arches carrying the steps. Since only one peripheral porch pier, cut down to foundation level is known from excavation, the possibility that further brick arches extended along north, east, and west central block facades at the lower building level remains hypothetical.

Moving back into the picture plane, three linked units suggested by the excavated "wings" and adjoining link space find no correspondence in the rear building range illustrated. Instead we see raise high upon some kind of indeterminate brick structure a single long, rectangular, gable ended and timber framed element given articulation by the intersecting central block rather than any wall modelling.

Serious discrepancies arise when flanking construction is compared. The painting indicates two identical service buildings positioned either side of the main house aligned with their long axes parallel to the rear building range. These seem separated from the main house at a distance equaling two structure bays (measuring along the rear range) and elevated upon embankments. Excavation produced contradictory results, suggesting that the west "flanker" exposed, besides being differently oriented (i.e., with its long axis aligned north/south rather than east/west), was positioned immediately adjacent to the west "wing", a drain running along the opposite "wing's" eastern facade providing uncertain evidence at best of ground shaping.

The conflicting evidence cited is capable of several explanations. We can assume lapsed memory on the artist's part, a circumstance throwing considerable suspicion over the Drayton painting's reliability. Or painting and excavation might be partially reconciled if it is imagined that the west "flanker"

represents an early building phase, demolished and replaced by a new building before the artist visited Kiawah - a possibility not wholly inconsistent with structural evidence yet contradicted by artifact analysis.

Alternatively, understanding of structural elements may be incorrect, the impression for instance that brick built "wings" signify independent building masses linked via porches being an illusion, heavy brick construction at first floor level reflecting functional requirements and problems of ground water penetration into spaces accommodating service activities.

Finally, the chance exists that, despite the Drayton painting's provenience it represents another Low Country site, resembling Shoolbred Plantation in layout perhaps although otherwise distinct - the latter's main house incorporating larger and more fully articulated wings, one (i.e., 38CH129-3) called the west "flanker" being uncovered during recent excavation.

Conclusion

Unfortunately, I believe the means of evaluating any of above propositions, is lacking without further archaeology; the site investigations required by the regulatory agency being just "enough to be intelligible and then . . . stopped in mid career" (Levi Strauss 1974:333).

If so, the Drayton painting's last value rests not with its identification, but in its ability to stimulate discussion about design processes only incompletely attested by the fragmented architectural elements revealed; suggest without confirming a ca. 1790-1825 construction date for the excavated house; highlight the limitations of partial investigation and demonstrate that much less is understood about Low Country plantation architecture than sometimes allowed.

Indeed difficulties experienced when attempting to reconcile pictorial and archaeological evidence indicate that plantation planning was anything but predictable shortly after the Revolution. A dynamic spirit of change and improvement affected both the way in which certain owners lived and the way in which their enterprises were perceived. At Shoolbred plantation we see one tangible aspect of this evolution about the main house, where excavated elements testify (albeit incompletely) a unique architectural expression responsive to climate and comfort. The Drayton painting presents another, unexplored view showing how confronting abolitionist sentiment, planning might with unconscious irony mask plantation life's harsh realities beneath an idealized landscape which both denied and recalled the "picturesque" movement's intellectual freedom.

CHAPTER 13.
HISTORICAL ARCHAEOLOGICAL INVESTIGATIONS OF THE VANDERHORST PLANTATION SITE (38CH127)

Natalie Adams and Debi Hacker

Introduction

Background

Site 38CH127 was originally reported by Combes (1975) based on his reconnaissance survey. Combes' investigations revealed relatively little about the site except that in addition to the existence of the main house there was evidence of several building foundations, trash heaps, and a lime kiln area (Combes 1975:A-18).

During the intensive survey of the undeveloped 23 acre tract surrounding the Vanderhorst house by Chicora Foundation, the site boundaries for 38CH127 became better defined (Adams and Trinkley 1991a:11). In addition to the main house, five structure areas were identified, as well as two trash middens and two shell middens (Figure 29). This survey, however, did not identify the east and west boundaries of the site as these areas were already developed and outside the study area. Also, the survey failed to relocate either the lime kiln or the cemetery mentioned by Combes (see discussions of 38CH127 and 38CH128 in **Chapter 6 - Sites Identified on Kiawah Island**).

During preliminary historic research, an 1802 plat was located which illustrated ten structures labelled as "Gen'l Vanderhorst's Settlement" (Figure 7). How many of these structures are located in the survey tract is unknown since the western site boundary was not determined. However, the three structures illustrated in the eastern portion of the settlement are probably located at 38CH128, across a marsh slough from 38CH127. An 1854 plat of the area was also found which shows nine structures associated with the Vanderhorst settlement (Figure 9). Again, three of the structures located in the eastern portion of the settlement are probably related to 38CH128.

Archaeological investigations were conducted at 38CH127 by a crew of five (including the principal investigator) on February 17, 1992 through April 3, 1992. A total of 1100.5 person hours were spent in the field and an additional 123.5 person hours were spent on field processing. As a result of this work 4055 square feet of site area were opened at 38CH127 (800 square feet at the Main House, 850 square feet at Structure 1, 480 square feet at Structure 2, 400 square feet at Structure 3, 400 square feet at Structure 4, 400 square feet at Structure 5, 325 square feet at Shell Midden 1, 50 square feet at Shell Midden 2, 150 square feet at Trash Midden 1, and 200 square feet at Trash Midden 2). This resulted in the excavation of 3059 cubic feet of soil, all screened through ¼-inch mesh except in shell midden areas and features where ⅛-inch mesh was used.

The work at 38CH127 resulted in the movement of 3396 pounds of brick and mortar and 446 pounds of shell at the Main House, 11,784 pounds of brick and mortar and 90 pounds of shell at Structure 1, 865 pounds of brick and mortar and 147 pounds of shell at Structure 2, 1,194 pounds of brick and mortar and 3,386 pounds of shell at Structure 3, 18 pounds of brick and mortar and 1,268 pounds of shell at Structure 4, 189 pounds of brick and mortar and 548 pounds of shell at Structure 5, 41 pounds of brick and mortar and 462 pounds of shell at Shell Midden 1, 405 pounds of shell at Shell Midden 2, 482 pounds of brick and mortar and 46 pounds of shell at Trash Midden 1, and 194 pounds of brick and mortar, 236 pounds of shell at Trash Midden 2. The total amount of rubble and shell moved at

38CH127 was 18,163 pounds and 7,034 pounds respectively.

The proposed investigations at 38CH127, based on the survey conducted by Chicora Foundation (Adams and Trinkley 1991a), were to include the excavation of approximately 800 square feet at Structure 1, 500 square feet at Structure 2, 400 square feet at Structure 3, 400 square feet at Structure 4, 400 square feet at Structure 5, 200 square feet at Shell Midden 1, 50 square feet at Shell Midden 2, 150 square feet at Trash Midden 1, 200 square feet at Trash Midden 2, and 800 square feet to quantify yard refuse around the main house. A total of approximately 3900 square feet of excavation were planned, representing a 1.0% sample of the total site area and a 4.5% sample of the various concentrations (Figure 67).

The work conducted by Chicora Foundation at 38CH127 meets the proposed data recovery requirements, fully investigating the various structural and disposal areas of the site. In actuality, these excavations exceeded the stipulated work by an additional 155 square feet.

Methods

Based on the orientation of the Vanderhorst mansion, a grid was laid in across the site at an orientation of N9°W. Units were established using a modified Chicago 10-foot grid, with each square designated by its southeast corner, from a 0R0 point at the southwest corner of the site. Thus, the southeast corner of square 10R20 would be located north 10 feet and right (or east) 20 feet from the 0R0 point. Permanent points were established for the grid on the north side of the main house and these points are located in relationship to the standing Vanderhorst mansion. Vertical control was maintained through the use of a nearby temporary benchmark (a concrete marker located at 760R480) with a mean sea level (MSL) elevation of 10.58.

The excavations at 38CH127 were conducted using gross natural stratigraphic zones. Zone 1 consists of brown loamy sand with varying densities of brick, mortar, shell and plaster rubble, varying in depth from 0.5 to 1.5 feet. Below this zone are the remnants of the old humic zone at the site, termed "below rubble", which varies from 0.3 to 0.6 foot in depth. This zone largely produced earlier historic material. The Zone 1 rubble decreases in depth quickly as one moves away from structures and it is replaced by a brown humic sand, also termed Zone 1. Zone 1A consists of dense shell midden which varies from 0.3 to 1.0 foot. Zone 2, when found, consists of very clean light yellow sand which appears to be fill brought into the area. This zone is generally 0.8 foot in depth. Below Zone 1 or 2 lies a tan to yellow sandy subsoil. Excavations at structures were separated by interior and exterior areas. Field observation indicated that artifacts appear to be generally earlier in the interior of structures.

Soil from the various units was dry screened through ¼-inch mesh using mechanical sifters, except in shell midden areas and features where ⅛-inch mesh was used. In areas of shell middens, column samples (measuring 2.25 feet square in a 10-foot unit and representing a 5% sample) were retained for further analysis. Shell, mortar, brick rubble, marble, and slate were routinely separated out and weighed prior to being discarded in the field (samples of each, however, were collected). Units were troweled at the base of Zone 1 (or Zone 2), photographed in b/w and color slides, and plotted.

All features encountered were excavated either totally or in part, depending on their size, complexity, location, and nature. Typically features were bisected to provide a profile and all feature fill was screened through ⅛-inch mesh. Features were plotted before and after excavation and were also photographed in b/w and color slides.

Field notes were prepared on pH neutral, alkaline buffered paper and photographic materials are being processed to archival standards. All original

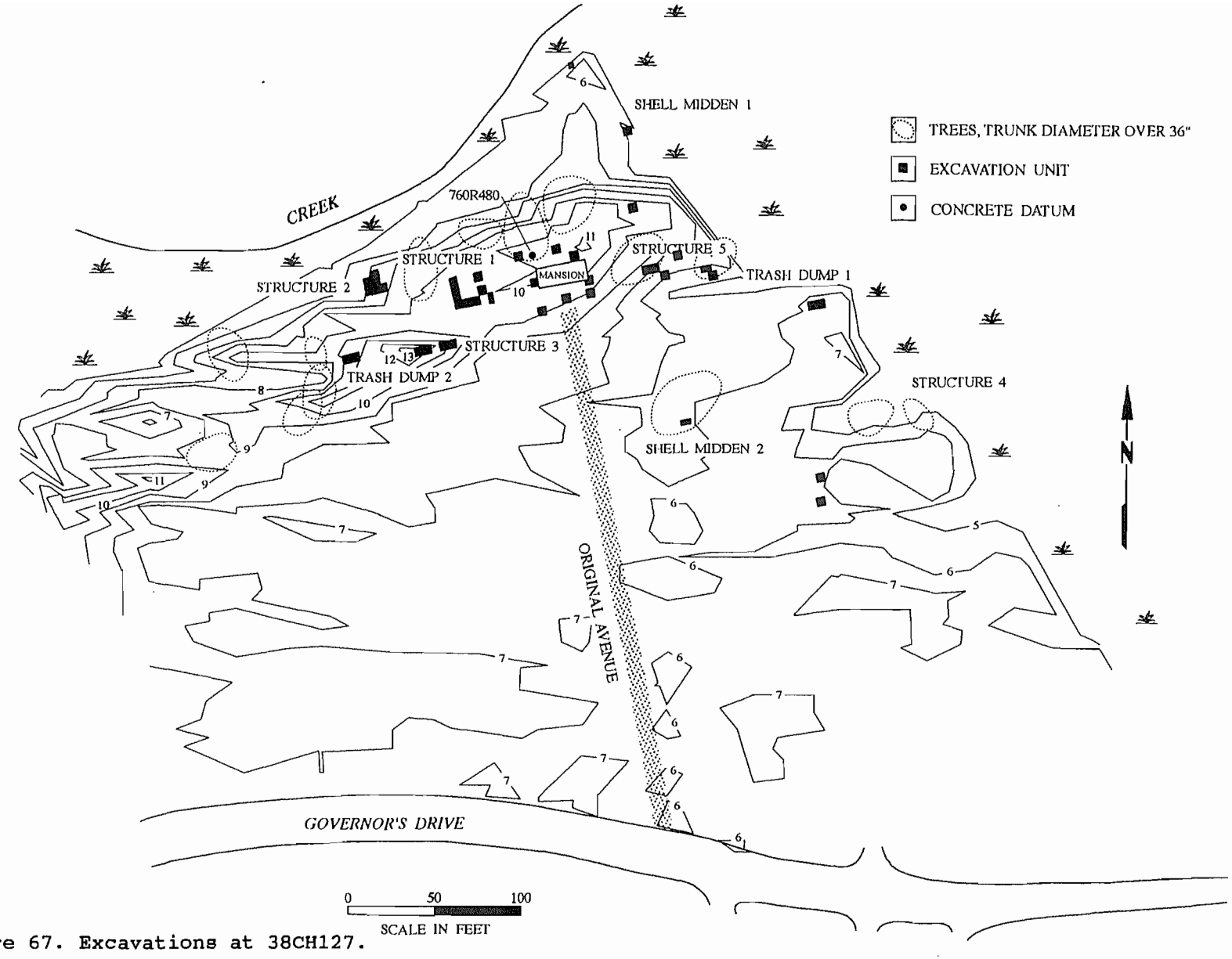


Figure 67. Excavations at 38CH127.

field notes, with archival copies, are curated at The Charleston Museum. All specimens have been evaluated for conservation needs and were treated prior to curation.

Archaeological Investigations

Vanderhorst House

A total of eight units (all 10 x 10 feet) were excavated at the main house. These units were placed in various areas of the yard, not only to quantify yard refuse around the house, but to also locate evidence of walkways and stair supports (Figure 68). Excavations revealed that the artifacts were primarily architectural (i.e., window glass and nails) and most of the materials were mid to late nineteenth and twentieth century in date. Zone 2, which appears to be fill brought into the area, contained earlier artifacts (i.e., creamware, delft, white salt glazed stoneware, and pearlware) as did a fill feature (Feature 2) located southwest of the house. Feature 2 also contained lenses of charcoal which indicates some type of burning episode. This feature was roughly linear running southwest-northeast, containing a tan sand matrix, architectural rubble, charcoal lenses, and eighteenth century artifacts. The width of the feature varied from 4.2 feet to 6.3 feet with a maximum depth of 0.66 feet. The entire length of the feature is unknown since it was not entirely exposed. Based on the early artifacts and the overlying fill, this feature predates the construction of the standing mansion.

North of the house, portions of two episodes of stairway supports were found. One apparently dates from the early twentieth century and is documented in historic photographs. It consists of two brick piers, 3.7 feet apart, which are centered on support holes in the porch. The other is earlier and appears to be related to the brickwork repairs noted in the north portico (Figure 69). These earlier supports consist only of mortar rubble. In addition, a probable shell walkway was uncovered north and north-northeast of the house. This walkway extends from the east side of the house to a point where a slough meets the Kiawah River. It consists of a relatively thin layer of crushed shell containing few artifacts. A portion of the builder's trench (Feature 3) along the east wall of the house was excavated, yielding very few artifactual remains. This suggests that the house was built in an area with no previous occupation. The feature averaged about 1.4 feet wide and was excavated to a depth of 3.36 feet below the base of Zone 2.

Structure 1

A total of 10 units (seven 10 x 10 foot units and three 5 x 10 foot units) were excavated at Structure 1. These excavations revealed two pier systems oriented N9°W, one built outside and around the other (Figure 70). This may represent some minor enlargement of the structure or, more likely, a major repair/rebuild.

A careful examination of the brickwork reveals that the inner piers are laid up using bricks smaller than those found in the outer piers and on the Vanderhorst mansion. Consequently, it seems likely that the inner piers represent a structure pre-dating the 1801 construction of the second Vanderhorst Plantation and may date from the original eighteenth century Vanderhorst settlement on Kiawah. During the rebuild, the structure was slightly modified, using the earlier piers and simply increasing their height as necessary, using the larger bricks. The outer piers are laid up entirely using the larger bricks.

The interior set of piers indicate that the structure measured 16.7 by 35.2 feet, while the exterior piers indicate the structure being enlarged to 18.8 by 36.8 feet. A possible porch was found on the north side (9.5 feet wide) and the east side (2.7 feet wide). Also, a portion of a central firebox (measuring 4.3 by 7.6 feet) was exposed (photographs of this structure reveal that the chimney

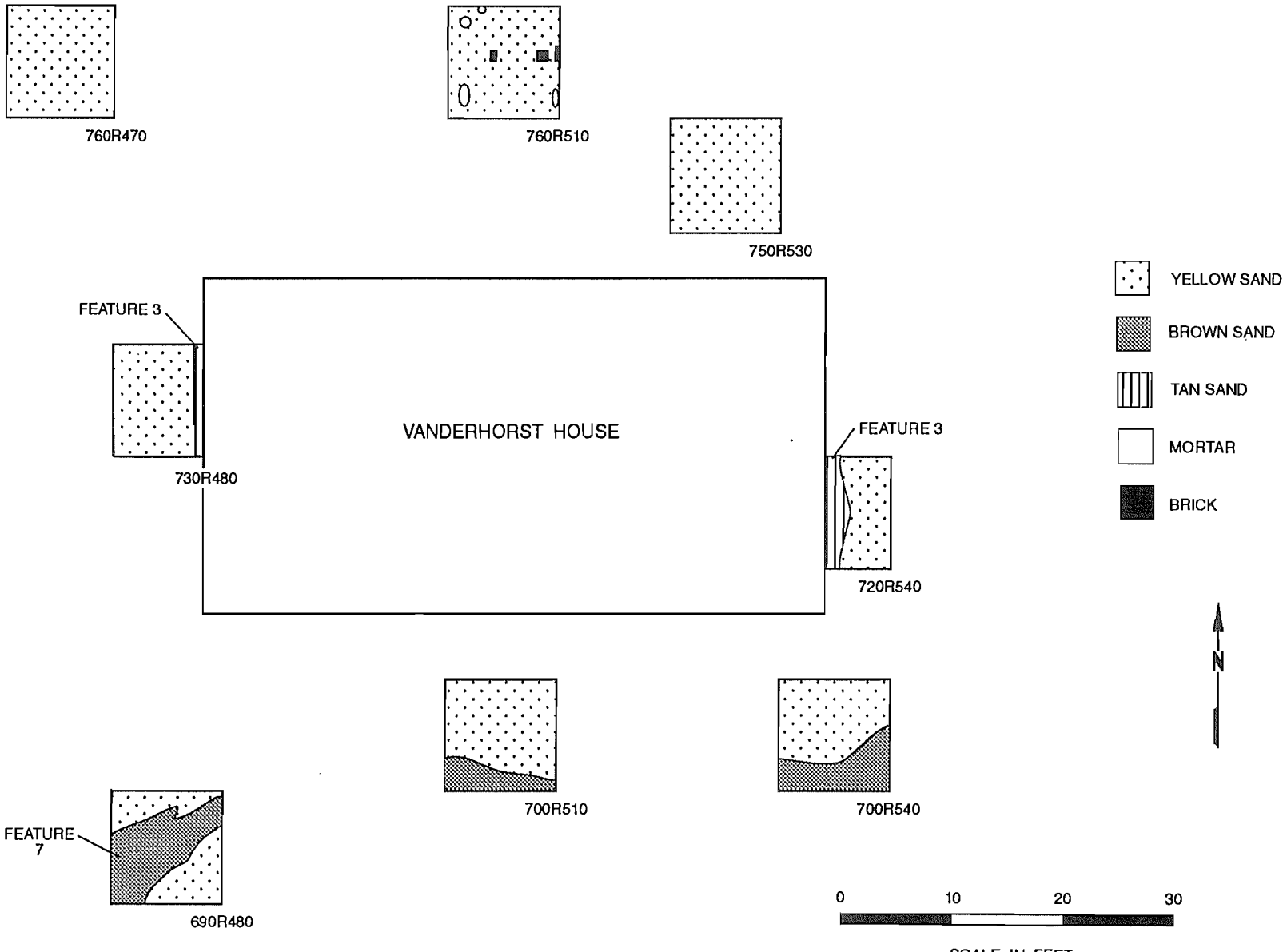


Figure 68. Plan view of excavations in the main house area.

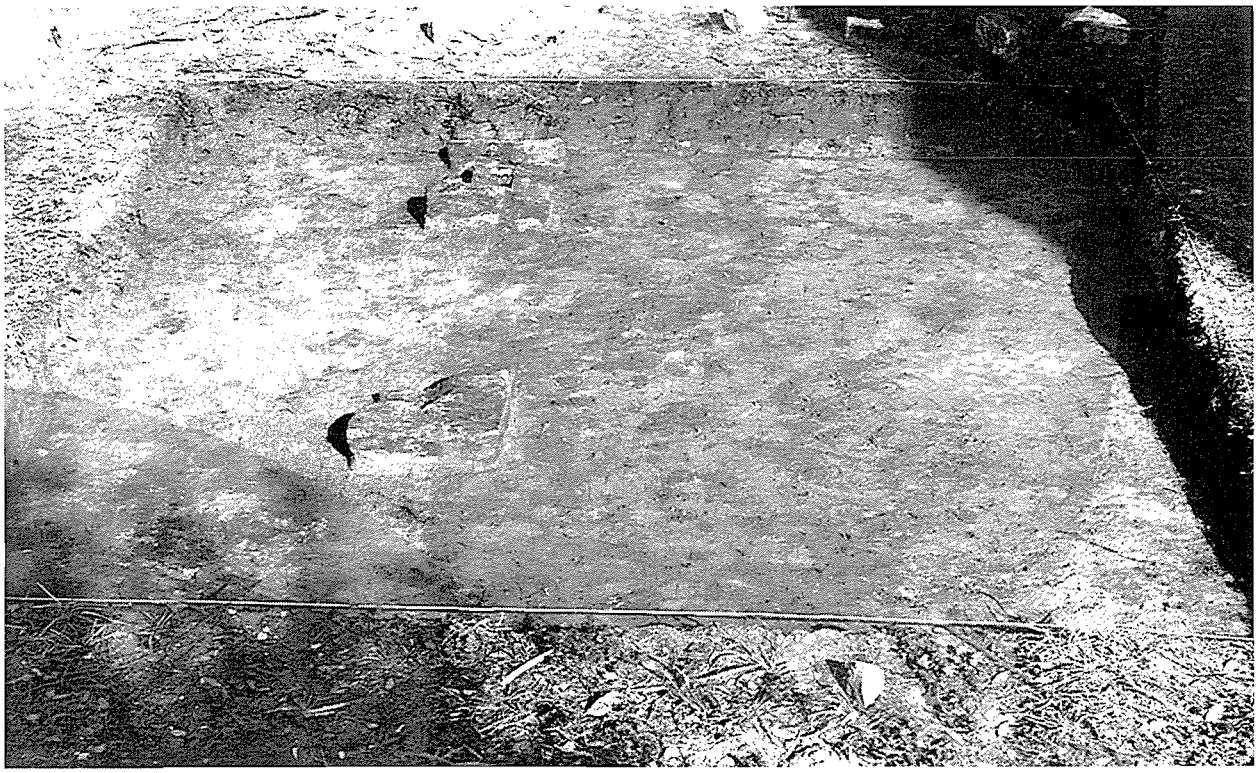


Figure 69. Stair supports on north side of the Vanderhorst Plantation house.

stack was identical to those on the main house; Figure 71). Excavations in and around the structure yielded a relatively large number of buttons, food bone, and ceramics, which correspond with oral tradition that the building functioned as both a kitchen (east side) and a wash house (west side).

Additionally, there appear to be two fairly discrete use periods -- represented by creamware with very little pearlware, then later by whiteware, amethyst glass, crown cap bottles, tin cans, and other late materials. The zone beneath the brick rubble contained the earlier material. The earlier materials appear to pre-date the existing plantation house and may represent trash from the pre-Revolutionary War period structure.

Structure 2

A total of six units (four 10 x 10 foot units and two 5 x 10 foot units) were excavated at Structure 2 (Figure 72). These excavations revealed a brick pier building with a firebox (Feature 5) and an annex firebox (Feature 6) side by side oriented N21°W (Figure 73). These fireboxes were poorly constructed. The bricks were not properly aligned which suggests that it was quickly built, possibly for temporary use. The structure measures 15.2 by 15.5 feet. The diversity of artifactual remains is similar to that found at Structure 1. Again, there appears to be two use periods, represented by creamware and then whiteware. Very little pearlware was found. It was noted that the earlier materials were concentrated in and around the firebox areas (apparently representing building fill), while the later materials were more scattered. The early artifacts were generally high status (e.g., hand painted and transfer printed wares, jewelry items, and thin etched glass table wares).

Excavations in the fireboxes features yielded primarily creamware and

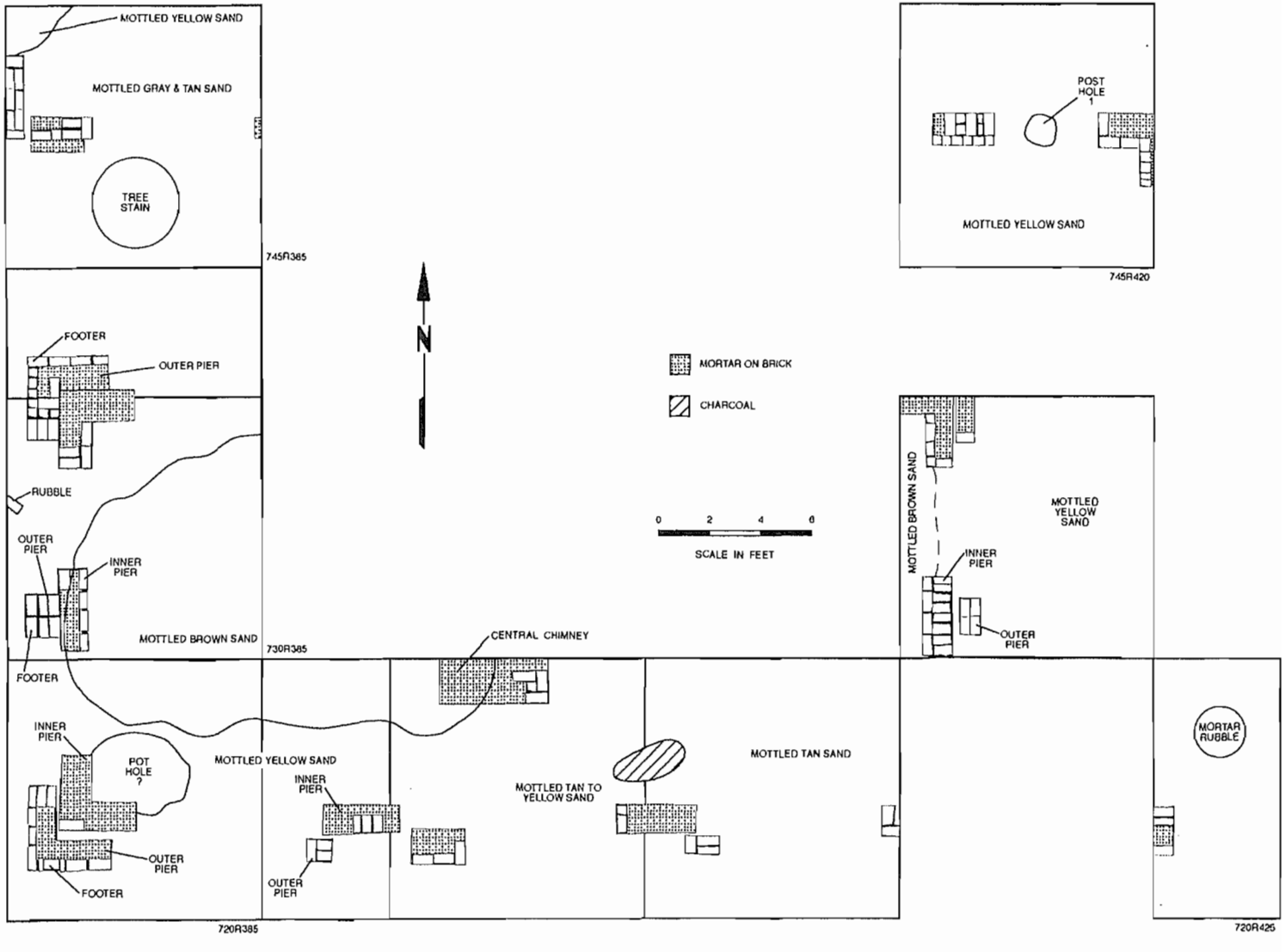


Figure 70. Plan view of Structure 1 excavations.

Figure 71. The Vanderhorst kitchen (Structure 1) in the early twentieth century.

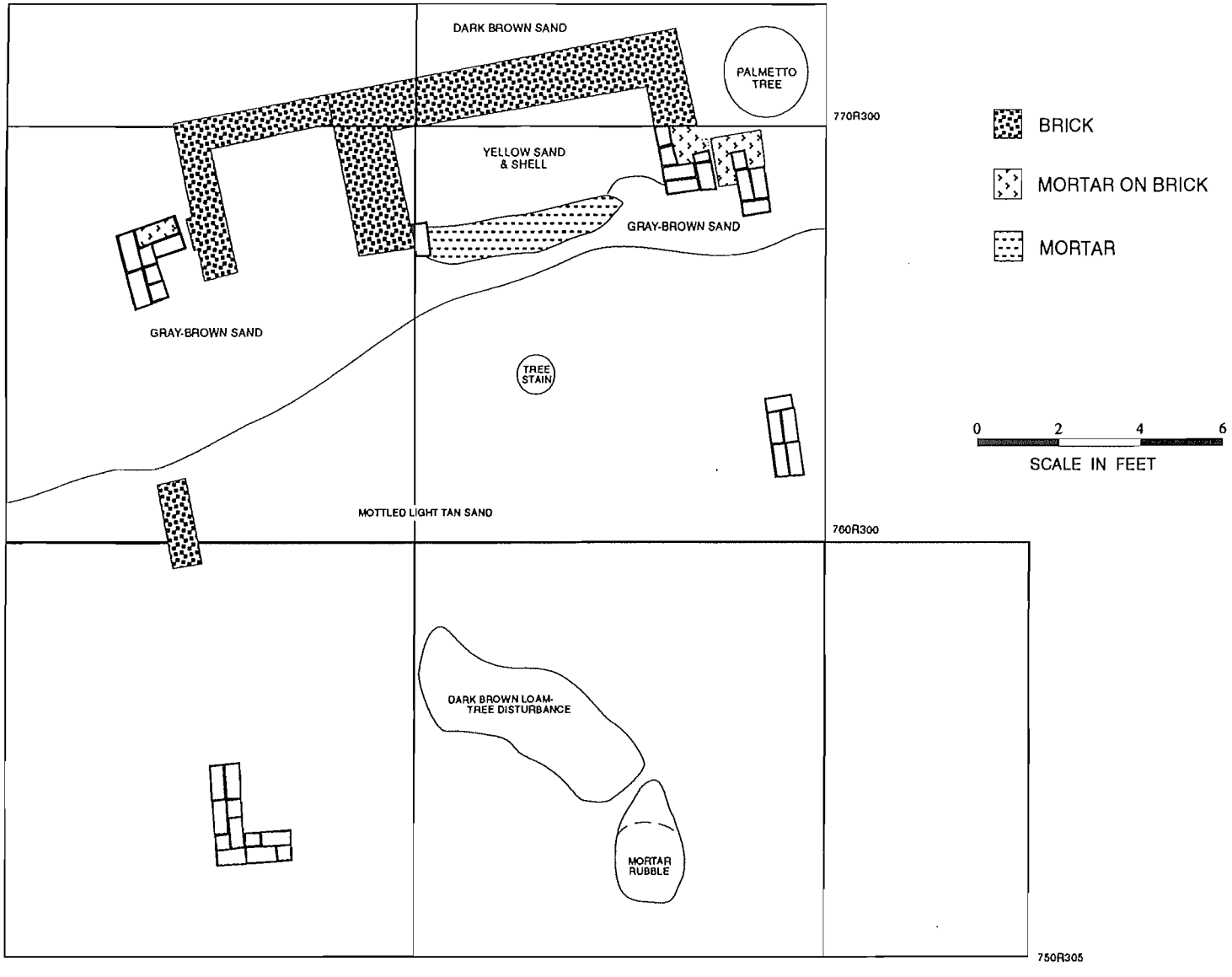


Figure 72. Plan view of Structure 2 excavations.

Figure 73. Structure 2 excavations, northeast view.

animal bone. The fill contained tan/yellow sand with oyster shell and some brick rubble. Feature 5 (the annex firebox) measured 1.5 by 1.5 feet in the interior. Feature fill sloped to a depth of 1.25 feet in the rear of the firebox. Feature 6 (the main firebox) measured 3.2 feet wide and 1.3 feet deep in the interior. Feature fill sloped to a depth of 1.2 feet in the rear of the firebox.

It seems likely that this structure, dating from the 1801 rebuilding episode, used earlier material as fill, giving an appearance of an earlier occupation. This structure appears to have functioned as a temporary kitchen to be used until the first kitchen (Structure 1) could be rebuilt. The two fireboxes probably served as a main cooking unit and a bread oven. Firebox arrangements such as the one found at Structure 2 are not uncommon in South Carolina (Figure 74).

Structure 3

A total of four 10 x 10 foot units were excavated at Structure 3 (Figure 75). These excavations revealed a dense shell/trash midden (0.9 to 1.1 feet in depth) dating primarily from the mid-nineteenth through the twentieth centuries, although some earlier materials were also recovered. Shell consisted primarily of whelk with some oyster. It was noted that there are several other areas of the site which exhibit this same midden signature, and appear to be related to the freedmen occupation. In one unit (690R370) there was a zone beneath the rubble. This zone consists of a black greasy loam with shell and brick rubble. Artifacts appeared to date only slightly earlier than the artifacts from the zone above. At the base of excavations, an east-west linear stain of mortar associated with burnt sand was discovered as well as an area of dense brick rubble to the south which appears to be a chimney fall (Figure 76). The mortar stain represents an ephemeral chimney, nearly identical (but in poorer condition) to Structure 4a.

Figure 74. A Low Country kitchen with two fireboxes (South Caroliniana Library photo).

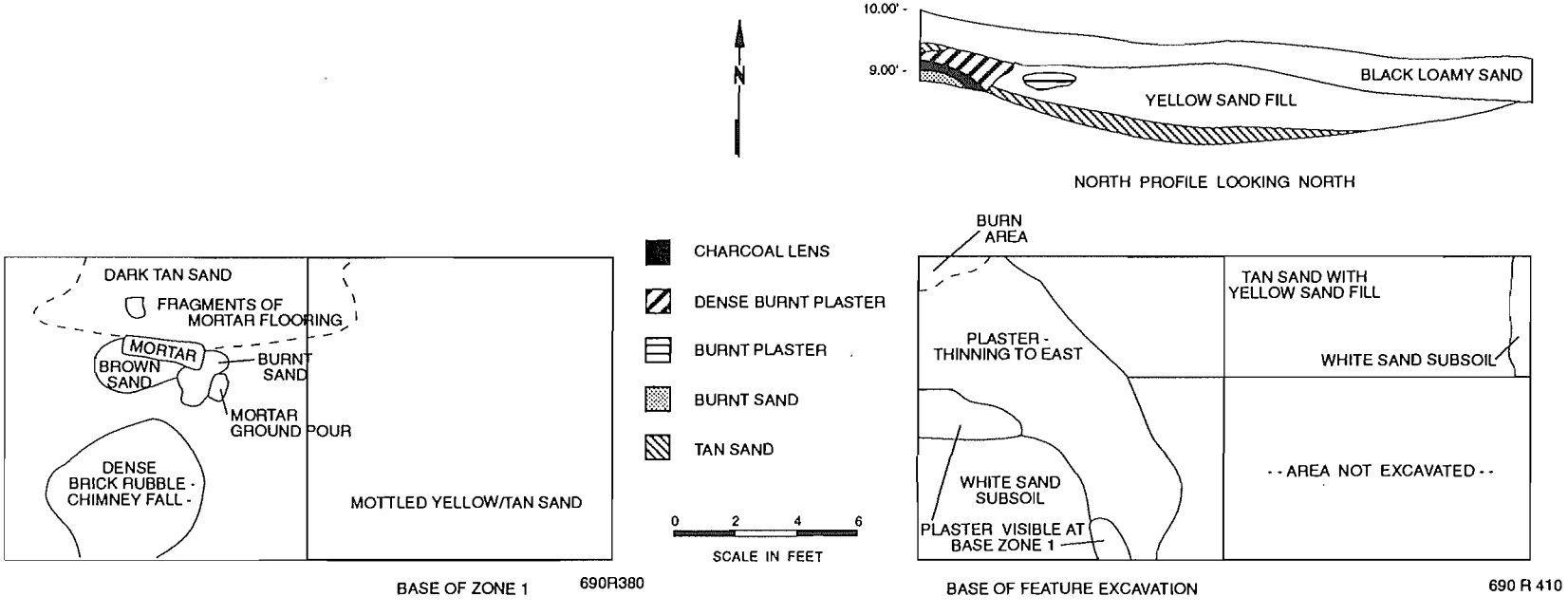


Figure 75. Excavations at Structure 3.

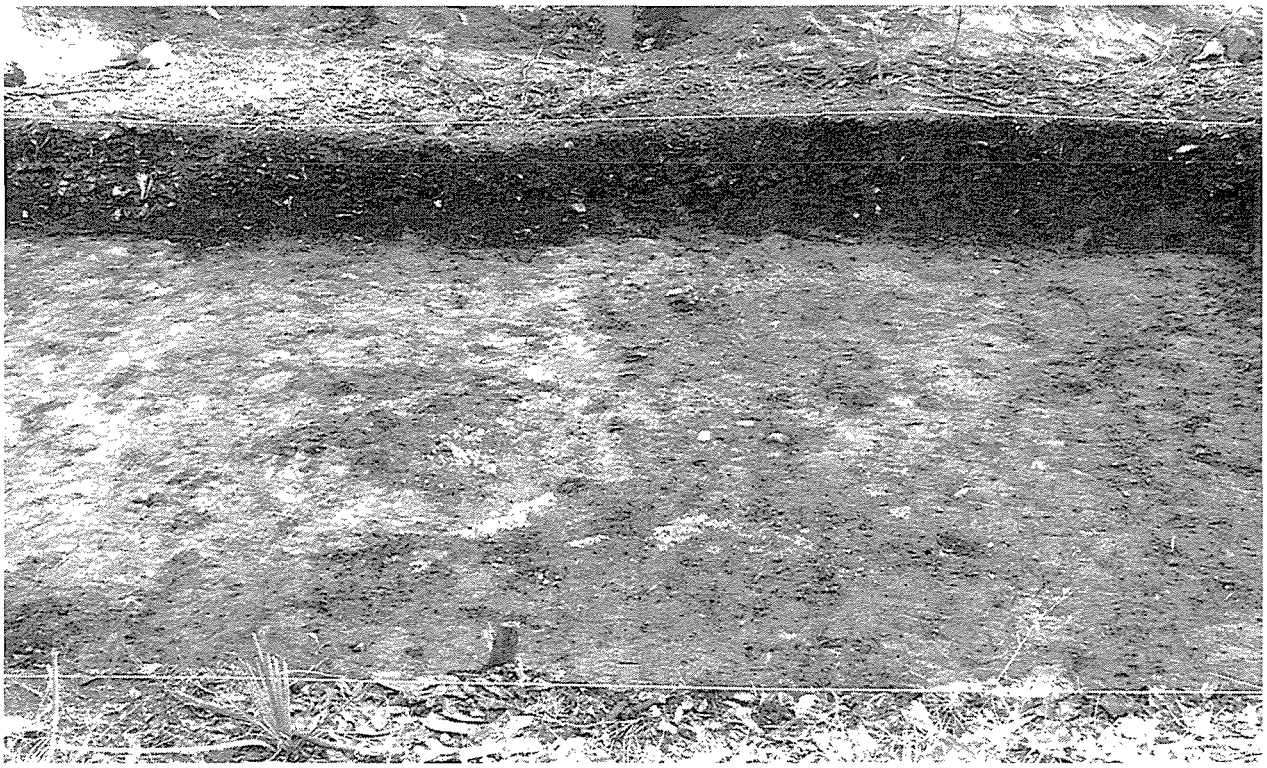


Figure 76. Chimney remains at Structure 3.

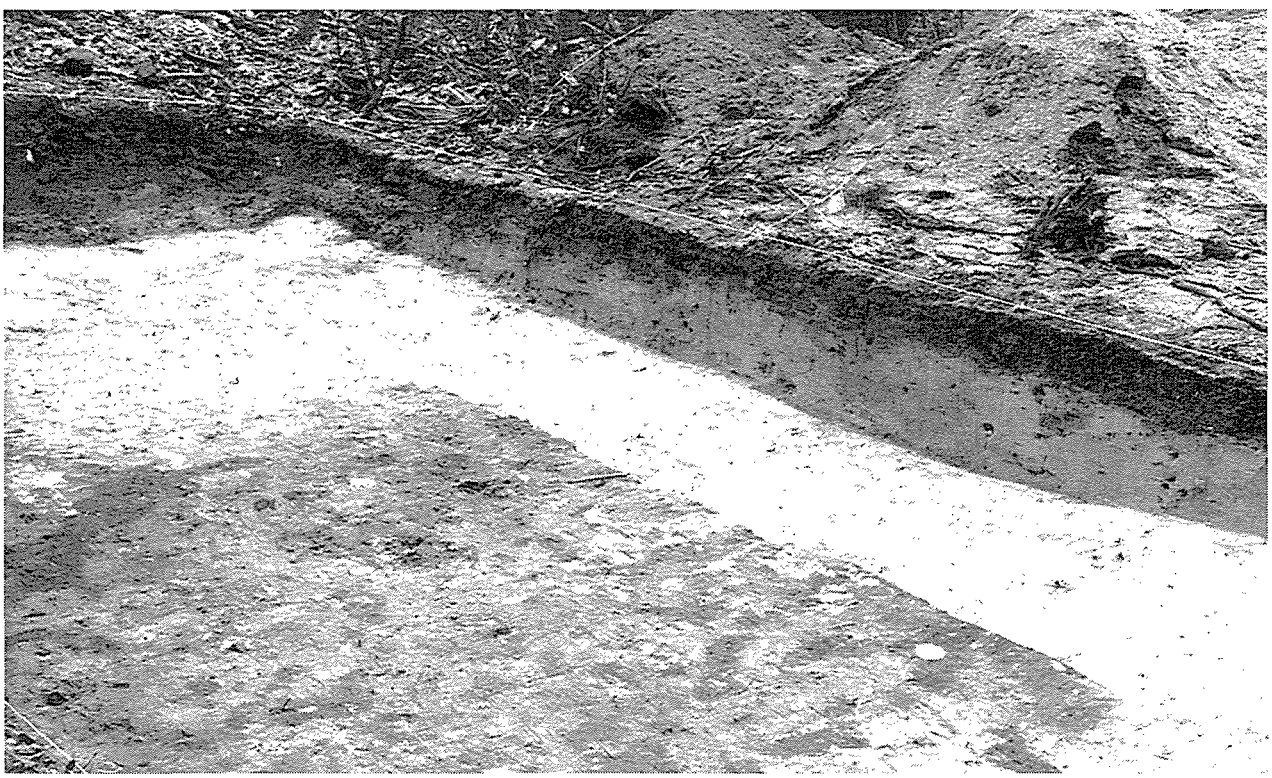


Figure 77. Feature 7 at Structure 3, profile.

Excavations further to the east revealed late materials as well, overlying a yellow sand cap (Feature 7). Excavation of this cap (Figure 77) indicated that it covered an early structural burn. There is evidence of a very hot, intense fire with a concentration of plaster rubble and little else associated with a depression which may be a foundation footing. The few artifacts recovered were early (creamware, Nottingham, white salt glazed stoneware, and wrought nails) and are thought to be related to Vanderhorst's pre-Revolutionary War occupation of the property. The main house was reportedly burned during the war. Other structures there may have been burned on destroyed as well. It seems likely that the burn was perhaps salvaged, leveled, and then covered with a yellow sand cap to "clean up" the area prior to the construction of the 1801 plantation settlement. A similar sand cap was found immediately east of the main house (Feature 2), in the south yard of the main house, and may have been used as fill material for Structure 2.

Structure 4

A total of four 10 x 10 foot units were excavated at Structure 4. These excavations were placed in two localities of a broadly defined area. Each locality was investigated with two 10 x 10 foot units. The archaeological survey (Adams and Trinkley 1991a) did not suggest any discrete localized concentrations of materials suggesting individual structures, so it was recognized that more than one structure might exist.

An area on a point adjacent to a marsh slough was investigated to examine the north side of the slough. The excavations uncovered the remains of an ephemeral structure (designated Structure 4a), partially eroded into the slough (Figure 78 and 79). This structure is represented by a poured mortar base for a firebox (Feature 4) measuring approximately 2.2 by 4.0 feet, oriented N53°E. The floor of the structure is a brown sand with crushed shell, while outside the structure the soil is yellow sand. No posts were identified with the structure, suggesting an ephemeral building technique, similar to that of an isolated structure excavated on Spring Island (see Hacker and Trinkley 1991:104-109). Patches of burnt sand recognized in the area were interpreted to be outside of the structure, suggesting that the structure had burned down. The floor area was not entirely exposed and parts of it may have eroded into the marsh, so the size of the structure is unknown. Artifacts associated with the building primarily date to the early postbellum period.

Another area (designated Structure 4b; see Figure 67) investigated was examined based on the presence of surface remains (primarily whelk and bottle glass). Excavations revealed a relatively dense shell/trash midden. Shell (like at Structure 3) was primarily whelk and oyster, and artifacts were composed of postbellum through early twentieth century remains. The majority of artifacts were bottle and jar glass, including mason jars and crown cap bottles, with some whitewares. Also found was evidence that electricity was available, based on the presence of light bulb fragments and electrical switches. No architectural features were encountered, which may not be unusual based on the ephemeral nature of the structure located on the point adjacent to the slough (Structure 4a). Alternatively, the excavations may not have been placed in a house area. Although not investigated, another trash area identical to this was found while laying the base line, approximately 50 feet to the north, also within the confines of the loosely defined Structure 4 area.

Structure 5

A total of four 10 x 10 foot units were excavated at Structure 5 (see Figure 67). These excavations revealed no clear architectural features, although brick, slate, nails and other architectural remains clearly indicate that a structure was once in this area. The artifacts can be described as yard scatter or smear. It was noted that the artifacts were generally earlier at the base of

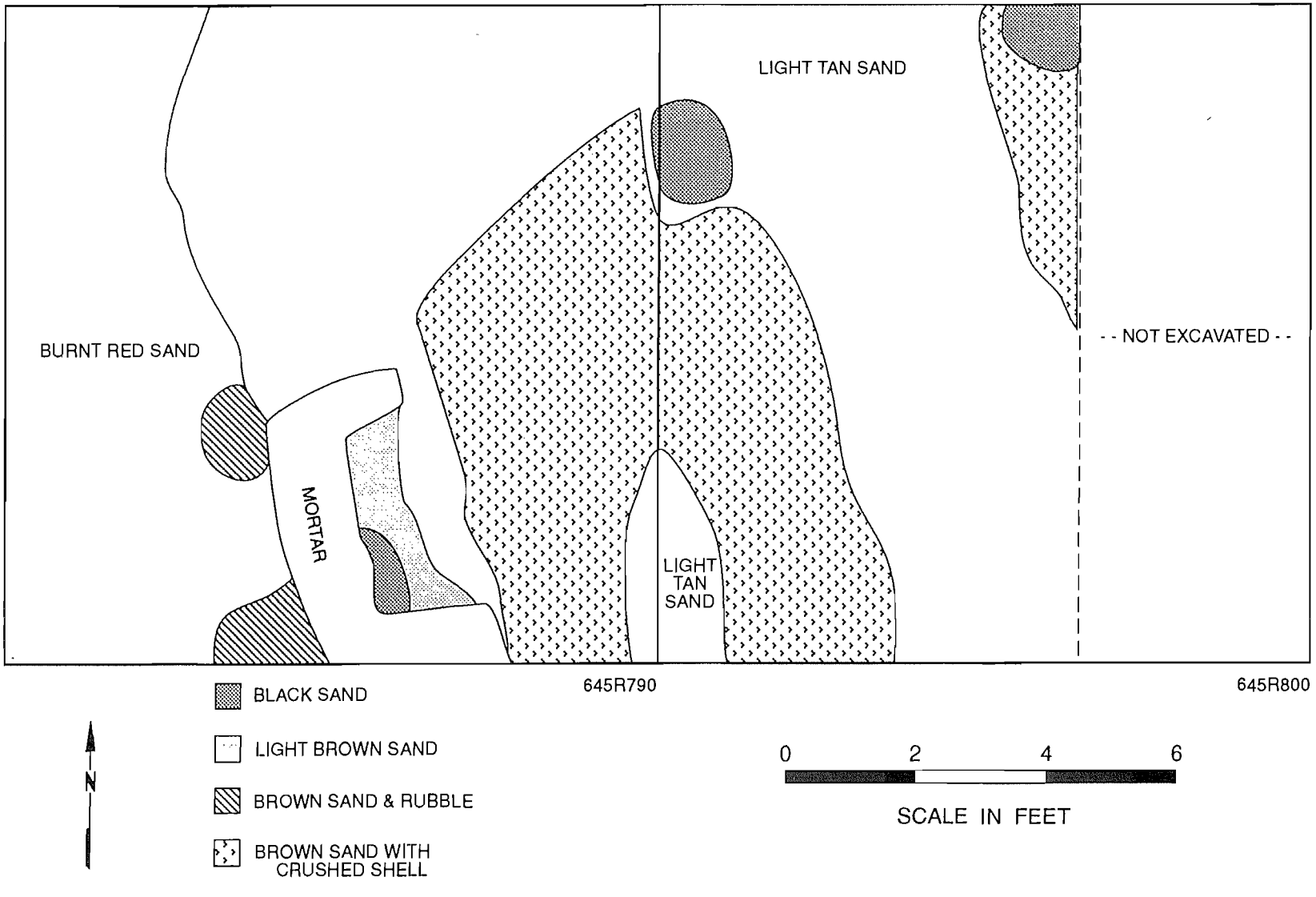


Figure 78. Plan view of Structure 4a area.

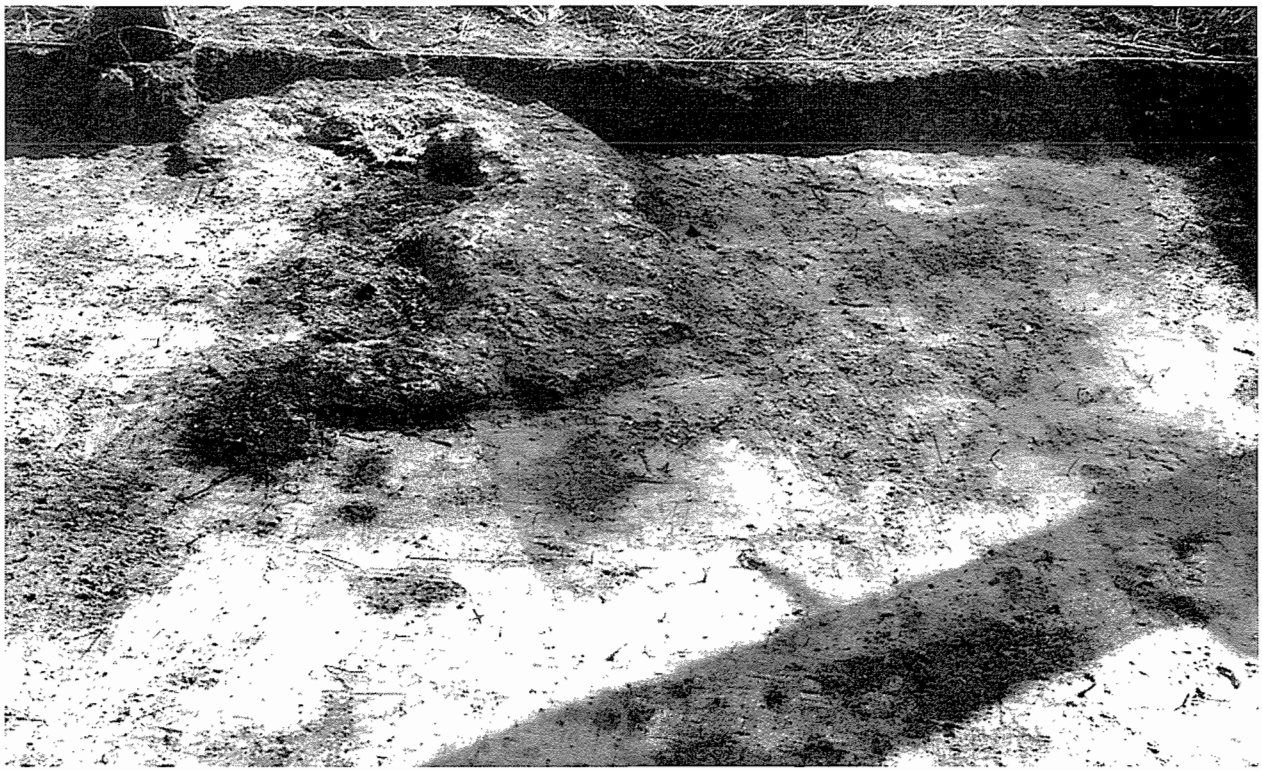


Figure 79. Structure 4a tabby mortar chimney base, southeast view.

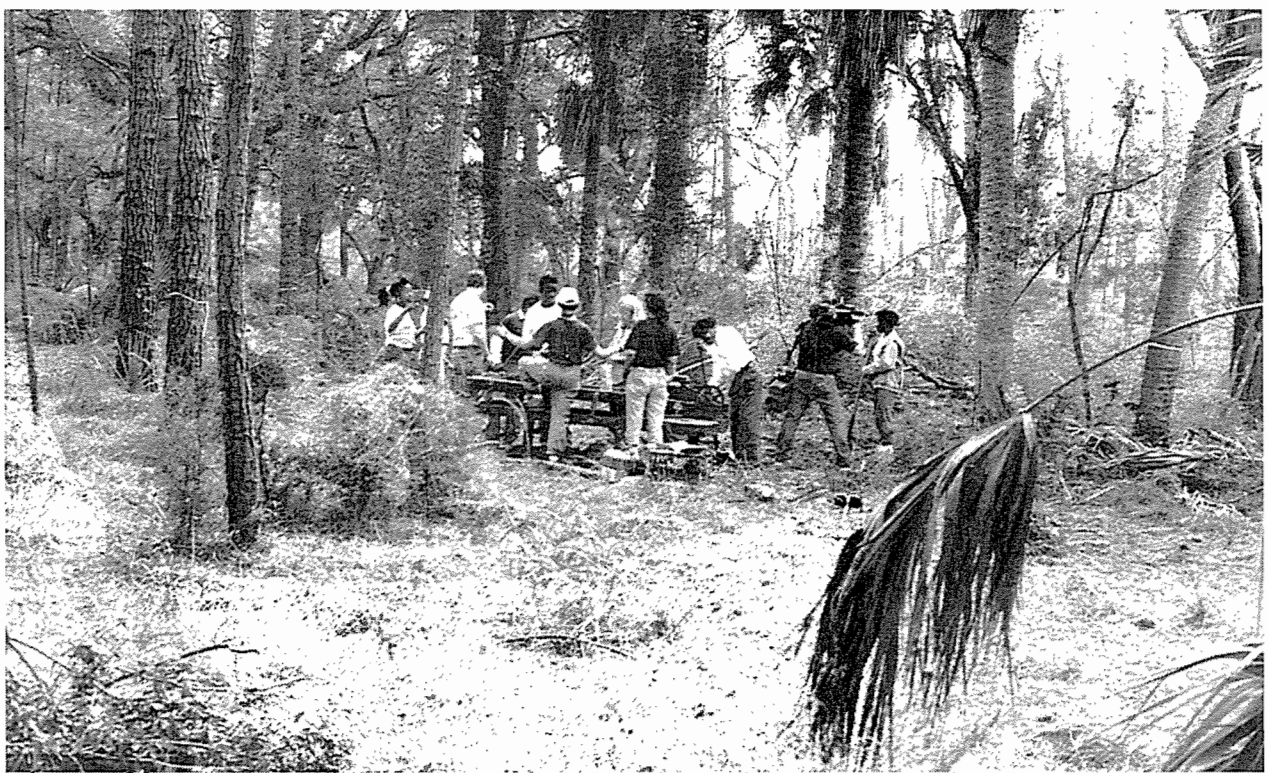


Figure 80. Students from Lincoln High School in McClellanville excavating the remains of Structure 4b.

excavations (e.g., Colono ware, creamware, slipware) while the upper portion of the excavations contained primarily whiteware and manganese glass. This upper level appears to be erosional deposit from up slope, while the lower portion represents original humus or A horizon. The low status nature of the early ceramics indicate that the building may have served as house slaves' quarters.

Shell Midden 1

A total of three units (two 10 by 10 foot units and one 5 x 5 foot unit) were excavated in the Shell Midden 1 area (see Figure 67). Investigations indicated a very shallow (0.2 to 0.4 foot), primarily oyster, midden containing very few historic artifacts and only one or two prehistoric sherds. No subsurface features were encountered. This midden, made more visible by clearing conducted by KRA in anticipation of the archaeological research, began adjacent to the high ground east of the main house and extended as a broad arc north and west, along the edge of the marsh. The midden is found as a shallow lens, slightly heaped for drainage, on top of a narrow ridge along the marsh edge. Much of the shell was crushed and found as a regular lens, unlike trash middens where shell is found in irregular heaps. Both the archaeological investigations and topographic setting of the midden suggest that it served as an intentionally laid pathway. The path runs from the ridge east of the main house, along the marsh, to a point or landing at the confluence of the Kiawah River and a large slough. This reconstruction receives some support from the historic research. A letter was found referring to shell pathways at Round O, Vanderhorst's plantation on the Ashepoo River. It seems possible that similar pathways would have been used on Kiawah. This finding is particularly important since it provides some understanding of the antebellum plantation landscape.

Shell Midden 2

A total of one 5 x 10 foot unit was excavated at Shell Midden 2 (see Figure 67). Here the midden was also very shallow (0.2 to 0.5 foot), similar to Midden 1. Virtually no artifacts were contained within the shell lens, although a few were recovered below the shell. These consisted of a mixture of both early and late material as well as some architectural rubble. No subsurface features were encountered. This area appears to be highly disturbed and it is possible that it represents the remains of a midden similar to those found in the vicinity of Structure 4.

Trash Midden 1

A total of three units (one 10 x 10 foot unit and two 5 x 5 foot units) were excavated at Trash Midden 1 (see Figure 67). The soils consisted of wet marsh mud with dense concentrations of architectural rubble. Iron artifacts exhibited heavy corrosion, while animal bone was in an excellent state of preservation. Ceramics consisted almost exclusively of creamware and utilitarian stonewares. The sherds were in general larger than found in other parts of the site, with several vessels being partially reconstructible. Most of these artifacts are relatively early. Only a few whitewares and pearlwares were recovered, which suggests that this probably represents an earlier dumping area (associated with Vanderhorst's initial settlement) that was not used after the late eighteenth century. One feature (Feature 1) was encountered and was partially exposed. It consists of a shallow depression (0.3 foot in depth), probably oval shaped, containing large fragments of redware roofing tiles and corroded iron artifacts. It probably represents an unconformity in the slough rather than an actual feature.

Local informants report that large quantities of historic remains (specifically mentioned items include bottles, ceramic fragments, and animal bone) were exposed during work in the marsh slough east of 38CH127. It appears that the slough was a favorite repository for Vanderhorst's trash, accounting for the low density of remains found in sheet middens elsewhere on the property and

offering a cautionary tale for those attempting to reconstruct plantation life at other low country site.

The destruction of this associated plantation dump was the result of laying electrical transmission lines in the slough by a local electrical cooperative. We understand that an archaeological survey was conducted, but likely the slough was thought to have a low potential for archaeological resources -- offering yet another cautionary tale to those responsible for protecting the public's historic resources. Had the history of the Vanderhorst Plantation been better understood, there might have been some effort to explore the slough -- perhaps resulting in the recovery of the plantation refuse.

Trash Midden 2

A total of two 10 x 10 foot units were excavated at Trash Midden 2, located in a depression between two dune ridges (see Figure 67). In the upper portion of the excavations artifacts consist of primarily early twentieth century materials while the lower portion consisted of primarily pearlwares which exhibited relatively high status decorations(hand painted and transfer printed wares are common). This trash disposal area was apparently intensively used around the turn of the eighteenth century. Below Zone 1 is erosional deposit from the surrounding dune. Probing beneath this deposit revealed dark gray marsh mud with no artifacts. In the southwest corner of the excavation was a depression originally thought to be associated with a well. Excavation of the dark stain surrounding this depression revealed that the removal of a large palmetto tree for use in landscaping rather than a well.

Interpretation

These excavations have explored portions of the Vanderhorst plantation main settlement representing pre-Revolutionary War period occupation through early twentieth century occupations. Excavations around the main house suggest that it was built in an area of the plantation not previously occupied.

Although the precise location of the burnt pre-Revolutionary War period house is still speculative, early burnt remains were found in the area of Structure 3 as well as southwest of the main house. The presence of a large quantity of plaster suggests the possibility of a high status structure. The paucity of early artifacts and other architectural remains, may be explained by both the very nature of plantations on Kiawah during this early period and by subsequent salvaging.

Kiawah was remote throughout the nineteenth and early twentieth centuries. It was even less accessible and more hostile in the eighteenth century. Plantations in such a remote area would have been rustic, providing only the most basic amenities. Further, it is unlikely that their owners would have left many items unattended, instead moving possessions from town to country and back again, as the need arose. Vanderhorst's early settlement on Kiawah lasted less than a decade -- minimizing the amount of materials discarded or lost.

Excavations at Structure 1 (the kitchen/wash house) revealed two building and one repair episodes, as well as two relatively distinct temporal periods. The earliest occupation suggests that the kitchen may have been built at the same time as the original house. It was possibly enlarged after the existing house was built. Artifacts associated with the later use of this structure corresponds with photographic evidence that the building was still standing in the early/mid twentieth century.

Structure 2 may also represent a kitchen with two fireboxes associated with the structure. One is relatively large (3.1 by 1.3 feet interior), while the other is somewhat smaller (1.5 by 1.5 feet interior) and may be a bread oven. Artifactual remains suggest that this building does not pre-date Structure 1.

This structure, as at Structure 1, also appears to represent two use periods -- represented by creamware and whiteware, with very little pearlware. This structure may have functioned as an interim kitchen while the kitchen at Structure 1 was being rebuilt.

Structure 3, while containing the early burnt feature previously discussed, also contains the remains of a badly deteriorated mortar chimney base of a later structure. This postbellum structure may have been very similar in construction to the building at Structure 4a. Overlying the Structure 3 remains was a midden consisting primarily of whelk and oyster with large amounts of bottle and jar glass, the archaeological "signature" for postbellum tenant remains at the Vanderhorst site. Artifacts in the midden ranged from creamware to whiteware and mason jars. The midden found here is identical to the midden found in the Structure 4b area, except that it contains an earlier component.

Excavations at Structure 5 revealed no evidence of in situ structural remains, although a large amount of architectural items were present. Early materials were recovered from the area, primarily lower status ceramics such as Colono ware and slipware, while the later materials may have eroded from up slope. In the absence of architectural features, many details remain unknown, although the low status nature of the ceramics suggest the possibility of house slaves' quarters.

Oyster shell middens at the Vanderhorst site are thin with few artifacts. Shell Midden 1, located along the bank of Vanderhorst Creek and a marsh slough may have functioned as a shell pathway, whereas Shell Midden 2, located inland, may represent a disturbed refuse dump.

Trash middens at the Vanderhorst site seem to indicate a change in disposal patterns over time. Both areas investigated suggest that during the eighteenth century remains were dumped in sloughs or low areas. Both dumps revealed primarily early artifacts, although Trash Midden 2 also contained some later remains. Trash/shell middens associated the postbellum occupation appear to be mounds located adjacent to structures. This may indicate an effort in the earlier period to deposit trash out of view, while during the postbellum period this effort was no longer made. Additionally, these excavated trash middens located in low areas may be part of the clean up and re-building efforts between the period when the first house was burned and the second one was built.

The goals of documenting a significant portion of the Vanderhorst plantation main complex have been achieved. This work has revealed evidence of a variety of structural remains and site types ranging from early kitchens to ephemeral postbellum period houses, colonial and antebellum trash deposits, postbellum trash middens, landscape features such as shell pathways, and a wide range of cultural remains. In addition, the work allows speculation on changing trash disposal patterns and documents the lifestyles of both elite and poor occupants.

Of particular interest is the near absence of pearlware at the Vanderhorst site. The creamware recovered, with a date range from the 1760s through 1820, may be related to both the eighteenth century and early nineteenth century occupation, immediately after the settlement was re-established in 1801. Pearlware was manufactured between the 1780s and the 1840s (South 1977:212). By 1813 whiteware was available and may have been selected over pearlware by the Vanderhorsts. The ceramic analysis is discussed in more detail in the following section of this chapter.

Analysis of Material Culture

Introduction

The 1992 excavations at 38CH127 have yielded 54,681 historic period

artifacts, the bulk of which date from the late eighteenth through mid-twentieth centuries. All of these remains are attributable to those living at Vanderhorst Plantation with a small amount relating to Civil War activities taking place in the area.

The investigations at 38CH127 examined six structures, two shell middens and two trash middens. These remains are discussed in one section, in spite of their dispersed distribution. Following the descriptive statements topics of dating, patterns, and status are discussed by structure and area, as appropriate.

The previous excavation section provides a thorough discussion of the various units and features and should be consulted for detailed information. These data, however, are synthesized here for the convenience of those using this section:

Vanderhorst House (800 square feet) - These units were placed to quantify yard refuse as well as to locate paths and stair case supports. Excavations revealed evidence for a shell walkway, two episodes of stair support construction, and an early feature associated with the pre-Revolutionary War occupation.

Structure 1 (850 square feet) - These units explored a kitchen/washhouse first associated with the eighteenth century Vanderhorst Plantation. The structure was rebuilt in the nineteenth century and continued to be used into the early twentieth century.

Structure 2 (480 square feet) - These units examined architectural details associated with a structure which appears to represent a second kitchen or a bakery. Brick piers were located as well as two fireboxes -- one larger and one smaller annex.

Structure 3 (400 square feet) - These units explored a nineteenth/twentieth century slave/tenant structure and trash dump. Evidence for an ephemeral tabby firebox was found as well as evidence of a feature filled with burnt structural debris associated with the first Vanderhorst settlement.

Structure 4 (400 square feet) - These units examined a large loosely defined area near a marsh inlet. Three structure areas were located and two were examined. One is an ephemeral early postbellum structure and two consisted of tenant period trash dumps very similar to the one found at Structure 3.

Structure 5 (400 square feet) - These units examined an early occupation of the Vanderhorst site, but located no architectural features. It appears to represent a slave occupation.

Shell Midden 1 (225 square feet) - These units revealed evidence for an intentionally laid shell walkway from the Vanderhorst House/Structure 5 area to the waterfront.

Shell Midden 2 (50 square feet) - This unit revealed a badly disturbed midden with early and late artifacts below the shell. It may be a trash midden similar to those found at Structures 3 and 4.

Trash Midden 1 (150 square feet) - These units revealed an early trash dump in a low slough area.

Trash Midden 2 (200 square feet) - These units examined an early trash dump located in a dune trough.

Descriptions and Interpretations

The 54,681 historic artifacts from the 38CH127 excavations will be discussed using South's (1977) artifact groups (e.g., kitchen, architecture,

etc.) since such an approach allows the quantification and discussion of artifacts in a broad functional framework. Several modifications of South's original classificatory scheme, however, are worthy of mention. First, following the lead of Garrow (1982b:57-66), Colono ceramics will be discussed with (and tabulated in) the Kitchen Artifact Group. In addition, the stub stem pipes have been included in the Tobacco Artifact Group (rather than in the Activities Artifact Group).

It should be noted here that tables in this chapter use abbreviations for structures and midden areas as a space saving measure and so that loci can be easily compared instead of being split up over two or more pages. These abbreviations consist of MH = Main House, ST1 = Structure 1, ST2 = Structure 2, ST3 = Structure 3, ST4a = Structure 4a, ST4b = Structure 4b, ST5 = Structure 5, SM1 = Shell Midden 1, SM2 = Shell Midden 2, TM1 = Trash Midden 1, and TM2 = Trash Midden 2. If loci are missing from tables, it means that there were no artifacts from that category, so no heading is given.

A large quantity of the historic artifacts from Vanderhorst have required some form of conservation by Chicora prior to curation by The Charleston Museum. Ceramic and glass artifacts did not require stabilization after the initial washing; no reconstruction of artifacts was attempted at this stage. The conservation of metal items has been detailed in **Chapter 3 - Research Strategy and Methods** and that section should be consulted for additional information.

As previously discussed, the materials from the Kiawah investigations have been accepted for curation by The Charleston Museum as Accession Number 1992.38 and have been cataloged using that institution's accessioning practices (ARL 42002 through ARL 42124). Specimens were packed in plastic bags and boxed. All materials were delivered to the curatorial facility at the completion of the conservation treatments.

Kitchen Artifact Group

Excavations produced 28,854 Kitchen Group artifacts. These include 7,264 Euro-American ceramics (25.2% of the group total); 334 Colono ceramics (1.1% of the group total); 20,481 glass container fragments (71.0% of the total); 509 specimens of tableware (1.8% of the group total), and 266 kitchenware items (0.9% of the group total).

The ceramics include a variety of both eighteenth and nineteenth century wares. Those with mean ceramic dates (MCD) typical of the eighteenth century include three underglazed blue Chinese porcelain (MCD 1730; South 1977:210), one overglazed Chinese export porcelain (MCD 1730; South 1977:210), three English porcelains (MCD 1770; South 1977:210), 23 Nottingham stonewares (MCD 1755; South 1977:210), 15 Westerwald stonewares (MCD 1738; South 1977:210), 19 white salt glazed stonewares (MCD 1758; South 1977:210), four scratch blue white salt glazed stonewares (MCD 1760; South 1977:210), four black basalt stonewares (MCD 1785; South 1977:210), eight British brown stonewares (MCD 1733; South 1977:210), 146 sherds of lead glazed slipware (MCD 1733; South 1977:211), six specimens of Jackfield ware (MCD 1760; South 1977:211), 34 Clouded wares (MCD 1755; South 1977:211), two specimens of decorated delft (MCD 1750; South 1977; 211), 26 specimens of plain delft (MCD 1720; South 1977:212), 10 sherds of North Devon gravel tempered wares (MCD 1713; South 1977:211), and 1,233 specimens of creamware (South 1977:212).

The creamware is recognized by an off-white (cream colored) paste and a distinctive yellowish lead glaze which exhibits a greenish color where thickly puddled (Brown 1982:15-16; Norman-Wilcox 1965:139). Types identified include 45 specimens of annular creamware (MCD 1798; South 1977:211), 33 specimens of hand painted creamware (MCD 1805, with a range of 1790-1820; South 1977:212), and 1,155 examples of undecorated creamware (MCD 1791; South 1977:212).

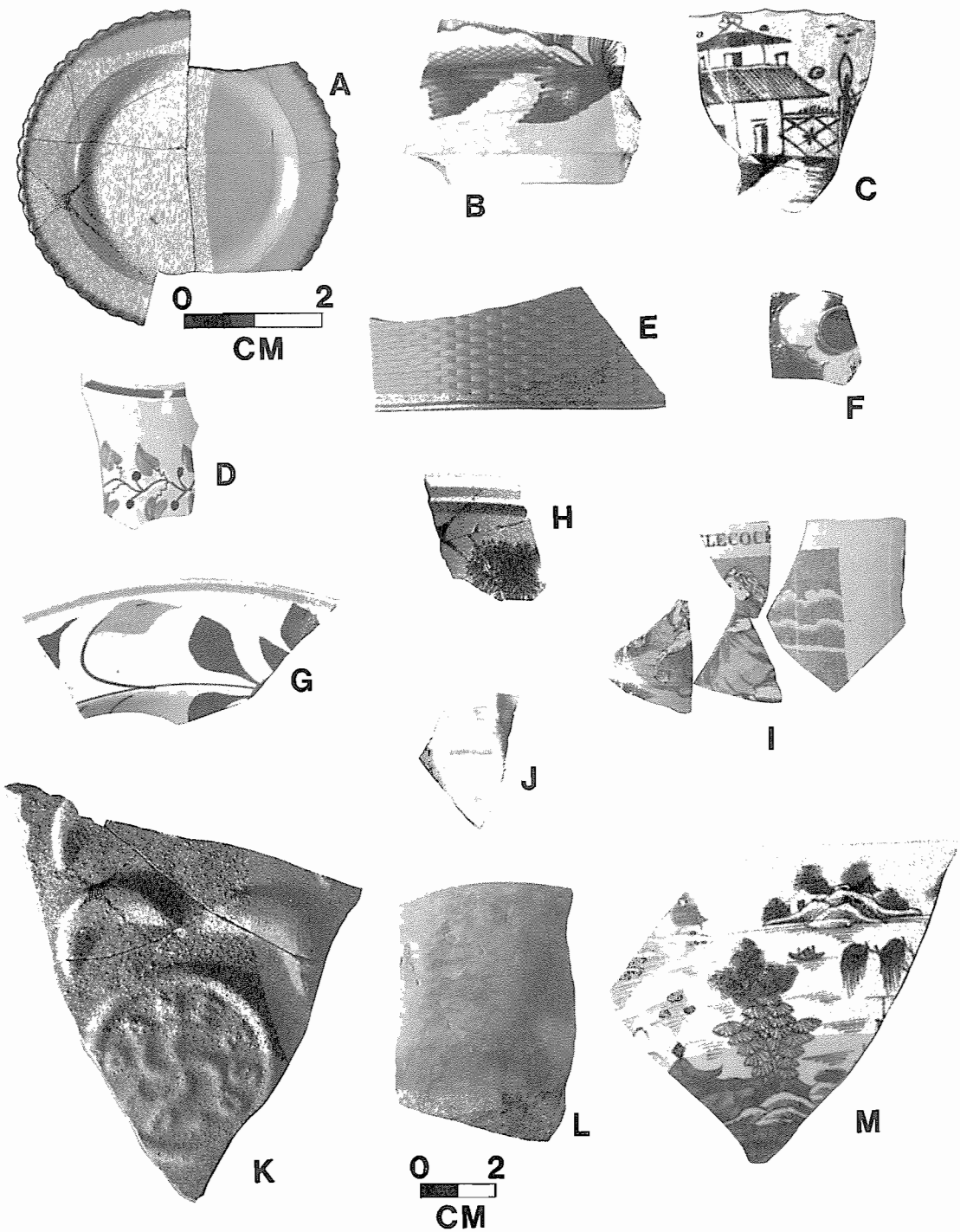


Figure 81. Kitchen related items from 38CH127. A, green edged pearlware; B-C, blue hand painted pearlware; D, polychrome hand painted pearlware; E, black basalt stoneware; F, Westerwald stoneware; G, polychrome hand painted whiteware; H, mocha whiteware; I, transfer printed whiteware; J, gilt whiteware; K, "Japaneeso" stoneware vessel; L, Colono ware; M, underglazed porcelain.

The nineteenth century specimens include 186 specimens of Canton porcelain (MCD 1815; South 1977;210), 646 specimens of pearlware, 3,725 examples of whiteware, and 188 sherds of yellow ware. In addition, gray or brown salt-glazed stonewares account for 274 specimens, alkaline glazed stonewares account for 19 specimens, Bristol and Albany slip wares account for 113 specimens, and unidentifiable stonewares account for 58 specimens. A total of 446 fragments of white porcelain were also recovered. Red earthenwares, which have a very long temporal range (see, for example, Lasansky 1979:6), account for an additional 38 specimens and include clear, black and brown lead glazed, as well as unglazed examples. A total of two burnt ceramics were recovered from the site and are not further classified.

Pearlware, characterized by a cream colored paste and a blue to white glaze, was perfected by Josiah Wedgewood in 1779 (Noel Hume 1970:128; Price 1979; South 1977:212). The most common type at Vanderhorst is undecorated (N=239), which probably represents fragments of an edge decorated ware and has a Mean Ceramic Date of 1805 (South 1977:212). Decorated pearlwares include mocha pearlwares (MCD 1843; South 1977:212), polychrome hand painted examples (MCD 1805; South 1977:212), blue hand painted specimens (MCD 1800; South 1977:212), specimens of blue transfer printed pearlware (MCD 1818; South 197:212), specimens of edged ware (MCD 1805; South 1977:212), and examples of annular ware (MCD 1805; South 1977:212).

The annular decorated fragments suggest an earlier date range because of the earthen color palette (Noel Hume 1970:131; Price 1979:18). The blue transfer printed pearlwares are found primarily in a dark cobalt blue, as are the hand painted specimens. The polychrome hand painted pearlware specimens exhibit earthen colors (Noel Hume 1970:128-129; Price 1979:20-21).

The largest category of ceramics from 38CH127 consists of whitewares (N=3,725). The difficulty distinguishing between whiteware and ironstone has been discussed by South (1974:247-248), who uses an "ironstone-whiteware" category, and Price (1979:11), who uses a "whiteware" category which includes ironstone. Both researchers point out that differentiating between whiteware and ironstone using vessel hardness (or degree of vitrification) is an uncertain or even invalid approach (cf. Worthy 1982). For the purposes of this study, whiteware will encompass both categories of ceramics.

Undecorated whiteware includes 3,152 specimens. Price notes that while undecorated whitewares "were probably introduced somewhat earlier [than decorated varieties], undecorated whiteware vessels were most common in the period following the Civil War" (Price 1979:22). It seems likely, therefore, that many of the fragments simply represent undecorated portions of decorated vessels.

Rather than using the broad category of "whiteware" for dating all specimens, regardless of decoration, we have chosen to use the dates offered by Bartovics (1980) and Orser et al. (1982). Plain whiteware has a Mean Ceramic Date of 1895 (Bartovics 1980). This later date is used at the Vanderhorst Plantation since the site was clearly occupied into the twentieth century and would provide a more realistic mean date of occupation. At Shoolbred Plantation, however, South's (1977) whiteware date of 1860 is used since the main house burned during the Civil War. Other whiteware specimens include polychrome hand painted examples (MCD 1848), edged whitewares (MCD 1853), blue transfer printed (MCD 1848), non-blue transfer printed examples (MCD 1851), examples of decalcomania (MCD 1926), annular wares (MCD 1866), sponge decorated wares (MCD 1860), mocha whiteware (MCD 1866), and gilded whitewares (MCD 1917).

Several ceramics evidenced legible marks. Ceramics with references giving manufacture ranges were listed separately with a mean date of manufacture in Table 54. Ceramics with no clear ranges were not listed separately, but were lumped under their general ceramic type.

One sherd was found with the stamp "TRADEMARK/ADAMS/ENGLAND" surrounding a deer. This pottery was manufactured after 1891 (Kovels 1986:152). Two ceramics were marked "SEMI-PORCELAIN/HENRY ALCOCK POTTERY/COBRIDGE/ENGLAND". This mark included a coat of arms and was manufactured between 1880 and 1910 (Godden 1964:27). One sherd was marked with an eagle over an intertwined A and C over "AMERICAN CHINA/A.C. CO.". This was manufactured by the American Crockery Company between 1876 and 1900 (Kovels 1986:26). One sherd was marked "PORCELAIN OPAQUE /TRADE MARK/BRIDGEWOOD & SON/ENGLAND" surrounding a coat of arms. This pottery dates to circa 1891 (Godden 1964:102). Two sherds were marked "EDWARD CLARKE / TUNSTALL" which was manufactured between 1865 and 1877. An impressed mark was found on one sherd with "CLOSE & CO. LATE/W. ADAMS & SONS/STOKE-UPON-TRENT". This mark is found on earthenwares manufactured between 1855 and 1864 (Godden 1964:153). One sherd was marked "THE COLONIAL" inside a laurel wreath. This pottery was manufactured between 1902 and 1929 (Kovels 1986:73). Four sherds were marked "IRONSTONE CHINA/MELLOR & CO." surrounding a coat of arms. This pottery was manufactured by Cook Pottery Company between 1893 and 1926 (Kovels 1986:15). One sherd was marked "Davenport" written in lower case letters over an anchor. This mark is found on pottery dating between 1795 and 1810. Five ceramics were marked "PORCELAIN DE TERRE/TRADE MARK/JOHN EDWARDS/ENGLAND". This mark includes a coat of arms and was manufactured between 1880 and 1900 (Godden 1964:231). Two sherds were stamped with different marks associated with the Goodwin Pottery Company. One mark includes a decorative wreath with "GOODWIN/BROS." written on the inside. This stamp dates from 1885-1898 (Gates and Ormerod 1982:52-53). Another mark includes the words "GOODWIN'S/HOTEL CHINA" with was manufactured between 1893 and circa 1906 (Kovels 1986:177). One sherd was marked "D.F.H. & CO. BALTO." in a circle surrounding a crown. This pottery was manufactured by the D.F. Haynes & Company between 1881 and 1914 (Kovels 1986:59). One sherd was marked "HOPE & CARTER" which were manufactured by John Hope and John Carter between 1862 and 1880 (Godden 1964:334). One sherd was marked with a coat of arms and underneath "ROYAL PATENT/IRONSTONE/GEORGE JONES". This ceramic dates to circa 1854 (Godden 1964:359). One sherd was found with "K & G/FRANCE" underneath a coat of arms. This pottery was manufactured by Keller and Guerin after 1891 (Kovels 1986:207). Three sherds were marked "HOMER LAUGHLIN/MADE IN U.S.A./K6L" which were manufactured by the Homer Laughlin China Company between 1900 and 1960 (Gates and Ormerod 1982:156). One sherd was marked "MADDOCK & SON/IRONSTONE CHINA" surrounding a castle. This mark is found after 1855 (Godden 1964:406). One sherd was stamped "WARBURTON" which was an impressed mark dating circa 1802-1825 (Godden 1964:646). Two sherds were marked "SEMI/WMC/PORCELAIN" made by Willets Manufacturing Company which dates between 1879 and 1909 (Kovels 1986:152). Three sherds were stamped "WOOD" made by Wood, Son & Co. between 1869 and 1879 (Godden 1964:690).

Yellow ware, distinct from the yellow-glazed earthenwares of the eighteenth century, is a simple kitchen and table ware with a buff or yellow paste and a clear glaze (Ramsay 1947:7). It occurs both plain and with bands of white, blue, and black decoration. 188 specimens were recovered from 38CH127 and the Mean Ceramic Date is 1890 (Leibowitz 1985). This later date provided by Leibowitz is used rather than Bartovics (1978) mean date of 1853, since the site was clearly occupied into the twentieth century. The examples appear to be from American manufacturers, although they are not marked.

Three major categories of nineteenth century stonewares are present at 38CH127: salt-glazed (N=274), alkaline glazed (N=19), and slip glazed (N=113). Salt-glazing was introduced in England during the late 1600s, however, only eight eighteenth century examples were recovered. The nineteenth century examples, however, are typically industrial, wheel-thrown pottery. A total of 265 examples were recovered. The process and types of salt-glazed pottery are described by Greer (1981:180-192). The texture of salt-glazing may vary from a very fine salt texture with a thin glaze to a well-developed "orange-peel" texture to an extremely heavy salt texture with runs and agglutinations. Colors, reflecting impurities in the clay, include gray, beige, and brown.

The alkaline glazed stonewares are discussed by Burrison (1975) and Greer (1977, 1981). This glaze, distinctively Southern, was developed about 1910 in Edgefield District, South Carolina and it spread into North Carolina, Georgia, Florida, Alabama, and Texas. The glaze consists of an alkaline flux (such as wood ashes or slaked lime) combined with silica (such as clay, sand, or glass) and water. The colors range from cream to browns in oxidized pots and from pale yellow-greens to deep olive in the pots fired in a reducing atmosphere. The glaze, which is hard and durable, exhibits a variety of textures depending on firing conditions, temperature, and preparation techniques.

Greer notes that,

> [t]he alkaline glaze would probably never have become so widely used if the South had not been separated from industrialized northern areas of this country during the Civil War and so economically depressed after the war that it remained rural and remote for several decades (Greer 1981:203).

It should not be surprising to find this ware on Kiawah Island and Ramsay suggests that it was even available during the war years,

> [t]he ware intensified this tendency to crude simplicity, as the tremendous scarcity of manufactured goods developed the domestic pottery industry. The potters were exempt from military service, so great was the demand for their ware (Ramsay 1947:89).

The last category, that of clay or slip glazes, includes only those pieces having no evidence of salt-glazing, e.g., Albany and Bristol slips. Greer notes that these slips were becoming significant by the beginning of the nineteenth century and the Albany slip was discovered in 1825 (Greer 1981:194). Of the 113 examples from 38CH127, 24 are stoneware bottle sherds, exhibiting an off white glaze with a yellow-ochre colored slip on the top half. One vessel which deserves further mention is a large flat vessel with an interior brown Bristol slip glaze. The exterior base contains an embossed design and lettering. It is a swastika surrounded by the word JAPANEESO and enclosed in a circle. While the design might be interpreted to be a World War II Axis reference, interestingly it is probably not. The swastika, also referred to as a filfot, is the Chinese symbol for the wan (10,000). The Japanese imported much of the technology for their pottery industry from the Chinese. They also adopted use of Chinese styles and symbols. It was only after 1868 that export pottery became a major industry in Japan. The word Nippon is used for Japan on all early pieces, and it was only after World War II that the anglicized name for the country received wide spread use. This piece probably dates after 1945 (Michael Cornish, personal communication 1992).

The major types of pottery from the various areas of 38CH127 are summarized by Table 53. Earthenwares are the most common, accounting for over 83% of the total collection. Stonewares represent 7.6% of the collection and porcelains represent 9.1% of the collection. This distribution is common for coastal plantation sites (see Adams and Trinkley 1991b; Trinkley 1992).

Each of the structures and areas (except Shell Midden 2) have sufficient quantities of ceramics to warrant application of South's Mean Ceramic Date Formula (South 1977:217-218). The dates range from about 1767 to 1893 (see Table 54).

The Vanderhorst house yields a mean date of 1844. Feature 2 found in the main house excavation yields a mean date of 1767. Structure 1 yields an overall mean date of 1862 with a date of 1863 in the interior and a date of 1858 in the exterior of the building. Excavations under the Structure 1 rubble yielded a mean date of 1812. Structure 2 yields an overall mean date of 1824 excluding Features 5 and 6 which yield dates of 1797 and 1791 respectively. Structure 2 exterior area yields a mean date of 1851 while the interior yields a mean date of 1811.

Structure 3 without Feature 7 yields a mean date of 1876 while Feature 7 yields a date of 1787. The level underneath the shell midden at Structure 3 yields a slightly earlier mean date of 1870. Structure 4a yields a mean date of 1878. Structure 4b yields a mean date of 1893. Structure 5 yields a mean date of 1785. Shell Midden 1 yields a mean date of 1828, while Shell Midden 2 did not yield any datable ceramics. Trash Midden 1 yields a mean date of 1804, and Trash Midden 2 yields a mean date of 1819.

Table 53.
Major Types of Pottery at 38CH127

	M.H.	Str. 1	Str. 2	Str. 3	Str. 4a	Str. 4b	Str. 5	SM1	TM1	TM2	Total
Slipware	53	10		22			49	10	2		146
Clouded wares	2	23		7		1	1				34
Jackfield	6										6
Delft	8	5	1	2			8	2	2		28
N. Devon	2						4			4	10
Creamware	143	563	218	133	2	1	40	26	66	41	1233
Pearlware	71	282	92	84			34	11	8	64	646
Whiteware	300	1439	107	1587	45	157	18	36	3	33	3725
Yellow ware	14	77	4	80	1	3		2	6	1	188
Red ware	2	9	10	5	1		15		18	2	62
Total Earthenwares	601	2408	432	1920	49	162	169	87	105	145	6078
Percentage	83.0	86.7	83.4	86.5	76.6	80.2	88.9	86.1	34.5	89.0	83.7
Nottingham	12	3		7				1			23
Westerwald	1	10		1			3				15
White SGSW	5	10	1	1		1		1			19
Scratch Blue WSGSW	1			1			1	1			4
Brit. Brown								1	7		8
Basalt	1	2		1							4
Salt-glazed	19	20	5	63	6		10	3	145	3	274
Slip glazed	2	36	1	31	1	31		2	9		113
Alkaline glazed	6	6		3		3	1				19
UID	3	10	2	4	1				38		58
Total Stonewares	50	97	9	112	8	35	15	9	199	3	537
Percentage	6.9	3.5	1.7	5.0	12.5	17.3	7.9	8.9	65.5	1.8	7.4
Canton	61	35	44	26	7	3	4	2		4	186
Underglazed Blue		1					2				3
Overglazed		1									1
English			2							1	3
White	12	235	31	163		2		3			446
UID										10	10
Total Porcelains	73	272	77	189	7	5	6	5	0	15	649
Percentage	10.1	9.8	14.9	8.5	10.9	2.5	3.2	4.2	0.0	9.2	8.9

The most cogent published discussion of Colono wares is provided by Wheaton et al. (1983:225-250). Ferguson (1978) suggests that the low-fired earthenwares were produced by black slaves for their own use, although pottery called River Burnished or Catawba is similar and was produced by Indians for sale or trade (see also Ferguson 1985). While there are a number of attributes separating the two wares, thickness and paste are of primary utility given the small specimens from 38CH127. The Colono sherds tend to be thicker and have a coarser paste than the Catawba or River Burnished pottery, which is very similar to the paste of modern or dated Catawba vessels.

Wheaton et al. (1983:225, 239) note that Colono pottery appears late in the seventeenth century, peaks in popularity (or at least abundance) during the eighteenth century, and appears to die out by about 1830. Research at the freedmen's village of Mitchelville on Hilton Head Island, however, found evidence of Colono pottery occurring into the third quarter of the nineteenth century (Trinkley and Hacker 1986:232).

Of the 334 sherds collected at 38CH127, 123 (36.8%) were too small for further analysis. Of the remaining 211 sherds, 37% (N=78) were typed Colono and 63% (N=133) were typed River Burnished. The high percentage of River Burnished

Table 54.
Mean Ceramic Dates for 38CH127

Ceramic	Mean Date (xi)	Main House w/o Fea. 2 (fi)	(fi x xi)	Main House Feature 2 (fi)	(fi x xi)	Structure 1 Interior (fi)	(fi x xi)	Structure 1 Exterior (fi)	(fi x xi)	Structure 1 Below Rubble (fi)	(fi x xi)	Structure 1 (fi)	(fi x xi)	Structure 2 Interior (fi)	(fi x xi)	Structure 2 Exterior (fi)	(fi x xi)	Structure 2 w/o Feas. 5 & 6 (fi)	(fi x xi)	Structure 2 Feature 5 (fi)	(fi x xi)
Canton Porcelain	1815	61	110715			21	38115	15	27225			36	65340	34	61710	10	18150	44	79860	2	3630
overglz. enam. porcelain	1730											1	1730								
underglz. blue porcelain	1730							1	1730			1	1730								
English porcelain	1770													1	1770			2	3540		
white porcelain	1883	12	22596			144	271152	89	167587	8	15064	241	453803	5	9415	22	41426	31	58373		
NA SGSW	1866	19	35454			14	26124					14	26124								
Nottingham	1755	2	3510	10	17550	1	1755	2	3510	1	1755	3	5265								
Westerwald	1738	1	1738			4	6952	2	3476	5	8690	11	19118								
White SGSW	1758	1	1758	4	7032	6	10548	4	7032			10	17580	1	1758			1	1758		
Scratch blue white SGSW	1760	1	1760																		
Black basalt	1785	1	1785			1	1785	1	1785			2	3570								
British brown SGSW	1733																				
Stoneware bottles	1860	2	3720			2	3720					2	3720								
Lead Glazed Slipware	1733	23	39859	30	51990	1	1733	3	5199	3	5199	7	12131								
Jackfield	1760	6	10560																		
Clouded wares	1755	2	3510			13	22815	10	17550	1	1755	24	42120								
N. Devon Gravel Tempered	1713	2	3426																		
Decorated Delft	1750	8	14000			1	1750					1	1750			1	1750				
Plain Delft	1720							3	5160			3	5160					1	1720		
Creamware, annular	1798					3	5394	2	3596	1	1798	6	10788					23	41354		
h-paint	1805					4	7220	3	5415	1	1805	8	14440	24	43320	1	1805	25	45125		
undecorated	1791	106	189846	37	66267	269	481779	193	345663	87	155817	549	983259	131	234621	56	100296	170	304470	31	55521
Pearlware, mocha	1843																				
poly h-paint	1805					17	30685	5	9025	1	1805	23	41515	1	1805	2	3610	6	10830		
blue h-paint	1800	8	14400	3	5400	5	9000	8	14400	5	9000	23	41400								
blue trans pt	1818	5	9090	1	1818			14	25452	3	5454	17	30906	1	1818			1	1818		
edged	1805	4	7220			10	18050	15	27075	5	9025	30	54150	8	14440	1	1805	23	41515	11	19855
annular	1805	9	16245			22	39710	9	16245	1	1805	32	57760	5	9025	1	1805	9	16245		
undecorated	1805	37	66785	4	7220	37	66785	30	54150	11	19855	78	140790	9	16245	10	18050	40	72200		
Whiteware, poly h-paint	1848	11	20328			5	9240	8	14784	1	1848	14	25872			1	1848				
edged	1853	1	1853			1	1853	4	7412	1	1853	6	11118	2	3706						
blue trans pt	1848	17	31416			47	86856	31	57288	1	1848	79	145992			5	9240	6	11088	1	1848
other trans pt	1851	6	11106			14	25914	11	20361	2	3702	27	49977			1	1851	3	5553		
poly decal	1926					12	23112	8	15408	2	3852	22	42372			1	1926	2	3852		
annular	1866	21	39186			21	39186	15	27990			36	67176			1	1866	3	5598		
sponge	1860	1	1860			3	5580	2	3720			5	9300			1	1860	2	3720		
mocha	1866							1	1866			1	1866								
gilded	1917																	1	1917		
undecorated	1895	243	460485			776	1470520	466	883070	20	37900	1249	2366855	24	45480	87	164865	91	172445		
Yelloware, striped	1890	14	26460			50	94500	24	45360	1	1890	75	141750			1	1890	4	7560		
Maker's marks																					
Warburton	1813											1	1813								
Hope & Carter	1871					1	1871					1	1871								
Goodwin	1891							1	1891			1	1891								
Edwards	1890							1	1890			1	1890								
Davenport	1802													1	1802			1	1802		
Colonial Company	1916																				
Clark	1871																				
Alcock	1895																				
C. Jones	1854																				
Goodwin	1899																				
Willets	1894																				
Wood	1874																				
Haynes	1897																				
Bridgwood	1891																				
American Crockery	1888																				
Laughlin	1910																				
Cook	1909																				
Total		624	1150675	89	[illegible]	1505	2803724	981	1822282	161	291717	2640	4903892	251	454465	205	379380	488	890201	45	80854
MCD		1844.0		1767.2		1862.9		1857.6		1811.9		1857.5		1810.6		1850.6		1824.2		1796.7	

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h-paint = hand painted
trans pt = transfer printed
SGSW = salt glazed stoneware

Ceramic	Mean Date (xi)	Structure 2 Feature 6 (fi)	(fi x xi)	Structure 3 Below Rubble (fi)	(fi x xi)	Structure 3 Feature 7 (fi)	(fi x xi)	Structure 3 w/o Feature 7 (fi)	(fi x xi)	Structure 4a (fi)	(fi x xi)	Structure 4b (fi)	(fi x xi)	Structure 5 (fi)	(fi x xi)	Shell Midden 1 (fi)	(fi x xi)	Trash Midden 1 (fi)	(fi x xi)	Trash Midden 2 (fi)	(fi x xi)
Canton Porcelain	1815	1	1815	3	5445			26	47190	7	12705	3	5445	2	3630	2	3630			4	7260
overglz. enam. porcelain	1730																				
underglz. blue porcelain	1730	1	1730											2	3460						
English porcelain	1770																			1	1770
white porcelain	1883			35	65905			163	306929			2	3766			3	5649				
NA SGSW	1866							63	117558	6	11196			10	18660	3	5598				
Nottingham	1755					7	12285									1	1755				
Westerwald	1738							1	1738					3	5214						
White SGSW	1758					1	1758					1	1758			1	1758				
Scratch blue white SGSW	1760			5	8800			1	1760					1	1760	1	1760				
Black basalt	1785							1	1785									7	12495		
British brown SGSW	1733															1	1733				
Stoneware bottles	1860							5	9300							2	3720	9	16740		
Lead Glazed Slipware	1733			2	3466			22	38126					49	84917	10	17330	2	3466		
Jackfield	1760																				
Clouded wares	1755			3	5265			7	12285			1	1755	1	1755						
N. Devon Gravel Tempered	1713													4	6852					4	6852
Decorated Delft	1750							1	1750					6	10500	2	3500				
Plain Delft	1720							1	1720					2	3440			2	3440		
Creamware, annular	1798																			16	28768
h-paint	1805																				
undecorated	1791	23	41193	53	94923	2	3582	131	234621	2	3582	1	1791	40	71640	26	46566	66	118206	16	28656
Pearlware, mocha	1843																			5	9215
poly h-paint	1805			2	3610			12	21660					1	1805					12	21660
blue h-paint	1800							7	12600					27	48600			2	3600	12	21600
blue trans pt	1818			1	1818			5	9090					1	1818	3	5454	1	1818	7	12726
edged	1805	1	1805					6	10830					1	1805	1	1805	1	1805	4	7220
annular	1805			1	1805			6	10830					4	7220	2	3610			4	7220
undecorated	1805	1	1805	1	1805	2	3610	48	86640							5	9025	4	7220	20	36100
Whiteware, poly h-paint	1848	1	1848					51	94248	7	12936	1	1848	1	1848	2	3696				
edged	1853			1	1853			9	16677			1	1853								
blue trans pt	1848			7	12936			35	64680					3	5544						
other trans pt	1851			9	16659			37	68487	5	9255	1	1851					1	1851		
poly decal	1926			6	11556			37	71262			9	17334								
annular	1866			6	11196			78	145548	2	3732					4	7464	2	3732		
sponge	1860							3	5580					1	1860	1	1860			1	1860
mocha	1866																				
gilded	1917							6	11502			2	3834								
undecorated	1895			211	399845	2	3790	1315	2491925	61	115595	143	270985	13	24635	29	54955			32	60640
Yelloware	1890			7	13230			80	151200	1	1890	3	5670			2	3780	6	11340	1	1890
Maker's marks																					
Warburton	1813																				
Hope & Carter	1871																				
Goodwin	1891							1	1891												
Edwards	1890							4	7560												
Davenport	1802																				
Colonial Company	1916							1	1916												
Clark	1871							2	3742												
Alcock	1895							2	3790												
C. Jones	1854							1	1854												
Goodwin	1899							1	1899												
Willets	1894							2	3788												
Wood	1874							3	5622												
Haynes	1897							1	1897												
Bridgwood	1891							1	1891												
American Crockery	1888									1	1888										
Laughlin	1910																				
Cook	1909																				
Total		28	50154	353	660090	14	25035	2188	4101654	87	157770	175	331316	172	306982	101	184648	103	185783	164	298272
MCD		1791.2		1869.9		1788.2		1874.6		1813.4		1893.2		1784.8		1828.2		1803.7		1818.7	

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h-paint = hand painted
trans pt = transfer printed
SGSW = salt glazed stoneware

wares may be accounted for by two reasons. Lees (1980) has suggested that River Burnished wares were preferred over Colono wares by the planter class. All of the wares at 38CH127 are from the central main house complex. In addition, there is no suitable clay for pottery making on Kiawah Island and potters would have had to leave the island to get clay, or islanders wishing to have Colono pots may have had to purchase or barter them from slaves on other plantation on the mainland. Catawba Indians reportedly sold their wares in Charleston (Simms 1841) and it would have been easy to purchase vessels to send to Kiawah along with other supplies. Unfortunately, while the Vanderhorst family papers are extensive, no reference to such pots are given.

The loci at 38CH127 produced very small amounts of Colono wares: 4.6% of the ceramics at the Main House, 0.4% at Structure 1, 0.2% at Structure 2, 1.2% at Structure 3, 0% at Structure 4a, 0% at Structure 4b, 4.7% at Shell Midden 1, 2.9% at Trash Midden 1, and 0.5% at Trash Midden 2. One exception was Structure 5, the eastern flanker, where Colono ware consisted of 56.1% of the ceramic collection or 34.1% of the group total. Yielding a mean ceramic date of 1784.8, this structure consists of Colono ware ratios similar to mainland slave sites dating to the same period but at the low end of the scale. For instance, of the ceramics at Spiers Landing (MCD 1800) Colono ware consisted of 56% of the collection (Drucker and Anthony 1979). A slave house at Middleburg Plantation (MCD 1789) yielded 60% Colono out of the ceramic assemblage (Adams 1990). Other sites, such as the later Yaughan settlement (MCD 1790) yielded 71% (Wheaton et al. 1983), and the Tanner Road settlement (MCD 1800) yielded 78% (Babson 1988). Unfortunately, no slave quarters have been excavated on Kiawah Island to compare to the main house complex at Vanderhorst. However, the sparsity of Colono ware at 38CH127 (Vanderhorst mainhouse complex) as a whole is quite low (4.5% of the ceramic assemblage). At the Limerick Plantation main house complex, Colono wares represented 56.1% of the ceramic collection from units yielding mean dates between 1776 and 1800, although between 1826 and 1850 the percentage declined to 14.5% (Lees 1980:139).

Based on this study and the work of others in the low country (e.g., Drucker and Anthony 1979; Trinkley 1991a and 1991b; Wheaton et al. 1983) some general observations can be made on the occurrence of Colono ware pottery in South Carolina. It appears that Colono ware may have been more common on Kiawah Island than on Sea Islands further away from Charleston, but not nearly as common as on mainland plantations. At individual eighteenth century slave houses at Cotton Hope Plantation, Colono ware averaged 18% of the ceramic collection (Trinkley 1990), and on Daufuskie Island at 38BU634, a slave house dating to the nineteenth century yielded 3.3% Colono ware in the ceramic collection (Trinkley 1989). The rarity of Colono ware on the Sea Islands is probably due to lack of suitable clay sources and isolation. Most of the good clay sources are located on the Wando and Cooper River drainages, and the impression is that sites in this area contain the high percentages of Colono ware ceramics. Such plantation names as Brick Hope and Brickyard Plantation on the Cooper River (see Irving 1932) indicate that this area was rich in clay. Additionally, the Wando River was well known for its brick kilns (Wayne 1992). However, it is unknown if the clay was suitable for pottery making. The paucity of Colono ware at the Vanderhorst site illustrates that, no matter how near Charleston, the island was still quite isolated.

Unfortunately, there has not been a large amount of study on the mineral content of the two wares. Simms (1841) indicates that Catawba Indians who made pots for sale gathered much of their clay from the Edisto River banks. If, indeed, River Burnished pottery is Catawba it may be that these clays are quite different from clays found, for example, along the Cooper and Wando Rivers and can account for some of the differences between River Burnished and Colono pottery. This could likely be the case. The Edisto River is the only river that has no headwaters in the piedmont so the clays there would not contain any piedmont sediments as all of the other river systems would (Dr. Robert Gardner, personal communication 1991). Alternatively, River Burnished wares may have been

made by slaves as well, from locally available clays if the clay sources along the Cooper and Wando Rivers varied in quality making some clays more suitable for the fine burnished pots and bowls. Unfortunately, the only clay source study, which was associated with the Spiers Landing site (Drucker and Anthony 1979) was unable to isolate any unique minerals for the two wares.

The minimum vessel count at the Vanderhorst Plantation are 10 Colono ware unrestricted bowls, 20 River Burnished unrestricted bowls, and one River Burnished flared rim, restricted neck jar. This minimum vessel count is based on rim sherds which were unique for the collection. It should be recognized, however, that one bowl or jar may not have a closely uniform lip, so vessel counts should be considered as rough approximations. All body sherds are undecorated with only the rims containing some design. Colono ware rims were rounded (N=3), tapered (exterior to interior or interior to exterior) (N=3), flat (N=3), and bulbous flat (N=1). River Burnished rims were beveled and faceted (N=1), rounded (N=9, including jar), pie crust (N=4), flat (N=5), bulbous rounded (N=1), and scalloped (N=1). Vessel thickness ranged from 5 to 8 millimeters for River Burnished wares and 6 to 9 millimeters for Colono ware vessels (Figure 82).

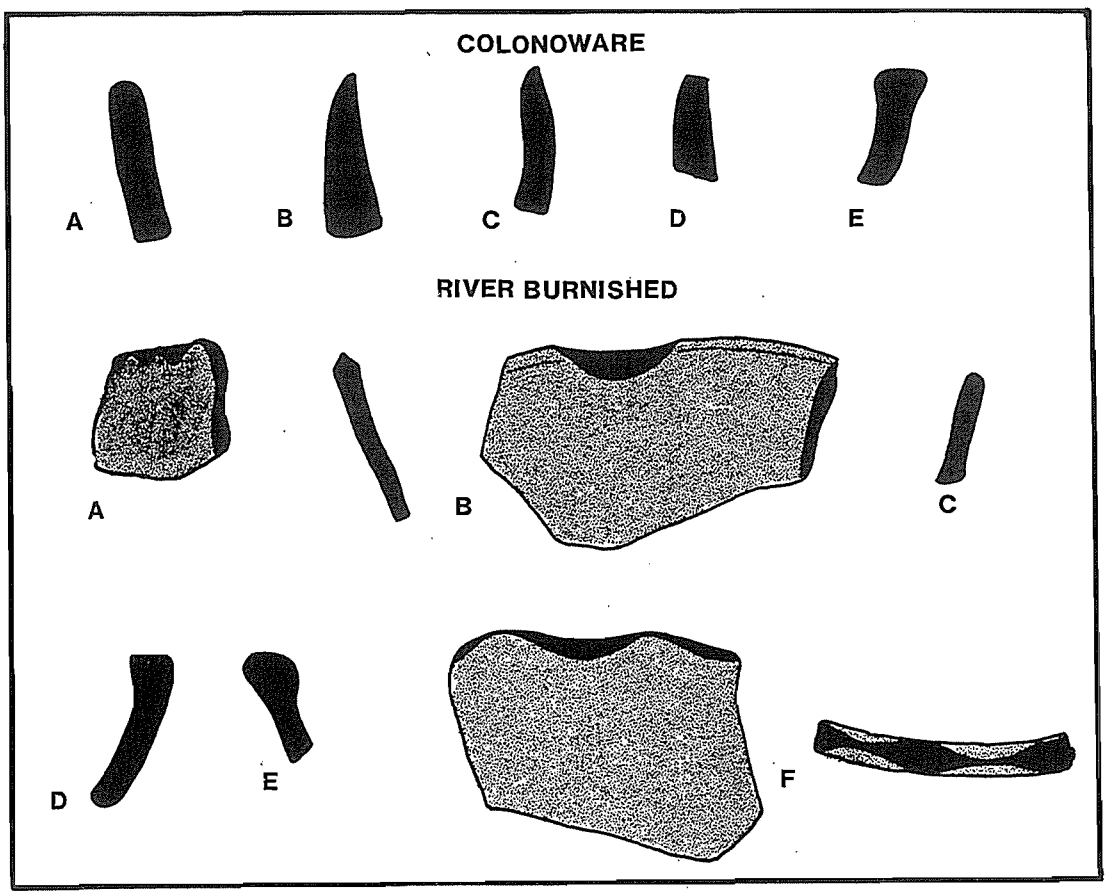


Figure 82. Rim forms for Colono ware and River Burnished pottery. Colono ware: A, rounded; B-C, tapered; D, flat; E, bulbous flat. River Burnished: A, pie crust; B, beveled and faceted; C, rounded; D, flat; E, bulbous round; F, scalloped.

The next collection to be considered in the Kitchen Artifact Group is the container glass. A total of 20,481. Of these 12,118 (59.1%) are clear, 1446 (7.0%) are amethyst, 2042 (9.9%) are aqua, 1416 (6.9%) are black, 2641 (12.9%) are brown, with the remainder (11.1%) including Coca-cola green, bright green, cobalt blue, light blue, milk glass, and clear and pink swirled. Minimum vessel counts are presented in Table 55.

The "black" glass fragments are typical of wine or ale bottles. Bottle fragments with thicker walls, gentle lines, and kick-ups are attributed to champagne, wine, or brandies, while those with thinner walls, pronounced shoulders, and flat bases are characteristic of stout or ale. Examples of both are found at the site, although it is impossible to exclude the bottles' use for other purposes after the original contents were consumed.

The green glass collection appears to represent crown cap silk screened soda bottles from the mid twentieth century. Silk screened examples with identifiable writing all appear to contain Canada Dry® products. Surprisingly, no soda water bottles typical of the mid-nineteenth century were found in the excavations.

Other colors of crown cap bottles include clear and aqua green. These appear to contain either Coca Cola®, Pepsi®, or Orange Crush®.

A large number of clear, amethyst, or aqua panel bottles and flasks were recovered. These bottles probably contained proprietary or "patent" medicines. While these concoctions frequently contained a high percentage of alcohol, Wilson notes that it would be a mistake to assume these preparations were primarily consumed for their alcohol. He notes that nineteenth century living conditions were such that there were a "plethora of fevers and aches" to which proprietary medicines were routinely applied (Wilson 1981:39). That these "medicines" were frequently used as intended is evidenced by Cramp (1911, 1921, 1936). Included in this category are numerous South Carolina Dispensary bottles which were a result of a unique experiment in state monopoly of liquor sales. This system operated between 1893 and 1907 (Huggins 1971).

Possible whiskey bottles were also identified in the collection. Whiskey was usually transported in barrels or kegs and repackaged by the local vender in glass containers (Wilson 1981:13-14). Whiskey bottles might be colorless, amber, or occasionally brown and came in a variety of sizes and shapes (see Wilson 1981:16).

The excavations at 38CH127 have produced a large number of clear glass canning jars. Other vessel types include wide mouth pharmaceutical containers, medicine vials, cosmetic jars, and large chemical jars.

Tableware items include 229 clear tumbler fragments, 28 amethyst tumbler fragments, 40 light green tumbler fragments, four light blue tumbler fragments, 11 stemmed glasswares, 66 bowl fragments, one candy dish fragment, 10 milk glass plate fragments, 60 pitcher fragments, three punch cup fragments, one soup taurine handle, one salt shaker lid, 40 unidentifiable glassware fragments, and 15 utensils. These utensils include one stainless steel spoon bowl, one brass child's utensil handle, five iron utensil handles, two iron knife fragments, one iron spoon bowl, one iron fork fragment, two bone handled utensil fragments, one bone handled knife fragment, and one white metal utensil fragments (Table 57).

The iron utensils are all representative of typical nineteenth century specimens. While the iron utensils are clearly of common nature and, because of mass production, inexpensively available, the brass, white metal, and bone items, are higher status and of greater expense.

Table 55.
Minimum Glass Vessel Counts from 38CH127

Container	M.H.	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	TM1	TM2
Black, cylindrical wine/ale	15	29	3	11	3	4	5	2	5	3
case		1					2			
Olive green, panel	1							1		
flask		1								
Aqua, panel	3	6		5	1	3				
cylindrical		8	1	5	1	2			1	
canning jars		2				2				
S.C. Dispensary		2								
milk bottle				1						
large chemical containers						1				
crown cap							3			
Clear, crown cap	2	6				6				
canning jar	8	10	4	1		22				
cylindrical	23	18	1	5				1		
milk bottle		3		1						
panel		15	1	3		19				
flasks		10								
gallon jars		1								
gallon jugs						1				
condiment jar		1								
S.C. Dispensary		7					1			
canister		1								
vials		1		1						
Amethyst, cylindrical	1	5	3	4		2				
panel	1	4	1	1		4				
flask	1	2	4	1						
S.C. Dispensary		9		2						
milk bottle		1								
canning jars						2				
wide mouth pharm. jar						1				
10-sided									1	
Green, crown cap	5	5				1				
Coca-Cola green, crown cap		6	1							
Cobalt blue, flask	1					1				
vial		1								
cylindrical		1								
pharm. jar						2				
Lt. blue, cylindrical			1							
Milk glass, cosmetic jar				1		1				
Brown/Amber, cylindrical	1	9		1					2	
crown cap	1									
twist off cap	1									
flasks		4		1						
	64	169	20	44	5	74	11	4	9	3

Table 56.
Summary of Vessel Types from 38CH127

Container	M.H.	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	TM1	TM2
Alcohol	19	75	7	16	3	4	8	2	6	3
Medicinal/Pharmaceutical	6	27	2	10	1	30		1		
Soda	31	48	7	14	1	11	3	1	3	
Milk		4		2						
Canning	8	12	4	1		26				
Storage (large jars and jugs)		2				2				
Condiment		1								
Cosmetic				1		1				

Table 57.
Tableware items

Item	MH	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	TM2
Tumbler fragments									
clear	16	35	79	91	1	1		1	5
amethyst	3	9	3	1	2	6	4		
lt. green						40			
lt. blue		3						1	
Stemmed glassware	1	2	7	1					
Bowl fragments	6	14		30		10			6
Candy dish fragments		1							
Punch cup fragments				3					
Pitchers		1				59			
Milk glass plates		6		4					
Soup tureen fragments				1					
Salt shaker fragments				1					
UID glassware	7		1	13	6	13			
Utensils									
Iron	2	5		2					
Bone		2		1					
White metal				1					1
Brass				1					
TOTAL	35	78	90	150	9	129	4	2	12

Table 58.
Minimum Vessel Counts of Tableware items

Item	MH	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1
Tumblers, plain		6	1	4			1	1
paneled		2		5	1	4		
ribbed		1	1	1		1		
fluted		1		1				
pressed		3						
annular		4		1		1		
Goblets	1	1	2	1			1	1
Pitchers, plain						1		
pressed						5		
ribbed						1		
Bowls, pressed		4		1		1		
milk glass		1						
Dishes, milk glass		2						
Carafe		1						

The goblets and tumblers are primarily inexpensive pressed glass, although lead glass specimens are also present. Several examples of "annular" tumblers are present at 38CH127. The styles differ slightly, but have one common variable; they contain bands of vertical lines. Six different variations were noted. These include 1) two medium size bands near the lip, 2) one large band over one small band near the lip over scalloped narrow flutes on the button half, 3) one small band near the lip, 4) one small band over one large band near the lip, 5) five small bands near the lip over wide flutes on the bottom half, and 6) one wide band near the lip. No complete profiles were obtained, so style cannot be associated with form, but it is believed that they range from short tumblers to taller glasses. Almost all of these are clear, but some have an amethyst tint. Banded tumblers are advertised in a number of places including the 1895 Montgomery Ward Catalog and the 1905 and 1910 Butler Brothers Catalogs. These

tumblers have been found at the Middleton Place privy in Charleston County, and Lewis and Haskell (1981:108-109) state that they believe the style was most popular after 1900. These tumblers were also found at tenant sites located during the Hoffmann-LaRoche survey in Florence County, South Carolina (Adams and Trinkley 1992b).

Kitchenware items from 38CH127 include 115 tin can fragments 52 kettle fragments, 30 stove parts, 19 glass jar sealers, 13 crown caps, eight can keys, six twist-off jar lids, five zinc canning lids, four iron pot lid handles, three pot hooks, one knife blade and tong, one aluminum carbonated beverage twist-off top, one 2-pronged meat fork, one brass hinged lid, one lead cap to a pharmaceutical vessel, one iron grate fragment, one legged hollow-ware fragment, two brass cap fragments, one pewter cap, and one iron spider biscuit pan lid fragment (Table 59).

A number of kitchen glass items are datable (Table 60), particularly from structures with late occupations and a high percentage of kitchen related artifacts (such as Structures 1, 2, 3, and 4b).

Structure 1 glass items include a number of embossed medicine bottles. Included is an example of HENRY'S // CALCINED // MAGNESIA // MANCHESTER which is advertised as a cure for stomach ailments and was available in the United States by 1804 and was still being advertised in 1921 (Fike 1987:141). Also found was an example of HUMPHREYS / HOMEOPATHIC / (embossed horse in circle) TRADEMARK / VETERINARY / SPECIFICS. Humphrey's products are found advertised in *The Pharmaceutical Record* in 1891 (Fike 1987:148, 222). One BROMO-SELTZER / EMERSON / DRUG CO. / BALTIMORE, MD. bottle was recovered. This product was trademarked in 1889. This bottle probably had a cork enclosure which was used until 1928 (Fike 1987:111). A number of South Carolina Dispensary bottle fragments were found. These date between 1893 and 1907 (Huggins 1971).

Table 59.
Kitchenware items

Item	MH	ST1	ST2	ST3	ST4b	ST5	SM1	TM2
Stove parts	6	4	2	10	4	4		
Pot hooks		1	1	1				
Crown caps	10			3				
Soda tops	1							
Kettle fragments	2	17	9	8	2	11	2	1
Pewter cap			1					
Biscuit pan lid fragment			1					
Brass cap			2					
Lead cap		1						
Twist off lid	1	3	2					
Iron grate fragments		1						
Porcelain jar sealers		5	9	5				
Tin can fragments	37	56	2	24				
Pot lid fragments				4				
Can keys	1	1	1	5				
Knife blade & tong	1							
Iron meat fork								1
Brass lid with hinge		1						
TOTAL	59	90	30	60	6	15	2	2

Carbonated beverage bottles were present including specimens of Orange Crush®, Canada Dry® Ginger Ale, Pepsi Cola®, and Coca-Cola®. One Orange Crush® bottle fragment was found with Columbia embossed on the base. The Columbia firm Fulmer Bottling Company bottled Orange Crush in the 1940s and 1950s (Jeter 1987:50). The Canada Dry® specimens were all silk screened and, according to Jeter (1987:37), most with South Carolina cities on the base date from the 1940s

and 1950s. No city names were found on Structure 1 specimens. The Pepsi-Cola® bottle specimens were silk screened red, white, and blue which was manufactured with this color scheme in the 1940s (Jeter 1987:61). The Coca-Cola bottle specimens contained an embossed D-105529 and were aqua green in color. Jeter (1987:42) states that this embossing was used on bottles between 1938 and 1951. Several carbonated beverage examples were embossed with and "O" encircling an "I" as well as "*Duraglas*". This embossing is found on bottles dating between 1940 and 1963 (Toulouse 1971:170).

At Structure 2 the only datable vessels were examples of "Ball Perfect Mason" jars. Ball is in slanting script with Perfect Mason in capital letters underneath (see Ball Perfect Mason (3) in Toulouse 1977:7).

Pharmaceutical bottles from Structure 3 include *Chas. H. Fletcher's* // CASTORIA. This product was introduced in the early 1890s as a cure for stomach and bowel disorders (Fike 1987:155-156). One bottle was embossed SLOAN'S N & B LINIMENT / DR E.S. SLOAN BOSTON which is advertised as a nerve and bone liniment in 1890 (Fike 1987:137). A cologne bottle marked HOYT'S / GERMAN / COLOGNE / E.W. HOYT & CO. / LOWELL / MASS was also found. Hoyt's German Cologne was introduced in 1871 and is advertised as such until 1948 when it was advertised as Hoyt's Eau de Cologne (Fike 1987:64).

One carbonated beverage bottle with clear markings was recovered from Structure 3. The specimen is Caro-Cola® with "Charleston" embossed on the base. The Caro-Cola® Bottling Works was established in Charleston in 1916 and Caro-Cola was manufactured there until 1926 (Jeter 1987:37).

One condiment bottle was found embossed with H.J. Heinz Co. This embossing occurs on vessels dating after 1888.

Canning jars from Structure 3 include specimens marked Genuine / MASON, Ball / MASON, *Ball* / PERFECT / MASON, and Presto / SUPREME MASON. The Genuine Mason jars were manufactured circa 1900 to 1920 by the Illinois Glass Company (Toulouse 1977:224). The Ball Mason jars are machine made and manufactured after 1920 (see Ball Mason (4) in Toulouse 1977:6). The Ball Perfect Mason jars date after 1888 (see Ball Perfect Mason (3) in Toulouse 1977:7). The Presto Supreme Mason jars have a much tighter date range than those previously mentioned. These were manufactured between circa 1929 and 1946 (see Presto Supreme Mason (1) in Toulouse 1977:64).

A number of bottle and jar bases were embossed with Glass Company markings. The American Bottle Company is represented as ABCo which is a mark found on vessels dating between 1905 and 1916. The Dominion Glass Company is represented by a "D" inside of a diamond. This mark is found on vessels dating after 1913. The Illinois Glass Company is represented with a "I" inside of a diamond and can be found on vessels dating between 1916 and 1929 (Toulouse 1971:264). The Whitall-Tatum & Company firm is represented as WT & Co which is a mark found on vessels dating between 1857 and 1935 (Toulouse 1971:544).

At Structure 4b only one pharmaceutical bottle was recovered. This example is SLOAN'S LINIMENT / MADE IN U.S.A. manufactured between 1929 and 1954 (Fike 1987:137).

While fragments of carbonated beverage bottles are present, only one could be positively identified. This is a fragment of an Orange Crush® bottle with CHARLESTON embossed on the base. The bottle is an early clear example, dating between 1925 and 1930 (Jeter 1987:60).

Canning jars include ATLAS E-Z SEAL, ATLAS H-A MASON, *Ball* PERFECT MASON, *Drey, Kerr* "SELF SEALING" MASON, and one jar with a "lightning" closure. The ATLAS E-Z SEAL jars date after 1896, whereas those with the H over an A date after 1921

(see ATLAS E-Z SEAL (3) and ATLAS H-A MASON (1) in Toulouse 1977:3-4). The BALL PERFECT MASON jar dates after 1888 (see BALL PERFECT MASON (3) in Toulouse 1977:7). The Drey and Kerr vessels are much more tightly datable with Drey jars being manufactured between 1906 and 1925 (Toulouse 1977:166) and Kerr Self Sealing Mason jars manufactured between circa 1915 and 1919 (see KERR SELF SEALING MASON (3) in Toulouse 1977:43). The "lightning" closure consists of a glass lid, held by a wire lever and toggle system. This closure was used between 1882 and 1900 (Toulouse 1977:47, 126).

Embossed base marks on vessels at Structure 4b were numerous. One dark olive cylindrical bottle was marked E & JB for E. & J. Burke of Dublin, Ireland and Liverpool, England. This company was best known in the western United States for its bottle marks. They were one of 24 companies who bottled and exported Guinness Stout and Bass Ale. This mark was used on vessels dating between the 1870s and the 1910s (Toulouse 1971:176-177). The Diamond Glass Company is represented by a plain diamond which dates after 1924 (Toulouse 1971:550). One light green tableware vessel contained a mark for the Federal Glass Company. This mark is an "F" inside of a shield and dates after 1944 (Toulouse 1971:192-193). Two light green tableware vessels contained marks for the Hazel-Atlas Glass Company. This mark is identical to those found on ATLAS canning jars, which is an "A" inside and underneath an "H". It dates between 1920 and 1964 (Toulouse 1971:239). The Owens Bottling Company is represented by a circle inside of a square. This mark dates between 1911 and 1929 (Toulouse 1971:393). Owens-Illinois Pacific Coast Company marks consist of an overlapping circle and diamond with an "I" inside. This mark dates between 1932 and 1943 (Toulouse 1971:406). The Whitall-Tatum Company mark consists of a "W" over a "T" inside of an inverted triangle. This mark dates between 1935 and 1938 (Toulouse 1971:544).

One pitcher from Structure 4b was an approximately fifty percent reconstructible vessel which is shown in Knopf (1982:144) as a Carnival milk pitcher. The iridescent effect of carnival glass was obtained by spraying the vessel with chemicals. It proved to be very popular and was manufactured between 1905 and 1920 (Knopf 1982:14). This vessel is an iridescent amber with overall pressed chair-caning pattern and octagonal medallions with stars around the side. It is slightly larger than a creamer, but much smaller than a water pitcher.

Architectural Artifact Group

Excavations at 38CH127 produced 23,662 Architectural Group artifacts (Table 61). These remains include primarily window glass (N=12,210 or 51.6% of the group total). Other remains include 11,224 nails, 207 construction hardware and door lock fragment items, and 21 spike fragments. Not included in the totals, but briefly discussed in this section, are examples of brick and marble.

Three types of nails have been recovered from 38CH127 including hand wrought (N=1210 or 11% of the recovered nails), machine cut (N=3510 or 31.3% of the recovered nails), and wire nails (N=914 or 8.9% of the recovered nails). The remainder were unidentifiable. The hand wrought specimens, which range in size from 2d to 40d, date from the seventeenth through nineteenth centuries, with the peak popularity during the eighteenth century (Nelson 1968). The shanks are rectangular in cross-section and both round "rose head" and "T head" examples are found. While these two head patterns did serve different functions, it seems likely that they were used interchangeably at 38CH129. Only 940 are sufficiently intact to allow penny weight measures.

"Modern" machine cut nails account for the majority of the collection, although only 1550 are sufficiently intact to allow penny weight measures. These nails were first manufactured in the late 1830s and have uniform heads and shanks with burrs on the edges (Nelson 1968:7; Priess 1971:33-34).

In addition, wire nails were recovered of which 787 are sufficiently intact to allow penny weight measures. These nails were widely used by the 1880s

Table 60.
Datable Glassware

Item	ST1	ST2	ST3	ST4b
ABCo (1905-1916; mean date 1910)			1910	
ATLAS E-Z SEAL (3) (Toulouse 1977; 1896 to date; circa 1944)				1944
ATLAS H A MASON (1) (Toulouse 1977; 1921 to date; circa 1956)				1956
ATLAS (on tumblers) (1920-1964; mean date 1942)				1942
BALL MASON (4) (Toulouse 1977; 1920 to date; circa 1956)			1956	
BALL PERFECT MASON (3) (Toulouse 1977; circa 1915)		1915	1915	1915
BROMO SELTZER (1889-1928; mean date 1908)	1908			
CANADA DRY (c. 1950)	1950			
CARNIVAL GLASS PITCHER (1905-1920; mean date 1912)				1912
CARO COLA (1916-1926; mean date 1921)			1921	
COCA-COLA (1938-1951; mean date 1944)	1944			
DIAMOND GLASS CO. (1924 to date; circa 1958)				1958
DOMINION (1913 to date; circa 1952)			1952	
DREY (1906-1925; mean date 1915)				1915
DURAGLAS (1940-1963; mean date 1951)	1951			
E & J B (1870s- 1910s; circa 1895)				1895
FEDERAL GLASS CO. (1944 to date; circa 1968)				1968
FLETCHER'S CASTORIA (1890s to date; c. 1940)			1940	
GENUINE MASON (1900-1920; mean date 1910)			1910	
H.J. HEINZ CO. (1888 to date; c. 1940)			1940	
HENRY'S CALCINED (1804-1921; mean date 1862)	1862			
HOYT'S COLOGNE (1871-1948; mean date 1909)			1909	
HUMPHREY'S HOMEOPATHIC (c. 1891)	1891			
ILLINOIS GLASS CO. (1916-1929; mean date 1922)			1922	
KERR SELF SEALING MASON (3) (Toulouse; circa 1917)				1917
LIGHTNING CLOSURE (1882-1900; mean date 1891)				1891
ORANGE CRUSH, early (1925-1930; mean date 1927)				1927
ORANGE CRUSH (c. 1950)	1950			
OWENS BOTTLING CO. (1911-1929; mean date 1920)				1920
OWENS-ILLINOIS (1932-1943; mean date 1937)				1937
PEPSI COLA (c. 1945)	1945			
PRESTO SUPREME MASON (1) (Toulouse 1977; 1929-1946; mean date 1937)	1937			
SLOAN'S LINIMENT (1929-1954; mean date 1941)				1941
SLOAN'S N & B LINIMENT (no range given)			----	
SC DISPENSARY (1893-1907; mean date 1900)	1900			
WT & Co (1857-1935; mean date 1896)	1896			
WHITALL-TATUM (1935-1938; mean date 1936)				1936
MEAN DATE	1921.3	1915	1927.5	1929.6

Table 61.
Architectural Artifacts from 38CH127

	MH	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	SM2	TM1	TM2	Total
Wrought nails	415	236	19	267	1	0	3	17	0	0	1	959
Wrought nail frags	72	75	4	95	1	0	0	4	0	0	0	251
Cut nails	438	446	95	546	3	2	13	5	0	0	2	1550
Cut nail frags	405	731	151	612	27	3	4	25	0	0	2	1960
Wire nails	263	186	34	281	0	1	0	2	0	0	0	767
Wire nail frags	60	22	12	51	0	2	0	0	0	0	0	147
Unidentifiable nails	1048	2228	401	1519	5	19	80	22	2	189	77	5590
Spikes	2	7	1	3	0	3	1	1	0	2	1	21
Window glass	10045	729	125	340	30	350	229	272	0	63	27	12210
Construction hardware	64	100	6	31	1	0	1	0	0	0	1	204
Door lock frags	0	1	0	2	0	0	0	0	0	0	0	3
TOTALS	12812	4761	848	3747	68	380	331	348	2	254	111	23662

(Nelson 1968) and continue to be used today.

Because different size nails served different self-limiting functions, it is possible to use the relative frequencies of nail sizes to indicate building construction details. Nails were early designated by their penny weight, which compared the weight of a nail to that of a silver penny. Gradually the term came to designate length rather than weight, but the equivalence varied over time and it was not until the 1890s that penny weights were thoroughly standardized (Orser et al. 1982:675). To avoid confusion, Table 62 lists both the penny weight size and the Standard Average European (SAE) size for the nails which were sufficiently complete for analysis. This analysis was done only for areas identified as structures.

Table 62, however, provides only limited information, revealing only rough peaks at some structures. One of the commonly accepted rules in nail length is "to have the nails a full three times as long as the Sheathing Board is thick" (Bettesworth and Hitch 1981:2:n.p.). Within certain broad limits the size of nails used to perform a certain task is flexible, depending on the craftsman and the supply of nails. This variation is reflected in Orser et al. (1982:677). A rough guide, however, is provided by Table 63.

The main house, built at the beginning of the nineteenth century, evidences a distribution of nails which appears typical for architecture during that period. The majority of the nails served sheathing and siding purposes with a smaller amount for roofing and finishing. A large quantity of small nails is consistent with a high status site where there was much fine architectural detail. The Vanderhorst house, while impressive, appears to be somewhat more simply built than the Shoolbred house. A small amount are used for framing or heavy framing, which suggests pegged construction. This is consistent with the early nineteenth century construction date, and the detailed architectural evaluation.

Structure 1 contains a proportion of nails that is somewhat similar to the main house. Smaller nails for detailed work are not as numerous which is consistent with its function as a kitchen/wash house. The building was probably framed using pegged construction which suggests that it was build about the same time as the main house.

Structure 2 contains a majority of sheathing and siding nails, with most of the remaining nails function as framing nails. Roofing and finishing nails are relatively rare which is consistent with the structure's posited utilitarian function.

Structure 3 contains a nail profile similar to Structure 2, except roofing and finishing nails are more numerous. In this area, a poorly constructed firebox was located, probably associated with an early/mid nineteenth century structure. Also, these excavations revealed a feature believed to be associated with the burned eighteenth century main house. In addition, Structure 2 is located approximately 50 feet away, which may smear the locus. Because of these temporally separate structural remains, the nail profile probably does not accurately depict any of the structures. It should be noted, however, that the majority of wire nails fall within the framing and heavy framing category.

Structure 4a, which appears to have burned down, contains very few nails despite the fact that a badly deteriorated firebox was exposed. This suggests a building technique that leaves an ephemeral archaeological imprint. Adams (1990) has suggested that there was a transition from the eighteenth to the nineteenth century from impermanent slave houses to sturdier frame, brick, and tabby houses. However, she cites several nineteenth century references to clay and wattle and daub structures. This indicates that while there may have been broad trends, there were circumstances (such as isolation) which required that immediately available materials be used. A very similar structure dating to the early

Table 62.
Intact Nails from Excavation Areas at 38CH127
Vanderhorst Plantation

Penny Weights	SAE	Main House			Structure 1			Structure 2			Structure 3			Structure 4a			Structure 4b			Structure 5		
		Wt	Ct	Wr	Wt	Ct	Wr	Wt	Ct	Wr	Wt	Ct	Wr	Wt	Ct	Wr	Wt	Ct	Wr	Wt	Ct	Wr
2d	1"	40	0	0	15	2	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0
3d	1 1/4"	60	6	1	19	6	0	0	0	0	87	9	0	0	0	0	0	0	0	1	1	0
4d	1 1/2"	58	36	5	18	28	1	3	0	0	11	11	5	0	0	0	0	0	0	0	0	0
5d	1 3/4"	63	41	12	35	38	2	2	7	2	27	47	4	0	0	0	0	0	0	0	0	0
6d	2"	41	212	28	33	193	34	5	16	3	22	199	9	0	0	0	0	1	0	1	6	0
7d	2 1/4"	40	26	14	24	23	17	2	8	1	13	52	7	0	0	0	0	0	0	0	1	0
8d	2 1/2"	45	44	95	12	44	52	5	20	12	33	55	38	0	1	0	0	0	0	0	2	0
9d	2 3/4"	24	19	1	4	13	5	0	8	5	27	26	41	0	0	0	0	0	0	0	1	0
10d	3"	14	21	24	2	34	25	1	9	7	33	48	34	1	0	0	0	0	1	0	0	0
12d	3 1/4"	23	24	18	5	35	22	0	9	1	10	63	33	0	1	0	0	1	0	0	1	0
16d	3 1/2"	4	8	28	3	16	6	0	1	0	1	19	26	0	1	0	0	0	0	0	1	0
20d	4"	2	0	20	1	11	16	0	2	2	1	8	75	0	0	0	0	0	0	0	0	0
30d	4 1/2"	0	0	0	0	1	4	0	2	1	1	4	2	0	0	0	0	0	0	0	0	0
40d	5"	1	1	14	0	0	1	0	2	0	1	4	1	0	0	0	0	0	0	0	0	0
50d	5 1/2"	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
60d	6"	0	0	0	0	1	1	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0

Table 63.
Probable Function of Intact Nails for
Structures at Vanderhorst Plantation

Function	Main House		Str. 1		Str. 2		Str. 3		Str. 4a		Str. 4b		Str. 5	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Small timber, shingles (2d-5d)	322	28.8%	164	18.9%	15	10.7%	202	18.5%	0	0%	0	0%	3	18.8%
Sheathing, siding (6d-8d)	545	48.8%	461	53.1%	73	52.2%	428	39.1%	1	25.0%	1	33.3%	10	62.5%
Framing (9d-12d)	168	15.0%	174	20.0%	41	29.3%	315	28.8%	2	50.0%	1	33.3%	2	12.5%
Heavy Framing (16d-60d)	81	7.4%	69	8.0%	11	7.8%	149	13.6%	1	25.0%	1	33.3%	1	6.2%

nineteenth century was excavated on Spring Island at 38BU1214 (Hacker and Trinkley 1991), which may have been thatch or log, based on the presence of a mortar floor. It is quite possible that these ephemeral structures on Kiawah were also log.

Structure 4b also contained few nails and no architectural features were exposed. Two explanations can be given for the lack of remains. First, the structure may be similar to that found at 4a, or; second, the excavations were placed in a trash dump located some distance away from the structure. The remains there date primarily to the late nineteenth/early twentieth century. It may be unlikely that the architecture was impermanent since electrical fixtures, light bulb fragments, and wiring were recovered.

Structure 5 excavation indicate a late eighteenth/early nineteenth century occupation. Few nails were recovered and no architectural features were encountered. The nails that were recovered show that the majority were for sheathing and siding purposes.

The category of window glass includes 12,210 fragments of primarily light green rolled glass. These specimens were classified as window lights based on thickness, degree of clarity, color, and lack of curvature. Of this collection 82.3% (N=10,045) came from the main house, 6.0% (N=729) from Structure 1, 1.0% (N=125) from Structure 2, 2.3% (N=340) from Structure 3, 0.2% (N=30) from Structure 4a, 2.9% (N=350) from Structure 4b, 1.9% (N=229) from Structure 5, 2.2% (N=272) from Shell Midden 1, 0% from Shell Midden 2, 0.5% (N=63) from Trash

Midden 1, and 0.2% (N=27) from Trash Midden 2. The paucity of window glass from the midden areas is consistent with their non-structural function. There is very little window glass associated with Structure 4a which further suggests its impermanent nature.

Previous work in the region (see, for example, Trinkley and Hacker 1986:241-242 and Michie 1987:120-130) has attempted to use window glass thickness to determine the mean construction dates. The major shortcoming of this technique is that the regression formulae have a number of correction factors (for a detailed discussion see Adams 1980 and Orser et al.1982). Recent studies by Jones and Sullivan (1985) have cast doubt on the validity of this dating technique. They comment that, "the very nature of window glass suggests that one should take great pains to avoid using it for dating except under special circumstances" (Jones and Sullivan 1985:172). Based on this advice and the generally poor results obtained in previous studies, no effort has been made to date the recovered window glass from 38CH127.

Twenty-one spikes were recovered from the site. The category of construction hardware and door lock parts are summarized in Table 64.

A few statements can be made about the temporal sensitivity of the architectural hardware from 38CH127. The cast iron latches may have been produced before the end of the eighteenth century, since cast iron butt hinges were being made in relatively large amounts by 1780; and a jointed hinge calls for technology equal to the thumb latch. Thumb latches have been documented back to the first decade of the nineteenth century where they were advertised as available with cast or wrought plates. The cast iron latches were cheaper, but apparently did not drive the wrought variety out of use as the cast iron butt

Table 64.
Construction Hardware and Door Lock Parts from 38CH127

Item	M.H. #	ST1 #	ST2 #	ST3 #	ST4a #	ST5 #
Roofing tacks (less than 2d)	17	73	1	23		
Roofing tacks with simplex washer	7					
Butt hinges and fragments	11			2		
HL hinges and fragments		1				
Strap hinges and fragments		7	2	2		
Shutter hinge pintles on plates (inc. fragments)	12					
Shutter hinge plates		1				
Pintles and fragments	2	3	1			1
Shutter hinges	1					
Shutter hinges on plates					1	
Shutter ring pull staples		6	2	1		
Shutter dogs		1				
Shutter catches	2	2				
Sill catches	6	1				
Latch keepers				1		
Round bolt plate	1					
Round bolt keeper		1				
Wrought hook	1					
Agateware doorknob	1					
Doorknob escutcheons and fragments	1					
Doorknob and escutcheons				1		
Lock box fragment w/ escutcheon and keyhole cover				1		
Keyhole escutcheon, brass		1				
Latch staples	2					
Hook and eye latch		1				
Round case for mortise bolt		1				
Reinforcement plates		2				
Window screening				1		

hinge did the HL hinge (Streeter 1971:12-17). HL hinges were manufactured as early as the late seventeenth century. These early ones had ground surfaces, beveled edges, and the nail holes were staggered. The HL hinges at 38CH127 are of late eighteenth/early nineteenth century manufacture. The surfaces are untreated and the nail holes are aligned and less numerous (see Streeter 1983:6).

The cast iron butt hinge, invented in 1775 in England, was being manufactured in the United States by 1815, if not earlier. At this point the HL hinge was driven out of use (Streeter 1973:47-49). The dominance of butt hinges over HL hinges at 38CH127 is somewhat inconsistent with the turn of the century construction date. However, the house has been constantly repaired and little of the original fabric can be found. HL hinges may have been first used, but were later replaced with the butt hinges.

The main house and Structure 1 account for the majority of construction hardware. Structures 2 and 3 contain only a few construction items, suggesting that they contained few architectural details. The presence of window screening at Structure 3 illustrates its late date. Only a shutter hinge was recovered at Structure 4a which is consistent with its posited impermanent nature. No hardware was found at Structure 4b which suggests that the excavations may have been placed away from the actual structure and in a trash midden. Since the area dates to the late nineteenth/early twentieth century, construction hardware should be present, particularly since there is evidence that the house was serviced with electricity. Structure 5 excavations recovered only one item which suggest that it was a simple building. Despite the relatively large number of buildings investigated at 38CH127, there is markedly less hardware here than at 38CH129. At the Vanderhorst main house, this is probably a result of repair and replacement since the house is still standing. In contrast, the Shoolbred main house burned leaving behind all of the architectural hardware associated with the building. Nonetheless, the Shoolbred house was much more elaborate in layout and, probably, contained more architectural detailing.

In addition to these ferrous architectural items, a number of non-ferrous artifacts were collected consisting of brick, marble, roofing slate, and redware roofing tiles.

Structural brick measured 9 x 2-2 1/2 x 4-4 1/2 and 8 x 2 x 3. The smaller brick was generally found in association with the inner pier system at Structure 1 and is assumed to date from the eighteenth century. The larger brick dates from the ca. 1803 construction of the Vanderhorst mansion and is nearly identical in size, texture, and color to the Shoolbred house bricks, suggesting a similar point of origin.

Marble items consist of tiles identical to those found at 38CH129, the Shoolbred house. The tiles consisted of 9-5/16 inch squares with one finished and one unfinished side. They are approximately 1 inch thick. None were found in situ, although several are found as column supports on the north porch while others are found as pavers set into cement on the south porch -- both in what appear to be late contexts (perhaps indicating reuse). Given the paucity of these tiles, it is unlikely that they were purchased for paving. It is possible that they were taken from the Shoolbred house after it burned, either by those living at Vanderhorst or by Union or Confederate troops.

Two types of redware roofing tiles were present at the Vanderhorst house. One had an exterior smooth black glaze and was 15.5 mm thick. Several examples were complete revealing an S profile. This type was, by far, the most common tile. The second type had an exterior rough dark brown glaze and was also 15.5 mm thick. Only a few of these were found and no profile was obtained. These may have been used as replacement tiles. This roofing is called a pantile system. It uses various tile shapes, but the most common, which make up the main expanse of the roof, are called the "field tile" and are "S"-shaped in profile. Other tiles included in this system are end bands, detached gable rakes, circular cover

starters, top fixtures, and circular ridge covers (McAlester and McAlester 1984:47; Ramsey and Sleeper 1988:344).

Redware tiles were found as chinking in parts of the Vanderhorst house and were also found in large quantities in Trash Midden 1. It is quite possible that these tiles were used to roof the original eighteenth century house. As a part of clean up efforts, they were discarded into the slough located at Trash Midden 1 and fragments were used in the second mansion.

The slate recovered at Vanderhorst Plantation includes fragments of the same (or similar) dark gray slate found at the Shoolbred house. In addition, a second variety was found with a very duck red purple color (Munsell 5RP2/2). Where recovered in something approaching stratigraphic contexts, it seems that the dark gray slate was the earliest, being replaced by the very dusky red purple slate at a later date.

As discussed in conjunction with the slate from Shoolbred, it has not been possible to conclusively determine the origin of these slates, although the dark gray material is both similar to Northern Wales examples and Buckingham slate quarried from Virginia. The purple slate, seemingly common on late nineteenth century structure in the Charleston area, may be a Pennsylvania slate.

Furniture Artifact Group

A total of 68 furniture items were recovered from the excavations at 38CH127. These items are listed by locality in Table 65.

The glass lamp chimney fragments resemble a lamp patented in 1784 (Sullivan and Gusset 1984:59). It consisted of a narrow chimney with a deep constriction above the flame and narrower at the top than at the bottom. The hat/coat hook is similar in design to one advertised in Montgomery Wards 1895 catalogue called "The Gem" (Montgomery Ward & Co. 1895:382). The clock part is the barrel which contains the main spring (Benjamin 1895:905).

Arms Artifact Group

This group includes 248 specimens, most of which are shotgun shell casings probably related to twentieth century hunting activities. These items are listed in Table 66.

The lead minie balls or rifle-musket bullets are .577/.58 caliber and appear to be of molded manufacture post-dating 1850 (Coggins 1962:31; Peterson 1964:219). The two musket percussion caps are all examples of the "top hat" variety commonly used for military arms (Moore 1963:77). These items probably date from the Civil War military occupation of 38CH127. Their occurrence is not surprising, since both Confederate and Union troops were stationed here. Most of the gunflints are small and were probably used on sporting rifles. One gray gunflint was large and was likely used on a larger weapon such as a musket.

Clothing Artifact Group

Recovered from the excavations at 38CH127 are 358 clothing items, most of which were recovered from Structure 1 (the kitchen/wash house) and Structure 3, which is located approximately 50 feet from Structure 1. Tables 67 and 68 present buttons and other clothing artifacts by structure.

While all were mass produced and inexpensive, they probably served different functions. The porcelain buttons tend to be found on shirts and undergarments, while the metal and bone buttons would be found on pants and other work clothes.

Table 65.
Furniture items from 38CH127

Item	MH	ST1	ST2	ST3	ST4b	ST5
Brass drawer pull parts	2	1				
Brass escutcheon fragments	1		1			
Brass keyhole escutcheon		1				
Iron keyhole escutcheon		1				
Iron upholstery tacks	7					
Brass upholstery tacks		2			1	2
Light bulb mount plate				1		
Light bulb fragments		3		1	6	
Lamp glass fragments	6					
Threaded washer for lamp		1				
Iron coat/hat hook	1					
Lt. Blue vase fragments		4				
Clear panel vase fragments		1				
Mirror fragments		2				
White porcelain chest knobs		1			1	
3" chest/trunk handle		2				
Iron handles					1	
Iron chest/trunk hinges		1				
Brass thumb latch for cabinet				1		
Small brass cabinet hinges		2	1	1		
Small iron cabinet hinges		2				
Brass reinforcement plate		1				
White metal decorative plate		1				
Figurine parts		1				
Andiron fragments		1			2	
Caster wheel fragment		1				
Clock part			1			
UID brass w/ wood attached				2		

Table 66.
Arms Artifacts at 38CH127

Item	MH	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	TM2
12 gauge shell casings	5	35	2	7		3	1		
22 cal. shells	90	50					1		
32 cal. shells	4		1					3	
38 cal. shells		9	2	3					
45 cal. shells	1	1		1					
U.S. minie balls	2						4		1
9 mm. shell		1							
Gunflints									
pale gray	1	1							
gray				1			1		
dark gray		1					1		
honey							1		
brown		1					1		
dark brown		1						1	
Lead shot									
8mm							2		
9mm							3		
13mm							2		
14mm		1							
Percussion caps					1		1		
TOTAL	103	101	5	12	1	3	18	4	1

The porcelain style, known as "small chinas" or "Prosser" buttons, were named after the inventor, Richard Prosser (Peacock 1972:98). The style dates from the nineteenth century and Luscomb (1967:183) notes that most were between 3/8 and 3/4 of an inch.

Some of the shell buttons contained a "fish eye" design which is the industry's name for a two-hole button with an oval depression.

The one military button recovered include one specimen of a general issue two piece Union Eagle button. The maker's mark is illegible.

A Charleston Police button was recovered with SCOVILLE MFG. CO. / WATERBURY printed on the back. The button features the city seal with Lady Liberty and the Charleston Harbor skyline. The benchmark indicates a post-1850 date (Luscomb 1967:174). A similar button has been recovered from an 1890s context at the Medical University site on President Street in the City of Charleston (Martha Zierden, personal communication 1992).

Other clothing items are listed in Table 68. Four thimbles measuring approximately 7/8" in height were recovered from the excavations at 38CH127. Two are crushed -- one has a plain stipple pattern and the other exhibits a floral band near the base. A grape cluster motif was found on another. At the base is an oval shield with what appears to be initials (LR) scratched into the shield. Thimbles were often designed so that the owner could etch his/her initials or name (Johnson 1982:11). The historical records were searched for a person with the initials LR living at the Vanderhorst Plantation; the most likely candidate is a member of the Rose family which lived on Kiawah for the better part of half a century.

One gold dumb bell pattern cuff link with a red inlay was recovered. One brass and shell dumb bell pattern cuff link was also found. Both of these are high status items. A marbleized inlay was found, probably for a cufflink.

The remaining clothing items all tend to be utilitarian items characteristic of the nineteenth century. While the iron buckles were probably used with belts, Stone (1974:25) cautions that such functional assessments are largely subjective and the items may have been harness or spur buckles.

Personal Artifact Group

The Personal Artifact Group consists of 36 examples. At the main house two type 1f large ultramarinedrawn tube beads were found. The other two beads were recovered from Structure 1. Both are type W1b16 large, round, clear, translucent wire wound beads (see Kidd and Kidd 1970).

Thirteen coins were recovered during excavations at 38CH127. These include a George II silver shilling (Structure 1), a 1772 British half penny (Main House); 1881 (Structure 1), 1890 (Structure 3), two 1918 (Structure 1), 1927 (Structure 4b), 1955D, 1956D, and 1981 U.S. pennies (Main House); an 1876 and 1981 U.S. dime (Structure 1); and an 1893 U.S. silver half dollar (Structure 1). In addition, a brass slug which may represent a worn coin was found (Main House).

The George II shilling contains no visible date, but the figure is a young bust and probably dates between 1727 and 1760 (Craig 1971:226). The 1772 British half penny was produced under the reign of George III (Newman and Doty 1976:135). The 1881 and 1890 pennies are Indian Head types. This design was adopted in 1859 and contains the bust of an Indian princess on the obverse side with an oak wreath on the reverse side. This pattern went out of use in 1909 (Yeoman 1990:85). It was then replaced by a Lincoln wheat penny. These coins were produced between 1909 and 1958 (Yeoman 1990:87). Five examples (two 1918, 1927, 1955, 1956) of these were found at Vanderhorst. The 1981 penny is a modern Lincoln coin with a memorial reverse. These were produced after 1959 (Yeoman

Table 67.
Buttons from 38CH127, Vanderhorst Plantation

SOUTH'S TYPE NO.	DESCRIPTION	MAIN HOUSE NO.	MAIN HOUSE OTHER (mm)	STRUCT. 1 NO.	STRUCT. 1 OTHER (mm)	STRUCT. 2 NO.	STRUCT. 2 OTHER (mm)	STRUCT. 3 NO.	STRUCT. 3 OTHER (mm)	STRUCT. 4a NO.	STRUCT. 4a OTHER (mm)	STRUCT. 4b NO.	STRUCT. 4b OTHER (mm)	TRASH 1 NO.	TRASH 1 OTHER (mm)	TRASH 2 NO.	TRASH 2 OTHER (mm)
7	spun brass, eye cast in place	2	12, 15	5	13,15,19,20, 23												
9	brass, hand stamped design, soldered eye	1	29.5 (scalloped)														
13	cast faceted glass, brass eye & boss									1	13 (black glass)						
18	brass, stamped design well soldered eye			2	20:GILT,22: LONDON GILT w/ leaf design	2	13 (STAND. COL. TREBLE GILT),22.5 (floral)	2	17, 20.5 (STANDARD COLOR/TREBLE GILT((wheat)			1	18 (words illegible)			1	20 (BEST w/ wreath design)
19	bone 4 hole w/center hole			3	14.5,17,18												
20	bone 4 hole			4	frag.,14,17, 18			2	13,17			1	17				
22	shell 4 hole	3	10.5,13,18	11	2-10,4-11,12, 12.5,2-14, 14.5	1	18	3	9,10,10.5			1	9.5			1	20
23	porcelain, convex f & b, sunken panel 4 hole	16	10,10.5,5-11 (1 w/rays), 2-13,13.5, 2-14 (1 blue) 14.5 (red), 16, 21.5 (brown)	50	2-9,6-10, 19-11,3-12: 1 w/pie crust rim,2-12.5, 2-13 (1 w/pie crust rim), 7-14,14.5,15, 15.5,4-16 (1 w/blue stripe around rim), 17,18	16	9.5,10.5,6-11 (1 w/pie crust rim),12 12.5,3-14 (1 w/pie crust rim), 16,2-17	38	1 frag,8,8-10 22-11,2-13, 2-15,2-16	1	frag.			1	11		
25	machine stamped brass face, iron back & eye							1	19 (basket weave design)								
26	machine stamped brass f & b, eye loose in hole	1	18 (sunburst pattern)	1	26												
27	brass, 2 piece, loose or soldered eye, machine embossed					1	22.5 Charleston Police (SCOVILLE MFG CO. / WATERBURY)										
32	stamped brass, sunken panel			1	17												
34	cast 1 pc. brass shank, shell & set holder w/ drilled eye											1	13				
OTHER	2 hole shell			32	2-frags,10, 5-11 (1 fish eye),5-12 (1 fish eye),9-13 (1 fish eye),14.5,15, 2-17 (1 w/ rays), 2-18 (1 w/ 6 pt. star design),			9	6-11,15,18,19								
—					18.5 (fish eye),19 (fis eye, 35.5	3	2-10,14	11	2-10 (fish eye),6-11,15 18,19								
------	4 hole shell			4	10,2-11,14												
------	2 hole porcelain			6	9,10,11,12,13 (brown rim), 17 (blue)	2	1 frag, 13 (blue)	4	2-10,1-16 (blue edge)								
------	3 hole porcelain			1	11												
------	porcelain w/brass eye			1	8												
------	2 hole brass w/white metal fill			1	16.5 (WILSON & RUSLING/B. P.L.)	1	14										
------	4 hole stamped brass with iron back			1	17 (speckled design)	1	13.5	1	19								
------	Spherical gilt			1	8.5												
------	Black faceted glass w/glass eye or eye missing			3	12.5, 14 (w/ glass eye),1												
------	Black cut glass					1	15 (swirl)										
------	2 hole bone			1	13												
------	black, hard rubber 4 hole			1	16												
------	clear transucent faceted glass 1 hole			1	16												
------	4 hole iron			1	18	1	18	1	18								
------	2 peice pewter w/ iron fill			1	23												
------	dosed bone w/ bone shank					1	20										
------	iron and white metal w/ leather between metals											1	14 (U.S./F/ CO)				
------	UID iron							1	18								
------	UID shell											1	13				

Table 68.
Other clothing items from 38CH127

Item	MH	ST1	ST2	ST3	ST4b
iron buckles and buckle fragments	3	4	3	3	
brass buckles and buckle fragments		2		2	
brass buckles for overalls?		1			
suspender clasp	1				
brass grommets		23	3	6	1
iron grommets				8	
brass snaps		1			
brass rivets		3			
pewter clothing rivet			1		
iron clothing rivet		1			
cream colored porcelain collar studs		2			
brass and shell cufflinks		1			
marbleized inlay (gray and white) for cufflink		1			
gold red stone cufflink			1	2	
shoe sole fragments (black rubber)		1			
flat shoe heel		1			
ladies boot heel		1			
shoe leather		1			
shoe leather with grommets		1			
clothing flat irons		2			
brass thimbles		2	1	1	
scissors				1	
safety pin, silver plated				1	

1990:92).

Other personal items consist of an iron pocket knife fragment (Main House), two iron key or key fragments (Main House and Structure 1), a modern Yale brand lock key (Structure 1), 12 links of a copper bracelet (Structure 1), a brass jewelry mount with iron fill (Structure 1), a coined silver ring (Structure 1), one brass men's ring (Structure 3), one brass jewelry catch (Structure 2), one green faceted jewelry inlay (Structure 3), one brass and shell lapel pin (Structure 3), two hard rubber comb fragments (Structure 1), two slate pencil fragments (Structure 1 and Trash Midden 2), and one brass lid possibly belonging to a pocket compass (Structure 4b).

The men's ring is missing the center inlay, but the surrounding inlays are still present and appear to be Lapis Lazuli, a mineral technically known as lazurite. Colorado is the only area where lazurite is found in the United States, although Afghanistan contains the best occurrence of this mineral (Pough 1976:231). The ring portion contain a scroll design.

The lapel pin contains a centered Masonic emblem made of shell. Two pipe bowls with emblems of secret organizations were also found at the Vanderhorst site and will be discussed in more detail in the Tobacco Group portion of this chapter. Men's jewelry items with Masonic emblems and emblems of other secret orders were often sold in catalogs, and a variety of Masonic jewelry was found in the 1902 edition of the Sears Roebuck Catalog.

A review of Masonic records by Mr. H. Dwight McAlister, Grand Secretary of the Grand Lodge of Ancient Free Masons of South Carolina revealed that "Arnoldus Vander Horst" became a Mason in the Orange Lodge No. 14, A.F.M, Charleston, South

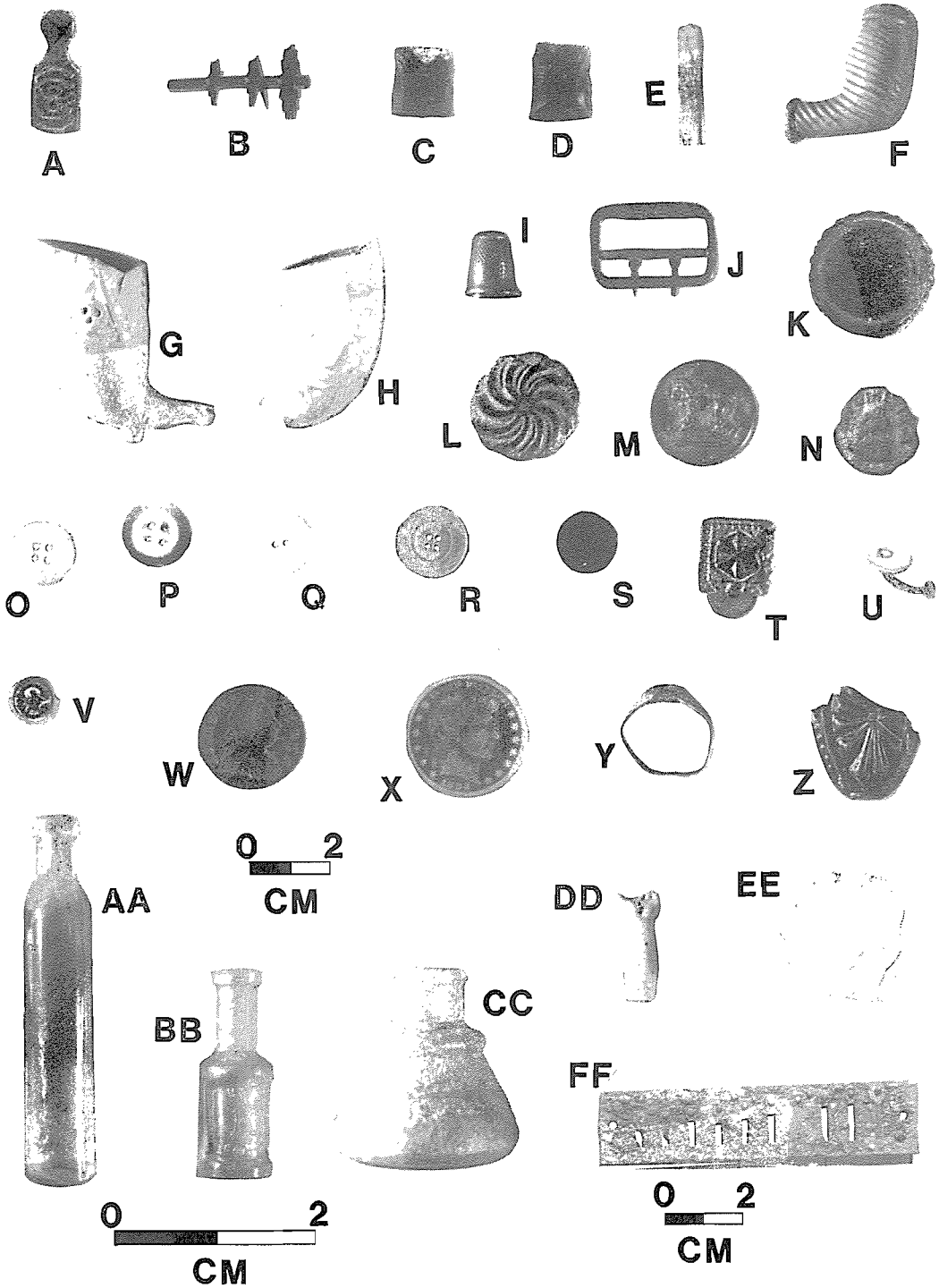


Figure 83. Other artifacts from 38CH127. A, key hole escutchion; B, clock part; C-D, gun flints; E, Gambier pipe stem; F, stub stem pipe; G, pipe bowl with skull and crossbones; H, pipe bowl with masonic emblem; I, thimble; J, brass buckle; K-L, rubber buttons; M, stamped brass button; N, pewter button; O-P, South's Type 23 porcelain buttons; Q, shell button; R, South's Type 22 4-hole shell button; S, South's Type 13 cast glass button; T-U, cufflinks; V, Masonic lapel pin; W, British half penny; X, 1893 US silver half dollar; Y, man's ring; Z-BB, cologne bottles; CC, ink well; DD-EE, doll parts, FF, harmonica reed.

Carolina about 1902. The last entry on his record is that he was "erased for non-payment of dues on December 31, 1940 and never reinstated before his death" (H. Dwight McAlister, personal communication 1993).

The brass lid is very similar to the lid of a pocket compass advertised in Montgomery Ward's 1895 catalog (Montgomery Ward 1895:206).

Tobacco Artifact Group

The tobacco category includes 322 items, including 70 pipe bowls and 252 pipe stems (Table 69). All are manufactured from kaolin clay with 64 having 4/64 inch diameter bores, 156 with 5/64 inch diameter bores, and 31 with 6/64 inch diameter bores. One is fragmented and no bore diameter could be obtained. Stems included decorations, glazes, and makers marks. These features include columns (N=1), leaves (N=1), redware stem with ribs (N=1), yellow glazes (N=3), GLASGOW//DAVIDSON (N=2), Gambier/a Paris/ M*M (N=1), MURRAY//GLASGOW w/16 in relief on the left spur (N=1), GLASGOW (w/lines and dots) (N=1), LIVERPOOL (N=1), and DAVIDSON (N=1). One stub stemmed pipe was found with a bore diameter of 4/64 inch.

The Murray company was founded in Glasgow, Scotland in 1826 and continued business until 1861-62 at which time it became the Davidson company. As a result, Murray pipes could date no later than 1862, whereas Davidson pipes could date no earlier than 1862 (Walker 1968).

One stem was marked Gambier/a Paris/ M*M. Gambier produced pipes in Paris during the nineteenth century and was best known for figurine bowls. The mark is impressed perpendicular to the long axis of the stem (Humphrey 1969:17).

Bowl designs include plain (N=41 or 58.6%), simple leaves (N=5 or 7.1%), vertical ribs (N=13 or 18.6%), leaves, stars, and diagonal stripes (N=1 or 1.4%), diagonal stripes (N=1 or 1.4%), masonic emblem (N=1 or 1.4%), grape clusters (N=1 or 1.4%), ribs and leaves (N=1 or 1.4%), redware bowl w/ribs (N=1 or 1.4%), stars and dots (N=1 or 1.4%), TD w/stars (N=1 or 1.4%), British flag in shield design (N=1 or 1.4%), and skull and cross bones (N=1 or 1.4%).

Bowls with the initials TD are interesting since the meaning of the letters is unknown. Wilson (1971:15) states that the initials may stand for Tommy Duncan, a Scot, who is credited with the invention of the clay pipe in the seventeenth century. Whatever the origin of this mark might be, by the mid-nineteenth century several makers were using it as a style and the D. McDougal and Co. of Glasgow were advertising them as "Plain TD" £1.10 per gross in ca. 1875 (Sudbury 1980:45-46). Bowls with these initial have been found in archaeological contexts dating from "post-1720" to 1827 (Wilson 1971:15-16).

Two bowls worthy of further mention are those bearing emblems of secret orders. One is a standard Masonic emblem consisting of a drawing compass and an inverted right angle with the letter "G". The other bowl contains a skull and cross bones. Although, this symbol may have been used by a number of groups, it is most common among the Odd Fellows and is occasionally used by the Knights of Pythias (see Montgomery Ward Catalog 1895 and Sears and Roebuck Catalog 1902).

Although pipes with such emblems were produced in London after 1750 and became widespread and often imitated in the nineteenth century (Atkinson and Oswald 1975:40), it seems more likely that the Vanderhorst specimens are linked to either a member of the Odd Fellows (organized in 1843) or the Knights of Pythias (organized after the Civil War). Both groups are black fraternal orders which developed as a result of their exclusion from the mainstream of white societies. Just as importantly, however, these (and other groups) provided freedmen with avenues for status, respect, leadership, and recreation, eventually developing into a major aspect of black culture.

Table 69.
Tobacco Related Artifacts from 38CH127

Item		MH	ST1	ST2	ST3	ST4a	ST5	SM1	TM1	TM2
Stems,	4/64	8	11		27		12		2	4
	5/64	20	33	2	58	2	30	2	4	5
	6/64	1	11	1	14		3		1	
	fragments				1					
Bowls,	plain	1	7	3	9		16	2	3	
	leaves	1	2		2					
	vert. rays						1			
	vert. ribs	1	1		10					
	dia. lines				1					
	stars/stripe		1							
	grape clust		1							
	ribs/leaves		1							
	stars/dots		1							
	TD w/stars		1							
	Masonic				1					
	Union Jack							1		
	skull/X bones								1	
	redware		1							

Activities Artifact Group

The activities artifact group contains 1317 items and are presented by locus in Table 70.

Toys consist of doll parts, marbles, children's tea sets, harmonica reeds, and tambourine jingles. All of these items were found west of the main house and make up anywhere from 1.4% to 5.1% of the activities artifacts.

Tools are primarily farming or construction tools. One flashlight glass was found, but this item is modern and is probably related to site visitors. The 6 prong refuse hook is similar to an oyster rake, and may have been used as such. The axe is similar to a Kentucky axe as shown by Russell & Erwin catalog (Russell & Erwin Manufacturing Company 1980 [1865]).

Fishing gear consisted entirely of lead shot or barrel shaped sinkers.

Stable/barn items were recovered almost entirely from the Structure 3 area. One 1 1/8th lb. horseshoe was recovered, 41 block and carriage rivets were recovered of which 32 came from Structure 3, one iron stirrup, and two carriage bolts were recovered. In addition, an adjustable carriage pole fragment was found.

Storage items consist of strap metal or bucket parts.

The miscellaneous hardware and other artifact items are self explanatory. Table 71 presents percentages of artifacts in Activities subcategories. The first five categories are especially sensitive to site function, while the miscellaneous hardware and other categories are not as sensitive since they seem to be the "catch-all" for many artifacts that can not otherwise be defined.

Structures 1 and 2, both posited kitchens have an unusually high category of toys. Structure 4a, although only yielding seven activities artifacts, has a high percentage of fishing gear. Its proximity to the marsh edge may account for this. Structure 3 contains an unusually high percentage of Stable/Barn items and may have served as a carriage house. A relatively high percentage of storage items are found at Structures 1, 2, and 3. Shell Midden 1 also contains a high percentage of these items, but it must be noted that only 13 items were recovered there. The high percentage of these items at Structures 1 and 2 may be due to their function as a kitchen. Structure 3 is approximately 50 feet away from

Table 70.
Activities Items at 38CH127, Vanderhorst Plantation

Item	HH	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	SM2	TM1	TM2
TOYS											
Doll parts	1	14	2	2							
Tabourine jingles	2										
Harmonica parts		3	1								
Marbles		5	2								1
Porcelain tea sets		3	2	3							
TOOLS											
Flashlight glass	1										
Whetstone fragments		2									
File fragments		1		1							
6 prong refuse hook		1									
Wrench fragments		2	1								
Plow cultivator		1		1							
Plow share		1									
Ax head				1							
Caulking iron fragments				1							
Shovel blades				1							
Chisel fragments				1							
Guard for circular saw (?)				1							
Hoe fragments										1	
FISHING GEAR											
Sinkers	1	5	2	1	2	1					
STORAGE ITEMS								3			4
Strap iron	8	14	7	13							
Bucket handle	1										
Bucket lugs		5		1		1	1				
Bucket fragments		1									
STABLE/BARN											
Saddle buckles		1									
Stirrups				1							
Horseshoes				1							
Carriage poles				1							
Block and Carriage rivets	2	4	3	32							
Carriage bolts				2							
MISCELLANEOUS HARDWARE											
Brass nails and fragments	12	6	1	5							
Nuts	3	1	1	1							
Screws and nuts	2										
Wood screws	54	28	3	26							
Bolts and fragments	6		1								
Bolts w/ nuts and washers	1	1									
Nuts and bolts	1	7	1								
Washers	6	11	4	3			2				
Lock washers	1										
Brass electrical connector	1					1					
Barbed wire	15	23	1	12		12	85				2
Hook and eye latch frags.	2										
Fence staples	4	69	4	7		2	7				
S hook	1										
Chain		10				1	2				
Padlocks and fragments		5									
Rope cleat		1									
Swivel hook		1									
Oarlock		1									
Brass ring		1		1							
Brass spike		3									
Brass cable fragments		1									
Copper wire		1									
Exhaust cap for tractor			1								
Driven iron eye				1							
Cable thimble				1							
Hose/cable clamp				1							
Cornice hook				1							
Spring							1				
OTHER											
UID iron	38	41	64	36		28	6	7	3	11	10
UID brass	7	11	1				2			1	
UID lead	2	8	1								
Flat iron	26	192	50	42		1	6			29	14
Flat brass								2			
Plastic	9	1					1				
Battery parts	6						1	1			5
Flower pot fragments	1										
UID hard rubber											
Ford hubcap		1									
Plastic pump btl. sprayer		1									
Metal disks				2			1				
Iron rods				1							

Table 71.
Percentages of Artifacts in Subgroups of the Activities Category

Category	MH	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	SM2	TM1	TM2
Toys	1.4	5.1	4.6	2.4	0	0	0	0	0	0	1.9
Tools	0.5	1.6	0.6	3.4	0	0	0	0	0	2.4	0
Fishing Gear	0.5	1.0	1.3	0.5	28.6	2.1	0	0	0	0	0
Storage	0.5	4.1	4.6	6.9	0	2.1	0.9	23.1	0	0	0
Stable/Barn	5.1	1.0	2.0	18.1	0	0	0	0	0	0	0
Misc. Hdwr.	50.9	34.8	11.1	28.9	0	34.0	84.3	0	0	0	0
Other	41.6	52.2	75.8	39.7	71.4	61.7	14.8	76.9	100	97.6	98.1

Structure 1 and may contain kitchen related smear.

Prehistoric Artifacts from 38CH127

A small number of prehistoric artifacts were recovered from excavations at 38CH127. These consist of one Thom's Creek Plain sherd, two Deptford Plain sherds, four Deptford Cord Marked sherds, one Savannah Check Stamped sherd, and three small unidentifiable sherds.

Dating Synthesis

The previous discussions have indicated that a number of artifacts may provide temporally sensitive information with which to date the various components at 38CH127. Ceramics, in particular, have been shown to be useful for obtaining mean occupation dates (South 1977). Other artifacts, while useful in dating, are often not found in sufficient numbers to provide confidence in their associations. Some artifacts are useful for providing terminus post quem (TPQ) dates, or a date after which the assemblage was deposited. Most artifacts, however, provide only a general time frame, such as "typical of the nineteenth century."

The ceramic dates have been previously considered in Table 54, with the site yielding late eighteenth to late nineteenth century dates. It is useful to examine the various loci from the perspective of the proportion of eighteenth (i.e., creamware, lead glazed slipware), early nineteenth (i.e., pearlware), and mid to late nineteenth (i.e., whitewares, yellow wares) ceramics.

At the main house, two mean dates were calculated; 1844 from the general excavations and 1762.7 from Feature 2. Eighteenth century wares consist of 28.2% of the main house ceramics. Early nineteenth century wares consist of 19.9%, and mid to late nineteenth century wares consist of 51.9% of the ceramics. At Feature 2, eighteenth century ceramics account for 91% of the wares, while early nineteenth century wares account for 9%.

At Structure 1, four mean dates were calculated; 1861.8 from the general excavations, 1862.9 from the Structure 1 interior excavations, 1857.6 from the Structure 1 exterior excavations, and 1811.9 from excavations beneath the structural rubble. Eighteenth century ceramics account for 20.3% of the wares from general, interior, and exterior excavations. Early nineteenth century ceramics account for 8.4% and mid to late nineteenth century ceramics account for 71.3% of the wares. Excavations beneath the structural rubble yielded an entirely different profile with 61.5% of the wares dating to the eighteenth century, 16.1% dating to the early nineteenth century, and 22.4% dating to the mid and late nineteenth century.

At Structure 2, five mean dates were obtained; 1824.2 from Structure 2 excavations without features, 1796.7 from feature 5, 1791.3 from feature 6, 1810.6 from interior excavations, and 1850.6 from exterior excavations. Structure

2 excavations without features contained 45.5% eighteenth century wares, 25.2% early nineteenth century wares, and 29.3% mid to late nineteenth century wares. Features 5 and 6 contained 75.3% eighteenth century wares, 23.3% early nineteenth century wares, and 1.4% mid to late nineteenth century wares. Interior excavations contained 62.5% eighteenth century wares, 23.1% early nineteenth century wares, and 14.4% mid to late nineteenth century wares. Exterior excavations contained 28.3% eighteenth century wares, 11.7% early nineteenth century wares, and 60% mid to late nineteenth century wares.

At Structure 3, three mean dates were obtained; 1876.5 from Structure 3 without Feature 7, 1869.9 from below midden at Structure 3, and 1787.5 from Feature 7. Structure 3 without Feature 7 excavations contained 7.6% eighteenth century wares, 5.1% early nineteenth century wares, and 87.3% mid to late nineteenth century wares. Lower level Structure 3 contained 17.8% eighteenth century wares, 2.3% early nineteenth century wares, and 79.9% mid to late nineteenth century wares. Feature 7 contained 71.4% eighteenth century wares, 14.3% early nineteenth century wares, and 14.3% mid to late nineteenth century wares.

At Structure 4a, a mean date of 1878 was obtained. Eighteenth century wares account for 2.2% of the ceramics, early nineteenth century wares account for 7.6% of the collection, with the remaining 90.2% accounting for the mid to late nineteenth century wares.

At Structure 4b, a mean date of 1893.2 was obtained. The excavations contained 1.7% eighteenth century wares, 1.7% early nineteenth century wares, and 96.6% mid to late nineteenth century wares.

At Structure 5, a mean date of 1784.8 was obtained. The excavations contained 62.8% eighteenth century wares, 20.9% early nineteenth century wares, and 16.3% mid to late nineteenth century wares.

At Shell Midden 1, a mean date of 1828.2 was obtained. Eighteenth century wares comprise of 41.6% of the assemblage, early nineteenth century wares constitute an additional 12.9%, and mid to late nineteenth century wares encompass 45.5%.

Shell Midden 2 did not yield any datable ceramics.

At Trash Midden 1, a mean date of 1803.7 was obtained. The excavations contained 74.8% eighteenth century wares, 7.8% early nineteenth century wares, and 17.4% mid to late nineteenth century wares.

At Trash Midden 2, a mean date of 1818.7 was obtained. The excavations contained 37.8% eighteenth century wares, 41.5% early nineteenth century wares, and 20.7% mid to late nineteenth century wares.

Since the research questions were concerned identifying the pre-Revolutionary War occupation of the site, and understanding settlement development, the need for a clear understanding of temporal use of the different loci is important. To visually aid in determining length and intensity of use over time, a variation of another method of dating is used. This technique has been employed by Bartovics (1981) in his study of Daniels Village. Bartovics advocates the calculation of probability of distributions for ceramic types within an assemblage. Using this technique an approximation of the probability of a ceramic type contribution to the site's occupation is derived. This formula is expressed:

$$Pj/yr. = \frac{fj}{F \times Dj}$$

where

Pj = partial probability contribution
fj = number of sherds in type j
F = number of sherds in sample
Dj = duration in range of years

Figure 84 presents mean ceramic dates along with a generalization of ceramic contribution probability to the site's occupation. Range of occupation is determined by locating the largest increase and decrease in contribution.

Based on the information presented, eighteenth century occupations predating the Revolutionary War and site change and development can be better understood. Areas appearing to have been used while the first main house was standing are Feature 2 at the standing main house, the first building episode at Structure 1, Features 5 and 6 from Structure 2, Feature 7 from Structure 3, Structure 5, Trash Middens 1 and 2, and possibly Shell Midden 1. Some qualifiers must be made here. Features 5 and 6, while dating from the earliest occupation by the Vanderhorsts, are building fill brought in from another area and therefore do not actually represent an area of eighteenth century site use. Trash Middens 1 and 2 were possibly used during this time, but may have been primarily areas that accepted refuse from the clean-up after the first plantation was destroyed. Shell Midden 1, which is interpreted to have functioned as a walkway, may have been built as a landscape feature associated with the first house. Using Bartovics formula, the probability contribution profile is relatively flat, with a bracket from the 1760s, a slight drop about 1900, to about 1960. Simply put, Features 2 and 7, Structure 1, and Structure 5 are areas representing the clearest evidence for pre-Revolutionary War habitation.

The dating information is in agreement with historical data relating to the building and occupation of the main house. Here the Bartovics formula bracket date is 1800 to 1880, with a slight peak in activity around 1820. Structure 2 may have been built around this time period as well. Although the ceramic evidence is skewed by the early feature fill, based on ceramics found in the exterior of the structure, it was built about 1800 and was used heavily until about 1830. After that it appears to have had little use again until about 1850 through 1920. One scenario is that after the main house and kitchen were destroyed, a temporary kitchen was built until a permanent one could be constructed at the original kitchen site (Structure 1). This agrees with the analysis of artifacts in or above the building rubble at Structure 1. It appears that the second kitchen at the Structure 1 area was not completed until about 1820. The kitchen at Structure 2 continued to be used intensively for another decade, until finally all activity was shifted back to Structure 1. Additionally, the firebox and foundation was poorly constructed suggesting that it was not built to last. The early nineteenth century artifacts are higher status while the later use of Structure 2 between the 1850s and the 1920s exhibits lower status wares. During this period it may have been transferred over to the use of slaves, freedmen, or tenant farmers.

It appears that the 1820s marked a peak in building activity at the Vanderhorst Plantation. As stated in the previous paragraph, the second kitchen at Structure 1 was completed. This kitchen was being actively used up through the twentieth century based on the ceramic wares. Datable bottle glass yielded a mean date of 1921. Also by this time Structures 3, 4a, and 4b were constructed and occupied. The firebox found at Structure 3 is probably the result of the earliest period of occupation of that area in the 1820s. This structure may have been torn down by about 1900 when the trash midden began developing. The ceramic profile for the lower level at Structure 3 shows a gradual peak around 1850 to 1880 and then a slight decline. About 1900 there is a sharp rise again until about 1940. This sharp rise may be the result of the first dumping episodes. Bottle glass also reflects this increase in the early twentieth century, since the mean date calculated was 1927.

Structure 4a appears to have been occupied between 1820 to 1880. The late mean date (1878) may have been caused by the structure having burned down with the owner's possessions still present or possibly the structure was more intensively occupied toward the end of its occupation.

Structure 4b was probably occupied between 1820 and as late as the 1960s, however there seems to be a slight increase in use between 1900 and 1940. This

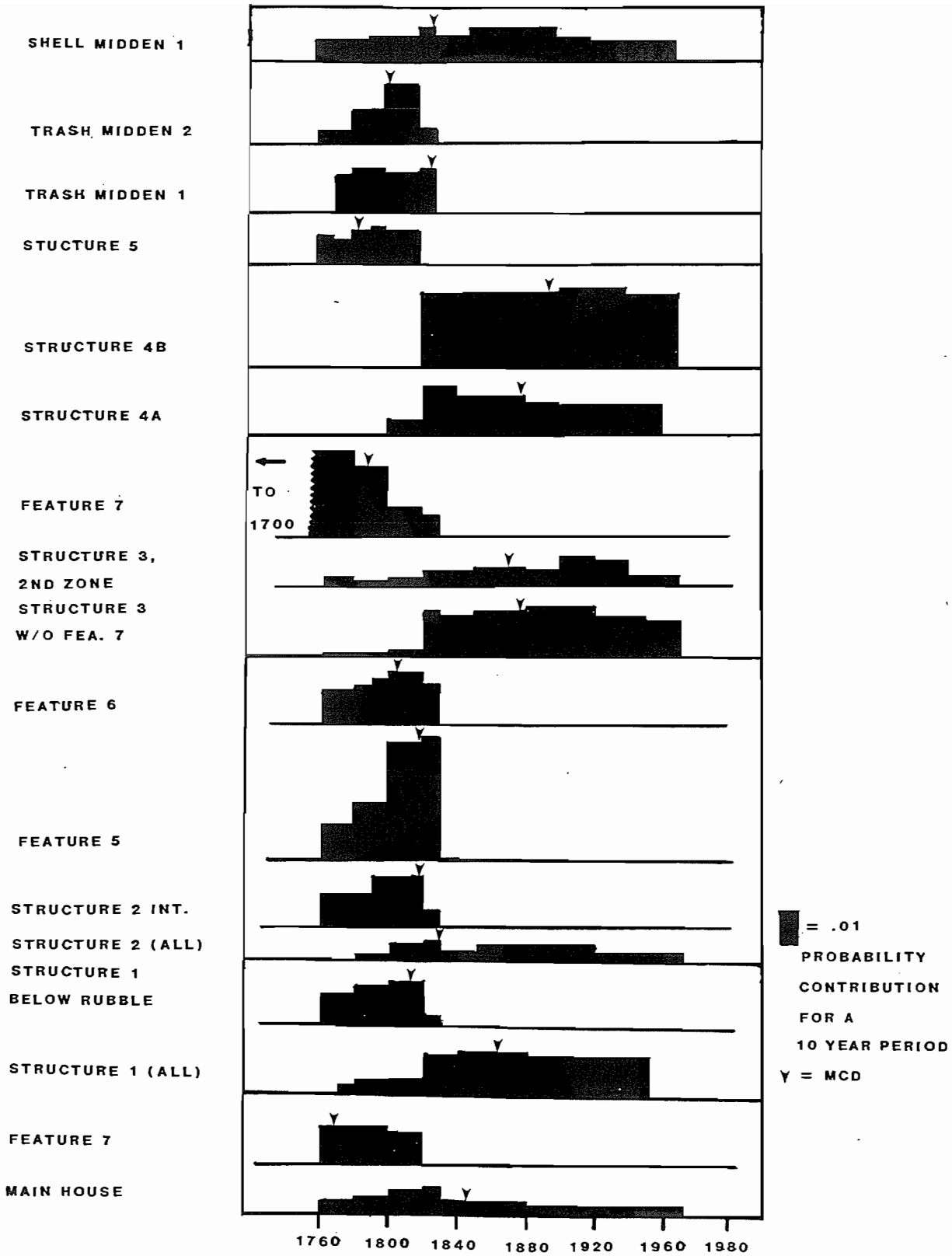


Figure 84. Mean Ceramic Dating Summary.

peak corresponds with the bottle glass date of 1930.

Pattern Analysis

The nature, and importance of pattern studies has been discussed in **Chapter 11 - Historic Archaeological Investigations of the Shoolbred Plantation Site** and the reader may recall that the technique is intended to help compare different sites with the ultimate goal of distinguishing cultural processes at work in the archaeological record (South 1988). At the level of a heuristic device, pattern analysis has revealed five, and possibly seven, "archaeological signatures" -- the Revised Carolina Artifact Pattern (Garrow 1982b; Jackson 1986:75-76; South 1977), the Revised Frontier Artifact Pattern (Garrow 1982b; South 1977), the Carolina Slave Artifact Pattern (Garrow 1982b; Wheaton et al. 1983), the Georgia Slave Artifact Pattern (Singleton 1980; Zierden and Calhoun 1983), and the Public Interaction Artifact Pattern (Garrow 1982b), as well as the less developed and tested Tenant/Yeoman Artifact Pattern (Drucker et al. 1984) and the Washington Civic Center Pattern (Garrow 1982b) which Cheek et al. (1983:90) suggest might be better termed a "Nineteenth Century White Urban Pattern." Recent work at the freedmen's village of Mitchelville on Hilton Head Island has revealed a loose clustering of artifact patterns midway between that of the Georgia Slave Artifact Pattern and the Tenant/Yeoman Artifact Pattern (Trinkley and Hacker 1986:264-268). Several of these patterns are summarized in Table 72. A careful inspection of these patterns surprisingly reveals no overlap in the major categories of Kitchen and Architecture, which suggests that these two categories are particularly sensitive indicators of either site function (including intra-site functional differences) or "cultural differences" (see Cheek et al. 1983:90; Garrow 1982a:4; Joseph 1989:60; South 1977:146-154).

Table 73 presents the artifact patterns for the various loci excavated at 38CH127. A comparison of Tables 72 and 73 reveals that the main house does not conform to any published artifact pattern. However, a comparison of patterns from the Vanderhorst and the Shoolbred main house show a great deal of similarity. Structure 129-1 (the main house) at Shoolbred contained 14.2% Kitchen Group items and 81.0% Architectural Group items.

Structures 1, 2, 3, and 5 all fall within the Revised Carolina Artifact Pattern. This is interesting since Structure 1 and 2 served as kitchens or kitchen/wash houses. One might think that their special purpose nature would cause them to reveal a different pattern than that of the Carolina Artifact Pattern. Actually the profiles are very similar to other special purpose sites where food is prepared or served such the Public House-Tailor Shop at Brunswick (South 1977:103). The only noticeable difference is the clothing group. The clothing group percentages at Structures 1 and 2 are very similar, which is not surprising if Structure 2 did indeed function as a temporary building until Structure 1 could be rebuilt. Nonetheless, the clothing percentages fall within the range given for the Revised Carolina Artifact Pattern instead of approximating the percentages given for the Tailor Shop (13.1%) (see South 1977).

Another interesting pattern was found in the Activities Group. At Structures 1 and 2, a relatively high percentage of toys were found within the Activities Group, 5.1% for Structure 1 and 4.6% for Structure 2. The next highest percentage was found at Structure 3 (2.4%) which is in close proximity to Structure 2. This may be the result of child care, of slave and/or elite children, by house support slaves. Slave and freedmen houses do not exhibit this pattern (1.7% at Mitchelville, 0.4% at Haig Point Slave Row, and 1.7% at Cotton Hope), so one might assume that the children too small for fieldwork were watched by one or two slaves who did not need to move around much, but could not devote their entire time to child care. This, in fact, is supported by historic documentation.

At the Shoolbred Plantation, Structure 38CH129-3 is a posited kitchen/house

Table 72.
Various Archaeological Pattern Comparisons

Artifact Group	Revised Carolina Artifact Pattern[a]	Revised Frontier Artifact Pattern[b]	Carolina Slave Artifact Pattern[c]	Georgia Slave Artifact Pattern[d]	Piedmont Tenant/ Yeoman Artifact Pattern[e]
Kitchen	51.8-65.0%	35.5-43.8%	70.9-84.2%	20.0-25.8%	45.6 (40.0-61.2)
Architectural	25.2-31.4%	41.6-43.0%	11.8-24.8%	67.9-73.2%	50.0 (35.8-56.3)
Furniture	0.2-0.6%	0.1-1.3%	0.1%	0.0-0.1%	0.4
Arms	0.1-0.3%	1.4-8.9%	0.1-0.3%	0.0-0.2%	-
Clothing	0.6-5.4%	0.3-1.6%	0.3-0.8%	0.3-1.7%	1.8
Personal	0.2-0.5%	0.1%	0.1%	0.1-0.2%	0.4
Tobacco	1.9-13.9%	1.3-14.0%	2.4-5.4%	0.3-9.7%	-
Activities	0.9-1.7%	0.5-5.4%	0.2-0.9%	0.2-0.4%	1.8

Sources:

[a]Garrow 1982

[b]Garrow 1982

[c]Garrow 1982

[d]Singleton 1980:216

[e]Drucker, et al. 1984:5-47 (no range was provided, but has been partially reconstructed for the Kitchen and Architectural Groups)

Table 73.
Artifact Patterns at 38CH127

	MH	ST1	ST2	ST3	ST4a	ST4b	ST5	SM1	TM1	TM2
Kitchen Group										
Ceramics	724	2555	505	2225	95	206	190	101	304	179
Colono Ware	29	2	1	5	0	0	33	4	3	1
Catawba Ware	6	9	0	23	0	0	88	1	6	0
Small Colono	0	0	0	0	0	0	122	1	0	0
Glass	2422	3898	658	3510	206	9161	260	108	130	128
Tableware	35	78	90	150	9	129	4	2	0	12
Kitchenware	59	90	30	60	0	6	15	2	0	2
Total	3275	6632	1284	5973	310	9502	712	219	443	322
Percentage	19.9%	54.0%	54.9%	58.8%	79.5%	95.5%	57.4%	37.2%	59.0%	66.8%
Architecture Group										
Window glass	10045	729	125	340	30	350	229	272	63	27
Door lock parts	0	1	0	2	0	0	0	0	0	0
Constr. hdwr.	64	100	6	31	1	0	1	0	0	1
Cut nails	438	446	95	546	3	2	13	5	0	2
Cut nail frags.	405	731	151	612	27	3	4	25	0	2
Wrought nails	415	236	19	267	1	0	3	17	0	1
Wrought nail frags.	72	75	4	95	1	0	0	4	0	0
Wire nails	263	186	34	281	5	1	0	2	0	0
Wire nail frags.	60	22	12	51	0	2	0	0	0	0
UID nail frags.	1048	2228	401	1519	0	19	80	22	189	77
Spikes	2	7	1	3	0	3	1	1	2	1
Total	12812	4761	848	3747	68	380	331	348	254	111
Percentage	77.7%	38.7%	36.2%	36.8%	17.4%	3.8%	26.7%	59.1%	33.8%	23.0%
Furniture Group										
Furniture hdwr.	17	29	3	6	0	11	2	0	0	0
Total	17	29	3	6	0	11	2	0	0	0
Percentage	0.1%	0.2%	0.1%	0.06%	0%	0.1%	0.2%	0%	0%	0%
Arms Group										
Arms artifacts	103	101	5	12	1	3	18	4	0	1
Total	103	101	5	12	1	3	18	4	0	1
Percentage	0.6%	0.8%	0.2%	0.1%	0.3%	0.03%	1.4%	0.7%	0%	0.2%
Tobacco Group										
Pipe stems	29	55	3	100	2	0	55	4	7	9
Pipe bowls	3	16	3	23	0	0	17	1	4	0
Total	32	71	6	123	2	0	62	5	11	9
Percentage	0.2%	0.6%	0.3%	1.2%	0.5%	0%	5.0%	0.8%	1.5%	1.9%
Clothing Group										
Buttons	23	132	30	73	2	6	0	0	1	2
Other	4	48	9	24	2	1	0	0	0	0
Total	27	180	39	97	2	7	0	0	1	2
Percentage	0.2%	1.5%	1.7%	0.9%	0.5%	0.07%	0%	0%	0.1%	0.4%
Personal Group										
Personal items	8	16	1	5	0	2	0	0	0	1
Total	8	16	1	5	0	2	0	0	0	1
Percentage	0.05%	0.1%	0.04%	0.5%	0%	0.02%	0%	0%	0%	0.2%
Activities Group										
Toys	3	25	7	5	0	0	0	0	0	1
Tools	1	8	1	7	0	0	0	0	1	0
Fishing gear	1	5	2	1	2	1	0	0	0	0
Storage items	9	27	7	14	0	1	1	3	0	4
Stable/Barn items	0	3	3	37	0	0	0	0	0	0
Misc. hdwr.	109	170	17	59	0	16	97	0	0	2
Other	89	255	116	81	5	29	17	10	41	29
Total	212	488	153	204	7	47	115	13	42	36
Percentage	1.3%	4.0%	6.6%	2.0%	1.8%	4.7%	9.3%	2.2%	5.6%	6.6%

slaves quarters. Here, the artifact pattern was similar to both the Shoolbred and Vanderhorst main houses (see Table 45). Two reasons may explain the differences. First, the Shoolbred structure burned which would leave behind many more architectural remains. Second, the Shoolbred kitchen is physically more connected to the main house than at Vanderhorst plantation, and therefore, was more architecturally similar to the main house.

The only other published excavation of a low country plantation kitchen is from Willbrook in Georgetown County. Lepionka (1986) performed a limited amount of work (54 square feet) beneath and in the yard area of the plantation kitchen. Based on the artifact list given in the report, a pattern was constructed. Of the 3,540 artifacts related to the plantation occupation 47.1% were kitchen related, 48.7% were architectural, 0.08% were furniture, 0.1% represented arms, 1.1% were tobacco related, 0.5% were clothing items, 0.03% were personal, and 2.4% were activities related. This pattern is somewhat similar to Structures 1 and 2, although no toys were found in the Willbrook excavations.

Structure 5 yielded a high percentage of Activities items (9.3%), but most were classified as miscellaneous hardware (84.3% of the group total) and most (N=85 or 87.6% of miscellaneous hardware) is barbed wire. A standing barbed wire fence was found in the area during the survey, which had been pushed over during clearing by KRA. Removal of barbed wire from the artifact totals reveal a more normal Activities Group profile (1.6%).

Structure 4a falls within the range for the Carolina Slave Pattern. Given the impermanent nature of the architecture, its antebellum/bellum date, and the probable status of the occupant, this is not surprising. The pattern here is quite similar to a structure excavated on Spring Island (38BU1214). At 38BU1214 the Kitchen Group represented 84.6% and the Architecture Group represented 9.5% of the collection (Trinkley and Hacker 1991:106-109). Although dating much later than the Spring Island structure (MCD 1878 vs. MCD 1788), the architectural and archaeological signatures are very much alike.

Structure 4b has a very high percentage of Kitchen Group artifacts. Although post-bellum tenant sites contain very high kitchen related items, they generally fall within 80% to 90% range (see Trinkley and Caballero 1983; and Adams et al. 1992). As stated previously, the excavated area appears to represent a trash midden rather than a structure, which probably accounts for the sparsity of architectural remains. It is clear, however, that this trash midden is different than the two excavated trash dumps. Beyond physical differences (shell midden/mounds as opposed to sloughs or dune troughs), the artifactual makeup is very different. Both trash middens fall within or slightly outside of the Carolina Artifact Pattern, which suggests that they may have been repositories for the remains of structures destroyed during the Revolutionary War. This corresponds with the date of the ceramics (MCD 1803.7 and MCD 1818.7) found there.

Shell Midden 1 contains 59.1% architectural items, perhaps because Structure 5 is located near the path. The pattern for this midden does not fall within any published range. No pattern was calculated for Shell Midden 2 since the remains were too sparse to yield a meaningful pattern.

Status and Lifestyle Observations

Like pattern analysis, Miller's (1980, 1991) efforts to use ceramic collections to develop information on the economic value of the assemblage has been discussed in **Chapter 10.** In addition to the earlier cautions, Miller warns that the indices only work well when used on sites with tight temporal contexts. Because of this the technique might be most useful for contexts attributed to the pre-Revolutionary War occupation at Vanderhorst. In spite of this and other concerns this procedure, like South's pattern analysis, provides a significant analytical technique. Table 74 presents ceramic indices for loci with a large

Table 74.
Ceramic Indices for Structures at 38CH127.

	Structure 3 Creamware and Pearlware			Structure 3 Whiteware			Structure 4b			Structure 5			Trash Midden 1			Trash Midden 2		
Plates	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product
undecorated	1.00 (1802)	7	7.00	1.00 (1860)	23	23.00	1.00 (1860)	5	5.00	1.00 (1796)	5	5.00	1.00 (1802)	4	4.00	1.00 (1816)	8	8.00
edged	1.38 (1802)	3	4.14	1.08 (1871)	2	2.16	1.13 (1871)	1	1.13				1.67 (1802)	1	1.67			
annular																		
sponge																		
hand painted				1.57 (1871)	3	4.71												
trans printed				1.60 (1855)	7	11.20	1.60 (1855)	1	1.60	4.33 (1796)	1	4.33	4.33 (1796)	1	4.33			
		10	11.14		35	41.07		7	7.73		6	9.33		6	10.00		8	8.00
Average Value			1.14			1.16			1.10			1.55			1.67			1.00

	Structure 3 Creamware and Pearlware			Structure 3 Whiteware			Structure 4b			Structure 5			Trash Midden 1			Trash Midden 2		
Bowls	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product
undecorated	1.00 (1802)	3	3.00	1.00 (1860)	15	15.00	1.00 (1860)	3	3.00	1.00 (1796)	2	2.00	1.00 (1802)	1	1.00	1.00 (1816)	4	4.00
annular	1.60 (1799)	3	4.80	1.13 (1871)	8	9.04				1.60 (1799)	1	1.60	1.60 (1799)	1	1.60	1.20 (1821)	2	2.40
hand painted	2.00 (1799)	3	6.00	1.50 (1871)	3	4.50										1.60 (1821)	2	3.20
trans printed	3.14 (1804)	1	3.14	2.00 (1870)	5	10.00							3.14 (1804)	2	6.28	2.80 (1821)	4	11.20
		10	16.94		31	38.54		3	3.00		3	3.60		4	8.88		12	20.80
Average Value			1.69			1.24			1.00			1.20			2.22			1.73

	Structure 3 Creamware and Pearlware			Structure 3 Whiteware			Structure 4b			Structure 5			Trash Midden 1			Trash Midden 2		
Cups/Saucers	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product
undecorated	1.00 (1802)	6	6.00	1.00 (1860)	41	41.00	1.00 (1860)	5	5.00	1.00 (1796)	2	2.00				1.00 (1816)	2	2.00
edged																		
annular																		
decalcomania													1.60 (1802)	1	1.60			
hand painted	1.60 (1802)	2	3.20	1.15 (1871)	2	2.30				2.50 (1787)	4	10.00						
trans printed	5.36 (1799)	1	5.36	2.89 (1848)	4	11.56	2.89 (1848)	1	2.89									
		9	14.56		47	53.86		6	7.89		6	12.00		1	1.60		2	2.00
Average Value			1.62			1.15			1.31			2.00			1.60			1.00
Average Index	42.64 ÷ 29 = 1.47			133.47 ÷ 113 = 1.18			18.62 ÷ 16 = 1.16			24.93 ÷ 15 = 2.00			20.17 ÷ 9 = 2.24			30.80 ÷ 22 = 1.40		

	Main House All			Structure 1 Creamware and Pearlware			Structure 1 Whiteware			Structure 2 Creamware and Pearlware			Structure 2 Whiteware		
Plates	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product
undecorated	1.00 (1844)	9	9.00				1.00 (1860)	34	34.00	1.00 (1796)	9	9.00	1.00 (1825)	2	2.00
edged	1.14 (1846)	3	3.42	1.33 (1802)	13	13.00	1.09 (1859)	3	3.27	1.33 (1796)	8	10.64			
annular															
sponge	1.20 (1855)	1	1.20												
hand painted	2.17 (1838)	2	4.34	1.50 (1787)	1	1.50	1.64 (1895)	3	4.92						
trans printed	2.11 (1844)	1	2.11	4.33 (1796)	2	8.66	1.60 (1855)	9	14.40	4.33 (1796)	4	17.32	3.00 (1825)	3	9.00
		16	20.07		16	27.45		49	56.59		21	36.96		5	11.00
Average Value			1.25			1.72			1.15			1.76			2.20

	Main House All			Structure 1 Creamware and Pearlware			Structure 1 Whiteware			Structure 2 Creamware and Pearlware			Structure 2 Whiteware		
Bowls	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product
undecorated	1.00 (1844)	7	7.00				1.00 (1860)	11	11.00	1.00 (1795)	5	5.00			
annular	1.22 (1844)	2	2.44	1.60 (1799)	17	27.20	1.08 (1859)	8	8.64	1.60 (1795)	2	3.20	1.20 (1825)	1	1.20
hand painted	1.60 (1846)	2	3.10	2.00 (1799)	4	8.00	1.38 (1859)	5	6.90						
trans printed				4.32 (1795)	5	21.60	2.00 (1855)	5	10.00	4.32 (1795)	1	4.32	2.80 (1825)	1	2.80
		11	12.64		26	56.80		29	36.54		8	12.52		2	4.00
Average Value			1.15			2.18			1.26			1.56			2.00

	Main House All			Structure 1 Creamware and Pearlware			Structure 1 Whiteware			Structure 2 Creamware and Pearlware			Structure 2 Whiteware		
Cups/Saucers	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product	Value/ Ass. Date	#	Product
undecorated	1.00 (1844)	13	13.00	1.00 (1796)	1	1.00	1.00 (1860)	26	26.00	1.00 (1796)	1	1.00			
edged															
annular															
decalcomania													3.00 (1825)	1	3.00
hand painted	1.50 (1845)	1	1.50	1.80 (1796)	4	7.20	1.13 (1859)	1	1.13	1.80 (1796)	3	5.40	2.17 (1825)	1	2.17
trans printed	3.00 (1845)	3	9.00				2.89 (1848)	4	11.56						
		17	23.50		5	8.20		31	38.69		4	6.40		2	5.17
Average Value			1.38			1.64			1.25			1.60			2.58
Average Index	56.21 ÷ 44 = 1.28			92.45 ÷ 47 = 1.97			131.82 ÷ 109 = 1.21			55.88 ÷ 33 = 1.69			20.17 ÷ 9 = 2.24		

large enough sample of vessels for calculation.

Interestingly, there is a very large difference between 38CH129-1 (the Shoolbred Main House) and the Vanderhorst Main House (38CH129-MH), but the kitchens at Vanderhorst have indices relatively close to that at the Shoolbred house. The later index for Structure 2 is high while the earlier index for Structure 1 is high. This suggests that the Vanderhorst Plantation may have been prosperous up until about 1830 since Structure 2 was no longer intensively used as a kitchen after about 1830 and Structure 1 was not rebuilt until about 1820. Alternatively, it may suggest that the plantation was not being visited or occupied as often by the Vanderhorst family after this time. Both explanations are equally viable, based on the extensive historic documentation. Additionally, the index for Trash Midden 1, which may be a result of post war cleanup, is high. The index for Trash Midden 2 is somewhat lower. The trash here may be discard from an outbuilding.

The index (1.66) for Structure 5 is not uncommon for a slave status dwelling. Also, the early period of occupation at Structure 3 has an index of 1.47. The index for the Cannon's Point slave house is 1.78 and slave assemblages at Cotton Hope have indices ranging from 1.47 to 1.55.

Indices for Structure 4b and the later use of Structure 3 all yield very low values. Since both areas are very similar (both containing whelk middens with large amounts of glass) this is not surprising. Apparently, living as a tenant farmer on Kiawah Island in the late nineteenth/early twentieth century was living in an impoverished lifestyle; and based on Arnoldus V's reputation as a difficult and penurious man, it is not surprising to find that life for the tenants was not easy.

Table 75 examines the percentage of flatware, hollowware, serving pieces, and utilitarian vessels from structures and trash middens at 38CH127. Ceramics from the Vanderhorst house reveals that the majority of tableware items are plates/saucers, which account for 28.6% of total vessels. While plates/saucers predominate the tableware collection, the Vanderhorst house is in relatively sharp contrast with the Shoolbred house where plates/saucers account for 60.7% of the total vessels. The total tableware at Vanderhorst accounts for 57.1% of the collection, again in contrast with Shoolbred where the total tableware accounts for 89.3% of the collection. When compared to Otto's (1984) work at Cannon's Point, the percentage of tableware closely approximates the amount found at the overseer's house. Tea and coffeeware were also found in relatively large amounts (30.4% of the collection); again similar to the proportion found at Cannon's Point overseer's house.

Table 75.
Shape and Function of Ceramic Vessels from 38CH127

	M.H.		ST. 1		ST. 2		ST. 3		ST. 4b		ST. 5		T.M. 1		T.M. 2	
Shapes	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Tablewares																
Plates/saucers	16	28.6	73	37.4	28	50.9	55	38.2	9	42.9	8	37.2	7	41.2	13	48.1
Bowls	11	19.6	55	28.2	11	20.0	41	28.5	3	14.2	3	13.6	1	5.9	12	44.4
Serving	5	8.9	11	5.4	2	3.6	0	0.0	1	4.8	0	0.0	2	11.8	1	3.7
Tea and Coffeeware	17	30.4	51	26.4	11	20.0	46	31.9	7	33.3	9	40.1	2	11.8	1	3.7
Utilitarian	7	12.5	5	2.6	3	5.5	1	1.4	1	4.8	2	9.1	5	29.4	0	0.0

The assemblage from the kitchens (Structures 1 and 2) show differing proportions of ceramic forms within the tableware category. However, tablewares in general account for similar proportions. At Structure 1 tablewares account for 71% of the collection, whereas at Structure 2 tablewares account for 74.5% of the

collection. Plate/saucer forms, however, differ in proportions. At Structure 1 they represent 37.4% of the collection whereas at Structure 2 they represent 50.9% of the collection. The planter's kitchen at Cannon's Point yielded lower proportions of tablewares (52%), but a relatively high percentage of utilitarian type wares such as storage vessels and dairy wares (12%). Utilitarian wares at Structures 1 and 2 were surprisingly low, 2.6% and 5.5% respectively. At Shoolbred Plantation, Structure 129-3 is believed to have functioned as house slaves quarters and kitchen. Here, utilitarian wares represented 26.3%. It may be that utilitarian wares in the early kitchen at Vanderhorst were discarded in Trash Midden 1 where utilitarian wares made up 29.4% of the ceramic collection.

The assemblage from Structure 3 reveals that 66.7% of the collection are tableware items. Plates/saucers represent 38.2% of the tableware items which is quite similar to proportions at other structures.

At Structure 4b which was probably similar to Structure 3 architecturally and temporally, tablewares account for 61.9% of the collection. Plates/saucers represent 42.9% of the collection. Again these proportions are not significantly different from those found at other structures.

The ceramic assemblage at Structure 5 contained the lowest percentage of tablewares (50.8%) found at the Vanderhorst structures. Interestingly, tea and coffeewares are the highest, representing 40.1% of the collection. Bowl forms only represent 13.6% of the collection, which is interesting since the building is believed to have housed slaves. According to Otto (1984) bowl forms are likely to be found in larger quantities at slave settlements where meals were often "one pot" meals. But Joesph (1989) has suggested that bowl forms may decrease as slaves become more acculturated. A vast majority of the Colono wares were found here and nearly all were bowl forms. By adding the estimated minimum Colono ware bowls (N=13) to the collection, bowl form percentages increase to 45.7%. This makes the proportions of bowls similar to Cannon Point slave where bowls represent 44% of the collection (Otto 1984:69). The highest proportion of utilitarian wares (9.1%) from a structure were found at Structure 5. The reasons behind this is unknown. It is possible that the slaves were cooking and storing foods for themselves there instead of using the planter's kitchen.

Trash Midden 1 contained quite a few utilitarian wares which represent 29.4% of the collection. It may be that this is where debris from the first kitchen was deposited. Trash Midden 2 reflects an assemblage similar to other structures, except that tea and coffeewares are rare. Plates/saucers predominate, but bowls are almost equally prevalent. Trash Midden 2 reflects a lower status assemblage than Trash Midden 1, nonetheless the debris may be from a planter's context.

Another potentially revealing analysis concerns the surface decoration of ceramics at the various structures under consideration. Otto (1984:64-67) found that at Cannon's Point the slaves tended to use considerably more banded, edged, and hand painted wares than the plantation owner, who tended to use transfer printed wares. The overseer appears to have been intermediate on this scale, although the proportions of decorative motifs were generally more similar to the slaves than the owner. Part of the explanation, of course, involves the less expensive cost of annular, edged, and undecorated wares compared to the transfer printed wares. And while transfer printed specimens were present in the slave assemblage at Cannon's Point, they represented a variety of patterns and Otto (1984:66) suggests that either the planter purchased mixed lots of ceramics for slave use, or the slaves themselves occasionally made such purchases. An additional, often advanced, explanation, involves the use by slaves of discarded ceramics from the main house. While it is known that the Vanderhorst house was occupied by a planter, proportions of decorative types can reveal something about the owner's economic means.

The analysis of decorative types at the Vanderhorst Plantations reveals

Table 76.
Decoration of Ceramic Vessels from Vanderhorst Plantation

	MH		ST 1 cw&pw		ST 1 ww		ST 2 cw&pw		ST 2 ww		ST 3 cw&pw		ST 3 ww		ST 4b		ST 5		TM 1		TM 2	
Type	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Undecorated	29	65.9	1	2.1	71	65.1	15	45.4	2	22.2	16	55.2	79	69.9	13	81.3	9	60.0	5	55.6	14	63.6
Annular	2	4.5	17	36.2	8	7.3	2	6.1	1	11.1	3	10.3	8	7.1			1	6.7	1	11.1	2	9.1
Edged	3	6.8	13	27.7	3	2.7	8	24.2			3	10.3	2	1.8	1	6.2			1	11.1		
Sponged	1	2.3																				
Decal									1	11.1									1	11.1		
Hand painted	5	11.4	9	19.1	9	8.3	3	9.1	1	11.1	5	17.2	8	7.1			4	26.6			2	9.1
Trans printed	4	9.1	7	14.9	18	16.5	5	15.2	4	44.4	2	6.9	16	14.1	2	12.5	1	6.7	1	11.1	4	18.2
TOTAL	44		47		109		33		9		29		113		16		15		9		22	

some interesting trends (see Table 76). One is an increased preference for transfer printed wares. The assemblages were examined at Structures 1, 2, and 3 by separating creamwares and pearlware from whitewares. At Structure 1 annular, edged, and hand painted wares were preferred early, whereas plain and transfer printed wares became most common in the mid to late nineteenth century. At Structure 2 transfer printed wares increase from 15.2% to 44.4%. This increase should be viewed with caution, however, since only eight vessels represent the later period. At Structure 3, hand painted wares and plain wares are most common, but by the later period transfer printed wares increase from 6.7% to 14.1% with plain wares still remaining as the most common type. One reason for the increase in transfer printed wares may be its increasing affordability (see Miller 1991).

Both Trash Middens 1 and 2 yielded relatively large quantities of transfer printed wares, which suggests some wealth and lends support to the idea that these are areas that received debris from post Revolutionary War clean-up.

Structure 4b contained 81.3% undecorated ceramics with only a few vessels being either edged or transfer printed. This is consistent with its posited low status.

Structure 5 contained a large amount of hand painted wares although undecorated wares predominated.

At the Vanderhorst house, plain ceramics predominate with hand painted wares representing only 11.4% and transfer printed wares representing 9.1%. Although the house of a planter, it contained fewer transfer printed wares than Structures 1, 2, and 3. At the Shoolbred main house, the majority of the ceramic collection consists of transfer printed wares (38.1%). Either there was a large difference in wealth or a large difference in how each planter perceived their Kiawah homes. The latter seems more likely given all the evidence.

Garrow emphasizes the importance of converging evidence, stating, "the use of converging lines of evidence, as opposed to the use of one or even two of the techniques in question, should yield accurate statements concerning the relative socioeconomic status level of the household or group that generated the study

collections" (Garrow 1987:230). Taken in combination, these data suggest that the Vanderhorsts did not try to fill their plantation with many items displaying their high status. While they lived comfortably, the house was not a showpiece. The Vanderhorst house is simple and not incredibly attractive. Of course, they had no one to display their wealth to except for the Shoolbreds and occasional visitors. But historical records indicate that the relationship between the Shoolbreds and Vanderhorsts were somewhat strained. Although Shoolbred was an occasional visitor to the Vanderhorst home, property disputes over the oyster beds may have caused their relationship to be awkward.

The Shoolbreds on the other hand were more interested in making their plantation a showpiece conspicuously displaying their wealth. The archaeology there shows that the architecture was complex with expensive detailing and fixtures, while the ceramics and glasswares were equally expensive. In addition, the grounds appear to have been policed often, whereas artifacts abounded in the yard areas surrounding the Vanderhorst plantation.

Summary

Historical archaeological investigations obtained collections for six structures, two shell middens, and two trash middens associated with the Vanderhorst Plantation. Excavations in the yard area of the plantation main house yielded evidence of an early features predating the standing house. The artifacts were not particularly high status, with the only high status evidence being, of course, the standing structure and the artifact pattern which was very similar to the pattern at neighboring Shoolbred Plantation.

Structures 1 and 2 are both kitchens and yielded very similar artifact patterns. Structure 1 is known historically to have also functioned as a wash house, and archaeology suggests that Structure 2 could have also functioned in this capacity based on the similar percentages of clothing related items. While initially it seems odd that there would be two kitchens at a main house complex, the archaeology has given evidence that they were not intended to be simultaneously used. Structure 1 appears to have been the first kitchen, probably built when the first main house was constructed in the 1770s. After it was destroyed during the Revolution, Structure 2 was built as a makeshift kitchen until the first kitchen could be properly reconstructed. The architectural features at Structure 2 show a building that was quickly put together. Bricks in the fireboxes were not aligned and mortared evenly, and foundation piers were not well constructed. Structure 1 was rebuilt on top of the site of the first kitchen probably about 1820, and shortly thereafter the other kitchen fell out of use. A small amount of later remains were found at Structure 2 suggesting that it continued to be used, but not as intensively. It is possible that it was given over to slaves or tenants for their use. No plantation kitchens or wash houses have been excavated in South Carolina, and the results from this work yielded some new information. While tentative, it appears that kitchens/wash houses contain higher percentages of toys and musical instrument parts than a main houses, slave houses, or barns. It is possible that these areas were used to entertain small children who were too young to work. This is quite plausible since people working there would be more stationary than field laborers and could do their jobs while watching the children.

The Structure 3 area contained several features including an early area of artifacts and burn under a sand cap, a badly deteriorated tabby mortar chimney base and brick chimney fall, and a trash heap. The feature covered with the sand cap is associated with the earliest occupation of the Vanderhorst plantation. The chimney appears to be a structure initially occupied about 1820, and the trash heap which covers the structure may have been deposited between about 1900 and 1940. The 1820 structure is an ephemeral building very similar to one found in the Structure 4 area (Structure 4a), while the trash heap may be associated with Structure 1 which is in close proximity.

Structure 4a contains a tabby mortar firebox in much better condition than the one found at Structure 3. The only other architectural evidence was part of a ground poured tabby floor. No posts were found and the structure appears to have been burned. Like Structure 3 the house was probably built about 1820. Interestingly, this architectural signature is very similar to one found on Spring Island in Beaufort County (Trinkley 1991b). The Spring Island structure dated much earlier (MCD 1788) and the firebox consisted only of a tabby fireback. Like Structure 4a no post holes/molds were found suggesting an ephemeral building style which existed for a very long period of time. Hacker and Trinkley (1991) suggested that the Spring Island structure was either thatch or, more likely, log based on the presence of floor remains. It is interesting that this style of building was used for structures in the main house complex, particularly in the mid nineteenth century when the plantation was well established.

Structure 4b consists of a trash midden nearly identical to the one found at Structure 3. These middens are interesting since they consist of predominately whelk. These whelk vary in size and were probably collected for eating. Why they would have chosen whelk over oysters is unknown, but these middens were found in several areas around the Vanderhorst house: one at Structure 3, two in the Structure 4 area, and one was found at 38CH128 which is located across a small slough on an adjoining tract. No large historic oyster shell middens were found at 38CH127, so it appears that whelk was preferred over oysters. No architectural remains were found in the excavations although a structure was probably nearby since electrical fixtures were found in the midden. Although the kitchen group represented over 90% of the remains, architectural artifacts at tenant sites tend to be quite scarce (see Trinkley and Caballero 1983; Adams and Trinkley 1992b). Like Structures 3 and 4a, it appears that the Structure 4b area was initially occupied about 1820, which a large proportion of the remains dating to the twentieth century.

Structure 5 represents the yard scatter of a possible house slaves quarters. While no architectural features were found, large amount of architectural items were recovered suggesting that there was a structure there. Most of the Colono ware at Vanderhorst was found here, and the ceramics suggest an eighteenth century initial occupation date.

Shell Midden 1 is a large thin layer of shell that lead from the ridge east of the main house down to the confluence of the Kiawah River and a marsh slough. This feature appears to represent a shell walkway. Shell Midden 2 is a relatively small (50 x 50 feet) oyster shell midden containing very few artifacts. A clear date could not be obtained but appears to have been deposited late based on the presence of amethyst glass.

Trash Midden 1 is located in a small slough east of the main house and Structure 5. Large amounts of red ware roofing tiles, stoneware vessel fragments, and creamwares were found here. The midden falls within the Revised Carolina Artifact Pattern and therefore may represent clean-up from the destroyed main house complex.

Trash Midden 2 is located in a dune trough west of the main house. Here, early artifacts were recovered which fall slightly outside of the Revised Carolina Artifact Pattern. Like Trash Midden 1, it may represent debris from the destroyed main house complex.

CHAPTER 14.
THE ARCHITECTURE OF THE VANDERHORST MANSION

Colin Brooker

Introduction

Located upon an ancient dune ridge overlooking the Kiawah River on the north shore of Kiawah Island, South Carolina, the Vanderhorst Mansion is a prominent landmark rising high above the surrounding marsh. Yet for so conspicuous a structure, the literature other than anecdotal and journalistic accounts of doubtful veracity is surprisingly sparse, leaving questions surrounding its building history uncertain. This uncertainty can be linked with Kiawah's relative isolation. Before bridges were built joining new resort development with the mainland, few architectural historians it seems made the fifteen mile journey by waterway from Charleston or took the longer route to the site by land and ferry via John's Island. Thus, no mention of the Vanderhorst Mansion is found in Samuel Gaillard Stoney's authoritative *Plantations of the Carolina Low Country* (Stoney 1964), though Albert Simons who contributed measured drawings illustrating the volume was probably aware of the building's existence and Harriet Kershaw Leiding published a photograph (with minimal comment) showing the south facade in her *Historic Houses of South Carolina* (Leiding 1921). Much later, Mills Lane, whose volumes concerning southern architecture are already standard works, also ignored the structure when reviewing South Carolina, despite citing Leiding as an indispensable reference (Lane 1984a:250).

Unpublished sources are less scarce, but yield conflicting views about the key issues of patronage and chronology. Leaving aside archival materials for the moment, nomination documents proposing inclusion of the Vanderhorst Mansion on the National Register of Historic Places might be expected to present reliable temporal data. Unfortunately, such is not the case. Elias Bull, who prepared the original nomination (on file, South Carolina Department of Archives and History) states John Stanyarne built the house about 1770, without offering any documentation in support of his contention or evaluating the historic documentation discussed in a previous section of this study. The observation that the present building's south arcade represents an eighteenth century adaptation of features brought from Barbados lacks any real chronological or architectural value.

Based upon thorough surveys, including measured drawings, a typewritten report by Robert Shoolbred Engineers, dated September 25, 1976 (South Carolina Historical Society) inspires more confidence. Here construction is assigned to the period 1805-1815, during the ownership of Arnoldus Vanderhorst II, Robert Shoolbred Engineers accepting as original an inscribed date of 1807 he claims to have seen scratched into stucco decorating the east chimney stack. Like Elias Bull, Shoolbred considered the building's arcaded south porch distinctive, drawing a parallel with porches at "Marshlands" (presumably the "Marshlands" originally located in Charleston's Navy Yard and later moved to Fort Johnson, S.C., see Stoney [1964:77]) dated 1810. Also noted were "massive alterations" Robert Shoolbred Engineers suggesting that much original interior trim, including wainscoting had been removed for firewood by Union soldiers billeted inside and around the Vanderhorst Mansion during the Civil War (a speculation unconfirmed by the detailed historical research). The results of this investigation are apparently published, without acknowledgement, by Iseley and Baldwin (1985:59), these authors advocating building under direction of either Arnoldus Vanderhorst II or his son, Elias, in 1807.

Looking at primary documentation, one highly significant item is a plat

drawn by John Hardwick in 1803 (Figure 7). Hardwick, who judging from numerous examples of his work preserved among the McCrady Plats, was an accomplished and accurate (if sometimes dilatory) surveyor, shows ten structures occupying an area correlating well with the present house site. The pattern suggests clustering of nine subsidiary buildings aligned in a linear fashion east and west about a central element which probably represents the main plantation residence. With minor variations the same pattern occurs on later surveys (see Figures 9, 12, and 19), published when there can be no doubt on stylistic grounds that the existing Vanderhorst Mansion stood completed.

To resolve various issues of chronology and patronage, the Vanderhorst Mansion was examined again during June 1991, the author undertaking a fresh survey with the object of reviewing construction phases. Examination quickly confirmed how valuable Shoolbred's earlier work has become, his drawings and photographs recording features damaged, vandalized, or altered since 1976. However, it also became obvious that little can have been visible of the house frame, wall firrings, or roof structure in 1976, when internal linings and exterior cladding remained almost intact. Subsequent deterioration, exacerbated by hurricane force winds impacting Kiawah Island on September 21, 1989 has changed the picture, loose or fallen plaster now making possible partial inspection of framing and trim detail which provides fresh evidence illuminating both the process of construction involved and a firmer indication of initial building date.

Findings stemming from the 1991 inquiry are summarized below, these being interpreted against the background of fragmentary building accounts preserved among the Vanderhorst Papers held at the South Carolina Historical Society. Presentation is organized into three sections. The first provides brief descriptions of the house and its construction; the second examines chronological and stylistic issues; and the third, entitled "Summary and Conclusions," besides proposing an early nineteenth century initial building date, draws attention to now urgent problems of structural stabilization.

Description

General

As already mentioned, the Vanderhorst Mansion occupies an eroded dune ridge, gently rising to an elevation of about 15 feet above the Kiawah River. Construction, comprising three full stories plus an attic accommodated beneath a gabled roof, is mainly of brick up to the level of the second floor joists and timber framed above.

Overall the building envelope, excluding porches, measures 56 feet 2 inches by 22 feet, with its main (short) axis aligned N30°E, the long east/west axis being aligned almost parallel to the Kiawah River shoreline. One the south facade, which faces inland, first floor brick construction projects 10 feet 7¾ inches, forming a five bay arcade extending across the building's entire south front. Old photographs show this feature once supported timber porch construction, slim Tuscan columns taking up the rhythm of the lower arched openings and carrying a low monopitch roof (see Figure 25). Centered about the north elevation, fronting the Kiawah River, occurs another much smaller porch, its brick vaulted lower story supporting four timber Tuscan columns (three now in situ) which carry a pedimented roof. As with the south porch, steps are lost although old photographs and beam sockets evidence at least two differing external staircase configurations.

Apart from porches, all floors possess similar plans, incorporating a central space (12 feet wide above the first floor level) containing stairs, flanked either side by single rooms provided with (except for the attic), fireplaces opening into one of two internal chimney stacks built against the north facade. Minor variations upon this simple pattern reflect differing

circulation requirements, the two lower stories utilizing a through hall arrangement giving exterior access via back and front porches, while in upper stories the central area become the focus for a stair well. The open string staircase (which has lost its handrails and balusters) rises on the north side of the central space, landings spanning between transverse walls east and west (Figures 85 and 86).

Before describing elevational treatment it should be mentioned that inside the house, room heights differ from floor to floor. Measuring between finished floor and ceiling levels the sequence is: 9 feet 10 inches on the first floor, 12 feet on the second floor, 10 feet 3 inches on the third, and a maximum of 7 feet 5 inches on the fourth floor or attic (Figure 87). The hierarchy is indicative of function, second floor rooms obviously being the most important, a conclusion supported by the elaborate south entrance at this level which, centered about the building's main north-south axis, features an arched fanlight over a wide door flanked by sidelights.

At the first floor level the corresponding south entrance retains the tripartite arrangement seen above, but is simpler, its head being horizontal instead of curved. North facing doorways (on first and second floors) are more modest affairs, having neither sidelights or other stylish embellishments, a fact showing that the building's principal approach was considered to be from roads or pathways on Kiawah itself, rather than from the river as site organization might suggest.

Fenestration gives little indication of the spatial variation found within the building's interior. Indeed the opposite is the case, all windows except those piercing gable ends at attic level, a single example illuminating the uppermost stair level (centered about the north elevation), and attic dormers being the same size or very nearly so. On the south facade, window distribution follows the five bay pattern established by the main entrance porch. On the north facade, a five bay arrangement is implied but incompletely realized, two windows piercing construction either side of the porch at the lowest level, three windows lighting the second floor and four windows (including one over the stair already mentioned) illuminating the third floor. This produces a large blank area toward the elevation's western extremity which denies the otherwise strict symmetry governing building design. East and west elevations are mirror images, featuring three levels of paired windows plus smaller gable openings lighting the attic.

Caution must be exercised before attributing present fenestration detail to any one time period. The originality of opening size is assured at the first floor level, brick construction making any alteration clear. At second and third floors the situation is less certain, double hung nine pane window sashes having undergone replacement. Sash boxes, hollowed out of single pieces of heart pine could be early, alternatively, they may represent additions or adaptations to pre-existing frames. Recent structural examination revealed no evidence for sills or lintels where windows might be anticipated had a fully symmetrical ordering process ever been adopted for the north facade, however incomplete exposure hindered inspection leaving open the possibility that some tampering with the original fenestration scheme has taken place.

Such is definitely the case in the attic. Roof framing indicates five dormers once existed on the south front, but only three survive, another example remaining more or less intact positioned north over the staircase. When dormer alteration occurred is not known, although both Gibbes' 1851 sketch and Leiding's 1920 photograph of the south elevation show the present configuration, indicating alteration at least by the late antebellum.

Returning to interior spaces, at least two major decorative schemes are represented. Dominant elements of later decoration include four panel doors together with wainscots incorporating narrow vertical tongued and grooved boards painted alternately brown and yellow. These panels are set within crudely made

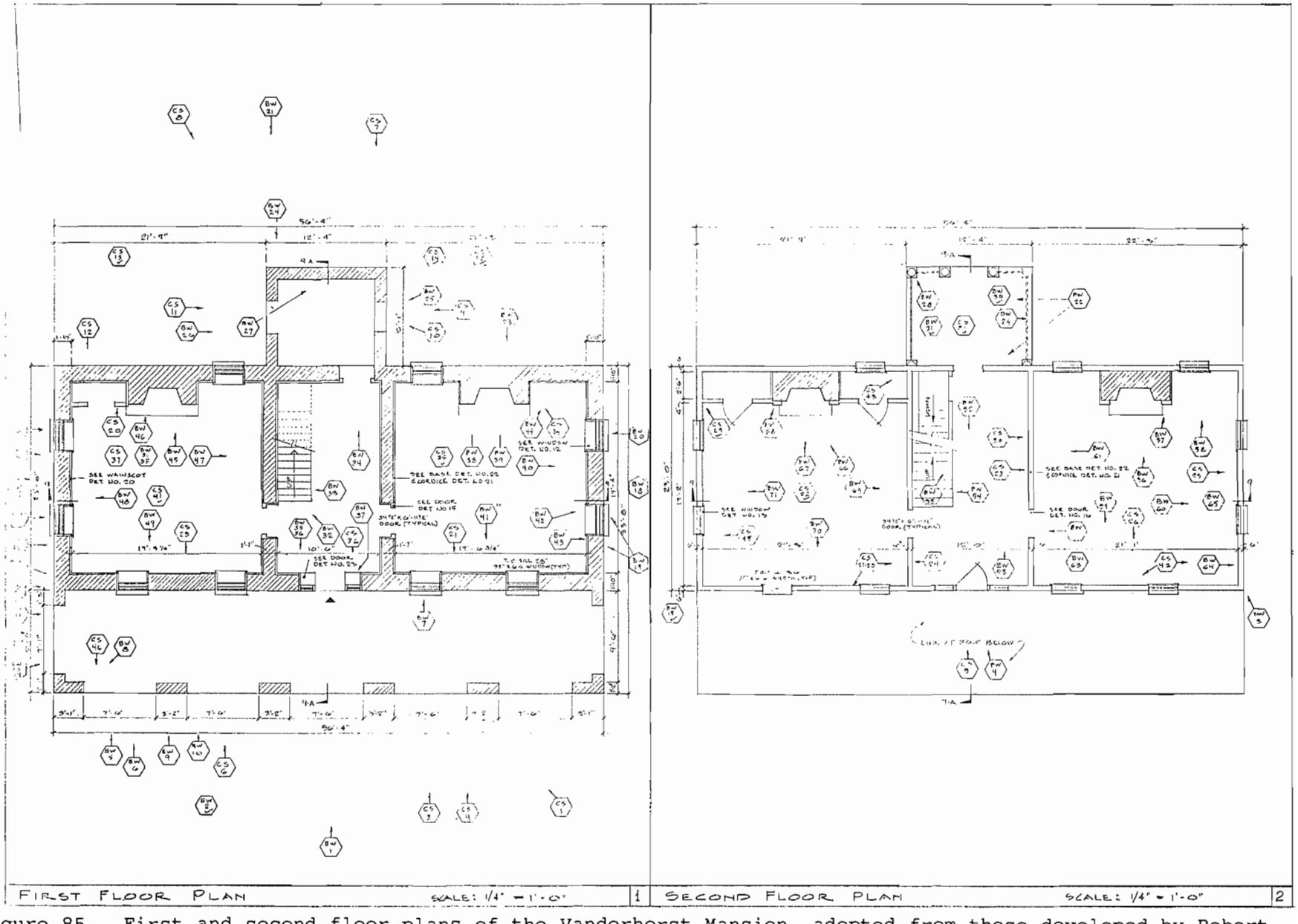


Figure 85. First and second floor plans of the Vanderhorst Mansion, adopted from those developed by Robert Shoolbred Engineers.

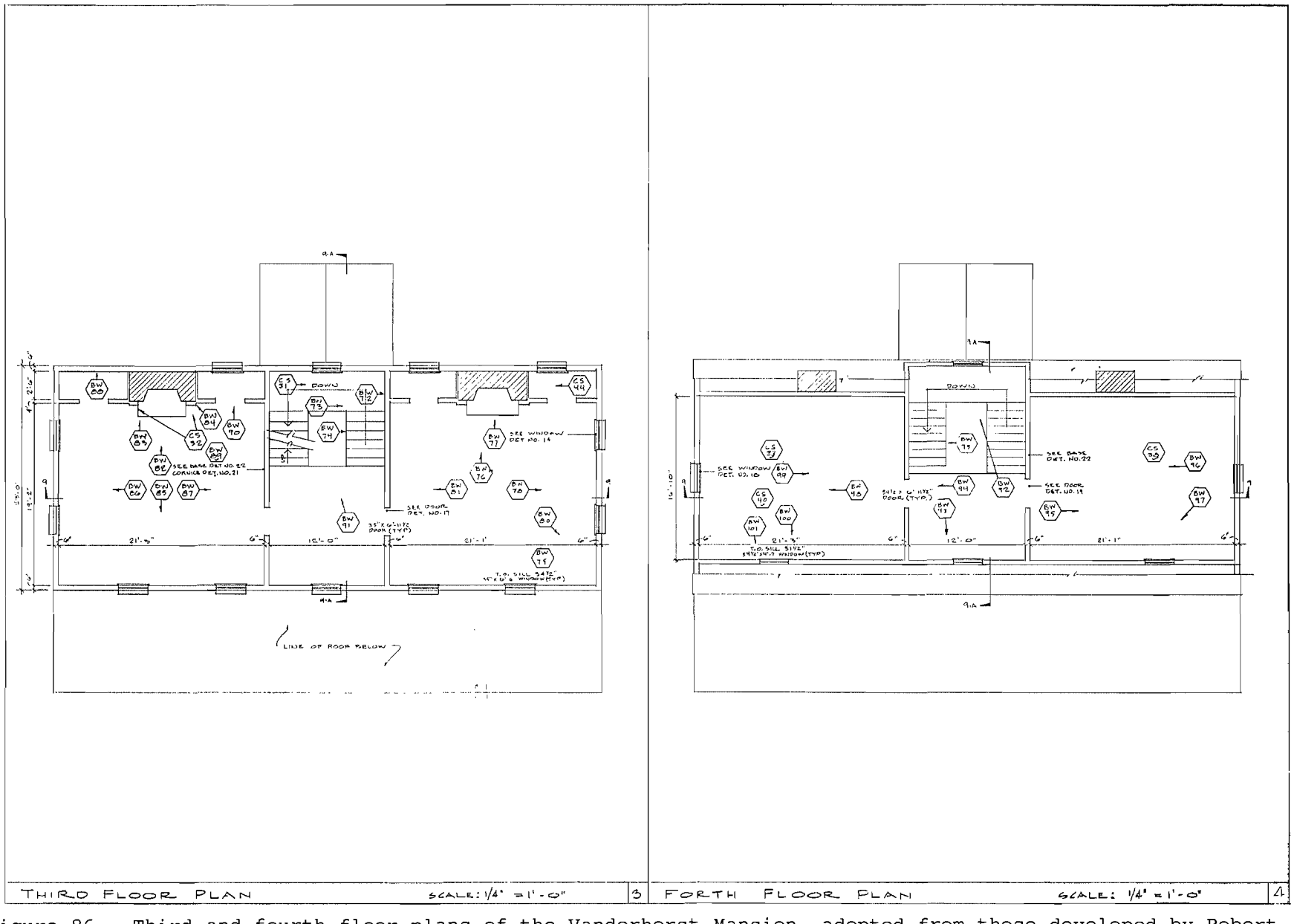


Figure 86. Third and fourth floor plans of the Vanderhorst Mansion, adopted from those developed by Robert Shoolbred Engineers.

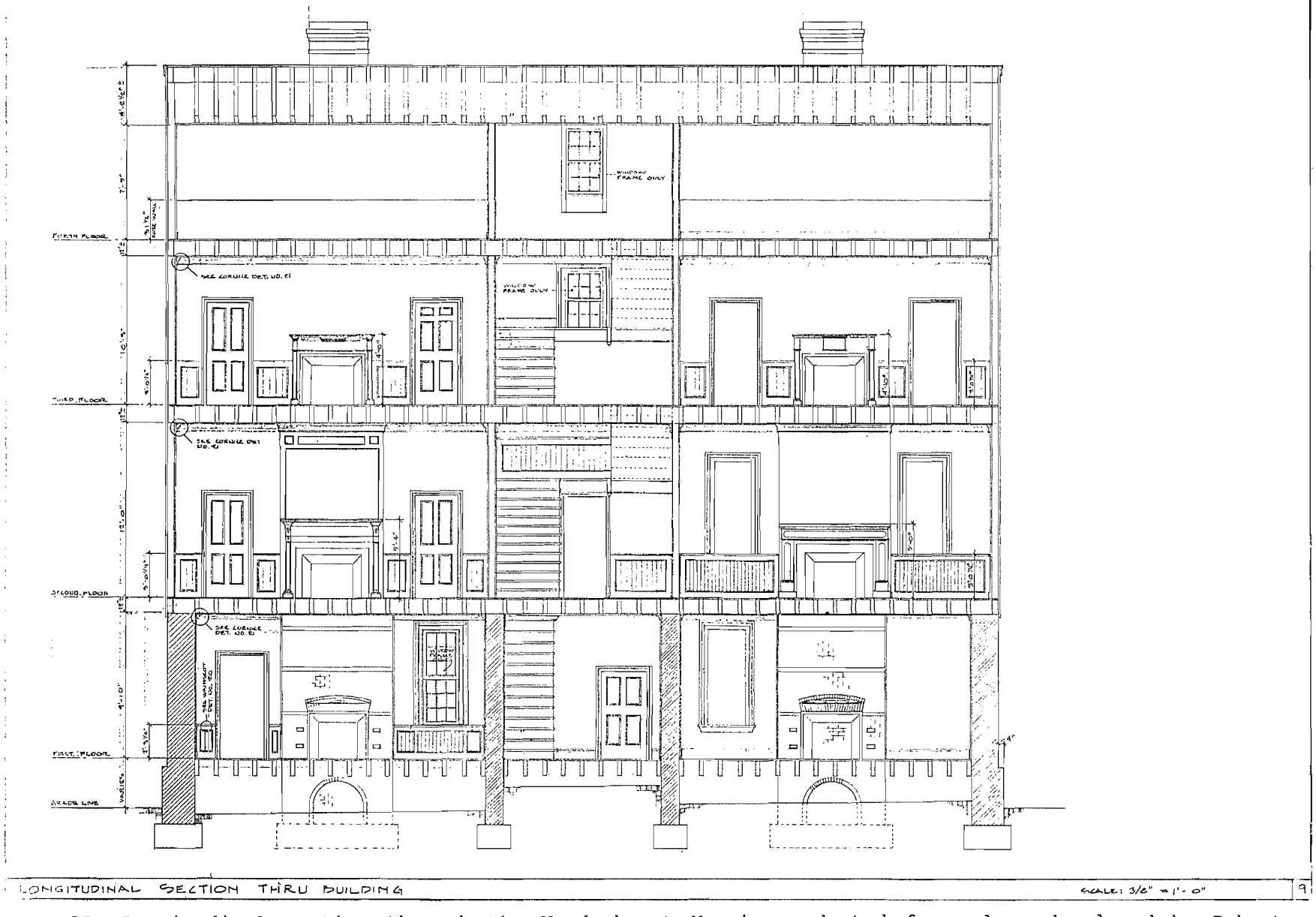


Figure 87. Longitudinal section through the Vanderhorst Mansion, adopted from plans developed by Robert Shoolbred Engineers.

frames manufactured using nailed joints, the timber showing circular saw marks. Molding profiles link doors and wainscoting with the two southern entrances, where new trim was added to pre-existing joinery. Also related is an eclectic timber fireplace surround in the second floor west room.

In the east room of the second floor, the fireplace surround displays a different stylistic idiom, heaving an opening flanked by fielded pilasters which carry a frieze decorated with two applied covered urn motifs, two elliptical Adamesque appliques decorating pilaster capitals. Above, an overmantel frame breaks slightly forward of the cornice line, to enclose (below three narrow timber panels), a large plastered area. Third floor fireplace surrounds are similar, although lacking applied ornament and overmantels. Either side of the fireplaces on the third floor, wainscots consist of flat panels, enclosed with mortised, tennoned, and pegged frames.

During June 1991 the third floor east fireplace surround was found in situ, but loose. Previously concealed fixing blocks and firring timbers showed no evidence for alteration, suggesting that this and similar fireplace surrounds mentioned survive from the initial building phase. Paint lines and fixings also showed adjacent wainscots featuring flat rather than tongued and grooved panels, part of the same scheme. Related features include a single six panel closet door from the third floor and a similar, but more substantial, door discovered out of context on the second floor.

No firm conclusion was reached concerning the chronological sequence of internal window trim and door architraves. Profiles vary, indicating some alteration has taken place but a determination as to when the event occurred and how extensive changes were, must await full structural and paint analysis.

Construction

Lower construction is mainly of brick, external walls being laid up in Flemish bond using an oyster shell derived mortar. Individual bricks are hand made and evenly fired to a uniform light plum color. Where clay was obtained and processed cannot be said, however, builders of the Shoolbred Mansion also located on Kiawah Island almost certainly purchased brick from the same source, suggesting a local operation or at least one located not too far distant. At the Vanderhorst Mansion the external skin is about 27 inches wide at foundation level, reducing, by means of an exterior step on east and west elevations to 20 inches just below finished first floor level, two transverse internal walls defining the stair hall having a uniform thickness of about 14 inches. First floor joists span north-south and have in part been replaced, the originals (according to Shoolbred), collapsing under the weight of stored cattle feed during the 1950s.

Junctions between the south arcade and side elevations, take the form of 14 inch wide nibs, there being no structural break although settlement has produced cracks. The arcade itself is erected upon a brick platform showing traces of marble paving about its center, the platform spanning across at least one cistern. The single cistern seen in 1991 was almost half filled with water, making examination difficult; however, enough could be glimpsed to show it rounded at both ends, roofed by a shallow elliptical brick vault, and parged using hard, cementacious mortar.

Above, brick arches which once supported the upper south porch are semi-circular, voussoirs consisting of a single header course, laid without keystones, imposts, or any other decorative features. Lower openings to the north porch seem less well fabricated, timber lintels supporting crudely laid brick, infilled beneath an elliptical relieving arch.

More marble occurs set into mortar beneath each of the upper north porch timber columns. Fragments of red sandstone, are scattered about the south front,

a single well carved section evidencing central steps, which gave access onto the arcade platform raised almost two feet above present ground level.

The main timber house frame rests directly upon lower level brick walls. It is a three bay system, the bays marking divisions between lateral and central house spaces. Construction follows traditional box framing conventions, consisting of sills supporting diagonally braced vertical posts extending a full two stories (about 24 feet in total height). These support horizontal girths receiving third floor joists and finally top plates supporting roof members.

Between sills, girths, and top plates extend story high vertical studs, tennoned into horizontal timbers. Sills insofar as seen are hand hewn, measuring 8¾ inches in depth (width not ascertained). Mortises indicate the position of lost timber beams spanning between the south sill and brick arcade. Three such timbers once existed, members which must have once carried joists aligned east-west to support second floor porch flooring. Within the main house carcass, second floor joists (aligned north-south) measure 9 inches by 3 inches placed somewhat variably on center. Second floor joists are halved and cogged into sills, the sills carrying brick infills (extending between the joist ends) designed to prevent twisting and subsequent misalignment of floor construction.

Along the south facade, sill, diagonal braces, and vertical studs all bear carpenter's identification marks incised into their outer faces (Figure 88). Incisions include both Roman numerals and private signs, the numerals (increasing in value from east to west) not always correctly written.

The chief vertical framing elements include "L" shaped corner posts, wrought from timbers measuring 9¾ inches by 9¼ routed out on interior faces so

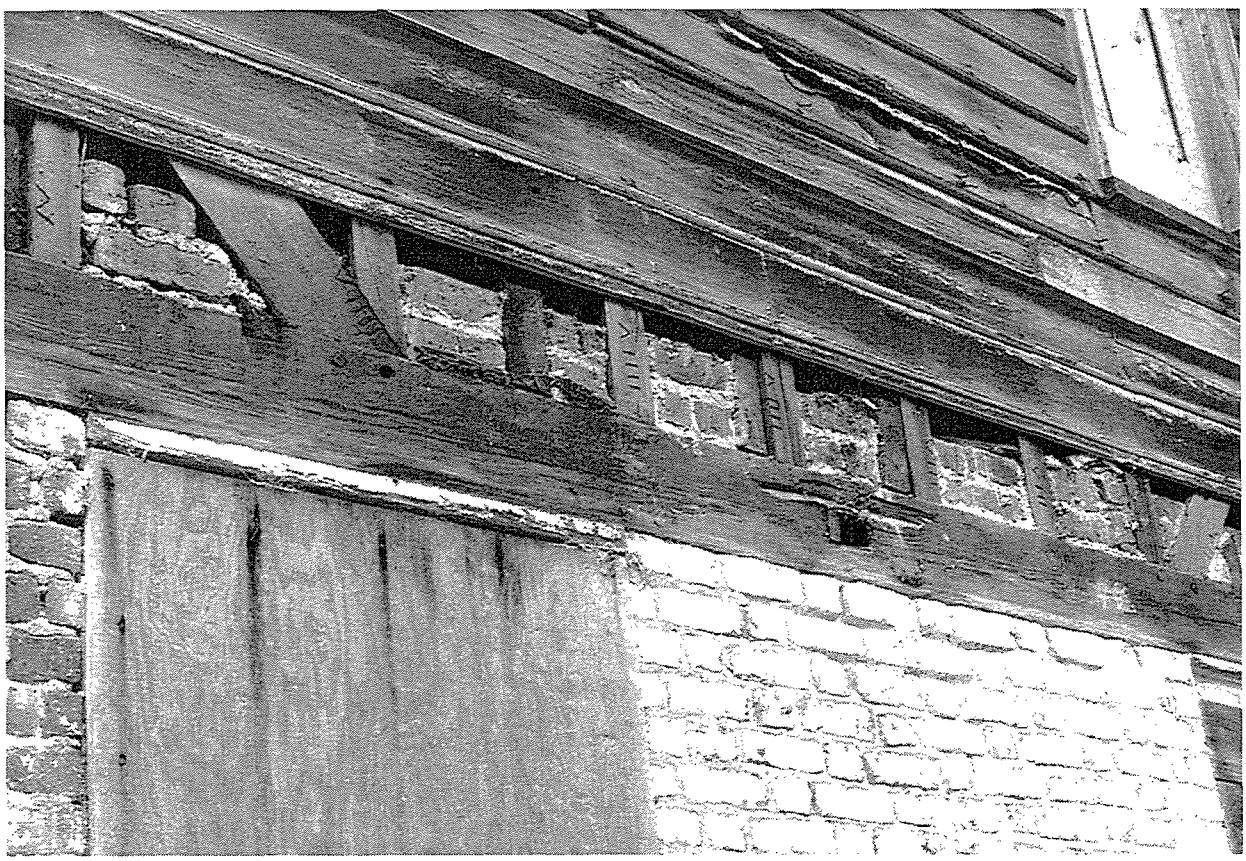


Figure 88. Carpenter identification marks on south facade framing.

as to maintain a uniform wall thickness when placed into position. Intermediate posts measure 9 inches by 5 inches and like all main vertical posts are braced diagonally at second and third floor levels, braces measuring 5¾ inches deep by 4¼ inches wide.

Among secondary vertical members, external wall studs measure 3 inches by 5 inches or 4 inches by 5 inches, centered anywhere between 15 and 18 inches apart. Framing of internal partitions defining the central hall shows more uniformity, studs measuring 4¼ inches by 4 inches centered at 17 inches. A detail here deserves comment. Transverse (i.e., north-south) brick walls separating first floor circulation and living spaces might be anticipated to carry second floor partitions upon timber plates. But, there is no evidence that such plates were ever installed. Instead, at the interface of masonry and frame construction, internal wall studs are bedded directly into the brickwork.

Horizontal members offer few distinctive characteristics. Girths measure 9 inches by 5 inches, mortise and tenon joints effecting junctions with vertical posts. Third floor joists (measuring 9 inches by 3 inches) are trenched over north and south girths to a depth of 1¾ inches. Top plates measure 6½ to 7 inches by 4¾ to 5 inches. These receive 7¼ inch by 3¼ inch joists supporting attic floor boards. The latter, if not entirely original, nevertheless represent the original scheme, dormers, gable end windows, traces of wainscots, central partitions, and trim indicating that the attic was conceived as a habitable area from the first design stage.

Enclosing attic spaces, the roof frame has suffered both damage and renewal, diagonal wind braces being the most conspicuous additive elements. Early surviving members include principal and common rafters (bearing scratched Roman numerals), the principals (not measured) following spatial divisions set by house body framing (i.e., three unequal bays ordered about a central hall). Like external wall studs, common rafters evidence use of inconsistent scantling, typical dimensions measuring 4½ inches by 2¾ inches; 4¼ inches by 3½ inches and 5 inches by 3¼ inches or 5 inches by 4 inches (at dormers) spaced 18 inches to 2 feet on center. All rafters are halved and pegged at their apex, paired rafters being tied by a timber collar. Collars measure 4 inches by 2 inches and are half dovetailed into rafters, giving a maximum attic headroom of 7 feet 10 inches. This headroom reduces to 3 feet 1½ inches, knee walls creating dead areas running along the length of rooms on north and south sides.

Early external roof finishes are lost, along with purlins and other fixing elements, but numerous fragments scattered about the house evidence the covering was once of dark red slate. About 1889 the slate was removed and replaced with timber shingles. External wall cladding may also have been repaired or replaced at the same time, although there is clear documentary evidence of weather board replacement in 1904 and again in 1948 (see **Chapter 5 - History of Kiawah Island**). The existing horizontal bead edged weather boards nailed to wall framing reflects this history of replacement and refurbishing.

Chronology

From the brief descriptions given here several points emerge which bear upon phasing problems presented by the Vanderhorst Mansion. The most significant finding is that construction details show the superstructure (though not all internal trim) resulted from a single build, excluding the possibility of, for example, an older dwelling being enlarged through the addition of one or more extra floors. Corner and intermediate posts rising without any splice attest to continuity between second and third levels, while the manner in which internal partition framing is bedded into brickwork of the lower story indicates brick and timber frame construction are contemporary. Likewise, lack of any structural break in chimney construction confirms that until 1989, when the west stack was taken down to roof level following hurricane damage, these vertical elements preserved their initial height. If wall and roof frames are of the same period

cannot be said with absolute certainty, but gable junctions indicate that despite extensive repairs, existing rafters (though not recently introduced wind braces) follow the original roof framing configuration.

Only full excavation can determine if the present house is founded upon an earlier structure, although two test squares excavated by Chicora Foundation beneath the first floor produced no evidence for such an interpretation. Similarly nothing (i.e., redundant mortises, notches, or fixing patterns) has been exposed which would lead one to believe that structural timbers were salvaged for re-use within the building, although two distinct carpentry techniques are visible.

Almost all vertical studs and posts show adze marks. However, about half of the visible floor joists (distributed randomly throughout the house), exhibit saw mill scars. Tight joints between sawn joists and adzed girths or sills rule out milled timbers having been inserted as repairs, suggesting that framing utilized materials gathered from at least two different sources, most timber being harvested and hand dressed close to the site perhaps, while a proportion of ready finished wood was imported from Charleston or another location where saw mills were established.

Whatever their place of origin, joists (both adzed and sawn) are slender considering the task they must perform, span/depth ratios employed ranging between 1:29 and 1:30, whereas current building codes call for a ratio nearer 1:22. Assuming old roof rafters are original, paired 4½ inch by 2¾ inch members also appear slight for the structural loads and spans involved.

How representative of a wider regional phenomenon these low safety margins are is impossible to assess, Southeastern carpentry traditions having attracted very little comment. Nevertheless, personal observation shows that oversized timbers seldom occur among local late eighteenth and early nineteenth century building, South Carolina following a trend well established in Britain by 1750 when British carpenters facing depleted forest reserves discovered "they could build as substantial a house as before with smaller and fewer timbers" (Mercer 1975:126). The Vanderhorst Mansion illustrates another aspect of this search for economy, its frame utilizing, besides machine sawn timber, simple jointing techniques. There are none of the elaborate tying joints found around Massachusetts Bay during the late seventeenth century (see Cummings 1979:52-94) or, to a lesser extent, Rhode Island and Tidewater Virginia during the early eighteenth century. Instead carpentry is seen in transition, poised between labor intensive craft traditions with post medieval antecedents and new technologies based upon industrial production methods such as balloon framing (developed about 1830, but uncommon along the South Carolina coastal plain until after 1860; see Giedion 1962:345), which could "be put up for forty percent less money than the mortise and tenon frame" (Woodward 1869, cited in Giedion 1962:347).

Neither assembly methods nor generalized joint types employed at the Vanderhorst Mansion allow close temporal attribution. However, structural evidence indicating one major build and a total lack of re-used or charred timbers does show that the present building cannot represent a restored version of the dwelling house on Kiawah Island burnt by the British Arnoldus Vanderhorst II mentioned in 1780 when claiming £2000 as compensation for losses sustained during the Revolution. Further, assuming the earliest surviving decoration known from the Vanderhorst Mansion is contemporary with an initial building stage, stylistic analysis suggests associated framing was erected sometime after 1795.

Thus, considered as a facade element, the main (i.e., south, second floor) entranceway with its tripartite division and elliptical head is distinctive, echoing arrangements introduced into London's domestic building about 1770 through works of Robert and James Adam (i.e., No. 7 Mansfield Street, London W.1, see Cruickshank and Wyld 1975:64, 144). The form reached Charleston twenty years or so after the American Revolution, William Blacklock's Bull Street house

(1800), displaying a typical Adamesque "door void" where decorative elements (including fluted pilasters, garlands, paterrae, and elaborate glazing bars, see Simons and Lapham 1970:130) were placed "inside the doorway's outline as defined by its sides and arch" (Cruickshank and Wyld 1975:145).

On Kiawah, even if mutilation is discounted, "door void" decoration is sparse, timber members dividing the main entranceway now appearing as flat, bead edged strips (Figure 89). But, although lacking Neo-Classical refinement, a Neo-Classical shape remains suggesting the artisan responsible was aware of new aesthetic ideas circulating about Charleston shortly after 1800. The same remark applies to the lower south entrance which preserves intact its original dimension and overall form. Surrounding facade brickwork gives no hint of having ever supported pilasters, columns, or even simple framing, showing that external door case elements were always contained within the brick opening -- a style characteristic of the period from 1800 to 1825. Again, inside the house, molding surrounding flat panelled wainscots on the third floor are lighter than those associated with late eighteenth century practice, recalling the Adam Brothers' predilection for "light mouldings, gracefully formed, delicately enriched and arranged with propriety and skill (see Adam and Adam 1778:I:4-5), a predilection which became general locally after 1800.

Finally, applied paterae and urns decorating the second floor west fireplace (Figure 90) provide an overt reference to motifs derived via Adamesque models, similar "composition ornaments . . . for ornamenting chimneys" being advertised by the Charleston merchant Benjamin Leefe during 1801 (Lane 1984a:100).

Of course, suspicion attends any building date derived from decorative features, especially where the decorative program as a whole has undergone partial removal, replacement, addition and alteration. Yet, excluding all else the lower south entrance firmly links construction of the Vanderhorst Mansion with an emergent Neo-Classical style which became fashionable among local planters and town dwellers alike over the nineteenth century's opening decades.

Unfortunately, attempts at narrowing construction to a more specific time are frustrated by ambiguities among relevant early nineteenth century documents. Building activities area attested on Kiawah Island during 1801, William Nicks, Arnoldus Vanderhorst II's semi-literate overseer, then describing how the carpenters "raised the body of the other new house but not the rafters." It is uncertain exactly what "new house" was being discussed. Neither is it certain if John Hardwick's site plan illustrates this program, although taken together framing, stylistic, documentary, and archaeological evidence makes construction of a new settlement here, including both the present house and buildings reported by Nicks seem quite possible one or two years before 1803.

The sequence of alterations to the existing residence presents further obscurity. Stray accounts among the Vanderhorst Papers give a blurred history of minor repairs and redecoration perhaps attributable to Kiawah Island, but no record survives documenting activities which introduced an assertive Victorian character into a house formerly distinguished by reticent detailing derived from late provincial Georgian and emergent Neo-Classical traditions. It is certain renewed building activity was largely cosmetic, having little effect upon the basic house plan except between first and second floors where cut floorboards indicate the staircase was either altered or inserted.

Tongued and grooved wainscoting raises puzzling questions. Fabrication technique (i.e., nailed frame joints and circular saw scars) leaves no doubt that all such elements (like associated four panel doors) are secondary. But it can be seen that three coat plaster work containing horse hair (applied over hand split lathing nailed directly against structural timbers) extends above tongued and grooved wainscots without any sign of patching. Nailing patterns give no indication of more than one lathing episode except in the attic, suggesting

Figure 89. Stylistic elements surrounding the south second floor doorway.

Figure 90. Applied paterae and urns decorating the second floor west fireplace.

almost all visible plaster dates to the original construction phase. This observation means either that original wainscots were carefully removed without damaging existing plaster and later replaced using new materials, or much of the house was replastered following installation of more fashionable trim, fresh plaster being applied over old lathing. If the later explanation is correct, Civil War graffiti pencilled onto wall plaster of the second floor east room (assuming they are genuine) show refurbishing (including introduction of new wainscots) must have taken place before 1860 rather than at some time over the latter half of the nineteenth century as Robert Shoolbred Engineers concluded. This Civil War graffiti occurs in the east room on the second floor on both the east and south walls. On the east wall is written "55th Regt Mass Vol. Inf. J(une, July, or Jan.) 1st, 1864" and "How are you Johnny Rebel You can kiss a Yankee's ass if you __ __ ___ ____ Dutch ___, 74th Regt." On the south wall is written "How are you Genl. Beauregarde" and "Veriatas Vincet." Other more illegible scribblings were also found on these walls.

Summary and Conclusions

The questions this study set out to answer concerned chronology, the aim being attribution of the Vanderhorst Mansion to a specific time and patron. However, despite re-examination of the architecture and reviews of pertinent archival sources by Hacker and Trinkley (discussed in a previous section), results, rather than providing any fixed date for construction, have proved tenuous. In general, structural and stylistic analysis supports without exactly confirming earlier findings by Shoolbred who concluded the residence was built about 1805. Elias Bull's theory that the present structure and John Stanyarne's house are one is disproved, architectural, archaeological, and documentary evidence clearly revealing that a new residence built on a new site about 1800, following destruction of the older Vanderhorst dwelling during the American Revolution.

John Hardwick's map drawn in 1803, showing 10 structures occupying the present site remains suggestive, although it is impossible to definitely link the plat with erection on Kiawah of buildings by Nicks in 1801. Nevertheless, the latter account does attest Arnoldus Vanderhorst II had begun re-developing his island holdings at the turn of the nineteenth century which leaves open the possibility Hardwick recorded construction either just completed or still underway, construction perhaps including the owner's residence.

Here, it seems worth mentioning that besides sinking capital into his plantation enterprises, Arnoldus Vanderhorst also speculated in urban real estate, erecting two multi-story tenement blocks along opposite sides of East Bay Street in Charleston, South Carolina. The surviving example bears a marble plaque inscribed, "Vanderhorst Row 1800," and illustrates an architectural vocabulary fully dependent upon Adamesque models, its "delicate refinement" testifying that Vanderhorst accepted and perhaps also exploited the latest building fashion for commercial purposes (see Lane 1984a:110-111; Simons and Lapham 1970:134-135). Therefore, in terms of style, objections to an initial construction date around 1800 for the Kiawah house are removed assuming Vanderhorst was the motivating force behind its design, a conclusion which again suggests Hardwick's map may represent the existing mansion and attendant outbuildings now more or less destroyed. Resolution of the issue must await intensive archaeological investigation aimed at establishing how settlement on the site evolved and declined. Meanwhile, issues less dependent upon absolute chronology claim attention.

The first concerns generation of building form. At the Vanderhorst Mansion, desire for a fashionable European Neo-Classical architectural language with connotations of "elegance" and "grace" is noticeable. Yet, it should be emphasized that apparently original decorations which help establish the building date are little more than surface veneers over planning forms with long antecedents. Compared to near contemporary "high style" Charleston residences

such as the Nathaniel Russell, Joseph Manigault, and Frances Middleton/Thomas Pinckney houses, where decorative treatments evidence very similar prototypes (see Lane 1984a:103-109, 115-122), the Vanderhorst Mansion appears out of place, its design excluding oval ended, rounded, or polygonal room shapes which distinguish the urban examples cited. Instead, the Kiawah Island house taken an opposite path, re-interpreting a traditional, single pile, gable ended, altogether rectilinear plan type commonplace in South Carolina since the mid-eighteenth century.

Departures from traditional planning arrangements are minor though not without surprising results. Thus, placement of chimneys against the long north elevation creates dissonance between the building's internal and external elevations, paired closets flanking the internal stacks (a device often used in fully panelled mid and late eighteenth century rooms arranged about a central chimney, see Lane 1984b:36-37), obscuring fenestration. Central hall treatment is more successful, an open-stair well linking second and attic floors bringing unexpected spatial drama to an otherwise predictable set of room configurations.

While there is nothing remarkable about plantation residences reflecting unaffected simplicity, the present case is interesting since we see that a sophisticated owner regarded urban and rural building projects very differently. Fine brick and marble detailing of Vanderhorst Row shows it was the city rather than the country where fashionable display counted, Arnoldus Vanderhorst falling back upon well tried architectural formulae thinly disguised under up-to-date detail when building his Kiawah house.

What then were the "local intentions" (see Upton and Vlach 1986:316) governing choice of the Vanderhorst schema? From practical viewpoints, a traditional one room deep house, shaded on its south side offered coolness and good cross ventilation, always the first priority for any Low Country dwelling. Vertical organization on four floors accommodated established social hierarchies, allowing conduct of daily plantation affairs at ground level, sleeping space for white household servants or children under the roof, and family life in-between, the house itself rising symbolically high above a slave based settlement where another hierarchical system prevailed.

Facade organization reflects the overwhelming impact of Georgian design criteria, yet that impact was modified as imported academic styles encountered co-existing traditions developed out of local social convention or environmental conditions. Rather than expensive publications of leading European architects one can perhaps trace widely circulated pattern books as a design source, unskilled local labor and the expense of transporting materials or urban trained craftsmen to an isolated island location dictating additional simplification and adaptation.

The outcome is less unconventional than at nearby Shoolbred plantation. As Upton and Vlach have remarked, "vernacular builders voluntarily restrict the range of possible solutions by confining themselves to familiar ideas and by attempting to solve those architectural problems that are new to each project, rather than striving for a completely original creation" (Upton and Vlach 1986:xxii). The Shoolbred structure, discussed in greater detail in **Chapter 12**) illustrates one pole of this process. One can sense how dissolution and re-assembly of familiar ideas was leading toward a new and indigenous mode of expression tied to local climatic conditions. At the perhaps contemporary Vanderhorst Mansion, the owner took a more cautious approach, architectural innovation playing minor roles within familiar and traditional planning parameters.

This raises one last issue. Unlike Shoolbred Plantation, the Vanderhorst tract has retained its main building focus (albeit in an altered form), a circumstance allowing future research into many themes of significance for the art and architectural historian. Kiawah Resort Associates has begun a program of

comprehensive intervention, including weatherproofing the structure, replacing damaged structural elements, cleaning the grounds, securing the building from vandalism, and installing a fire detection system. These efforts have given the structure a reprieve, but only extensive rehabilitation will ensure that the structure survives as a tangible reminder of Kiawah's otherwise lost historic building legacy.

CHAPTER 15.
THE FAUNAL REMAINS FROM THE VANDERHORST AND SHOOLBRED PLANTATIONS

Jack H. Wilson, Jr.

Introduction

The vertebrate faunal collections from the Main House, Structure 1, Structure 2, Structure 3, Structures 4A and 4B, Structure 5 and Trash Midden 1, Trash Midden 2, and Shell Midden 1 from 38CH127, and Areas 1 and 2 from 38CH129 on Kiawah Island, Charleston County, South Carolina were analyzed for this study. The faunal material from 38CH127, the Vanderhorst Plantation, is from an early nineteenth century low country plantation site. The faunal material from 38CH129, the Shoolbred Plantation, is also from an early nineteenth century plantation site. The faunal collection from 38CH127 consists of more than 2444 bone elements and fragments that weigh 10,253.7 grams. The two areas at 38CH129 produced a total of 352 bone elements and fragments that weigh 723 grams.

The report sections that follow provide a description of the animal species represented in these faunal samples, the results of the zooarchaeological analysis of the remains, and a comparison of the data obtained from these sites with that for other historic sites of from the coast of the Carolina Province.

Environmental Background

The Carolina Province marks the transitional zone between the tropical fauna of the southern Atlantic and the temperate fauna of the northern Atlantic, and is located between Cape Hatteras, North Carolina and Cape Canaveral, Florida (Briggs 1974; Ekman 1953). Kiawah Island is part of the Sea Island section of the coast that lies south of the Santee River into northern Florida, with the area north to Cape Fear, North Carolina forming the northern embayed section (Emery and Uchupi 1972). Along the edge of the Continental Shelf, the warm Florida Current flows northward, bringing tropical species north as far as Cape Hatteras. Closer inshore, the cold Labrador Current flows southward, and temperate marine species may be found in these cool waters as far south as Cape Canaveral.

The Sea Islands possess a relatively uniform temperature, rainfall, topography, and vegetation cover (Johnson et al. 1974; Mathews et al. 1980). Today, Kiawah Island exhibits three major ecosystems, the maritime ecosystem which consists of the upland forest area of the island, the estuarine ecosystem of deep water tidal habitats, and the palustrine ecosystem which consists of essentially fresh water-non-tidal wetlands (Sandifer et al. 1980:7-9). The maritime ecosystem is comprised of four subsystems, including sand spits and sand bars, sand dunes, transition shrub, and maritime forest (Sandifer et al. 1980:108-109). Of these four, the maritime forest and transition shrub subsystem are likely to have been important exploitation zones for the historic period inhabitants of the island.

The estuarine ecosystem in the vicinity of Kiawah Island consists of areas of deep-water tidal habitats and adjacent tidal wetlands. Marshes and the Kiawah River lies immediately north of 38CH127. The estuarine systems are an important resource for use by the historic period inhabitants of the island given the high biomass the ecosystem contains.

The freshwater palustrine ecosystem comprises all wetland systems, such as swamps, bays, savannas, pocosins, and creeks, where the water salinity measures less than 0.5 ppt. Remnant spring fed sloughs and freshwater ponds comprise the

palustrine ecosystem on Kiawah Island, although during the historic period these were supplemented by dug cow ponds (see **Chapter 5**), remnants of which can still be seen on the Kiawah landscape (one is, or was, situated not far from the Vanderhorst mansion, off the road to the Atlantic Ocean beach).

Combined the maritime forests, transition shrub, freshwater sloughs and ponds, saltwater marsh, and tidal creeks and rivers that mark the environment of Kiawah Island define a number of diverse habitats that could be exploited for food resources by the historic period inhabitants of the area.

Analytical Techniques

The faunal collection from both 38CH127 and 38CH129 were studied by the author using standard zooarchaeological procedures and the Chicora Foundation comparative faunal collection. The bone material was sorted to class, suborder or species, and individual bone elements were identified. The bones of all taxa and other analytical categories were also weighed and counted. The Minimum Number of Individuals (MNI) for each animal category was computed using paired bone elements and age (mature/immature) as criteria. A minimum distinction method (Grayson 1973:438) was used to determine the MNI for each of the six archaeological components. This method provides a conservative MNI estimate based on the total faunal assemblage from each identified site locale (main house, structure, structure and associated midden, midden, or area)

As a measure of zooarchaeological quantification, MNI has a number of problems (Grayson 1973:438; 1984:28-92; Klein and Cruz-Uribe 1984:26-32). How one aggregates the MNI will affect the number of individuals calculated. If MNI is calculated based on the entire site, the number will be smaller than if it is calculated for each excavation unit and totaled for the site. Use of MNI emphasizes small species over large ones. For example, a collection may have only a few large mammals, such as deer, and scores of fish. Yet, the amount of meat contributed by one deer may be many times greater than that contributed by a score or two of fish.

Given the problems associated with MNI as a zooarchaeological measure, an estimate of biomass contributed by each taxon to the total available for use by the inhabitants of the site is also calculated. The method used here to determine biomass is based on allometry, or the biological relationship between soft tissue and bone mass. Biomass is determined using the least squares analysis of logarithmic data in which bone weight is used to predict the amount of soft tissue that might have been supported by the bone (Casteel 1978; Reitz 1982, 1985; Reitz and Cordier 1983; Reitz and Scarry 1985; Reitz et al. 1987; Wing and Brown 1979). The relationship between body weight and skeletal weight is expressed by the allometric equation $Y = aX^b$, which can also be written as log Y = log a + b(log X) (Simpson et al. 1960:397). In this equation, Y is the biomass in kilograms, X is the bone weight in kilograms, a is the Y-intercept for a log-log plot using the method of least squares regression and the best fit line, and b is the constant of allometry, or the slope of the line defined by the least squares regression and the best fit line. Table 77 details the constants for a and b used to solve the allometric formula for a given bone weight X for each taxon identified in the archaeological record.

The results of the analysis of the faunal collections from the two sites will be split into two sections. The first section will consider the faunal remains from 38CH127, and the second briefly discusses the faunal material from 38CH129.

Identified Fauna

Before considering the results of the zooarchaeological study of the faunal remains recovered from the 38CH127 and 38CH129, the general uses by historic peoples and habitat preference for each identified species will be considered.

Table 77.
List of Allometric Values Utilized in this Study to Determine Biomass in Kilograms (kg) Based on Bone Weight Expressed in Kilograms.

Faunal Category	log a	b	r^2
Mammal	1.12	0.90	0.94
Bird	1.04	0.91	0.97
Turtle	0.51	0.67	0.55
Snake	1.17	1.01	0.97
Chondrichthyes (shark)	1.68	0.86	0.85
Osteichthyes (boney fish)	0.90	0.81	0.80
Non-Perciformes	0.85	0.79	0.88
Siluriformes (catfish, sea catfish)	1.15	0.95	0.87
Perciformes (sea bass, bluefish)	0.93	0.83	0.76
Sparidae (porgy)	0.96	0.92	0.98
Sciaenidae (drum)	0.81	0.74	0.73
Pleuronectiformes (flounder)	1.09	0.89	0.95

Derived from Table 4 in Reitz (1985:44) and Table 2.3 in Quitmyer (1985b:440).

These variables are used to solve the formula $Y = aX^b$, or log Y + log a + b(log X); where Y is the biomass in kilograms, X is the weight of the bone in kilograms, a is the Y-intercept, b is the slope, and r^2 is the proportion of total variance explained by the regression model (see Reitz 1985:44; Reitz and Scarry 1985:67).

Table 78.
Species identified in the faunal collections from 38CH127 and 38CH129.

Cow, *Bos taurus*
Pig, *Sus scrofa*
Sheep, *Ovis aries*
Raccoon, *Procyon lotor*
Opossum, *Didelphis virginiana*
Rabbit, *Sylvilagus* spp.
Deer Mouse, *Peromyscus* spp.
Rice Rat, *Oryzomys palustris*

Chicken, *Gallus gallus*
Duck, *Anas* sp.
Turkey, *Meleagris gallapavo*
Passenger Pigeon, *Ectopistes migratorus*
Quail, *Colinus virginianus*

Snapping Turtle, *Chelydra serpentina*
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*

Catfish, *Ictalurus* sp.
Sunfish, *Lepomis* sp.
Drum, Sciaenidae

Crab, *Callinectes sapidus*

Table 78 lists the various animal species identified in the archaeological collection recovered from the excavations within the structure areas and the associated shell middens and features.

Domestic Mammals

Three animal species, cow (*Bos taurus*), pig (*Sus scrofa*), and domestic Caprine, are the only domestic mammals identified in the collection that could have been used as food resources. The domestic Caprine present is most likely the sheep (*Ovis aries*).

Pigs are one of the most important domestic mammals used for food in the Southeastern United States (see Hilliard 1972:92-111). Pigs require little care, as they can be allowed to roam free, or they can be penned. Their diet can consist of a variety of food resources, including seeds, roots, fruits, nuts, mushrooms, snakes, larvae, worms eggs, carrion, mice, small mammals, kitchen refuse, feces, and grain. Pigs store about 35% of the calories they consume, and can gain about two pounds for every 15 to 25 pounds of feed (Towne and Wentworth 1950:7-8). Within 18 months, a pig can gain up to 200 pounds, of which about 120 pounds can be consumed. Dressed, a pig carcass can yield between 65% and 80% meat. It is difficult to estimate the size of the pigs that were available to the inhabitants of Kiawah Island during the late eighteenth century. Prior to 1800 there were no standard breeds of pig (Gray 1933:206). An idea of the possible size of the pigs that were available to the inhabitants of Kiawah Island in the late eighteenth and nineteenth centuries can be gained from the average weight of 140 pounds for 4,000 southern pigs slaughtered in 1860 (Fogel 1965:206). Pork preserves very well, is satisfying due in part to its high fat content, and is a very good source of thiamine (Towne and Wentworth 1950:249).

Although cattle has been an important meat source during the history of the southeastern United States, it is in many ways a more burdensome meat resource to raise than pigs (see Hilliard 1972:112-140; Rouse 1973; Towne and Wentworth 1950, 1955). Cows provide less of a return for the energy input provided to raise them (Towne and Wentworth 1950:7-8). Cows feed on grain and grasses, and will not produce good weight gains without quality and quantity sources for both. also, cattle store only about 11% of the calories they consume and yield only 50 to 60% dressed meat. Balanced against the greater labor required to raise cattle above that required for swine and the fact that beef does not preserve as well as pork (Tomhave 1925:275), there is a demand for fresh beef, cattle hides, and a number of other foods made from milk products, such as milk, cheese, butter, and buttermilk, that can be obtained from cattle (see Hilliard 1972:119-135; Rouse 1973; Towne and Wentworth 1955). Given the historical records, from both Vanderhorst and other low country plantations, such as Tombee on St. Helena Island in Beaufort County (Rosengarten 1987), beef was a valuable plantation commodity.

The third domestic mammal that may have served as a food resource is the sheep. Sheep were a minor food resource for Southern populations during the eighteenth century, declining in popularity in the nineteenth century (Hilliard 1972:141-144). Of course, sheep were a source of wool that could be used to make clothing, primarily for home use (Hilliard 1972:141-142). The historic records from Vanderhorst recount penning the sheep so they could be sheared, revealing that they were at least present on the island.

Wild Mammals

Raccoon (*Procyon lotor*) bones are present in large quantities from the faunal assemblages. This mammal served as a food resource for both whites and blacks, although its meat was apparently less prized than that of the opossum (Hilliard 1972:80). Gathering raccoons could be done using firearms and hunting dogs, to which blacks would presumably have had less access than whites prior to the later portion of the nineteenth century, or they could be obtained by

trapping (Hilliard 1972:80). This nocturnal mammal is able to adapt to a variety of habitats, although they prefer wooded areas near water.

Remains of the opossum (*Didelphis virginiana*) are present in a very small quantity in the faunal sample from 38CH127. The opossum was generally preferred over the raccoon as a food resource because the former could be kept, fattened, and "cleaned out" by "penning and feeding them for several days on milk and bread or roasted sweet potatoes" (Hilliard 1972:80). The preferred habitat of the opossum, a nocturnal animal, is wooded areas near water, but they are often found in and around human settlements.

A number of bone elements identified as rabbit were recovered from both 38CH127 and 38CH129. Two rabbit species are common to the study area, the eastern cottontail (*Sylvilagus floridanus*) and the marsh rabbit (*Sylvilagus palustris*). Both black and white inhabitants of these two sites could have used rabbit as a food resource. Because rabbits could be taken relatively easily through the use of traps, slaves without access to firearms could readily harvest them for food (Hilliard 1972:78-79). Rabbits occupy a number of different habitats, but are usually found in thickets, in overgrown fields, and along the edge of forest clearings and forest edges. Important to rabbits in their choice of habitats is access to escape cover offered by thickets, weed patches, and dense high grass. The marsh rabbit generally prefers damper ground than does the eastern cottontail, and is somewhat more likely to be found in locations near marshes.

Surprisingly, the largest of the wild mammals that could have been used as a food resource, the white-tailed deer (*Odocoileus virginianus*), was not represented in the faunal collections from either of the two sites. In most areas of the Southeast, deer apparently remained widely available well into the nineteenth century (Hilliard 1972:74-78). Deer hunting is frequently mentioned in the Vanderhorst accounts and the island remained a hunting tract well into the twentieth century. The preferred method of hunting deer was with firearms, which restricted the availability of this food resource for slaves. Permission from the slave owner or overseer would probably be required for slaves to hunt deer and other animals with firearms, and firearms would also have to be available for use by the slaves to hunt. The latter situation would not have been common among slave populations (Hilliard 1972:75-76). The reasons for the absence of deer are not clear. In general, the deer's preferred habitat is the edge of deciduous forests and open fields, although they will move to mud flats around marshes to feed on the grasses found there.

Domestic Birds

Chicken (*Gallus gallus*) is the only identified domestic bird species identified in the faunal samples from the five sites. Chicken, like pigs, can be raised either by letting them run loose or be penning them. The meat of the chicken enjoyed a high status as a food item for both whites and blacks during the eighteenth and nineteenth centuries. Also, besides serving as a meat resource, chickens supplied eggs that could be consumed and used to prepare other food dishes (Hilliard 1972:46-47).

Chickens figure prominently in the Vanderhorst accounts throughout the nineteenth century. While no such records exist for the Shoolbred Plantation, the previous discussions of archaeological findings mention the recovery of egg shell in what may have been the kitchen drains associated with 38CH129-3.

Wild Birds

Wild turkey (*Meleagris gallapavo*) is present only in the faunal assemblage from 38CH129. Its absence from 38CH127 is surprising because turkey was a valued food resource for antebellum whites and blacks (Hilliard 1972:80-81). Although hunting with firearms is one method used to acquire wild turkeys, there is little

likelihood that slaves, who had limited access to firearms, would have been able to use this technique to hunt the animal. Another common technique to take wild turkeys is by trapping (Hilliard 1972:80). However, because wild turkeys tend to avoid inhabited areas, there would have been less chance for slaves, and probably for other segments of the plantations populations, at 38CH127 to encounter them.

Three other wild bird species, duck, bobwhite quail, and passenger pigeon are present in the two faunal collections. The remains of one migratory waterfowl, duck (*Anas* spp.) is present in the faunal assemblage from 38CH127. A number of duck species, including the mallard (*Anas platrhynchos*), black duck (*A. rubripes*), common teal (*A. crecca*), and American wigeon (*A. americana*), commonly winter along the Carolina coast, and a small number may live year-round on the coast (Potter et al. 1980:89-90).

Bobwhite quail (*Colinus virginianus*) is another important small game bird present in the faunal sample from 38CH129. Quail are found in open areas, especially old fields, where slaves could have an opportunity to collect them. This game bird could be captured in large numbers at one time through the use of a trap (Hilliard 1972:83).

The third wild bird species, passenger pigeon (*Ectopistes migratorus*), is seldom reported for historic period faunal assemblages of the Coastal Plain of the Carolinas. These birds were fall and winter seasonal occupants of the Carolinas, with spring and summer usually being spent in the northeastern United States. Flocks of passenger pigeons were unpredictable in roosting habits from year to year, although they preferred forested areas. (Lawson 1967:50, 217). Passenger pigeons also became extinct during the mid-nineteenth century.

Reptiles: Turtles

Two species of turtle are present in the historic faunal collections. Snapping turtle (*Chelydra serpentina*)is present only at 38CH127, and Carolina diamondback terrapin (*Malaclemys terrapin centrata*) is found at both 38CH127 and 38CH129. Remains of snapping turtles very noticeable in the faunal assemblages from the various locales at 38CH127. Snapping turtles are found in diverse forms of water such as ponds, rivers, and canals. This turtle is a true aquatic inhabitant of the bank regions of water sources, only rarely leaving the water (Obst 1986:109-111). It would have been used as a food resource.

The Carolina diamondback terrapin is a turtle that feeds on marine molluscs and is usually found in an estuarine setting or in brackish lakes and marshes along the coastal strip (Obst 1986:113). The Carolina diamondback terrapin inhabits the Atlantic Coast from North Carolina to Florida (Obst 1986:214). The diamondback terrapin was an important food resource in the southeast (Hilliard 1972:89) that became an accepted delicacy throughout the United States during the nineteenth and early twentieth centuries (Obst 1986:113, 183). The taste of the diamondback terrapin flesh is considered to lie between that of chicken and fish. It was only the enactment of protective legislation 60 years ago that prevented the extinction of the diamondback terrapin (Obst 1986:113). During the eighteenth and nineteenth centuries, diamondback terrapin comprised a good portion of the slave diet in coastal areas (Quitmyer 1985a:20). These aquatic reptiles could have been caught using handlines, traps, or by hand.

Pisces

The remains of fish in the historic component faunal material from 38CH127 and 38CH129 are quite small in number, with only one primarily marine species--drums (Sciaenidae)--, and two primarily freshwater species--catfish and sunfish--being identified. Marine species are those fish that either spawn in the estuary or use the area as a nursery (see Boschung et al. 1983). Members of the drum family include black drum (*Pongias cromis*), silver perch (*Bairdiella chrysoura*),

seatrout (*Cynoscion* spp.), spots (*Leiostomus xanthurus*), red drum (*Sciaenops ocellatus*), star drum (*Stellifer lanceolatus*), and Atlantic croaker (*Micropogonias undulatus*). All of these drums are commonly found in bays and estuaries. The star drum and the Atlantic croaker are good seasonal indicators, being present in the estuarine system from early spring with a maximum availability in the late fall.

According to Thomas Chaplin's Tombee Plantation diary (see Rosengarten 1987), drum was especially valued by low country planters. It seems to be the only fish with any commercial or market value and a "side of drum" was an appropriate gift among the planter class. The fish were taken primarily in the spring and appear to have offered not only a dependable food supply for the planter's table, but also provided sport.

A number of catfish (*Ictalurus* spp.) are present in the faunal collections from both 38CH127 and 38CH129. The bullhead catfish (*Ictalurus natulus*) is found in pools and backwaters of sluggish streams, usually in areas of heavy vegetation (Lee et al. 1980:442). The most common freshwater catfish found in the sluggish waters and low salinity areas of South Carolina estuaries is the white catfish (*Ictalurus catus*) (Wenner et al. 1981). Hilliard (1972:85-86) notes that catfish were a very important food fish throughout the South that could be taken with a variety of techniques including traps, trot lines, and set hooks that could be left untended.

The sunfish (*Lepomis* spp.) class comprise a number of species that inhabit the a wide variety of habitats including rivers, creeks, ponds, lakes, slow moving/sluggish bodies of water, swamps, and areas of brackish water of the Coastal Plain. These fish are also found in areas with varying amounts of aquatic vegetation. Typical species include redbreast sunfish (*Lepomis auritus*), warmouth (*Lepomis gulosus*), bluegill (*Lepomis macrochirus*), redear sunfish (*Lepomis microlophus*), and spotted sunfish (*Lepomis punctatus*). Sunfish vary between 4 and 26 centimeters in size (Lee et al. 1980:588-603). Only a single bone element from 38CH129 documents the presence of sunfish in the two faunal collections. Given the small numbers of fish present in the two faunal assemblages, the only method of collecting fish that can be definitely identified is by hook-and-line.

Commensal Species

Commensal species include animals commonly found near human occupations that are not generally considered to be food resources. Such animals include pets, pests, vermin, and animals that prey on pests and vermin. The three commensal species present are the rice rat, deer mouse, and unidentified snake. The rice rat (*Oryzomys palustris*) is a major crop pest that is usually found in wet or marshy areas, but is found wherever food resources are abundant. Planter's like Chaplin frequently mentioned the damage done by rats, especially in smoke houses (Rosengarten 1987). The deer mouse (*Peromyscus* spp.) is usually found in forested areas, but is also present at forest edges, in open clearings, and in overgrown clearings. Possible snakes that may have been in the area include terrestrial species (corn snake (*Elaphe* spp.), black racer (*Coluber* spp.), and king snake (*Lampropeltis getulus*) and water species (*Natrix* spp.). The deer mouse is present in the faunal material from 38CH127, and rice rat and snake are identified in the collection from 38CH129.

Results of the Faunal Analysis at Vanderhorst Plantation

The faunal collection from the Vanderhorst Plantation (38CH127) consists of 2444 bone elements and fragments that weigh 10,253.7 grams. The MNI, number and weight of bone, and the estimated meat yield (biomass) for the faunal samples obtained from the posited Main House, Structure 1, Structure 2, Structure 3, Structures 4A and 4B, Structure 5 and Trash Midden 1, and Trash Midden 2 are listed in tables in the appropriate discussion section that follows. Summaries

of the rank order importance by MNI and biomass of ten potential food resources and of the MNI and biomass calculations for seven faunal categories are also listed for each of these locales. Each of the seven locales identified at 38CH127 will be discussed in a separate subsection. The data for the faunal material recovered from Shell Midden 1 at 38CH127 consists of 11 cow bone elements and fragments that weigh 156.8 grams. Because this is all that was recovered from this locale, it will not be discussed separately.

Main House

The MNI, number and weight of bone, and the estimated meat yield (biomass) for the faunal samples obtained from the posited Main House of the nineteenth century Vanderhorst plantation is listed in Table 79. A summary of the rank order importance by MNI and biomass of ten potential food resources is given in Table 80, and the MNI and biomass calculations for seven faunal categories is listed in Table 81.

As would be expected, domestic mammals--cow, pig and sheep--account for the vast majority of the total biomass. Cow is the most important domestic food resource, followed by pig and then sheep. Wild mammals (raccoon), aquatic reptiles (snapping turtles and diamondback terrapins), fish from both fresh (catfish) and estuarine (drum) environments, and domestic birds (chicken) are also important additions to diet. Raccoons were apparently an important secondary food resource, ranking ahead of sheep by both MNI and biomass. Of note is the absence of both wild birds and commensal species, which are usually found at historic period sites. Given the location of the site next to a marsh and the Kiawah River, the absence of wild birds, especially migratory waterfowl, is unusual.

Table 79.
Minimum Number of Individuals (MNI), Number of Bones, Weight, and Estimated Meat Yield by Species for the Main House, 38CH127.

	MNI		NUMBER	WEIGHT		BIOMASS
SPECIES	#	%	OF BONES	gm	kg	%
Cow, *Bos taurus*	1	9.09	17	261.3	3.9386	34.24
Pig, *Sus scrofa*	1	9.09	23	73.1	1.2515	10.88
Sheep, *Ovis aries*	1	9.09	1	16.1	0.3207	2.79
Raccoon, *Procyon lotor*	2	18.18	10	19.8	0.3863	3.36
Unidentified Mammal	-	-	124	343.2	5.0339	43.76
Chicken, *Gallus gallus*	1	9.09	6	3.7	0.0672	0.58
Unidentified Bird	-	-	11	4.0	0.0721	0.63
Snapping Turtle, *Chelydra serpentina*	1	9.09	1	12.8	0.1745	1.52
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*	1	9.09	5	5.9	0.1039	0.90
Catfish, *Ictalurus* sp.	2	18.18	6	3.7	0.0692	0.60
Drum, Sciaenidae	1	9.09	4	2.9	0.0856	0.74
Crab	-	-	3	0.6	-	-
Unidentified	-	-	94	42.5	-	-
TOTAL	11	100.0	305	789.6	11.5035	100.0

Table 80.
Potential Food Resources, Species Ranked by MNI and Biomass,
Main House, 38CH127.

Species	MNI	BIOMASS
Raccoon	1	3
Catfish	2	8
Cow	10	1
Pig	10	2
Sheep	10	4
Snapping Turtle	10	5
Diamondback Terrapin	10	6
Drum	10	7
Chicken	10	9

Structure 1

The MNI, number and weight of bone, and the estimated meat yield (biomass) for the faunal samples obtained from Structure 1, possibly representing the original eighteenth century Vanderhorst kitchen and its subsequent nineteenth century replacement, is listed in Table 82. A summary of the rank order importance by MNI and biomass of ten potential food resources is given in Table 83, and the MNI and biomass calculations for seven faunal categories is listed in Table 84.

Domestic mammals (sheep, pig and cow) comprise 89% of the biomass and 40% of the MNI at this locale. The rank importance of sheep is most important at Structure 1, compared to cow which is most important in the Main House assemblage. Pig remains second in importance at both. Wild mammals (biomass = 1.8344 kg, and 30% of the MNI) are especially important adjunct meat resources at Structure 1. Raccoon accounts for a large portion of the importance of wild

Table 81.
Summary of the Faunal Categories Expressed as
Counts and Percentages for MNI and Biomass, Main House, 38CH127.

		MNI		BIOMASS
FAUNAL CATEGORY	#	%	kg	%
Domestic Mammals (Cow, Pig, Sheep)	3	27.27	5.5108	86.14
Domestic Birds (Chickens, etc.)	1	9.09	0.0672	1.05
DOMESTIC TAXA TOTAL	4	36.4	5.5780	87.2
Wild Mammals (Raccoon)	2	18.18	0.3836	6.04
Wild Birds	-	-	-	-
Aquatic Reptiles (Turtles, Terrapins)	2	18.18	0.2784	4.35
Fish (Catfish, Drum)	3	27.27	0.1548	2.42
WILD TAXA TOTAL	7	63.6	0.8195	12.8
Commensal Species	-	-	-	-
TOTAL	11	100	6.3975	100

Table 82.
Minimum Number of Individuals (MNI), Number of Bones, Weight, and Estimated Meat Yield by Species for the Structure 1, 38CH127.

SPECIES	MNI #	MNI %	NUMBER OF BONES	WEIGHT gm	WEIGHT kg	BIOMASS %
Cow, *Bos taurus*	2	10.00	20	316.9	4.6853	15.28
Pig, *Sus scrofa*	3	15.00	107	496.6	7.0236	22.91
Sheep, *Ovis aries*	3	15.00	42	578.2	8.0498	26.25
Raccoon, *Procyon lotor*	4	20.00	54	100.3	1.6637	5.43
Opossum, *Didelphis virginiana*	1	5.00	3	3.4	0.0791	0.26
Rabbit, *Sylvilagus* spp.	1	5.00	4	4.0	0.0916	0.30
Unidentified Mammal	-	-	218	595.9	8.2713	26.97
Chicken, *Gallus gallus*	2	10.00	20	18.9	0.2962	0.97
Duck, *Anas* sp.	1	5.00	1	5.7	0.0995	0.32
Unidentified Bird	-	-	23	8.3	0.1401	0.46
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*	1	5.00	5	2.5	0.0584	0.19
Catfish, *Ictalurus* sp.	1	5.00	6	2.0	0.0386	0.13
Drum, Sciaenidae	1	5.00	6	4.5	0.1185	0.39
Unidentified Pisces	-	-	5	1.8	0.0475	0.15
Crab	-	-	13	12.5	-	-
Unidentified	-	-	36	12.3	-	-
TOTAL	20	100.0	563	2163.8	30.6632	100.0

mammal resources. Domestic birds, fish, wild birds and aquatic reptiles round out the animal food resources. Again, no commensal species are present.

The contrast in importance of sheep at Structure 1 when compared with the Main House, where cow is the most important meat resource, is not unexpected. Sheep was a very attractive food resource among the British colonials who

Table 83.
Potential Food Resources, Species Ranked by MNI and Biomass, Structure 1, 38CH127.

Species	MNI	BIOMASS
Raccoon	1	4
Sheep	2	1
Pig	3	2
Cow	5	3
Chicken	5	5
Drum	10	6
Duck	10	7
Rabbit	10	8
Opossum	10	9
Diamondback Terrapin	10	10
Catfish	10	-

Table 84.
Summary of the Faunal Categories Expressed as
Counts and Percentages for MNI and Biomass, Structure 1, 38CH127.

FAUNAL CATEGORY	MNI #	MNI %	BIOMASS kg	BIOMASS %
Domestic Mammals (Cow, Pig, Sheep)	8	40.00	19.7587	88.99
Domestic Birds (Chickens)	2	10.00	0.2962	1.33
DOMESTIC TAXA TOTAL	10	50.00	20.0549	90.3
Wild Mammals (Raccoon, Rabbit, Opossum)	6	30.00	1.8344	8.26
Wild Birds (Duck)	1	5.00	0.0995	0.45
Aquatic Reptiles (Terrapins)	1	5.00	0.0584	0.26
Fish (Catfish, Drum)	2	10.00	0.1571	0.71
WILD TAXA TOTAL	10	50.00	2.1494	9.78
Commensal Species	-	-	-	-
TOTAL	20	100	22.2043	100

originally settled much of the southern coastal plain before the Revolutionary War (Reitz and Honerkamp 1984). Gradually, the popularity of sheep as a food resource declined and it became rare in the nineteenth century, primarily because of changing dietary preferences and the difficulty involved in tending sheep, an animal that was poorly adapted to the sub-tropical climate of the southeast (Hilliard 1972:141-144). It is apparent that a wide variety of wild animals supplemented the domesticated animal foods. Along with the decline in popularity of sheep at the later Main House locale, wild food resources also decline, especially for the wild mammals.

Structure 2

The MNI, number and weight of bone, and the estimated meat yield (biomass) for the faunal samples obtained from Structure 2, a posited nineteenth century kitchen, is listed in Table 85. A summary of the rank order importance by MNI and biomass of ten potential food resources is given in Table 86, and the MNI and biomass calculations for seven faunal categories is listed in Table 87.

The domestic mammals (cow, pig and sheep) continue to provide the greatest portion of the animal foods present in the archaeological assemblage at this locale. Befitting its posited nineteenth century date, cow once again replaces sheep as the most important faunal category, with the latter slipping to third place. The importance of wild mammals also declines when compared to the Structure 1 collection. Raccoon remains an important secondary meat resource, but only rabbit is also present. The domesticates (cow, pig, sheep, and chicken) all outrank raccoon in importance by both MNI (although sheep and raccoon both have the same MNI=1) and biomass. Fish are slightly higher in importance according to biomass (0.3142 kg, 1.71%) compared to the total for Structure 1 (0.1571 kg, 0.71%), and starts to approach the fish biomass (0.1548 kg. 2.42%) of the Main House assemblage. Aquatic reptiles (turtles and terrapins) and wild birds (duck) round out the potential meat food resources. A commensal species is present, a deer mouse. Still, the number of commensal species pales when compared to other sites of the region (see Table 94).

Structure 3

The MNI, number and weight of bone, and the estimated meat yield (biomass) for the faunal samples obtained from Structure 3, a posited nineteenth/twentieth

Table 85.
Minimum Number of Individuals (MNI), Number of Bones, Weight, and Estimated Meat Yield by Species for the Structure 2, 38CH127.

SPECIES	MNI #	MNI %	NUMBER OF BONES	WEIGHT gm	WEIGHT km	BIOMASS %
Cow, *Bos taurus*	3	17.65	56	922.0	12.2510	47.94
Pig, *Sus scrofa*	2	11.76	60	266.3	4.0064	15.68
Sheep, *Ovis aries*	1	5.88	5	29.6	0.5547	2.17
Raccoon, *Procyon lotor*	1	5.88	16	19.9	0.3880	1.52
Rabbit, *Sylvilagus* spp.	1	5.88	2	2.9	0.0686	0.27
Deer Mouse, *Peromyscus* spp.	1	5.88	1	0.7	0.0191	0.07
Unidentified Mammal	-	-	196	461.7	6.5741	25.73
Chicken, *Gallus gallus*	2	11.76	38	31.5	0.4715	1.85
Duck, *Anas* sp.	1	5.88	2	4.2	0.0754	0.30
Unidentified Aves	-	-	12	12.7	0.2063	0.81
Snapping Turtle, *Chelydra serpentina*	1	5.88	2	4.7	0.0892	0.35
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*	1	5.88	5	7.4	0.1209	0.47
Catfish, *Ictalurus* sp.	1	5.88	3	1.6	0.0312	0.12
Drum, Sciaenidae	2	11.76	10	14.6	0.2830	1.11
Unidentified Pisces	-	-	83	26.0	0.4133	1.62
Crab	-	-	20	17.4	-	-
Unidentified	-	-	352	125.2	-	-
TOTAL	17	100.0	863	1948.4	25.5527	100.0

Table 86.
Potential Food Resources, Species Ranked by MNI and Biomass, Structure 2, 38CH127.

Species	MNI	BIOMASS
Cow	1	1
Pig	3	2
Chicken	3	4
Sheep	10	3
Raccoon	10	5
Drum	10	6
Diamondback Terrapin	10	7
Snapping Turtle	10	8
Duck	10	9
Rabbit	10	10
Catfish	10	-

Table 87.
Summary of the Faunal Categories Expressed as
Counts and Percentages for MNI and Biomass, Structure 2, 38CH127.

BIOMASS FAUNAL CATEGORY	MNI #	MNI %	BIOMASS kg	BIOMASS %
Domestic Mammals (Cow, Pig, Sheep)	6	35.29	16.8121	91.57
Domestic Birds (Chickens)	2	11.76	0.4715	2.57
DOMESTIC TAXA TOTAL	10	47.1	17.2836	94.1
Wild Mammals (Raccoon, Rabbit)	2	11.76	0.4566	2.49
Wild Birds (Duck)	1	5.99	0.0754	0.41
Aquatic Reptiles (Turtles, Terrapins)	2	11.76	0.2101	1.14
Fish (Catfish, Drum)	3	17.65	0.3142	1.71
WILD TAXA TOTAL	8	47.1	1.0563	5.8
Commensal Species (Deer Mouse)	1	5.88	0.0191	0.10
TOTAL	17	100	18.3590	100

century freedman occupation, is listed in Table 88. A summary of the rank order importance by MNI and biomass of ten potential food resources is given in Table 89, and the MNI and biomass calculations for seven faunal categories is listed in Table 90.

Table 88.
Minimum Number of Individuals (MNI), Number of Bones, Weight, and Estimated Meat Yield by Species for Structure 3, 38CH127.

SPECIES	MNI #	MNI %	NUMBER OF BONES	WEIGHT gm	WEIGHT kg	BIOMASS %
Cow, *Bos taurus*	4	18.18	77	1786.2	22.2153	56.25
Pig, *Sus scrofa*	3	13.64	45	266.3	4.7970	12.15
Sheep, *Ovis aries*	1	4.55	16	325.3	1.3390	3.39
Raccoon, *Procyon lotor*	3	13.64	38	49.3	0.8880	2.25
Opossum, *Didelphis virginiana*	3	13.64	5	16.5	0.3278	0.83
Rabbit, *Sylvilagus* spp.	1	4.55	1	0.8	0.0215	0.05
Unidentified Mammal	-	-	220	630.3	8.6998	22.03
Chicken, *Gallus gallus*	1	4.55	8	11.3	0.1855	0.47
Duck, *Anas* sp.	1	4.55	3	9.9	0.1645	0.42
Snapping Turtle, *Chelydra serpentina*	1	4.55	1	53.1	0.4527	1.15
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*	1	4.55	4	5.6	0.1003	0.25
Catfish, *Ictalurus* sp.	1	4.55	3	1.3	0.0256	0.06
Drum, Sciaenidae	2	9.09	15	13.7	0.2700	0.68
Unidentified Pisces	-	-	2	0.3	0.0046	0.01
Crab	-	-	1	0.7	-	-
Unidentified	-	-	13	4.1	-	-
TOTAL	22	100.0	452	2987.2	39.4916	100.0

Table 89.
Potential Food Resources, Species Ranked by MNI and Biomass,
Structure 3, 38CH127.

Species	MNI	BIOMASS
Cow	1	1
Pig	4	2
Raccoon	4	4
Opossum	4	6
Sheep	10	3
Snapping Turtle	10	5
Drum	10	7
Chicken	10	8
Duck	10	9
Diamondback Terrapin	10	10
Catfish	10	-
Rabbit	10	-

Table 90.
Summary of the Faunal Categories Expressed as
Counts and Percentages for MNI and Biomass, Structure 3, 38CH127.

	MNI		BIOMASS	
FAUNAL CATEGORY	#	%	kg	%
Domestic Mammals (Cow, Pig, Sheep)	8	36.36	28.3513	92.09
Domestic Birds (Chickens)	1	4.54	0.1855	0.60
DOMESTIC TAXA TOTAL	9	40.9	28.5368	92.7
Wild Mammals (Raccoon, Opossum, Rabbit)	7	31.82	1.2373	4.02
Wild Birds	1	4.54	0.1645	0.53
Aquatic Reptiles (Turtles, Terrapins)	2	9.09	0.5530	1.80
Fish (Catfish, Drum)	3	13.64	0.2956	0.96
WILD TAXA TOTAL	13	59.1	2.2504	7.3
Commensal Species	-	-	-	-
TOTAL	22	100	30.7872	100

Cow, pig and sheep, the three domesticated mammals, account for the overwhelming amount of the faunal collection from this locale. Cow is by far the most important meat food resource, with pig and sheep being a distant second and third. Over 90 percent of the assemblage's biomass is comprised of domesticated mammals and domesticated birds (chicken). Wild mammals (raccoon, opossum, and rabbit) continue to contribute to the food derived from faunal resources, but in minor roles. Aquatic reptiles rise in importance among the secondary meat food resources, while fish and wild birds fall from the totals noted in both the Main House and Structure 2 assemblages. Commensal species are once again absent.

Structures 4A, 4B, and 5 and Trash Midden 1

The MNI, and number and weight of the bone recovered from Structures 4A and 4B at 38CH127 are given in Table 91. Table 92 provides similar information for Structure 5 and Trash Midden 1 (which appears to have been associated with

Structure 5). All three of these structures appear to be late nineteenth century occupations, and the pattern shown in both the limited MNI and biomass totals reflect this time period. Like the other nineteenth century structures at 38CH127, cow completely dominates the faunal assemblages. Lesser amounts of pig, sheep, raccoon, and snapping turtle are also present. Because there are so few remains present, especially compared with the other locales at 38CH127, nothing further should be stated about the faunal collections from Structures 4A, 4B, and 5.

Trash Midden 2

This trash midden is located some distance away from other identified structures at 38CH127. It apparently dates to the eighteenth century, and the faunal MNI, number of bones, and weight of bones (Table 93), supports this assessment. Cow dominates the faunal collection, which also has a fairly large amount of snapping turtle (bone weight = 103.5 g). Lesser quantities of pig, sheep, and diamondback terrapin are also present.

Summary

The faunal collections from the various locales at 38CH127, primarily the Main House, Structure 1, Structure 2 and Structure 3, give possible evidence of a change through time of the relative importance various faunal taxa played in the diet of the inhabitants of 38CH127. Sheep were a very important meat resource during the early part of the eighteenth century, and declined in quantity (by biomass) through the nineteenth century into the twentieth centuries. Cow replaced it as the meat resource of choice, with pig remaining a fairly constant second choice. Domestic birds (chickens) were a minor addition to the diet and was a fairly consistent food resource through time. The wild mammals (raccoon, opossum and rabbit) showed a slight decline through time, although this category consistently occupied a place following the domestic taxa

Table 91.
Minimum Number of Individuals (MNI), Number of Bones, and Weight
Structure 4A and Structure 4B, 38CH127.

Structure 4A SPECIES	MNI #	 %	NUMBER OF BONES	WEIGHT gm
Unidentified Mammal	-		9	25.4

Structure 4B SPECIES	MNI #	 %	NUMBER OF BONES	 %	WEIGHT gm	 %
Cow, *Bos taurus*	1	33.33	1	6.67	16.5	46.61
Pig, *Sus scrofa*	1	33.33	6	40.00	13.2	37.29
Sheep, *Ovis aries*						
Raccoon, *Procyon lotor*	1	33.33	2	13.33	1.8	5.08
Unidentified Mammal	-	-	6	40.00	3.9	11.02
TOTAL	3	100.0	15	100.0	35.4	100.0

Table 92.
Minimum Number of Individuals (MNI), Number of Bones, and Weight
Structure 5 and Trash Midden 1, 38CH127.

			Structure 5		Trash Midden 1					
	MNI		NUMBER	WEIGHT	NUMBER	WEIGHT	TOTAL		TOTAL	
SPECIES	#	%	OF BONES	gm	OF BONES	gm	NUMBER	%	WEIGHT	%
Cow	2	40.0	43	435.8	23	780.3	66	36.26	1216.1	80.73
Pig	1	20.00	2	43.4	2	6.3	4	2.20	49.7	3.30
Sheep	1	20.00	-	-	1	1.4	1	0.55	1.4	0.09
Unidentified Mammal	-	-	60	87.4	32	62.2	92	50.55	149.6	9.93
Unidentified Aves	-	-	2	2.2	-	-	2	1.10	2.2	0.15
Snapping Turtle	1	20.00	2	9.6	15	77.8	17	9.34	87.4	5.80
TOTAL	5	100.0					182	100.0	1506.4	100.0

Table 93.
Minimum Number of Individuals (MNI), Number of Bones, and Weight
Trash Midden 2, 38CH127

	MNI		NUMBER		WEIGHT	
SPECIES	#	%	OF BONES	%	gm	%
Cow, *Bos taurus*	1	20.00	33	41.77	698.7	81.41
Pig, *Sus scrofa*	1	20.00	2	2.53	6.1	0.71
Sheep, *Ovis aries*	1	20.00	1	1.27	1.4	0.16
Unidentified Mammal	-	-	14	17.72	45.0	5.24
Snapping Turtle, *Chelydra serpentina*	1	20.00	23	29.11	103.5	12.06
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*	1	20.00	1	1.27	1.3	0.15
Unidentified	-	-	5	6.33	2.3	0.27
TOTAL	5	100.0	79	100.0	858.3	100.0

in biomass contributions to diet. Wild birds, aquatic reptiles and fish fluctuated slightly in their importance as minor meat resources through time.

Comparing the MNI percentages for the four major locales at 38CH127 with selected faunal assemblages from other sites of the southern coastal plain (Table 94), few congruences can be noted. None of the other collections have over 70 percent of their MNI totals being comprised by domestic and wild mammals, as does Structure 1 at 38CH127. It may be that this pattern characterizes faunal assemblages found at early nineteenth century sites. However, there is little comparative data available on which to make a more sound assessment. This has to remain a suggestion that can be explored in future research.

In comparing the MNI percentages for the nineteenth century locales for 38CH127 with the other listed sites, including a nineteenth century slave row (38BU634), a nineteenth century freedman village (Mitchelville), an eighteenth/nineteenth century Urban pattern, an eighteenth/nineteenth century

Rural pattern, and a nineteenth century Slave pattern, no similarities can be noted. This is primarily due to the inflated totals at 38CH127 for domestic mammals, domestic birds and wild mammals, seemingly balanced with low totals for fish at all the locales except for the Main House. There is some slight resemblance in the direction of the increase/decrease among the categories at 38CH127's Main House and Structure 3, and the Rural pattern--"high" domestic mammal MNI, low domestic bird MNI, "high" wild mammal MNI, low wild bird MNI, "high" reptiles MNI, somewhat "higher" fish MNI, and low commensal MNI. However, comparing the individual categories shows that the wild mammals MNI is greater than the domestic mammal MNI in the Rural pattern, which is not the case for either the Main House or Structure 3 assemblages at 38CH127. It is especially disappointing that the MNI percentages for Structure 3 is not more similar to that noted for the other nineteenth century freedman site, Mitchelville, in the table. Given this and the other differences noted, it is probable that environmental and microscale sociocultural variables are affecting the patterned behavior that is thought to be reflected in the MNI patterns. A some point in the future, it should prove more informative to compare biomass percentages between sites, since these appear to give a better approximation of the importance the various fauna taxa played as meat food resources.

Table 94.
Comparison of 38CH127 (Main House, Structure 1, Structure 2 and Structure 3) and Selected Historic Assemblage Faunal Categories by MNI.

	38CH127								
	MAIN	STRUCTURES							
Faunal Category	HOUSE	1	2	3	38BU634	MITCHELVILLE	URBAN	RURAL	SLAVE
Domestic Mammals	27.3	40.0	35.3	36.4	14.1	19.1	28.9	17.2	20.5
Domestic Birds	9.1	10.0	11.8	4.5	6.3	12.8	19.7	4.1	3.0
Wild Mammals	18.2	30.0	11.8	31.8	29.7	10.6	8.1	19.2	24.7
Wild Birds	0.0	5.0	5.9	4.5	9.4	8.5	7.6	3.0	2.1
Reptiles	18.2	5.0	11.8	9.1	4.7	12.8	5.4	13.7	10.4
Fish	27.3	10.0	17.7	13.5	25.0	25.5	19.7	38.4	36.6
Commensals	0.0	0.0	5.9	0.0	10.9	10.6	10.6	4.3	2.8

Data for the Slave Pattern (nineteenth century) are derived from Reitz (1984:Table 7).

Percentages for the Urban and Rural Patterns are from Reitz 1988 and are for materials from late eighteenth and early nineteenth century coastal contexts.

The Mitchelville Pattern, for a Civil War and postbellum Black community, is from Wilson and Wilson (1986:Table 39).

The 38BU634 Pattern, for a nineteenth century slave row, is from Wilson (1989:Table 31).

Results of the Faunal Analysis at Shoolbred Plantation

The two small faunal assemblages from Structures 1 (main house) and 2 (cotton storehouse) of the Shoolbred Plantation (38CH129) were also analyzed for this study. Table 95 displays the MNI, number of bones and weight of bones for Structure 1, and Table 96 serves the same purpose for Structure 2. Given the small size of these two collections, it is difficult to provide any secure insights that are not extremely tentative. It would appear that 38CH129-2, the cotton storehouse, dates to the nineteenth century given the importance of cow in the collection. The fact that sheep is the second ranked taxa by biomass would suggest that the locale was possibly utilized during the early part of that century. Of note is the fact that a number and variety of animal species are

present in the small collection from Structure 2, including commensals (deer mouse, rice rat and snake), wild bird (turkey, quail and passenger pigeon), and fish (catfish and sunfish). The usual species--raccoon, rabbit, chicken, diamondback terrapin, and catfish--are also present. Of interest is the passenger pigeon bone element recovered from this locale. Although, as noted earlier in this section, passenger pigeon inhabited the Carolinas during the fall and winter seasons of the year, this species is seldom reported in archaeological collections from eighteenth and nineteenth century sites. The reasons behind this are unknown at this time. Still, the presence of the passenger pigeon in the faunal assemblage from 38CH129-2, provides support for the locale dating no later than the early part of the nineteenth century. By the middle of the nineteenth century, the passenger pigeon was extinct.

Unfortunately, Structure 1 does not possess as much information as does Structure 2. It would have to undergo much more extensive excavation before a more concrete evaluation of the faunal assemblage can be made. The low density of remains is likely a reflection of disposal patterns and the tells us something about how the plantation landscape was maintained in the vicinity of the main house.

Conclusions

The faunal collections from the various locales at 38CH127 and 38CH129 provide insights into the behavior and diet of the people who once lived within their environs. The evidence from 38CH127 suggests that it is possible to discern changes through time in this behavior and diet based on the study of faunal material. It is possible that evidence for shifts similar to the change noted for sheep from the early eighteenth century through the early twentieth century can be found at other sites for other taxa. It is becoming increasingly clear that micro-differences in the natural and sociocultural environments in which people lived in the southern Coastal Plain had an important affect on their

Table 95.
Minimum Number of Individuals (MNI), Number of Bones, and Weight, 38CH129-1.

	MNI		NUMBER		WEIGHT	
SPECIES	#	%	OF BONES	%	gm	%
Pig, *Sus scrofa*	1	14.29	3	1.39	6.4	4.01
Sheep, *Ovis aries*	1	14.29	1	0.46	3.2	2.00
Raccoon, *Procyon lotor*	1	14.29	6	2.78	4.8	3.01
Unidentified Mammal	-	-	36	16.67	70.1	43.89
Chicken, *Gallus gallus*	2	28.57	27	12.50	13.7	8.58
Turkey, *Meleagris gallapavo*	1	14.29	3	1.39	12.3	7.70
Unidentified Bird	-	-	17	7.87	3.2	2.00
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*	1	14.29	10	4.63	5.6	3.51
Unidentified Pisces	-	-	11	5.09	0.8	0.50
Crab	-	-	3	1.39	6.3	3.94
Unidentified	-	-	99	45.83	33.3	20.85
TOTAL	7	100.0	216	100.0	159.7	100.0

Table 96.
Minimum Number of Individuals (MNI), Number of Bones, and Weight, 38CH129-2.

SPECIES	MNI #	MNI %	NUMBER OF BONES	NUMBER %	WEIGHT gm	WEIGHT %
Cow, *Bos taurus*	1	6.67	3	2.21	183.9	32.65
Pig, *Sus scrofa*	1	6.67	10	7.35	57.2	10.15
Sheep, *Ovis aries*	1	6.67	7	5.15	94.9	16.85
Raccoon, *Procyon lotor*	1	6.67	6	4.41	8.2	1.46
Rabbit, *Sylvilagus* spp.	1	6.67	4	2.94	5.1	1.46
Deer Mouse, *Peromyscus* spp.	1	6.67	1	0.74	0.3	0.05
Rice Rat, *Oryzomys palustris*	1	6.67	1	0.74	0.5	0.09
Unidentified Mammal	-	-	65	47.79	184.5	32.75
Chicken, *Gallus gallus*	1	6.67	3	2.21	3.2	0.57
Turkey, *Meleagris gallapavo*	1	6.67	4	2.94	5.1	0.91
Passenger Pigeon, *Ectopistes migratorus*	1	6.67	1	0.74	0.4	0.07
Quail, *Colinus virginianus*	1	6.67	1	0.74	0.3	0.05
Unidentified Aves	-	-	4	2.94	1.6	0.28
Carolina Diamondback Terrapin, *Malaclemys terrapin centrata*	1	6.67	8	5.88	10.4	1.85
Unidentified Snake	1	6.67	1	0.74	0.2	0.04
Catfish, *Ictalurus* sp.	1	6.67	1	0.74	0.7	0.12
Sunfish, *Lepomis* sp.	1	6.67	1	0.74	0.2	0.04
Unidentified	-	-	15	11.03	6.6	1.17
TOTAL	15	100.0	136	100.0	563.3	100.0

lifestyles. This may be one reason why there is so little congruence between the various patterns identified for the use of faunal resources at various kinds of sites, whether they be identified as urban, rural, freedman, or slave, to name but a few. Continued research and utilization of biomass as the basis of comparison and construction of patterns appear to be necessities in order to more fully comprehend the complexity of these peoples past lifeways. This study has hopefully been a start in that direction.

CHAPTER 16.
VANDERHORST SHELLFISH ANALYSIS

David R. Lawrence

Introduction

Samples containing molluscan shellfish were supplied (as bulk and/or pre-sorted materials) from excavation units 450R750 and 550R620 (south and southeast of the Vanderhorst house), 690R380 (west of the house) and 790R610, 880R615, and 965R565 (north and northeast of the house). The site was visited on March 6, 1992. At that time all of these excavations had been accomplished except for the one west of the mansion house (690R380). By courtesy of Chicora Foundation personnel, the completed excavations and associated spoil piles had been left intact for inspection. Thus the main part of these shellfish proveniences have been seen in their original and field contexts.

This report summarizes interpretations resulting from the inspection of these shellfish. In the following sections, samples with similar characteristics are described and analyzed together. Working methods and the bases for interpretations of oysters are adapted from Lawrence (1988, 1991b). Comments on other taxa are freely drawn from Lawrence (1991c).

The Shellfish

Units 450R750 and 690R380

These samples are characterized by their large numbers of knobbed whelks [*Busycon carica* (Gmelin)]. In both samples there is a wide and continuous range of sizes present (height range of 58-128 mm in 19 specimens from 450R750, 45-140 mm in 73 specimens from 690R380). Significant abrasion of body whorls and columellas is lacking; there is no evidence of forceful entry into the body whorl; there is no reason to suspect that these univalves were collected dead as mere objects of curiosity. If they were collected live for food use, then meat extraction must have been easily achieved, perhaps through stewing. Knobbed whelks are rather abundant near oyster beds, and are known to be significant predators of the mercenarias or quahog clams (Shoemaker et al. 1978) They could have been collected during gathering of these other shellfish.

The range in the size of knobbed whelks is similar to that observed by Magalhaes (1948) and is consistent with a population consisting of both immature and mature individuals, representing the entire life cycle. Magalhaes observes that knobbed whelks are active throughout the year from March until December, but almost completely disappears from December through February. The greatest number, however, are present in the warm months of June, July, and August. Immature individuals are more likely to be collected during the day, while the more mature specimens are most abundant at night. Based on this data, it is tempting to suggest that the Vanderhorst sample represents one or more summer episodes incorporating both day and night collections.

Hard shelled clams or quahogs [*Mercenaria mercenaria* (L.)] are a less abundant member of the shellfish biota from these locations. Preservation is primarily as fragments but entire valves from each provenience display stabbing notches close to the adductor muscle scars. These valves were forcibly separated, with the meats most certainly used as food. One right valve (from 690R380) is noticeably discolored. The possibility exists that these organisms were heated during the food preparation process or processes. Quahogs are burrowing, siphonate, suspension feeders and, in South Carolina, are most common in

intertidal sand bars and sand flats (Shoemaker et al. 1978), from which they may be readily dug. Barnacles (likely originally attached to oysters) and land snails (of unknown temporal origins and significance) are the only other non-oyster shellfish taxa found in these two samples.

The samples contain juvenile oysters and valves collected dead; they were gathered as bulk or "grab" lots with sorting taking place at the occupation site. Intertidal cluster oysters compose about two-thirds of the larger left valves (height greater than 3 inches or 7.5 cm, which is the minimum marketable size for oysters in the State of South Carolina) at each provenience. These oysters range to significant size (maximum height of 140 mm at 450R750, 133 mm at 690R380). Attachment areas of small to moderate size suggest, but do not demand, that these clusters occurred within creek/channel systems or mud flats, and did not line the banks of creeks. The remaining oysters came from settings in which these organisms were more scattered. In these latter oysters, shell endobionts (clionid sponges and polydorid bristleworms) are more common in the 450R750 materials, suggesting that this latter collection came from lower in the tidal water column than that from 690R380; however all these oysters could have been gathered by walking or wading in appropriate settings at low tide.

These oysters were indeed used as food. Striking right valve cracks are rare to absent (in both larger and smaller valves) but some left valves do display stabbing notches, including multiples on a single individual. Beige-to-gray valve discolorations are widespread and distinctive and, from each sample, at least two larger left valves display the black markings interpreted by Kent (1988) to indicate contact with hot coals. Thus numerous lines of evidence point toward heating (baking or steaming) of these oysters before they were ingested.

Left valve ligament analysis of seasonality (Lawrence 1988) suggests that these oysters were collected throughout the cooler months of the year. There are some indications of a Fall concentration in 690R380 and a late Winter-early Spring concentration in 450R750 but strong inferences of these seasons of collecting cannot be made from the materials examined.

Unit 550R620

Like 450R750, this unit lies to the southeast of the Vanderhorst mansion. But unlike 450R750 this midden is characterized by rare whelks (only one was observed in the spoil piles) and the apparent absence of quahogs. The sample obtained consists entirely of oysters and is not a large one (11 larger left valves; 2 larger right valves).

Valves collected after death of the organisms and juveniles are again present and these oysters were also collected in bulk. Intertidal cluster oysters and those occurring as more scattered individuals are both present in the sample. Evidence of clionid sponges is rare but the incidence of polydorid bristleworms (in 5 of 11 larger left valves) suggests that at least part of this collection may have come from lower portions of the intertidal gradient and a muddy-bottomed setting (Lunz 1941). Possibly the source environment was an intertidal and muddy, shell-laden bottom displaying incipient clustering.

Stabbed left valves, both larger and smaller, indicate that the shells were opened with force and suggest food use. Valve discolorations are not widespread and distinctive and the possibility exists that these oysters were shucked raw. No strong inference of seasonal use can be made because of larger left valve collection size.

Units 790R610 and 880R615

These two samples (plus 965R565) come from north or northeast of the mansion. Oysters are scattered over the surface in this region, and these samples come from an elevated ridge (pathway?) to the northeast of the house. One whelk

was obvious in each spoil pile and 6+ fragments of quahogs were noted in the materials left behind from the excavation of 790R610.

The oysters were again gathered as bulk lots. Juveniles and collected-dead valves are common in each sample and at least 10% (5 of 47) of the larger left valves from 790R610 were collected after death of the oysters. Intertidal cluster oysters are likely in the majority in each sample. Most striking is the observation that many clusters of smaller left valves have not been separated into individuals (see Discussions and Summary, below). Attachment areas in these clusters are generally moderate in size, suggesting that the oysters came from mudflat (or within-channel system) settings and not from creek bank environments. Oysters that were more scattered also occur in each sample and are relatively most abundant as smaller right valves; this concentration is brought about, in part, by the size "displacement" of originally larger right valves because of the loss of the broad, thin, and fragile marginal "bills" of these valves. Incidence of shell endobionts is rather low and these oysters (collectively) most likely came from intertidal and shell-laden bottoms with discontinuous clusters of the shellfish.

The oysters gathered live were indeed eaten. Cracks are common in right valves, especially so in the thin and elongate cluster valves. Stabbing notches (including multiples) are widespread on left valves. Valve discolorations are not striking and valve textures indicating heating are lacking. These oysters were most likely shucked and eaten raw. The sample from 790R610 contains oysters whose ligaments suggest they were collected throughout the cooler months of the year; however, a strong inference of particular seasons cannot be made from the 42 larger left valves examined in detail.

Unit 965R565

This northernmost and creek-facing excavation is represented by a sample of quite small volume. Cluster oysters are present. Fragments include those of both juvenile and adult oysters but not one of the more intact valves is of larger (height greater than 3 inches) size. This sample may record the separation of unwanted and smaller oysters but sample size, and field observations, do not allow this possibility to be further explored.

Discussions and Summary

The oysters observed in the Vanderhorst collection were gathered as bulk lots and intertidal cluster oysters predominate throughout the samples; all units contain oysters used as food. Excavation blocks 450R750 and 690R380 contain significant whelks and quahogs and at least the oysters from these two areas were heated (baked or steamed) during food preparation. Curiously, these proveniences represent materials likely deposited during the postbellum. Most likely the oysters from the other proveniences, dating from primarily the first half of the nineteenth century, were shucked and eaten raw.

The presence of numerous oyster valves collected dead and intact oyster clusters at 790R610 and 880R615 suggest that food use for these materials may have been incidental to some other purpose for gathering the shells. Such applications might include the alteration or stabilization of local topography in this northern and creek-facing portion of the property. The previously offered interpretation that the "midden" represents a shell pathway is consistent with this study.

CHAPTER 17.
BRIEF TESTING OF THE STANYARNE PLANTATION (38CH122)

Natalie Adams

Introduction

Background

Site 38CH122 was originally reported by Combes (1975), based on his reconnaissance survey. Combes only briefly described the site, observing:

> the ruins of what appears to be an old house foundation, well, and nearby several small houses that were most likely slave cabins. Associated with these cabin remains is a black burial area (Combes 1975:A-14).

Based on the artifact collection the site was dated from the late eighteenth through nineteenth century.

As previously discussed in **Chapter 5**, John Stanyarne bought Kiawah in 1717 and began building his plantation operations shortly thereafter. This site is thought to be the location of that earliest historic settlement on Kiawah Island. It appears that in the early eighteenth century the plantation's sole purpose was raising cattle. Stanyarne's will of 1772 indicates that later in the eighteenth century he became involved in indigo planting and processing. The historic research suggests that the plantation was the only settlement on the island until the 1770s when Arnoldus Vanderhorst built a plantation further to the northeast (at 38CH127). An 1802 plat shows Stanyarne's Plantation as consisting of six structures labelled as "Old Settlement" (Figure 7). Mary Gibbes, who inherited the property, built a house with her husband, James Shoolbred, elsewhere on the island (on what is today Rhett's Bluff, known as 38CH129) where they lived. Based on plats (see Figure 10) and archaeological information, it appears that the "Old Settlement" complex was expanding, still being used as a base of operations, and still being occupied by slaves.

In the early 1980s, Kiawah Development Company (a Kuwaiti owned company) sold off lots and developed the Stanyarne Plantation site identified by Combes without any further archaeological or historical research. Because of Chicora's archaeological and historical research at other plantations on the island, it was believed that archaeological data from Stanyarne Plantation would help better under the development of Kiawah from a pioneering settlement to a full fledged plantation economy. As a result, Chicora Foundation applied for a survey and planning grant from the National Park Service (administered by the South Carolina Department of Archives and History) to perform limited testing at the site. The grant was awarded on March 4, 1993 and the funding agreement was signed on May 25, 1993.

Archaeological investigations were begun at 38CH122 by a crew of two on July 9 and continued through July 13, 1993. A total of 102 person hours were spent in the field with 19 (or 18.6%) person hours contributed by local volunteers. As a result of this work 133 square feet of site area were opened at 38CH122, all screened through ¼-inch mesh. The work at the Stanyarne Plantation resulted in the movement of 651 pounds of brick and mortar rubble and 18 pounds of shell.

Since 38CH122 consisted of a number of privately owned lots, the proposed investigation was made flexible enough to compensate for the unavailability of

some lots and the concerns of other landowners with landscaped lots. The field methods included a pedestrian survey of the banks of Salt House Creek and the Kiawah River, a general walkover of interior areas to investigate bare spots and above ground brick rubble, shovel testing available lots, and small test units (2 or 5 feet square) to examine areas with dense remains.

Methods

Excavations across the site were conducted using an grid orientation of N22°W, the approximate the orientation of the main house based on visible, above-ground remnants. Test units were excavated at three different properties (496, 499, and 505 Old Dock Road) based on systematic shovel testing. A total of 35 shovel tests were excavated on the available lots. Of these tests, ten were positive (Figure 91).

The test units were tied in to either cement survey markers or sidewalks. At 496 Old Dock Road, tests were tied into a cement survey marker located in the northwestern portion of the property. At 499 Old Dock Road, tests were tied into a sidewalk intersection in the northwest yard area. At 505 Old Dock Road, tests were tied into a cement survey marker between 505 and 506 Old Dock Road. Vertical control was maintained at each site through the use of several benchmarks (either a cement survey marker or the top of the brick well at lot 499) with an approximated sea level elevation. This assumed elevation was taken from the cement survey marker at 496 Old Dock Road where a property plat stated that the lot was 13.00 feet above mean sea level (Richard Geronimo, personal communication 1993).

The excavations were conducted using gross natural stratigraphic zones. In the vicinity of structures, Zone 1 consisted of dense brick and mortar rubble, varying in depth from 0.7 to 1.3 feet. Below this are the remnants of the old living surface at the site, termed Zone 2, which varies from 0.3 to 0.4 foot in depth. The Zone 1 rubble decreases in depth quickly as one moves away from the structure and it is replaced by a brown humic sand, also termed Zone 1. Zone 1 extends to a depth of 0.6 to 1.1 feet. Away from the protective covering of building rubble, old living surfaces were not identified and the zone evidences localized disturbances (clearing or landscaping activities). In one unit a small prehistoric shell midden was encountered. This zone was termed Zone 1A. Subsoil consists of a pale brown loamy sand.

Archaeological Investigations

The banks of Salt House Creek were examined for evidence of erosion. While portions of the site may have been lost to erosion, there is no evidence of extensive loss or damage to the site. A cement retaining/erosion wall has been constructed along the confluence of the Kiawah River and Salt House Creek. Therefore, the bank in this area -- which would likely have yielded materials associated with the Salthouse Creek landing -- could not be examined. There is, however, a good possibility that underwater archaeological remains may be present in Salthouse Creek.

A total of seven units (five 5-foot squares and two 2-foot squares) were excavated at 38CH122 based on the location of artifactual remains found in shovel tests (Figure 91). These excavations were placed in three areas. The first was situated in the vicinity of the main house at 499 Old Dock Road. Here, the well associated with the main house has been reconstructed by the present owners and a small portion of the house foundation was exposed along the northern edge of the property near the river. Test units 2, 3, 6, and 7, totalling 58 square feet, were placed here (Figure 92).

Test unit 1 (25 square feet) was placed at 496 Old Dock Road (Figure 93) to examine a dense concentration of brick rubble thought possibly to be associated with the old landing shown on the 1802 plat.

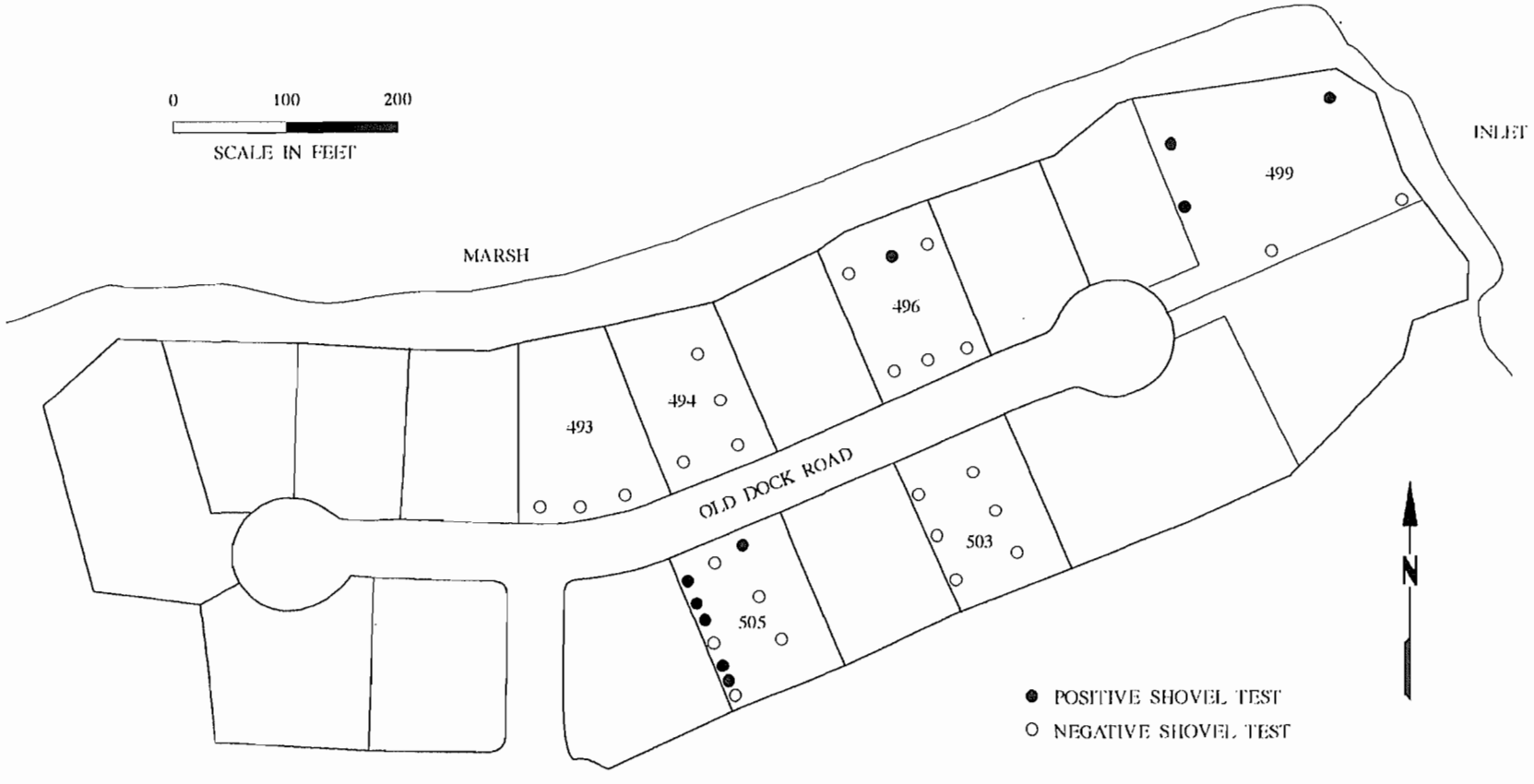


Figure 91. Location of shovel tests on Old Dock Road.

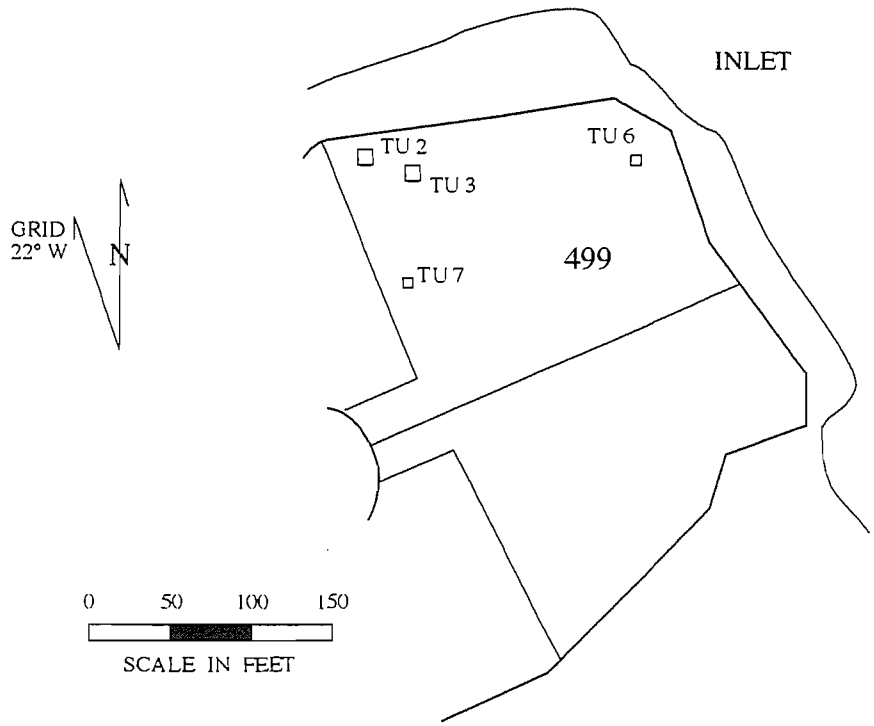


Figure 92. Location of test units at 499 Old Dock Road.

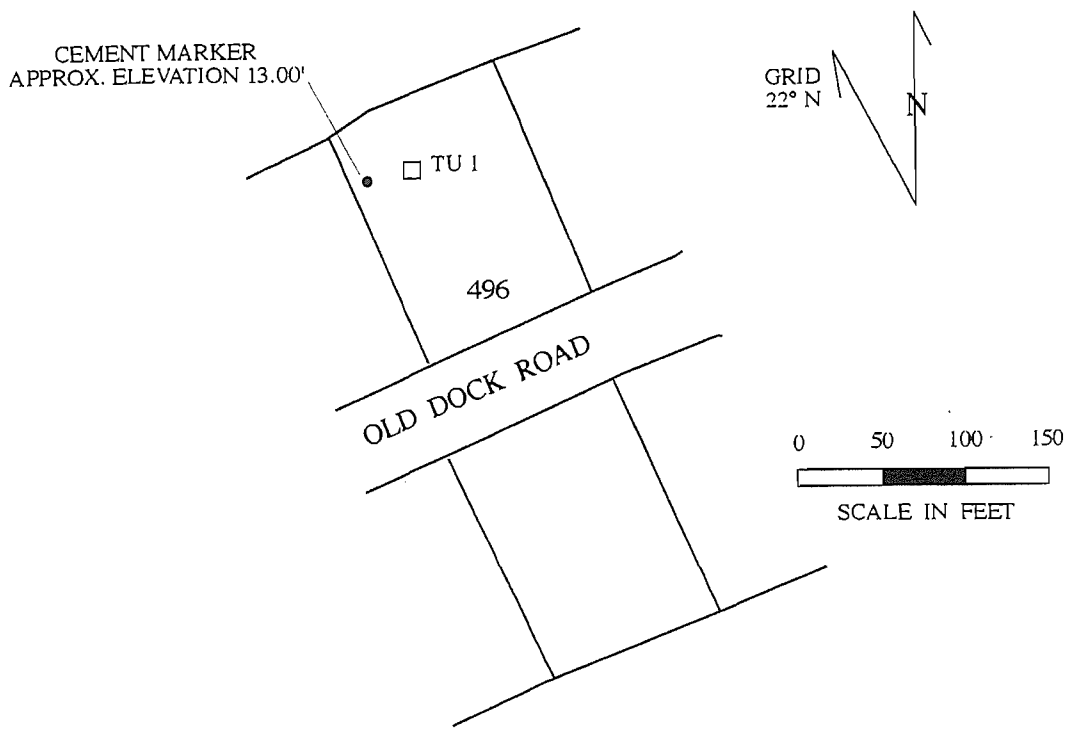


Figure 93. Location of Test Unit 1 at 496 Old Dock Road.

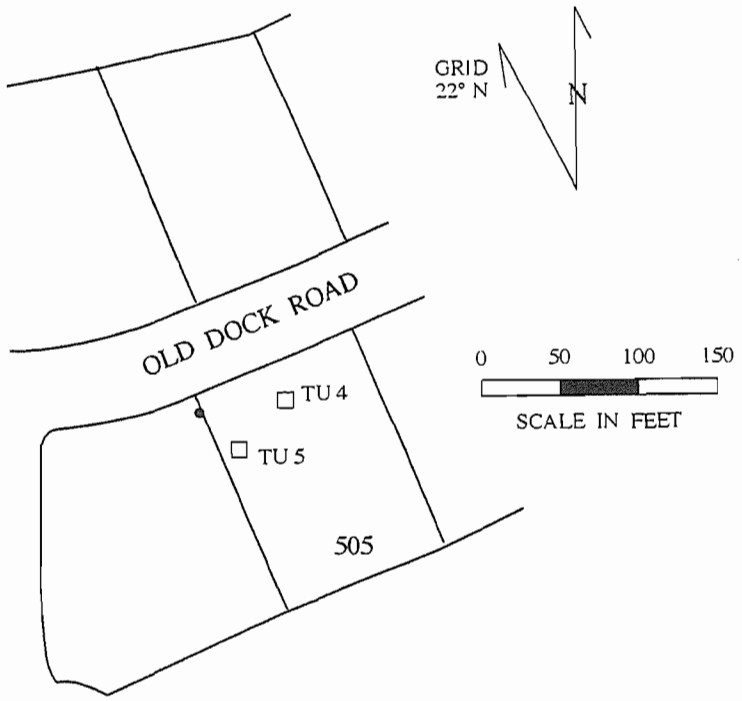


Figure 94. Location of units at 505 Old Dock Road.

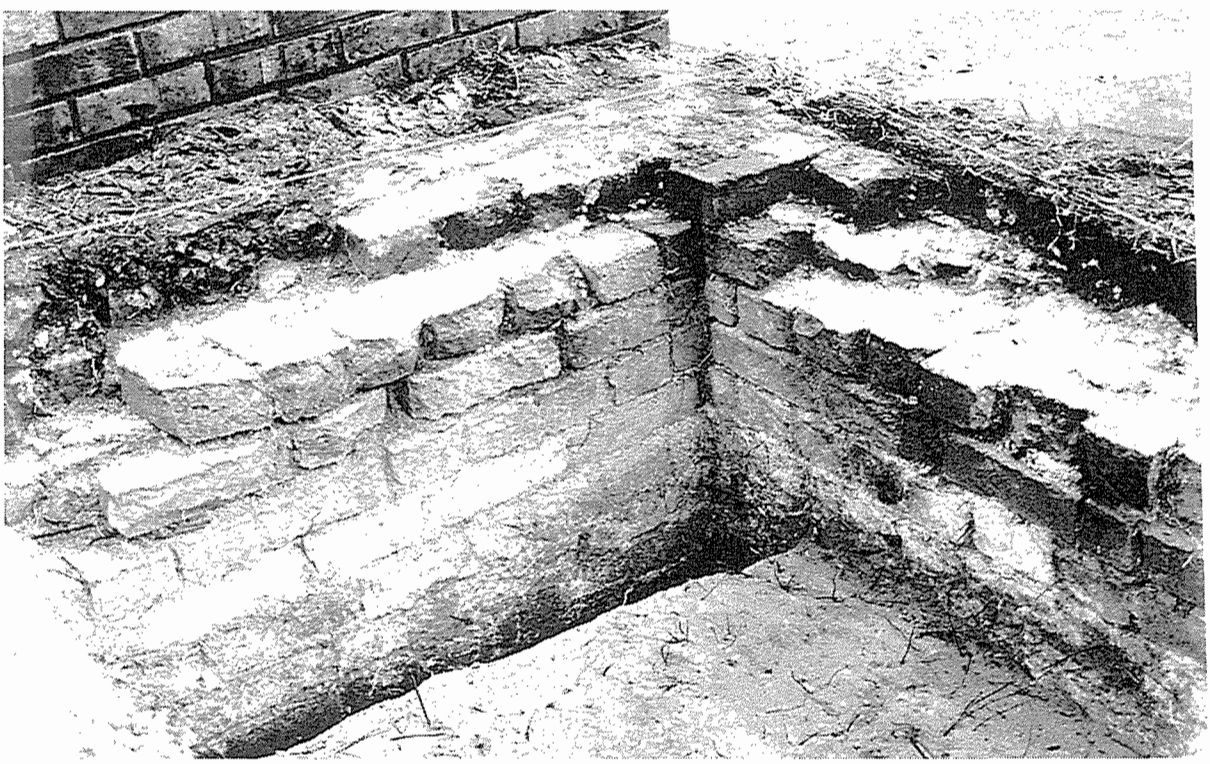


Figure 95. Test Unit 3, view to the north.

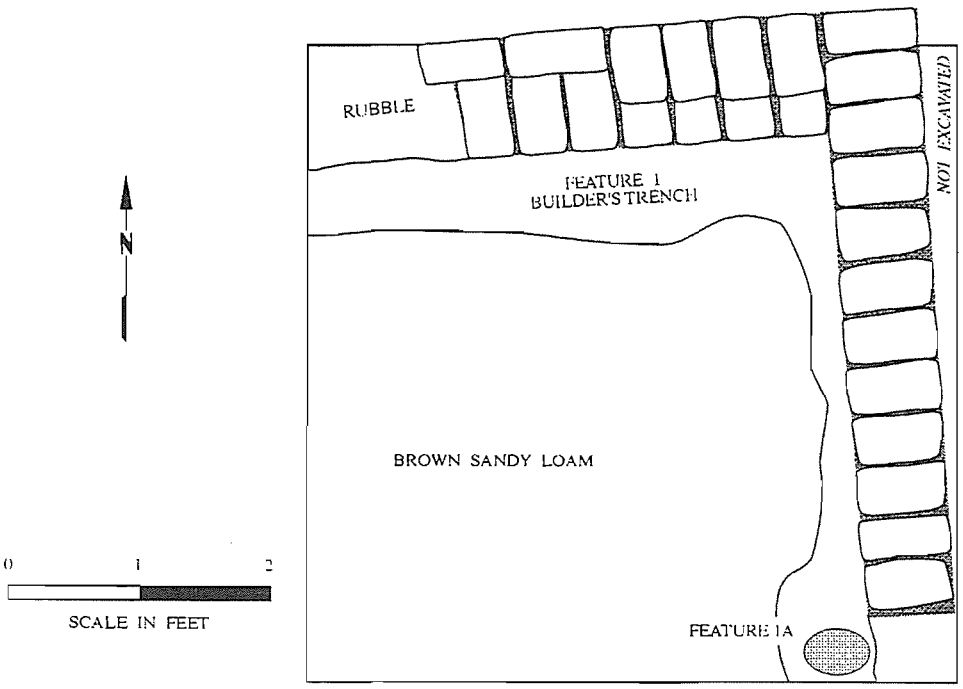


Figure 96. Plan view of Test Unit 3, base of zone 2.

The third area was situated in the slave row area at lot 505. Test units 4 and 5 (totalling 50 square feet) were placed here (Figure 94). The bulk of the excavations suggest that the site was occupied up through the first quarter of the twentieth century.

Excavations at the main house (499 Old Dock Road) exposed a northeast corner of a portion of the main house (in TU 3). It was in this area that the current owner noted remnants of a brick staircase during the construction of a cement patio in the north yard area. The brick was laid up in English bond (Figure 95). The north wall was 1.2 feet thick and the east wall was 0.75 feet thick. Zone 1 contained dense brick rubble and a number of burnt artifacts. Below the rubble (Zone 2) remains extended another 0.4 feet and no burning was noted. A builder's trench (Feature 1) was found along both walls and the northern portion of the trench was removed (Figure 96). Artifacts from this feature yielded a terminus post quem (TPQ -- the date after which the materials must have been deposited) of 1765. The wall extended four courses below the base of excavations and yielded several artifacts.

Feature 1A consists of a small dark stain within the builder's trench in the southeast corner of Test Unit 3. The stain measured 0.4 by 0.3 feet and extended to a depth of 0.25 below the base of Zone 2. This feature appears to be a low spot in the living surface since artifacts are later (specifically an undecorated whiteware ceramic was recovered) than those found in the builder's trench itself.

Test Unit 2 was located just northwest of the reconstructed well. No features were encountered although the unit contained earlier remains than in Test Unit 3.

Test Unit 6 was located in the northeast yard area near the confluence of Salt House Creek and the Kiawah River. Despite the discovery of a number of artifacts during shovel testing, few were found in this unit and they appear to relate to the current occupation. This area was also found to have been disturbed by earthmoving, likely during construction activities or subsequent landscaping. Areas near the water had been leveled off even with a cement retaining/erosion wall, and it is probable that the archaeological deposits were used as fill behind the wall.

Test Unit 7 was located in the west central yard area just east of a compost heap. This area has also been disturbed by landscaping. The top 1.0 feet contained large quantities of pebbles and modern garbage. Below this disturbed layer, artifacts continued for another 0.2 feet.

At 496 Old Dock Road one test unit (TU 1) was placed in he vicinity of a shovel test where very dense brick was encountered. Upon excavation, only a few modern artifacts were recovered. The bricks, which are identical to those found at the main house, had been cleaned and a large portion of them were still whole. It is likely that these bricks were meant for reuse, but were not needed and used instead as fill for a low area. Mr. Jim Irvin (owner of 499 Old Dock Road, where the main house was located) stated that the bricks in the fireplace face at 496 Old Dock Road were brought over from the main house ruins (Jim Irvin, personal communication 1993). It is likely that these bricks were intended to be included in the present structure.

Figure 97. Volunteers excavating the remains of Stanyarne Plantation.

During shovel testing of lot 505 a portion of the slave row was encountered. Based on the location of positive shovel tests, two units (TUs 4 and 5) were placed on this lot. No historic features were encountered, but a small thin prehistoric shell midden (0.2 feet thick) was found at the base of Zone 1. Remains from this area reflect a mid-nineteenth through early twentieth century occupation.

Interpretations

These excavations have examined a very small portion of Stanyarne Plantation, including areas attributed to the main house and the associated slave row. In addition one area of dense brick was encountered and investigated. It appears to be a modern phenomenon.

Artifacts from the main house reflect a mid-eighteenth century through early-twentieth century occupation. Excavation of a portion of the builder's trench indicates that the main house was built about 1765. The slave row, however, does not appear to have been built until the mid-nineteenth century, possibly shortly before the Civil War. It, too, was occupied up through the early-twentieth century.

Of course with the very limited scope of work, there are a number of questions that this research cannot address. For instance, what was the configuration of the main house and slave structures, and what are the precise dates of construction or renovation? Regardless, this work has been able to address some very basic questions such as who lived at the site, where were the main house and slave row located, and when were these sites occupied? It has also been able to document that significant portions of the site remains intact and available to more intensive archaeological study.

Analysis of Material Culture

The testing at 38CH122 have produced 751 historic period artifacts (Table 97), the bulk of which date from the late eighteenth through early twentieth centuries. All of these remains are attributable to those living at or immediately around the Stanyarne Plantation.

The investigations at 38CH122 examined three areas. The area of 496 Old Dock Road will not be discussed further since it appears that the materials there are modern (one clear glass fragment and two wire nails) and were probably distributed within the last 20 years. These remains will be discussed in this one section, in spite of their dispersed distribution. Following the descriptive statements, the topics of dating, patterns, and status are considered, as appropriate, on an area-by-area basis (such as the main house or slave settlement).

Descriptions and Interpretations

The 751 historic artifacts from the 38CH122 excavations will be discussed using South's (1977) artifact groups (e.g., kitchen, architecture, etc.) since such an approach allows the quantification and discussion of artifacts in a broad functional framework. One modification of South's original classificatory scheme, however, is worthy of mention for this particular study. Following the lead of Garrow (1982b:57-66), Colono ceramics will be discussed with (and tabulated in) the Kitchen Artifact Group.

Several of the historic artifacts from Stanyarne have required some form of conservation by Chicora prior to curation by the South Carolina Institute of Archaeology and Anthropology, and these treatments have been previously discussed in detail in **Chapter 3 - Research Strategy and Methods.**

The materials from the Stanyarne investigations have been accepted for curation by the South Carolina Institute of Archaeology and Anthropology and have been cataloged using that institution's accessioning practices. Specimens were packed in plastic bags and boxed. All material, and the associated field notes, have been delivered to the curatorial facility.

Kitchen Artifact Group

Excavations produced 421 Kitchen Group artifacts. These include 101 Euro-American ceramics (24.0% of the group total); 11 Colono ceramics (2.6% of the group total); 297 glass container fragments (70.5% of the total); six specimens of tableware (1.4% of the group total), and six kitchenware items (1.4% of the group total).

The ceramics include a variety of both eighteenth and nineteenth century wares. Those with mean ceramic dates (MCD) typical of the eighteenth century (South 1977:212) include 17 specimens of creamware, recognized by an off-white (cream colored) paste and a distinctive yellowish lead glaze which exhibits a greenish color where thickly puddled (Brown 1982:15-16; Norman-Wilcox 1965:139). Types identified include two specimens of hand painted creamware (MCD 1788, with a range of 1765 to 1810; South 1977:212), and 15 examples of undecorated creamware (MCD 1791; South 1977:212).

The nineteenth century specimens include 10 specimens of pearlware, 35 examples of whiteware, and five sherds of yellow ware. In addition, brown salt-glazed stonewares account for one specimen, and burnt stonewares account for 17 examples. A total of two fragments of white porcelain were also recovered, along with two burnt bisque porcelains. Red earthenwares, which have a very long temporal range (see, for example, Lasansky 1979:6), account for an additional three specimens and include clear and black lead glazed examples. A total of six burnt ceramics were recovered from the site and are not further classified.

Pearlware, characterized by a cream colored paste and a blue to white glaze, was perfected by Josiah Wedgewood in 1779 (Noel Hume 1970:128; Price 1979; South 1977:212). The most common type at Stanyarne is undecorated (N=5), which probably represents fragments of an edge decorated ware and has a mean ceramic date of 1805 (South 1977:212). Decorated pearlwares include one polychrome hand painted example (MCD 1805; South 1977:212), two blue hand painted specimens (MCD 1800; South 1977:212), and one specimen of blue transfer printed pearlware (MCD 1818; South 197:212).

The largest category of ceramics from 38CH122 consists of whitewares (N=35). The difficulty distinguishing between whiteware and ironstone has been discussed previously. In general, however, there are very few examples of ceramics which might be potentially classified as "ironstone" at Stanyarne.

Undecorated whiteware includes 24 specimens. Price notes that while undecorated whitewares "were probably introduced somewhat earlier [than decorated varieties], undecorated whiteware vessels were most common in the period following the Civil War" (Price 1979:22). Given other artifactual evidence from the site, it is probable that these examples are postbellum.

Rather than using the broad category of "whiteware" for dating all specimens, regardless of decoration, we have chosen to use the dates offered by Bartovics (1978) and Orser et al. (1982). Plain whiteware has a Mean Ceramic Date of 1895 (Bartovics 1978). Other specimens include one polychrome hand painted example (MCD 1848), four blue transfer printed (MCD 1848), one non-blue transfer printed example (MCD 1851), three annular wares (MCD 1866), one sponge decorated ware (MCD 1853), and one blue tinted glaze (MCD 1941). No legible maker's marks were found on any of the examples.

Yellow ware, distinct from the yellow-glazed earthenwares of the eighteenth

Table 97.
Summary of Artifacts from Stanyarne

Artifact	TU1	TU2	TU3 zone 1	TU3 zone 2	TU3 Fea 1a	TU3 Fea 1	TU4 zone 1	TU4 zone 1a	TU5	TU6	TU7	-499 Old Dock Rd- ST1	ST2	ST3	ST4	-505 Old Dock Rd- ST1	ST3	--ST1a-- ST1a	25E	50E	ST5a
Creamware,																					
Undecorated		10	1	2		1					1										
Poly hand pt.		1				1															
Pearlware,																					
Undecorated		3		1							1	1									
Poly hand pt.		1																			
Blue hand pt.				2																	
Blue transprt.				1																	
Whiteware,																					
Undecorated		1	1	9	1		7	1			2						1	1			
Annular			1	1							1										
Poly hand pt.				1																	
Sponged			1																		
Blue transprt.		1		3																	
Black transprt.							1														
Tinted				1																	
Yellow wares							4		1												
Porcelain,																					
Bisque				2																	
White											1			1							
Redwares		1	1	1								1									
Stonewares,																					
Brown salt glazed				1																	
Catawba wares		11																			
Burnt earthenwares		2	3						1												
Burnt stonewares			15	2																	
Burnt bisque porcelain			2																		
Bottle glass,																					
clear	1		115	20	1		12	1	15	1	1			1		1					
brown			41	2																	
amethyst		9	3	11			19													1	
lt. olive			1				5														
black		2		1		1	3				1	1	1								
aqua		2	1	3			9				1		1								
milk				1			8														
Tumbler fragments			3	2																	
Tablewares,																					
Unidentified forms				1																	
Stove parts			2	1																	
Kettle fragments									3												
Tin can fragments				2						1											
Window glass		7	5	7		2							1	1							
Nails																					
wrought		1																			
cut			33	32	1		32	1	15					1						2	
wire	2	4	9							2	2										
unidentified		9	56	34		5			18	3	5		1								1
Spikes		1																			
Furniture tacks				1																	
12 gauge shells				2					1		1										
Tobacco artifacts																					
4/64 pipestems		1																			
5/64 pipestems		1		2							1										
pipe bowls		1																			
Clothing artifacts																					
iron buckle									1												
Personal artifacts																					
locket			1																		
pocket knife									1												
Marble				1																	
Brass nail fragment		1					1														
Simplex washer							1														
Car wiper blade											1										
Threaded cap			1																		
Unidentified objects																					
iron			1	4			1				2				1				1		
brass							1														
Animal bone		✓	✓	✓			✓						✓								
Prehistoric sherds																					
Deptford		4																			
St. Catherine's		4																			
UID								3													
small sherds		20				7	12	5			1					1					
Prehistoric lithics		24																			

century, is a simple kitchen and table ware with a buff or yellow paste and a clear glaze (Ramsay 1947:7). It occurs both plain and with bands of white, blue, and black decoration. Five specimens were recovered from 38CH122 and the Mean Ceramic Date is 1890 (Bartovics 1978). The examples appear to be of American manufacture, although they are not marked. The only identifiable category of nineteenth century stoneware present at 38CH122 is salt-glazed (N=1). Other stonewares are present but they are burnt and cannot be classified.

The major types of pottery from 38CH122 are summarized by Table 98. Earthenwares are the most common, accounting for 76% of the total collection. This is slightly lower than found at 38CH127 (83.3%) and much higher than at 38CH129 (30.6%). However, the low percentages of earthenwares at 38CH129 is accounted for by the intensive Civil War occupation when a large number of stoneware bottles was deposited. When these are removed from the total, earthenwares account for 73.2% -- nearly identical to the distribution found at the Stanyarne Plantation.

Each of the two areas (main house and slave row) have sufficient quantities of ceramics to warrant application of South's Mean Ceramic Date Formula (South 1977:217-218). The dates range from about 1839 to 1891 (Table 99).

Little is known about the origin and eventual disposition of the Stanyarne main house, or even concerning the associated plantation activities. Historic documents reveal that the house was built at least by 1772 when Stanyarne willed the property to his grand daughter, Mary Gibbes. Likewise, it is known that in the 1790s the Shoolbreds had created the "new" settlement on Rhett's Bluff, abandoning the Stanyarne Plantation, perhaps to the use of slaves and overseers. The archaeological evidence reveals that the main house had to have been built after 1765 -- although it is impossible to know how long after. Since Stanyarne had consolidated his ownership of Kiawah by 1737, nearly 30 years earlier, it seems likely that the development of the plantation was not long after the 1765 TPQ date.

Consequently, the main house, and probably the entire plantation complex, was developed around 1765 and was occupied perhaps as late as 1800 -- a period of about 35 years (with a mean historic date of about 1782). With the division of Shoolbred's property in 1847 the Stanyarne settlement again saw more intense activity, being passed to the Burrills and then sold to William Seabrook in 1854. Although not likely the home of a planter after Shoolbred, the settlement

Table 98.
Major Types of Pottery at 38CH122

Creamware	17	
Pearlware	9	
Whiteware	35	
Yellow ware	5	
Red ware	4	
Burnt earthenwares	6	
Total Earthenwares	76	76%
Salt-glazed	1	
Burnt stonewares	17	
Total Stonewares	18	18%
White	2	
Burnt porcelains	4	
Total Porcelains	6	6%

probably saw activity by overseers. Taking 1765 and 1860 as the beginning and ending dates, a mean historic date for the settlement is 1812. Recognizing postbellum activity to perhaps as late as 1910 yields a mean historic date of 1837. This date closely approximates the earlier mean ceramic dates obtained from the site. The later mean dates, into the last decade of the nineteenth century, suggest that portions of the site were used only late in its history, perhaps by freedmen.

Table 99.
Mean Ceramic Date for Stanyarne Main House and Slave Row

Ceramics	Mean Date (xi)	Main House (fi)	Main House fi x xi	Slave Row (fi)	Slave Row fi x xi
White porcelain	1883	2	3766		
Creamware, undecorated	1791	15	26865		
overglz. hand paint	1788	2	3576		
Pearlware, undecorated	1805	5	9025		
poly hand paint	1805	1	1805		
blue hand paint	1800	2	3600		
blue trans print	1818	1	1818		
Whiteware, undecorated	1895	14	26530	10	18950
poly hand paint	1848	1	1848		
blue trans print	1848	4	7392		
non blue trans print	1851			1	1851
annular	1866	3	5598		
sponge	1853	1	1853		
tinted glaze	1941	1	1941		
Yellow ware	1890			5	9450
Total		52	95617	16	30251
MCD:		95617 ÷ 52 = 1838.8		30251 ÷ 16 = 1890.7	

The Stanyarne Plantation was probably used as the headquarters of Kiawah operations by later landowners such as Seabrook and Gibbes. It was probably not until 1879 when the Vanderhorst family purchased this property that most of the plantation operations were organized at the Vanderhorst settlement.

Careful analysis of the probability of ceramic distribution at the main house suggests that the most intensive use of the house was between 1780 and 1830 (Figure 98). This was shortly after Stanyarne's death, during the Gibbes ownership of the plantation. Gibbes grand daughter, Mary Middleton, married James Shoolbred and by the 1790s had moved their home to a different part of the island. James Shoolbred died in 1849 which may have ended the most intensive use of the main house. Figure 98 shows the probability of ceramic distribution at the slave row. Although test units produced few ceramics, those present suggest that the slave row was constructed sometime after 1820 and was probably occupied up to about 1940.

The sherds of Colono pottery bear special, if only brief, attention. The most cogent published discussion of these wares is provided by Wheaton et al. (1983:225-250), who suggest that the low-fired earthenwares were produced by black slaves for their own use. Pottery called River Burnished or Catawba is similar and was produced by Indians for sale or trade (see also Ferguson 1985).

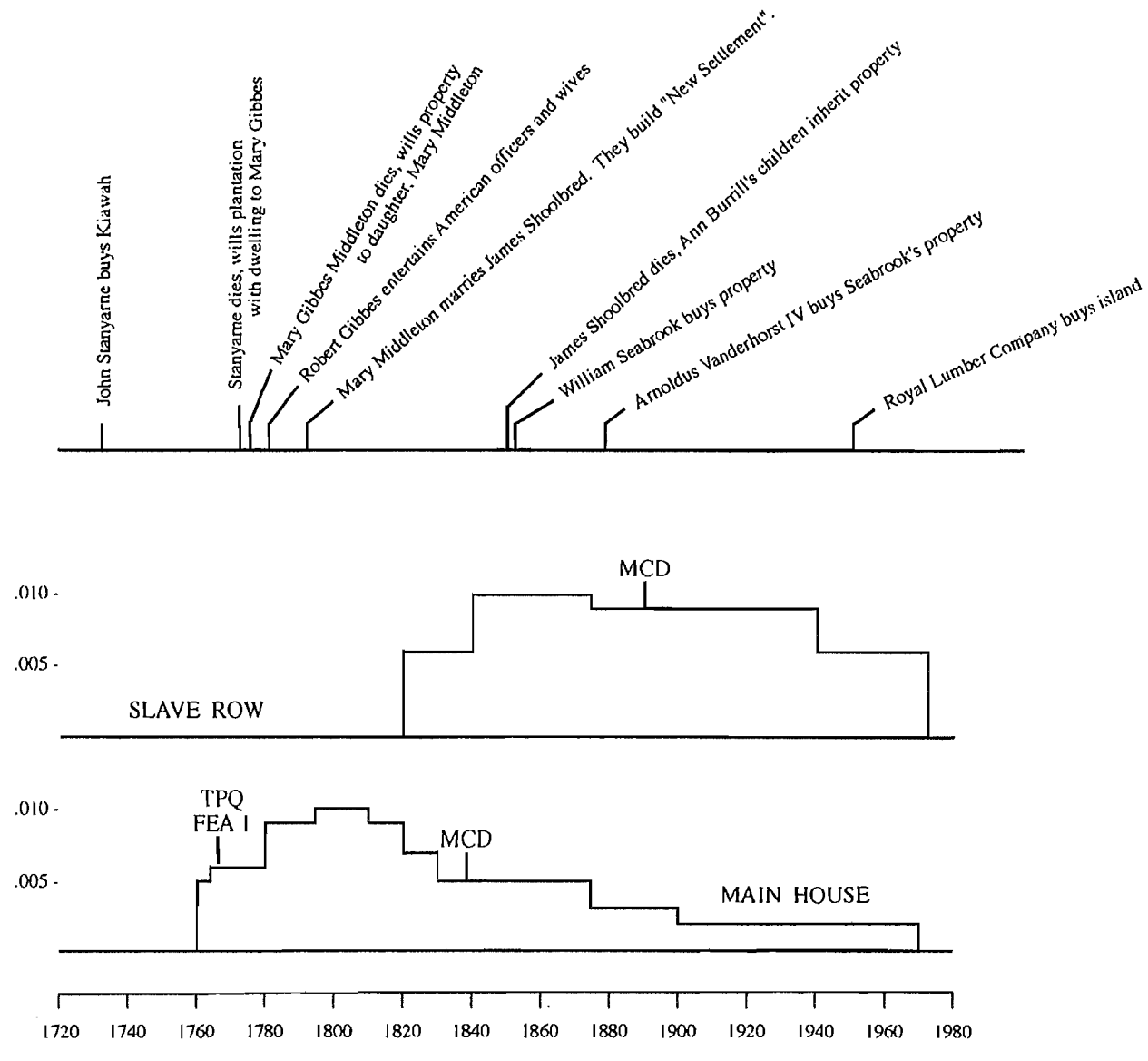


Figure 98. Probability of ceramic distribution at the a) Stanyarne main house and b) slave row.

While there are a number of attributes separating the two wares, thickness and paste are of primary utility given the small specimens from 38CH122. The Colono sherds tend to be thicker and have a coarser paste than the Catawba or River Burnished pottery, which is very similar to the paste of modern or dated Catawba vessels.

Wheaton et al. (1983:225, 239) note that Colono pottery appears late in the seventeenth century, peaks in popularity (or at least abundance) during the eighteenth century, and appears to die out by about 1830. Research at the freedmen's village of Mitchelville on Hilton Head Island, however, found evidence of Colono pottery occurring into the third quarter of the nineteenth century (Trinkley and Hacker 1986: 232). At 38CH122 only 11 sherds of low-fired earthenware were recovered, and all are typed as Catawba. These examples were all 5 to 6 mm thick with one example being 8 mm thick.

The next collection to be considered in the Kitchen Artifact Group is the container glass. Of the 288 bottle fragments, 168 (58.3%) are clear (31 are melted), 43 (14.9%) are amethyst, 43 (14.9%) are brown, 17 (5.9%) are aqua, 10 (3.5%) are black (appearing black in reflected light), six (2.1%) are light olive green, and one (0.3%) is milk colored.

The "black" glass fragments are typical of wine or ale bottles. Bottle fragments with thicker walls, gentle lines, and kick ups are attributed to champagne, wine, or brandies, while those with thinner walls, pronounced shoulders, and flat bases are characteristic of stout or ale. Fragments were too few and small to determine vessel function or minimum vessel count.

Five examples of clear, amethyst or aqua panel bottles were recovered. These bottles probably contained proprietary or "patent" medicines. One of these panel bottles was embossed. While the full label is not present, it is believed to be "HITE'S PAIN REMEDY". The advertisement states that it "can be used for Pains, Summer Complaint, Head & Toothache, Cramps, Coughs, Colds, Bronchitis, Sore Throat, Neuralgia, and Similar Ailments. Also for Cuts, Burns, and Sprains on Man and Animal; Colic in People, Horses and Cattle, Gape's and Cholera in Fowls. Prepared by S.P. HITE CO., Inc., ROANOKE, Va." (Fike 1987:208). Hite's Pain Remedy was advertised in 1929-30 and 1935.

Other clear, amethyst, or aqua bottles consist of two S.C. Dispensary bottles, one Vaseline jar, and one unlabeled screw top condiment jar. The S.C. Dispensary operated between 1893 and 1907. One bottle contained the dispensary monogram while the other contained the embossed palmetto tree (see Huggins 1977). The Vaseline jar is labeled "CHESEBROUGH MFG. CO. / VASELINE". In 1880, Chesebrough Mfg. Co. Consolidated was founded. Chesebrough died in 1933 and the company merged with Pond's Extract Company (Fike 1987:56). The base of the screw top condiment jar has an embossed "LGW". This jar was manufactured by the Laurens Glass Works in Laurens, S.C. The plant began operation in 1911. Inexperience and lack of capital forced it to close briefly, but it reopened in 1913 and was still in operation in 1970 (Toulouse 1977).

Only one other vessel was recovered in these investigations. It was a large flask shaped brown bottle with a screw top produced by Anchor Hocking. Embossed on one of the panels was "____ HAS HAD NO PEERS / ___ 50 YEARS". The Anchor Hocking symbol embossed on the base is an anchor and an H. This symbol has been used since 1938 (Toulouse 1977).

All but one of these vessels was found at the main house. One of the S.C. Dispensary bottle was recovered from the slave row. Table 100 presents glass dating information for each structure and provides a mean glassware date. These mean glassware dates clearly indicate use of the site in the twentieth century.

The drinking containers from 38CH122 consist of four tumbler fragments recovered representing a minimum count of two tumblers. These vessels include one

plain tumbler and one panel tumbler. In addition, two glassware fragments of an unidentifiable form were recovered. All tablewares were found in the main house area.

Kitchenwares include two stove parts, one stove or fireplace clean-out cover, and three kettle fragments. Stoves date from the late eighteenth century and were well developed by the 1840s (Eveleigh 1983). The kettle fragments were recovered in the slave row.

Table 100.
Datable Glassware from 38CH122

Item	Main House	Slave Row
Anchor Hocking (Toulouse 1977; 1939-present; mean date 1966)	1966	
Hite's Pain Remedy (Fike 1987; 1925-1930; mean date 1927)	1927	
Laurens Glass Works (Toulouse 1977; 1911-1970; mean date 1940)	1940	
SC Dispensary (Huggins 1977; 1893-1907; mean date 1900)	1900	1900
Vaseline, Chesebrough Mfg. Co. (Fike 1987; 1880-1933; mean date 1906)	1906	
MEAN DATE	1928	1900

Architectural Artifact Group

Excavations at 38CH129 produced 294 Architectural Group artifacts. These remains include primarily nails (N=268 or 91.1% of the group total). Other remains include 24 fragments of glass and two spike fragments. Not included in the totals, but briefly discussed in this section, are examples of slate and brick.

Three types of nails have been recovered from 38CH122 -- hand wrought (N=1 or 0.4% of the recovered nails), machine cut (N=123 or 45.9% of the recovered nails), and wire nails (N=12 or 4.5%). The remainder were unidentifiable. The hand wrought specimen, which was 8d in size, may date from the seventeenth century through nineteenth century, with the peak popularity during the eighteenth century (Nelson 1968).

"Modern" machine cut nails account for the majority of the collection, although only 27 (21.9%) are sufficiently intact to allow penny weight measures. They range from 4d to 12d in size. These nails were first manufactured in the late 1830s and have uniform heads and shanks with burrs on the edges (Nelson 1968:7; Priess 1971:33-34). In addition, 21 wire nails were recovered and range from 6d to 20d in size. These nails were first widely used by the 1880s (Nelson 1968). These specimens may indicate the structures' use through the late nineteenth century. In addition, some of these nails may have been deposited when the house at 499 Old Dock Road was built.

Because different size nails served different self-limiting functions, it is possible to use the relative frequencies of nail sizes to indicate building construction details. Table 101 lists both the penny weight size and the Standard Average European (SAE) size for the nails which were sufficiently complete for analysis. The table, however, provides only limited information, revealing peaks at 7d and 10d. Too few intact nails were recovered from the slave row to perform further analysis. Table 102 shows how these nails may have been used at the main

Table 101.
Intact Nails from the Main House and Slave Row
at Stanyarne Plantation

		Main House			Slave Row		
Penny Weight	SAE	Wrought	Cut	Wire	Wrought	Cut	Wire
4d	1 1/2"		2				
6d	2"			2			
7d	2 1/4"		12	1			
8d	2 1/2"	1	1	4			
10d	3"		8	3		1	
12d	3 1/4"		2	3		1	
16d	3 1/2"			5			
20d	4"			1			

Table 102.
Probable Function of Intact Nails for
the Main House at Stanyarne Plantation

	Main House	
Function	#	%
Small timber, shingles (2-5d)	2	4.5%
Sheathing, siding (6-8d)	21	46.7%
Framing (9-12d)	16	35.5%
Heavy framing (16-50d)	6	13.3%

house.

It is interesting that only one intact wrought nail was recovered from the main house given that the Stanyarne Plantation is the earliest main house on the island. This is likely the result of both mid-eighteenth century peg construction techniques and the long period of site use with numerous periods of refurbishing.

The category of window glass includes 24 fragments of primarily light green rolled glass. These specimens were classified as window lights based on thickness, degree of clarity, color, and lack of curvature. All of these specimens were recovered at the main house.

The two spikes recovered from the site are fragments found at the main house.

In addition to these metal architectural items, several other artifacts were collected consisting of brick and slate. While not all of these artifacts found at the site were not saved, they were weighed and samples of the various types of items were collected. The work at the main house resulted in the movement of nearly 444 pounds of brick and mortar rubble and at lot 496, 207 pounds of brick were moved.

Structural or fired brick measured 7½ x 4¼ x 2¾ and 7½ x 4¼ x 2½ inches. All of the roofing slate collected from the site is a uniform dark gray in color, identical on a macroscopic level to the slate identified from the Shoolbred plantation and the early materials found at the Vanderhorst settlement. As previously discussed, this may be from either North Wales, or perhaps more likely, Virginia. Regardless, it was apparently a widely used material throughout the eighteenth century.

Furniture Artifact Group

Only one furniture artifact was recovered at the site. This item was a brass upholstery tack found at the main house.

Arms Artifact Group

This group includes four specimens of 12-gauge shotgun shells. The shotgun shells post-date 1870 and are probably related to the island's use for hunting groups. All but one were recovered from the main house.

Clothing Artifact Group

Only one clothing artifact was recovered from the site. This item is a fragment of a suspender buckle which was found at the slave row.

Personal Artifact Group

The Personal Artifact Group consists of two specimens -- a brass locket cover found at the main house and a brass pocket knife bolster found at the slave row. The locket cover is circular with the profile of a woman's face. She is wearing a tiara and pearls, and there is a laurel of plants and flowers bordering the edge.

Tobacco Artifact Group

The tobacco category includes six items, including one pipe bowl and five pipe stems. All are manufactured from kaolin clay with one of the stems having a 4/64-inch bore and five a 5/64-inch bore. None of these are decorated or marked. All tobacco related items were recovered from the main house. The lack of tobacco items at the slave row may be related to sampling strategy or to the fact that the site was not intensively occupied until the mid and late nineteenth century. Bac-o-lite, as a material for pipes became popular in the mid-nineteenth century and cigarettes were probably the most common way in which tobacco was smoked in the early twentieth century. By the 1880s crude cigarette rolling machines were able to do the work of 50 hand rollers, increasing production substantially by the twentieth century.

Activities Artifact Group

The activities artifact group contains 21 items. These include one toy, one tool, seven miscellaneous hardware, and 12 other items. The toy consists of a plain white marble made from marble. The tool is a car windshield wiper blade. Miscellaneous hardware from the main house consists of one threaded cap and one brass nail fragment. From the slave row miscellaneous hardware consists of one brass nail shaft and one simplex washer. Other artifacts from the main house consist of one UID iron object, four heavily corroded iron objects, and four flat metal fragments. From the slave row one UID iron object and one UID flat brass object was found.

Prehistoric Artifacts from 38CH122

A number of prehistoric artifacts were recovered from excavations at 38CH122. These include four Deptford Cord Marked sherds, two St. Catherines Plain sherds, one St. Catherines Check Stamped, one St. Catherines Cord Marked, one unidentified plain sherd, two unidentified simple stamped sherds, 45 small prehistoric sherds, and 24 siltstone tertiary flakes.

In addition to these artifacts, a small prehistoric midden was encountered in Test Unit 5. The presence of this intact midden indicates that this area was not badly disturbed during initial clear cutting.

A small amount of animal bone was also recovered from several units including specimens of turtle and small mammal. Most, if not all, probably relate to this prehistoric component since this historic contexts investigated are not known for producing faunal remains.

Dating Synthesis

The historical research for Stanyarne Plantation document that the "Old Settlement" at 38CH122 was built at least by 1772 when Mary Gibbes inherited it. Based on artifacts recovered from the builder's trench, the house had to have been constructed after 1765. Ceramic probability distributions suggest that the main house was intensively used up to about the 1830s, while the slave row was probably constructed in the 1820s and was occupied up through Kiawah's tenant period.

The ceramic dates have been previously considered in Table 99, with the site yielding mid to late nineteenth century dates. The main house yielded a mean ceramic date of 1839 (which closely approximately the mean historic date of the site). Of the 52 datable ceramics, 32.7% date from the eighteenth century, 17.3% date from the early nineteenth century, and 50% date from the mid nineteenth through early twentieth century. Although glasswares are not temporally sensitive until the mid to late nineteenth century, they indicate that the site area was still being occupied (or at least receiving trash) in the first half of the twentieth century. The vast majority of nails from the main house are cut which is at odds with the belief that the house was built in the 1760s. However, the house may have been renovated or excavations may have been located adjacent to a later addition.

The slave row yielded a mean ceramic date of 1891 and the one datable glassware item (a S.C. Dispensary bottle fragment) dates to 1900. The strong presence of whitewares and yellowares with the small collection suggest a postbellum and tenant occupation. Given the presence of only three ceramic types, this area could not have been occupied until at least 1820. This is a plausible date given that no settlement existed in 1802 (Figure 7) and a relatively large one was found there in 1863 (Figure 10). If the site was occupied from 1820 to 1940, the mean date of occupation would be 1880 which is close to the mean ceramic date of 1891.

Pattern Analysis

Table 103 presents the artifact patterns (South 1977) for the main house and slave row at 38CH122. A comparison of Tables 103 and 72 reveals that the main house does not conform to the Revised Carolina Artifact Pattern (Garrow 1982a) nor is it similar to the patterns produced by the Shoolbred or the Vanderhorst main house. The reason for these difference may be the result of a small sample size and the concentration of the collection from only the northwestern portion of the lot. In addition, the small amount of architectural materials is possibly the result of the units being placed adjacent to what may be the entrance to the main house, rather than in the structure's core.

The slave row produced a pattern similar to the main house. Once again, this pattern may have been caused by the small sample size and the location of units. The closest archaeological parallels to this site are structures 3, 4a, and 4b at the Vanderhorst site (38CH127). Both Structures 4a and 4b produced much higher percentages of kitchen related items. Structure 3, while producing a pattern similar to the Stanyarne slave row, is believed to have been influenced by Structure 1, the main house kitchen.

Both the main house and the slave row fall within the Piedmont Tenant/Yeoman Artifact Pattern (Drucker et al. 1984:5-47). While tenant/yeoman pattern cannot fit the function of the main house, the slave row might be expected to fall within this range. However, this pattern tends to fit sites

where middle class white rural farmers lived rather than tenant farmers (e.g., Joseph et al. 1991). Trinkley and Cabellero (1983) have published a tenant pattern which has been proven to apply well to black tenant farming sites (e.g., Trinkley and Adams 1992). This pattern contains a very high percentage of kitchen related items; even higher than found in the Carolina Slave Pattern (Wheaton et al. 1983). While the slave row is closest in function to the Carolina Slave Pattern and the Tenant Pattern, it does not come close to approaching either.

Status and Lifestyle Observations

Although there were not enough recognizable vessel forms from the main house and slave row to apply Miller's (1980, 1991) technique for the economic value of an assemblage, some rough conclusions can be made based on percentages of decorative types. Otto (1984:64-67) found that at Cannon's Point the slaves tended to use considerably more banded, edged, and hand painted wares than the plantation owner, who tended to use transfer printed wares. The overseer appears to have been intermediate on this scale, although the proportions of decorative motifs were generally more similar to the slaves than the owner. Part of the explanation, of course, involves the less expensive cost of annular, edged, and undecorated wares compared to the transfer printed wares. And while transfer printed specimens were present in the slave assemblage at Cannon's Point, they represented a variety of patterns and Otto (1984:66) suggests that either the planter purchased mixed lots of ceramics for slave use, or the slaves themselves occasionally made such purchases. An additional, often advanced, explanation, involves the use by slaves of discarded ceramics from the main house. While it is known that the Stanyarne house was occupied by a planter, proportions of decorative types can reveal something about the owner's economic means. Unfortunately, the ceramic collection from the slave row was not large enough to produce reliable conclusions.

Table 104 reveals that while the majority of sherds are undecorated, the decorated pieces are hand painted or transfer printed which reflects a high status occupation similar to that at Vanderhorst main house and kitchens. However, the ceramics at the Shoolbred main house reflected more transfer printed wares. That information in conjunction with the architectural evidence indicates the Shoolbred house may have been much more of a showplace than the other main houses.

Summary

Although the archaeological testing has provided information which the historical record does not, there are many unanswered questions about Stanyarne Plantation. Stanyarne acquired the first portion of Kiawah in 1734, consolidating the island in 1737. Clearly the plantation main house existed in 1772 when Mary Gibbes was willed Stanyarne's Kiawah plantation on which stood a "dwelling house". This archaeological research reveals that the main house was built no earlier than 1765. Consequently, while the plantation was operating in the early eighteenth century, no high status dwelling was build until the third quarter of the eighteenth century. What types of buildings existed before this time and how intense was the occupation is unknown. It is likely that only slaves and perhaps an overseer lived in this area.

The 1802 plat (Figure 7) shows only the main house and landing on the west side of Salt House Creek. To the east of the creek were at least three slave cabins and an outbuilding. This portion of the plantation is known as the West Pasture Site (38CH123) and according to this historical research, slaves during the eighteenth and early nineteenth centuries lived there. This was clearly documented by the archaeological research. Based on archaeological evidence, another slave settlement and a series of outbuildings were constructed west of Salt House Creek after about 1820. The expanding Stanyarne Plantation is showing on the 1863 plat (Figure 10).

Table 103.
Artifact Patterns for 38CH122, Main house and Slave Row

Group	Main House #	Main House %	Slave Row #	Slave Row %
Kitchen				
Ceramics	82		17	
Catawba wares	11			
Glass	204		84	
Tableware	6			
Kitchenware	3		3	
Group total	306	54.8%	104	57.4%
Architecture				
Window glass	24			
Wire nails	12			
Cut nails	30		2	
Cut nail frags	43		48	
Hand wrought nails	1			
UID nail frags	113		19	
Spikes	2			
Group total	225	40.3%	69	38.1%
Furniture				
Furniture Hardware	1			
Group total	1	0.2%	0	0
Arms				
12 gauge shells	3		1	
Group total	3	0.5%	1	0.5%
Tobacco				
4/64 pipestems	1			
5/64 pipestems	4			
Pipe bowls	1			
Group total	6	1.1%	0	0.0%
Clothing				
Buckles			1	
Group total	0	0.0%	1	0.5%
Personal				
Locket	1			
Pocket knife			1	
Group total	1	0.2%	1	0.5%
Activities				
Toys	1			
Tools	1			
Misc. Hardware	5		2	
Other	9		3	
Group total	16	2.9%	5	2.8%

Table 104.
Decoration of Ceramic Vessels from Stanyarne Plantation

	Main House		Slave Row	
Type	#	%	#	%
Undecorated	34	70.8%	10	90.9%
Annular	3	6.2%		
Hand painted	6	12.5%		
Transfer printed	5	10.5%	1	9.1%

The Vanderhorst family consolidated the plantation in 1879, buying up the old Stanyarne Plantation. Although the family papers are extensive, no mention is made of this settlement, suggesting its relative unimportance in the operation of the Vanderhorst Plantation. Slaves, and after them freedmen, apparently lived at the Stanyarne settlement until about 1940. Given the size of Kiawah Island, slaves or tenants may have remained here as a matter of convenience.

In addition to helping us better understand the history of Kiawah Island, the excavations at the Stanyarne Plantation have also demonstrated that at least portions of this particular settlement survive -- in spite of development -- and offer the potential for more intensive archaeological investigations. In particular, excavation of the main house would be useful to understand the early architecture of Kiawah -- was Stanyarne's house simple, perhaps like Vanderhorst's and perhaps representative of the early architectural traditions of the isolated sea island plantations? Did the lifestyle, as represented by the associated artifacts, echo that simplicity during the early period of Kiawah's settlement? Might this simplicity account for the creation of the "new settlement" and the elaborate architecture of Shoolbred as the way plantation owners viewed themselves changed in the early nineteenth century? Were features of the old plantation, such as architectural hardware, incorporated into the new settlement?

While these, and other, questions remain unanswered at least for the present, this study reveals that they can be addressed with a reasonable assurance that the data necessary to arrive at reasonable conclusions is still present. The most important lesson may be that while archaeological sites can certainly be easily damaged, they also have considerable resiliency and should not be disregarded simply because they are in the middle of a residential neighborhood. Often these sites, although damaged, hold the only clues we have to important research questions and deserve more than a casual dismissal.365

CHAPTER 18.
SUMMARY OF LIFE ON KIAWAH

Natalie Adams and Michael Trinkley

Prehistoric Archaeology

The investigations on Kiawah Island include the survey of 19 prehistoric sites and the data recovery of two Thom's Creek phase prehistoric sites. As a result of these investigations it is possible to develop a somewhat clearer understanding of the settlement, subsistence, and material culture which characterizes the Woodland period in this portion of Charleston County. As with many archaeological studies, what is documented most conclusively is how little we know or understand about these early Native American groups in the South Carolina Low Country. However, this study, and others like it, begin to open new avenues of research to explore the diversity of coastal groups.

Artifactual Remains

Pottery is the most common artifact recovered from the investigated sites, with materials identified spanning the Early Woodland through South Appalachian Mississippian periods. The bulk of the collections, however, relate specifically to the Thom's Creek phase with the remaining sherds relating to the Deptford, Wilmington, and Irene phases as defined for the southern South Carolina coastal area.

The Thom's Creek pottery collections from 38CH124 and 38CH125/126 were strikingly different. Trinkley (1980a:22) has suggested a "seriation" for Thom's Creek pottery in which surface decoration appears to be a temporal indicator. Based on data gathered from several sites, he believes that Thom's Creek Plain is the oldest pottery acknowledging that it will be found on all sites as portions of otherwise decorated vessels. Thom's Creek Plain is followed by Reed Punctate, Shell Punctate, and Finger Pinched, with the Thom's Creek phase terminating with Finger Smoothed pottery. Sassaman, dealing with the earlier Stallings fiber tempered ware suggests that various stylistic "clusters" represent sociocultural entities, associating the various decorative motifs with both temporal periods and distributions along the coast and Savannah River (Sassaman 1991:210-234).

At 38CH124, Thom's Creek Plain dominated the assemblage followed by Finger Pinched, Reed Punctate, Drag and Jab, Finger Smoothed, Shell Punctate, and Simple Stamped. This is in sharp contrast to 38CH125/126 where Reed Punctate dominated, followed by Plain, Drag and Jab, Shell Punctate, Finger Smoothed, and Simple Stamped. No specimens of Finger Pinched were found at 38CH125/126, whereas at 38CH124 they represented the second most common type. This may suggest that 38CH125/126 is earlier than 38CH124. A radiocarbon date from Zone 1a level 4 (base of a Thom's Creek shell midden) at 38CH124 was 2090 B.C. This date falls at the early end of radiocarbon dates for Thom's Creek sites (see Trinkley 1980a) and during Sassaman's Phase I for Stallings wares (Sassaman 1991:215). In this level plain pottery dominated, followed by Finger Pinched, Reed Punctate, and Finger Smoothed. No material suitable for radiocarbon dating was obtained from 38CH125/126. Based on radiocarbon dates reported by Trinkley (1980a), the Spanish Mount site (38CH62) yielded the closest radiocarbon dates (2220 B.C. and 1870 B.C.) to the one obtained at 38CH124. The sample was taken from 160-180 cms below the surface with the majority of sherds being Reed Punctate, followed by Plain, Drag and Jab, and Shell Punctate in that level. Only five out of 3693 sherds were Finger Pinched. While supporting Trinkley's seriation, it is in sharp contrast to the pottery at 38CH124.

One explanation for the diversity which is just now beginning to be evidenced as more Thom's Creek sites are examined, is that the styles are not entirely temporally dependent, but like the Stallings ware, also provide evidence of sociocultural entities. Clearly, more work is needed on Thom's Creek phase sites to refine our present understanding of the various motifs.

Pottery, however, was not the only difference between 38CH124 and 38CH125/126. At Locus 1 of 38CH124 structural features, relatively dense shell middens and a diverse artifact assemblage were found. The assemblage included not only pottery but also projectile points, lithic debitage, bone awls and needles, atlatl weights, fired clay objects, hones, shell tools, and antler. In addition, well preserved faunal and ethnobotanical remains, as well as coprolites, were recovered.

In contrast, 38CH125/126 did not yield evidence of structural features, middens associated with the Thom's Creek period occupation, or a diverse artifact assemblage. The artifacts recovered consisted only of pottery, projectile points and lithic debitage, and two hones. This assemblage is essentially identical to that associated with Locus 3 of 38CH124.

Due to the absence of midden, if other more delicate artifacts such as bone and shell existed they have deteriorated leaving behind little evidence of their manufacture. It is possible that 38CH125/126 and Locus 3 of 38CH124 reflect sites at which subsistence activities other than shellfish, such as fishing and gathering of hickory nuts, took place. In contrast, Locus 1 of 38CH124 reflects a site occupied for longer periods of time, or occupied more often, or both. The stratigraphy of the Thom's Creek midden at 38CH124 is suggestive of multiple episodes of occupation, while the occurrence of lenses of soil is suggestive of periods of site abandonment.

Nineteen prehistoric sites were located or revisited during the archaeological survey of the undeveloped portion of Kiawah Island. Fourteen of these sites produced diagnostic specimens. Of these 14 sites, 15 different components are recognized.

Deptford components overwhelm the collection, occurring at 12 sites. As Trinkley (1991) and DePratter (1978) have noted, the number of Deptford sites increase dramatically from the earlier Thom's Creek and Stallings phases. For Kiawah, the newly formed Holocene dune ridges became areas of occupation, while the older Pleistocene portion of the island still continued to be occupied. Settlements appear to focus more on the smaller tidal creeks as opposed to areas adjacent to Kiawah River.

By the following Wilmington phase there appears to be a dramatic decrease in prehistoric use of the survey area. It is possible, however, that the settlement pattern changed enough that land use is focussed more on beach front areas or areas on the southwest end of the island, outside of the survey tract. Only one Wilmington phase site was found in the area available for investigation. This one site also contained a Deptford component and was located in the ridge and trough portion of the island.

Two Irene sites were identified. Both are small with only one exhibiting shell midden. They are located on both Pleistocene and Holocene areas of the island.

No conclusive evidence was recovered for late protohistoric or contact period Indian groups during the survey. It was not until subsequent excavations at 38CH1107 that some pottery perhaps identifiable as contact wares were recovered, and even then in only small quantities (Trinkley et al. 1994). It is thus far impossible to reconcile the ethnohistoric evidence supporting a Kiawah Indian village on Kiawah Island with the archaeological survey data which fails to reveal any concentration of late wares.

Subsistence

All prehistoric subsistence evidence gathered from Kiawah Island was obtained at the Bass Pond site (38CH124). A large amount of fish scales and vertebrae were recovered during water screening of the shell midden as well as large amounts of charred hickory nut fragments. In addition, a sizeable quantity of larger faunal remains were gathered.

The shellfish at the Bass Pond site appear to have been prepared by steaming rather than baking. Lawrence suggests that the Thom's Creek oysters were collected during the Spring or early Summer months while no inferences of seasonality could be made for Deptford component oysters. The Deptford oysters were primarily intertidal clusters or "scatters" of oysters from the lower portions of the intertidal zone. The Thom's Creek oysters originated in subtidal clusters.

Periwinkles, mussels, moon snails, an olive specimen, arks, and cockles were also found in the midden samples. These appear to have been used as a food source. One difference noted was a heavier reliance on periwinkles and mussels during the Thom's Creek occupation. This may reflect a larger consumption of soups or stews during that phase, or more likely, a more diffuse subsistence pattern where all available resources were exploited.

One Deptford period oyster valve displays attachment to a rod-like object and may represent evidence of human-fabricated structures, such as a fish weir. Alternatively, the oyster may have been attached to a natural object.

The faunal analysis from the Thom's Creek site indicates that deer was the main focus of terrestrial hunting activities, while other animals were probably taken opportunistically. The presence of migratory birds and some of the fish (such as drum), as well as the presence of antler pedicals in the faunal assemblage strongly suggest that the site was occupied by a number of people during the fall and/or early winter of the year. This group probably consisted of a microband of 20 or 30 people.

The ethnobotanical analysis supports the faunal studies -- suggesting a cool weather occupation, based on the presence of hickory nuts and a few other seeds such as cedar, palmetto, and knotweed. The collection suggests a focused subsistence system strongly oriented toward the use of one resource -- hickory nuts. Other floral foods appear to have been only opportunistically collected, if gathered at all.

Obviously, the floral and faunal data are at odds with the evidence provided by the shellfish. However, if we wish to accept the shellfish studies at face value, then 38CH124 may evidence multiple seasons of occupation. During the fall/early winter subsistence strategies focussed on the taking of deer and the gathering of hickory nuts. During the spring and early summer, the site area may have again been used, primarily for shellfish gathering with other game taken opportunistically. Unfortunately, such a reconstruction would have to assume that the site deposits are thoroughly mixed -- a conclusion not borne out by examination of the statagraphic profiles. In other words, the presumably warm weather shellfish are found in the same strata as the cool weather floral and faunal remains. And many of the various strata are separated from one another by intact lenses of sand and soil.

Some reviewers have suggested that the shellfish studies are flawed, pointing to Claassen's (1986b) work with clams as an indication of cool weather shellfish in the Southeast. Of course this fails to take into consideration the relatively small sample size used by Claassen, or the possibility that there could be variation in the archaeological record. Again, perhaps more to the point is that there exists at 38CH124 complementary data supporting a fall-winter occupation.

Clearly, the study at 38CH124 indicates the need for additional evaluation of shellfish data. The approach must still be considered experimental and should be evaluated by comparison with other data, including floral and faunal remains, as well as (where possible) comparison with other shellfish techniques, such as those developed by Claassen.

Settlement

The survey data reveals that the majority of prehistoric sites are located on well drained or mixed drainage soils adjacent to the river or tidal creeks. Two sites are located on what are today poorly drained tidal marsh hummocks. Clearly, a combination of well drained soils and proximity of water was of considerable importance. The tidal hummocks were most likely used exclusively for fishing or shell fishing and not for settlement.

These investigations offer an imperfect view of settlement from the Early Woodland through the South Appalachian Mississippian period on Kiawah Island, since the survey area is not representative of the topography and water availability of the entire island. Based on the survey area, new Holocene landforms were being used by Deptford people which had apparently not been available to Stallings and Thom's Creek people. By the Wilmington phase, the survey area was only being lightly used by prehistoric people.

The settlements at 38CH124 and 38CH125/126 offers a glimpse of Late Archaic activities. It seems clear that two different "types" of sites are present. One exhibits little shellfish and a limited range of artifacts. The other includes a wide range of subsistence resources, most likely indicative of a fall and winter occupation, associated with a structure, and a wider range of artifacts, such as hones, lithic tools, and bone tools. Of the two, it has been possible to better understand 38CH124, since a wider range of materials are preserved for study. We have suggested that 38CH124 represents a seasonally re-occupied settlement for a small microband. Site 38CH125/126 probably represents a site used for some function other than shellfish collection and may represent a different season of occupation.

Future Research

The investigations of the Thom's Creek sites on Kiawah have yielded some surprising results, particularly in respect to the dating of the Thom's Creek pottery. One possible explanation is that previous efforts to equate various motifs with temporal periods fails to recognize the complexity of the Thom's Creek phase. Instead research might profitably focus on efforts to synthesize pottery styles by time and space, similar to the efforts of Sassaman (1991, 1993), in an effort to identify any possible sociocultural entities represented by the various wares.

A second area of considerable importance is refining the use of shellfish studies at Thom's Creek sites. The questions raised at 38CH124 regarding the accuracy of the various seasonal indicators suggests that the examination of oysters should be combined with other shellfish studies, such as clam seasonality. Of course, the techniques used by researchers such as Claassen (e.g., Claassen 1986b) require that the specimens all be from one subsistence episode (i.e., one meal contained in one feature), whereas the seasonality work by Lawrence imposed no such requirements, making exploration of midden deposits more convenient and accessible. Now we must determine if we have achieved convenience at the expense of accuracy.

Many research avenues appear to be blocked at sites with poor (or limited) preservation, such as 38CH125/126 and Locus 3 at 38CH124. Absent shell, there is limited or no preservation of faunal material. Floral materials are often scarce or absent. Bone and shell tools are not likely to survive and if present they are often too eroded to provide evidence of wear or use patterns. Stripping, such as

undertaken at Locus 3 of 38CH124, fails to provide evidence of features which might offer a more comprehensive understanding of site function. As a result, these sites tend to float, being taken as evidence of just about anything the researcher may want to propose. While it is possible that the sites are incapable of offering clues to the past, it seems more likely that they will require more intensive investigation. One possible research avenue is the extensive use of close interval soil chemical studies. The correlation of various macronutrients with cultural activities might offer evidence on both intensive of occupation as well as activities which took place on the sites. Use of pollen studies may be able to reconstruct local vegetative patterns, which may help in understanding site conditions and the effect of the occupation on local vegetation.

In sum, we agree with our colleagues who have argued that continued investigation of sites using the same techniques and recovering the same information is neither in the best interests of the public, or the profession. New approaches, and new ways of looking at old data, are clearly needed.

Moving to the wide range of other prehistoric sites found on Kiawah, it was discovered that at Deptford sites, both ridge and troughs in the Crevasse-Dawhoo soils were used. Ridges may have been used for occupation, while troughs may have received refuse. Generally, these landforms were "fingers" that were surrounded on three sides by tidal creeks or marsh, so these areas were probably prime sites for fishing and shell fishing. Archaeology at such a site (e.g., 38CH225/228) should yield essential information to help us understand how prehistoric peoples used, and adapted to, their landscape.

Research questions proposed for the Middle Woodland shell middens include a broad range of both traditional, and no-traditional, issues. For example, at 38CH1219, research has been proposed which focuses on pottery typology questions (such as the range of variability acceptable in the Deptford/Cape Fear types); the usefulness of fine-grain cordage and paste analysis in resolving both typological and, more importantly, identification of specific kin-groups; and the ability of lithic remains to address questions of lithic procurement and use, as well as identification of source areas and possible procurement rounds. Being a small, well preserved midden, additional questions center on spatial arrangement of activity and use areas. A more ecological based analysis of subsistence remains is recommended as one approach to integrate the wide range of divergent data. The goal is to examine these data in ways that may help us to understand how the site area was perceived by the Native American occupants. Many of these research questions are also proposed for 38CH1224, although additional research focuses on the presence of multiple midden piles (rather than the single midden at 38CH1219) and the site's unusual location in a ridge trough. Extensive radiocarbon dating may be able to help us understand whether such sites represent middens occupied by a bands during one or two seasons, or an area which saw occupation by a small kin-based group for many seasons.

Historical Archaeology

The investigations on Kiawah Island have located or revisited seven historic period sites, while data recovery was performed at an additional two sites. These two sites are late eighteenth/nineteenth century plantations known as Vanderhorst Plantation (38CH127) and Shoolbred Plantation (38CH129). Another plantation, known as Stanyarne Plantation (38CH123) was surveyed. The three plantations (38CH123, 38CH127, and 38CH129) are all located on Wando well drained soils adjacent to the Kiawah River conforming to South and Hartley's (1980) "high ground, deep water" settlement description for early plantation sites.

The military sites are located primarily on dune ridges on what is known as "Cougar Island", near Stono Inlet. Both of these sites would have been near the beach front at that time. Also, a "shell fort" is located on a hummock at the confluence of the Kiawah and Stono Rivers which was clearly a place of strategic importance. Additionally, the plantation sites were being used by the military

as evidenced by historical records and varying amounts of military artifacts.

Military Sites

The "shell fort" (38CH227) was built in conjunction with a fort on Cole's Island across Stono Inlet during the war of 1812 in an effort to maintain control of the Stono and Kiawah Rivers. During the Civil War there are references to both forts indicating that they were being used since they commanded a good view of the inlet. Although there are references to the fort being constructed of tabby, our visits found that it consisted of piled up shell from a prehistoric midden on the marsh hummock, most of which has been eroded away (see **Appendix 2**).

Kiawah Island played a relatively small role in the siege of Charleston. It was first occupied by Confederate troops who abandoned the island when they also abandoned Cole's and Folly Islands in 1862 to concentrate their efforts to protect Charleston. Afterwards the oceanward half of the island was occupied by Union forces, while the more interior portions of Kiawah were a "no-man's land," visited by both armies during the war.

At least one of the two "Cougar Island" sites (38CH1220) probably represents a military encampment occupied by regiments perhaps including the 41st New York, 54th New York, 127th New York, 142nd New York, 107th Ohio, and the 74th Pennsylvania. Several other regiments had occasional picket duty on Kiawah including the 17th Connecticut, 40th and 55th Massachusetts, 144th New York, 157th New York, 25th Ohio, and the 75th Ohio. Site 38CH1222 was originally thought to be a second encampment, but may perhaps be a signal tower location based on its size and the artifacts recovered. The third site, 38CH1221, is on the bank of Bass Creek atop an eroding high dune ridge. Based on historic maps, it appears that this was also the location of a signal tower.

Both Shoolbred and Vanderhorst plantations were occupied by Civil War troops. An 1862 letter from Arnoldus Vanderhorst IV to his wife Adele stated that Confederate troops had vandalized the Shoolbred plantation house. A later letter explains that the house was accidently burned late in the war. Union troops (including those of the 55th Massachusetts and 74th Pennsylvania regiments) spent some time at the Vanderhorst house as evidenced by the graffiti in the east room on the second floor.

Vanderhorst Plantation - 38CH127

Based on Chicora's archaeological survey of this plantation six structures, two trash middens, and two shell middens were identified. Information from local contractors reveal that the marsh to the east was also extensively used for trash disposal. The excavations uncovered landscaping features (such as shell paths), kitchens, slave and freedmen's houses, trash dumps, and architectural features associated with the main house.

The research found evidence that the pre-Revolutionary War main house built by Arnoldus Vanderhorst II was located on the tract, although clear architectural evidence for its location was not recovered, and likely does not exist. The kitchen associated with the first main house (Structure 1) was identified as well as a habitation area that was probably occupied by house slaves (Structure 5). Most of the Colono wares (72.7% of total) were recovered from the Structure 5 area.

Several areas of the site contained refuse from clean-up after the Revolutionary War destruction (Trash Middens 1 and 2). These trash dumps contained high status artifacts, strongly suggesting that they came from the first main house. The trash deposit in the eastern slough, destroyed prior to this investigation, apparently contained large quantities of plantation trash from both the eighteenth and nineteenth century occupations.

The architecture and archaeological record correspond with historical documents suggesting that the second main house was under constructed by 1801. Very little was discovered about the construction details of the first main house which was reportedly burned during the American Revolution. The large number of roofing tiles found in early context strongly suggests that they were used on the house. The facade of the second main house is Adamesque in design. This form reached the Charleston area twenty years or so after the American Revolution. Apparently, the artisan was aware of new aesthetic ideas circulating in Charleston shortly after 1800.

The second house (which is still standing) underwent a number of alterations, although architectural, archaeological, and historical study has noted that the superstructure remained essentially intact. Much of the original interior trim including the wainscoting was perhaps removed during the Civil War. Porches and stair supports were removed and rebuilt. Floor supports were replaced based on the presence of adze marks as well as saw mill scars suggesting a ca. 1840s date (Wilbur 1992:48). It appears that alterations were cosmetic and had little effect on the basic floor plan except between first and second floors where cut floorboards indicate the staircase was either altered or inserted.

The second kitchen (Structure 2) was constructed about the same time as the second main house. It appears to have been temporary, until a permanent kitchen could be rebuilt at the first kitchen site. Based on archaeological evidence, the permanent kitchen was not built until about 1820. The two kitchens were different in layout. Structure 1 consisted of a two room building with a double central fireplace. One room was used as a kitchen while the other room was used as a wash house. Structure 2 was probably a one room building with the chimney on the gable end. This chimney contained not only a large fireplace for cooking, but also a bread oven.

It appears that much new construction was occurring around 1820 which corresponds with Elias Vanderhorst's marriage to Ann Morris in 1821. Elias had inherited the plantation from his father in 1815. Not only was the kitchen being completed, but a series of slave houses had been built (including Structures 3 and 4a). Ceramic analysis suggests that they were built about 1820, but it is quite possible that they were constructed a decade earlier when Kiawah's slave population increased from 13 to 113 individuals. Interestingly, these structures are somewhat scattered, being located probably more for convenience than anything else. Three of these structure areas were identified (Structures 3, 4a, and possibly 4b) and two of them yielded architectural features. Although by 1820, the Vanderhorst Plantation was well established and prosperous, the slaves were living in housing one might imagine for a frontier site. The only clear remains were a tabby mortar chimney footing and portions of a badly decayed mortar floor. No posts were found at either structure. All of this evidence indicates very minimal building techniques. Adams (1990) has suggested that Low Country slave housing generally began changing to more permanent mediums in the late eighteenth century, although she cites several references to more impermanent types as late as the 1820s. Brooker (1991) has suggested that building modes in the Low Country rarely, if ever, followed straight line evolutionary paths. This appears to be the case since a very similar structure dating to the late eighteenth century has been excavated on Spring Island in Beaufort County (see Trinkley 1991b). Clearly, the isolation of the Sea Islands, regardless of their proximity to Charleston, created a need for using readily available building materials since shipping materials to the island was difficult.

Structures believed to have been occupied during the postbellum or tenant period (3, 4a, and 4b) indicate that freedom did not improve the conditions of the former slaves. Originally slave houses built around 1820, they were still being occupied after the Civil War. This is most clearly illustrated at Structure 4a which probably burned around 1880.

During the postbellum period little activity was taking place in the main

house. The plantation was more of a resort for the Vanderhorst's rather than a second home. Based on historical records Elias spent his time primarily at his "beach shanty" until his death in 1874. His son, Arnoldus Vanderhorst IV, inherited the plantation but died in 1881 in a hunting accident, leaving the plantation to his wife Adele. It was during this period that Quash Stevens, a former slave of the Vanderhorst's Round-O Plantation on the Ashepoo River, became a prominent figure. Adele's son, Arnoldus V, was apparently very disagreeable and Quash was bitterly disappointed in the treatment he received from Arnoldus. He served as plantation manager until 1901 when he purchased a plantation on John's Island.

Adele died in 1915, leaving the plantation to her son Arnoldus. Arnoldus attempted to rent the island to hunters, farmers, as well as sell just about anything the island had to offer including palmetto logs and fronds. Based on letters to his brother Elias, Kiawah was rapidly deteriorating and there was no money to put into it. Arnoldus continued to search for a "deal" in hopes to restore Kiawah and his lifestyle.

In 1915 overseer Wescott took a census of the tenant housing on the island and repair needs. This census suggests that the structures were weatherboarded with windows and chimneys. A 1951 appraisal indicates that the 1915 tenant houses were thought to be one story, framed, on wood posts, with brick chimneys. These houses were either two roomed structures measuring 12 by 20 feet or four roomed structures measuring 16 by 40 feet. At that time the structures were no longer standing. During the archaeological survey, bricks fireboxes were found east across the slough at 38CH128, and residents have reported chimney falls further west under a presently developed area which are probably related to the tenant settlement at Vanderhorst. Neither of these areas, however, are currently available for study.

Two areas were investigated which are probably attributable to the tenant period. Both Structures 3 and 4b produced trash middens which appear to be the archaeological "signature" for tenant occupation on the island. These deposits were characterized by large amounts of whelk shells and bottle glass. During a visit to 38CH128, across the slough from the Vanderhorst house, similar middens were noted. No structural remains which are clearly twentieth century were found at Structures 3 and 4b. A mortar chimney base was found at Structure 3 below the midden, indicating that the house no longer existed when the trash was deposited. Structure 4b and the later remains from Structure 3 contained very low status assemblages.

Additional areas of tenant occupation (including the homes of Quash, Charlie Scott, and Wescott) were present on Rhett's Bluff, but were not recognized during the initial survey of the area by Poplin (1989). Other areas of probably freedmen or tenant occupation include the area of Stanyarne's Plantation (38CH122).

Shoolbred Plantation - 38CH129

The archaeological excavations at 38CH129 (Shoolbred Plantation) were based on Poplin's (1989) survey of Rhetts Bluff. The survey identified two structures (38CH129-1 and 38CH129-2) associated with the plantation main house complex. These were identified as the Shoolbred main house and a barn. During initial examination of the property by Chicora Foundation, it was recognized that remains of at least seven structures were present (Figure 99). Additionally, a painting from the 1870s (Figure 21) identified eight structures in the complex. The additional five structures were identified as 38CH129-3 (west flanker), 38CH129-4 (possible overseer's house at 38CH124), 38CH129-5 (east flanker), 38CH129-6 (structure between 38CH129-5 and 38CH129-2) and 38CH129-7 (a probable stable). Unfortunately, time did not allow examination of these remaining structures, although in consultation with the S.C. State Historic Preservation Office and Kiawah Resort Associates, the project was extended to examine 38CH129-3.

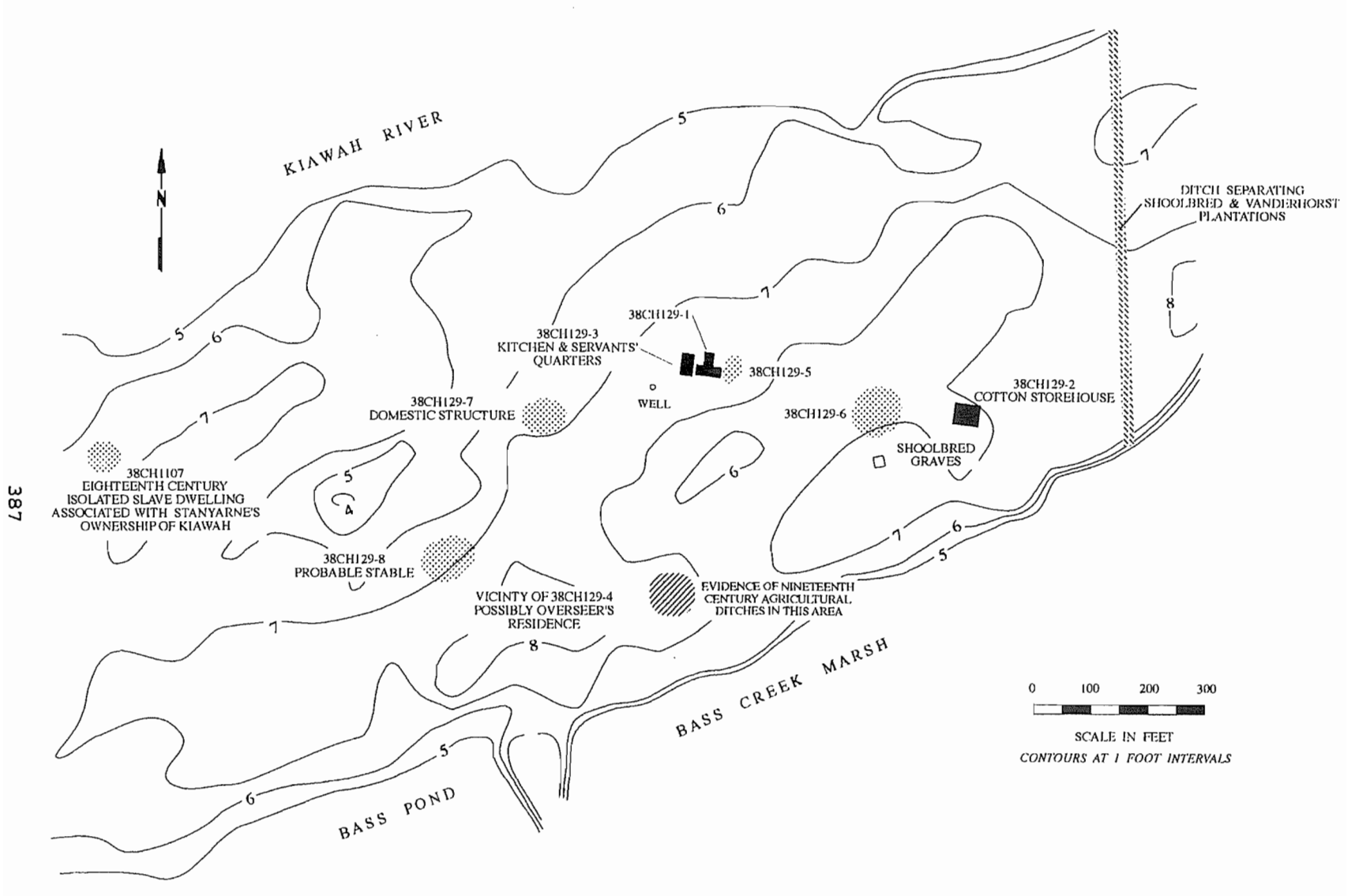


Figure 99. Shoolbred Plantation, showing the location of various structures and landscape features.

These investigations yielded evidence that the Shoolbred house was built in the late eighteenth/early nineteenth century. The investigation of the main house revealed a large and elaborate building built with a tripartite floor plan. The use of marble fireplace surrounds, mantles, columns, supports, and tiles, coupled with evidence of carved brick, extensive plaster work, wood moldings, and a slate roof indicate considerable expense on the part of the plantation owner. Elaborate underground brick drains were used to channel water away from the house, such as one might find in an urban context. There is also evidence of a somewhat formal landscape on the north face of the house. Site 38CH129-2 (the barn) appears to have been used for storing cotton and was constructed of brick, roofed in slate, and incorporated brick drains. These were steps taken by relatively few planters.

While the artifacts from the main house reflect relatively high status, the ceramic index was relatively low. However, the index is the second highest index identified at either 38CH127 or 38CH129 (see Tables 46-51, 74), suggesting that planters, at least on Kiawah, did not use expensive ceramic wares at their country homes.

The west flanker (38CH129-3) is believe to have functioned as a combination planter's kitchen/house slaves quarters. The ceramics suggest just this. There are a high number of utilitarian wares and the cream colored ceramics are all very low status -- the lowest ceramic index of all structures at 38CH127 and 38CH129 combined.

It is interesting that excavations in the yard area, even around the well, yielded very few artifacts. It appears that the area was well policed, supporting our view of a carefully maintained landscape appropriate to the elaborate and expensive architecture. In contrast, the Vanderhorst Plantation contained trash dumps and middens throughout the complex and the architecture simple -- really little more than a farm house. Slaves at Shoolbred were housed in a specific spot away from the main house complex, whereas slaves at Vanderhorst were scattered between at least five different structures within the complex, as well as additional structures slightly separated from the settlement.

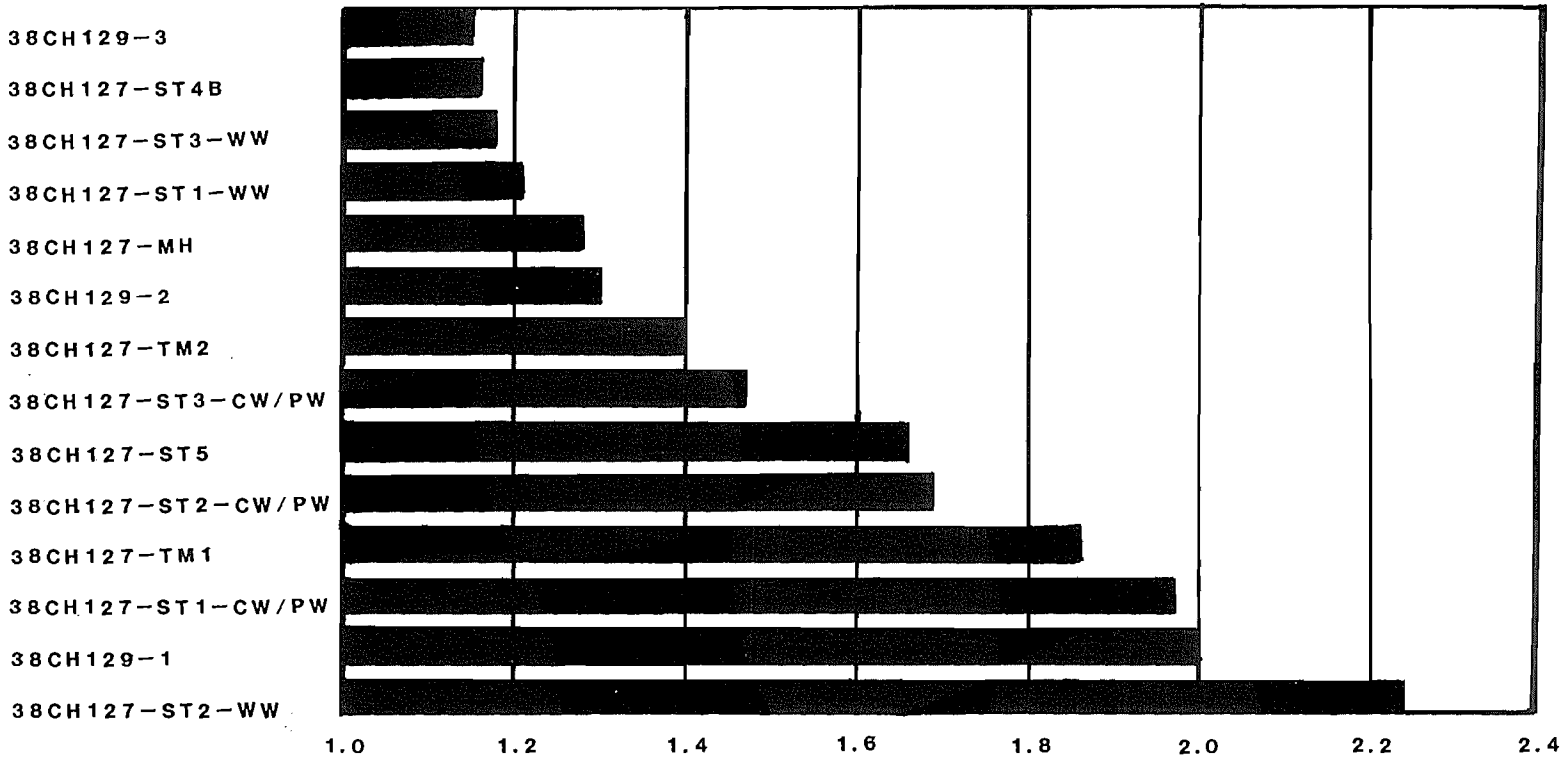
Although relatively few of the Shoolbred structures were investigated during this study, the recordation of the different loci shown in Figure 99 provides a rare archaeological view of the plantation landscape. It raises research questions not even thought of during the initial investigation, such as how the drainage pattern of the main settlement was intended to operate and how circulation was promoted among the various structures. It gives additional significance to scatters of bricks (which may be small out buildings), scatters of oyster shell (which may be the remnants of pathways), and areas of differential vegetation (which may provide evidence of old cart paths or plantation roads). Remnant ditch lines become significant indicators of plantation or field boundaries. The need for greater attention to the details of plantation research is discussed in the concluding pages of this section, but the Shoolbred Plantation provides an all-to-rate glimpse of the Southern plantation landscape.

Comparison of the Shoolbred and Vanderhorst Plantations

A number of analytical techniques have been created to compare and contrast archaeological assemblages (i.e., Miller 1980; Otto 1984) as well as explain the archaeological patterns and deviations from those patterns (South 1977).

As discussed in previous chapters, Miller's (1980, 1991) analysis is a technique for the analysis of ceramic collections to yield information on the economic value of the assemblage which, as Garrow notes, "theoretically provides a means of roughly determining the economic position of the household that used and discarded the ceramics" (Garrow 1982b:66; see also Spencer-Wood and Heberling 1987 and Garrow 1987). Table 105 summarizes ceramic values using Miller's index

Table 105.
Ceramic Index Summary for 38CH127 and 38CH129



for both Shoolbred and Vanderhorst Plantations. Interestingly, there is a very large difference between 38CH129-1 (the Shoolbred Main House) and the Vanderhorst Main House (38CH127-MH), but the two kitchens at Vanderhorst have indices relatively close to that at the Shoolbred house. The later index for Structure 2 is high while the earlier index for Structure 1 is high. This suggests that the Vanderhorst Plantation may have been prosperous until about 1830 since Structure 2 was no longer intensively used as a kitchen after this date and Structure 1 was not rebuilt until about 1820. Additionally, the index for Trash Midden 1, which may be a result of post war cleanup, is high. The index for Trash Midden 2 is somewhat lower. The trash here may be discard from an outbuilding. The index (1.66) for Structure 5 is not uncommon for a slave status dwelling. Also, the early period of occupation at Structure 3 has an index of 1.47. Cannon's Point slave is 1.78 and slaves at Cotton Hope ranges from 1.47 to 1.55.

Indices for Structure 4b and the later use of Structure 3 at Vanderhorst's plantation all yield very low values. Since both areas are very similar (both containing whelk middens with large amounts of glass) this is not surprising. Living as a tenant farmer on Kiawah Island in the late nineteenth/early twentieth century was living an impoverished lifestyle; and based on Arnoldus V's reputation as a difficult and penurious man, it is not surprising to find that life for the tenants was not easy.

The index for 38CH129-3 (posited house slaves quarters/kitchen) is also very low. In terms of a functional equivalent at Vanderhorst, Structure 5 is probably the closest parallel. There is a relatively large difference in ceramic indices between the two, with Structure 5 yielding an index of 1.66 and 38CH129-3 yielding an index of only 1.15.

Essentially, the higher status ceramics were found at the Shoolbred main house, the kitchens, and trash middens associated with the destruction of the first Vanderhorst main house. Structure 5 from Vanderhorst is a posited house slaves quarters which also contained a relatively high index (1.66) in comparison to other site areas. This may be due to their perceived status within the planter's social system which gave them access to more expensive goods.

Structures 129-3 (house slaves/kitchen), ST4b, and ST3 (postbellum/tenant houses), ST1 (later kitchen), Vanderhorst main house, and the Shoolbred cotton storehouse (129-2) all had calculated indices below 1.30. Most surprising is the low index from the Vanderhorst main house (1.28). This low number can be moderated if taken in conjunction with the Vanderhorst kitchens (Structures 1 and 2) which obtained relatively high indices.

A comparison of vessel forms from an inter and intra-site perspective show a number of similarities and striking differences. These percentages are shown in Table 106. Probably the most striking difference occurring between the two plantation sites is the percentages of tea and coffeewares at the various loci. At Shoolbred the average percentage is 3.0%, whereas the Vanderhorst average is 24.7%.

Table 106.
Vessel forms at 38CH127 and 38CH129.

	Shoolbred Plantation			Vanderhorst Plantation							
Shapes	129-1	129-2	129-3	MH	ST1	ST2	ST3	ST4b	ST5	TM1	TM2
Tablewares											
Plates/Saucers	60.7	35.7	31.6	28.6	37.4	50.9	38.2	42.9	37.2	41.2	48.1
Bowls	25.0	50.0	36.8	19.6	28.2	20.0	28.5	14.2	13.6	5.9	44.4
Serving	3.6	10.7	0.0	8.9	5.4	3.6	0.0	4.8	0.0	11.8	3.7
Tea and Coffeeware	3.6	0.0	5.3	30.4	26.4	20.0	31.9	33.3	40.1	11.8	3.7
Utilitarian	7.1	3.6	26.3	12.5	2.4	5.5	1.4	4.8	9.1	29.4	0.0

Otto (1984) and others (e.g., Joseph 1989) have suggested that bowl forms predominate slave status assemblages whereas flatwares are predominate at planter sites. This applies at the Shoolbred site where the majority of wares are plates and saucers at the main house (129-1), and bowls are the majority at the kitchen/house slaves quarters (129-2). Interestingly, at Structure 5 which is a posited house slaves quarters at the Vanderhorst site, plates and saucers predominate. However, Colono ware bowls minimally account for 13 vessels, bringing the bowl form percentage up to 45.7%. Joseph (1989) has suggested that as African-Americans became more acculturated to Euro-American food ways, that bowl forms declined in popularity. At Structures 3 and 4b (low status slave or tenant contexts) plates and saucers are more numerous than bowls. This proportion of plates to bowls may not be the result of cultural changes, but rather the result of the foods available to low status people. Other low status sites in the Low Country have not shown this shift in vessel form preference. For instance, at Willbrook Plantation in Georgetown County bowl forms became more prevalent in the nineteenth century than in the eighteenth century (Trinkley 1993).

The Vanderhorst main house assemblage yielded a profile quite different from that found at the Shoolbred main house. Plates and saucers account for only 28.6% of the collection. Based on the kitchen excavations, it may be that the planter class assemblage is more correctly portrayed there. In fact, Otto's (1984:69) planter assemblage actually came from the planter's kitchen -- not the main house.

The largest percentages of utilitarian wares came from the Shoolbred cotton storehouse (129-3) and Trash Midden 1 (Vanderhorst). Such wares would have served as chamberware, baking wares, and crocks for storage. At Cannon's Point plantation, Otto (1984:6) found that utilitarian wares were most numerous at the planter's kitchen. This is not the case at either Shoolbred or Vanderhorst, but it is possible that the assemblage in Trash Midden 1 is related to the pre-revolutionary war kitchen.

Artifact patterns from the two main house sites are very similar. The Shoolbred main house assemblage contained 14.2% Kitchen Group Artifacts in comparison to 19.9% at Vanderhorst. Architectural items consist of 81% and 77.7% respectively. The barn at Shoolbred Plantation yielded a similar profile (10.2% Kitchen and 87.1% Architecture), but this is attributed to its non-domestic function. While these percentages do not correspond with any published pattern, the high architectural percentages are probably due to the detailed high status architecture.

The kitchen/house slaves quarters from the Shoolbred Plantation yielded 33.1% Kitchen related items and 62.5% Architecture related items. Its function as a kitchen suggests that the Kitchen Group would be high, but since it is not entirely structurally independent from the main house, it may have produced large amounts of architectural materials similar to the main house.

Structures 1, 2, 3, and 5 from Vanderhorst Plantation all fall within the Revised Carolina Artifact Pattern. Structures 1 and 2 functioned as kitchens, so the relatively high Kitchen Group is not considered unusual. Interestingly, Structure 1 which also functioned as a wash house, did not produce an unusually high percentage of clothing items, indicating that short of documentary or oral informant histories, accurately predicting the function of at least some plantation structures may be difficult. Eighteenth century slave houses have generally produced Kitchen Group percentages much higher than the range for the Carolina Artifact Pattern (South 1977), however this was not the case at Structure 5. As discussed previously, taken in comparison with the other structures this building yielded relatively high status ceramics. Therefore, given the artifact pattern and the ceramic index, it might be concluded that the house slaves living at Structure 5 had access to a variety of high status items.

Faunal analysis at the two sites yielded equally interesting information.

At Vanderhorst, sheep was a very important meat resource during the earliest occupation of the site. By the nineteenth century and into the twentieth century cow replaced it as the primary meat resource. Pig, not surprisingly, was also an important part of the diet. In addition, the use of wild mammals showed a slight decline through time. Regrettably, the faunal collection from Shoolbred was too small to provide a secure insight into foodways at that plantation. Cow was the primary meat resource, followed by sheep and pig. Interestingly, passenger pigeon was noted in the collection. This species is rarely reported in collections from the eighteenth and nineteenth centuries and by the middle of the nineteenth century, the passenger pigeon was extinct.

The faunal evidence from 38CH127 indicates that it is possible to observe changes in diet through time. There are few congruences between the various patterns at different site types and the collections from Vanderhorst Plantation. It is becoming clearer that micro-differences in the natural and sociocultural environments in which people lived in the southern Coastal Plain had an impact on their lifestyles.

Apparently Vanderhorst and Shoolbred saw their Kiawah homes quite differently. Shoolbred maintained strict landscape control. Everything was in its place and there was no disarray. Structures were expensive and elaborate, going beyond what many planters would have done. Vanderhorst, on the other hand, built make-shift buildings which stood even after the planned ones were finished. His Kiawah home, while imposing, was simple. He scattered his slaves in minimal housing amongst the area that many planters would have maintained the strictest landscape control. Vanderhorst was also dumping his garbage in low areas close to the plantation house instead of having it carted away, like Shoolbred. In spite of the impression that Shoolbred's plantation was a place of elegance and refinement, while Vanderhorst's plantation was little more than a farm lacking in formal landscape features, the high percentage of tea and coffeewares at Vanderhorst Plantation indicates greater practice of the tea drinking ceremony than at Shoolbred Plantation. The reason for this, especially considering the cultural differences between the two is unknown.

The investigation of these two neighboring plantations on an isolated Sea Island have yielded some interesting conclusions. They have shown how a planter's vision of his plantation has strong material consequences. Some planters bent to the isolation, recognizing that few people would see their holdings. Others made the most out of their surroundings. While recognizing that their homes would not be seen by many people, they appreciated the "aesthetic order."

Ann Vanderhorst commented about Shoolbred:

> Mr. Shoolbred dined with me the other day. I am delighted with the old gentleman, he is elegant in his manners as most men who have seen much of the world are, and combining with this a highly improved mind (South Carolina Historical Society 12/197/17).

His mentality may have been quite different from Vanderhorst's, which may account for the material and spatial organization differences between the two plantations. This mentality difference may be attributed to their different ethnic backgrounds. James Shoolbred was born in London, while Arnoldus Vanderhorst II was the son of a Dutch immigrant.

Studies on recognizing ethnicity through archaeology have yielded varying results. While ethnic differences between Euro-American planters and African-American slaves have been identified archaeologically (see, for example, Joseph 1988), studies attempting to recognize differences between Euro-American cultures and their assemblages have not met with success. At Daniel's Island, Zierden et al. (1986:7-7 - 7-8), were interested in noting any ethnic differences between the English and the French Huguenots at early plantation sites. However, differences were not expected to be archaeologically observable at the site post-

dating the 1720s since they were assimilated and virtually indistinguishable from the English by the late 1750s. The only distinguishing aspects were found in historical records which indicated a close knit community with strong economic ties.

South (1977:234) has suggested that German-American sites (particularly Moravian settlements) may yield a different artifact pattern. Since these communities were self supporting, it may be that they would yield more self-sufficiency items. One might push this idea further and suggest that because of their "communal" nature, the refuse disposal pattern may be different as well; for instance, the organized removal of refuse to town trash dumps (see Fries 1968) would have a tremendous impact on the archaeological signature.

Vanderhorst and Shoolbred were of the same social and economic class. Artifact analysis reveals similar possessions, similar artifact patterns, similar wealth, but the arrangement of structures and the locations of trash deposits suggest that the two families had different perceptions of their plantation homes. Without comparative information, whether these perceptions had anything to do with their ethnicity is still unclear. What has been discovered during the study of these two plantations is that while differences cannot be seen at one level they can be clear at another level. In the case of Shoolbred and Vanderhorst, artifacts were not the telling piece of the puzzle, but it was the quantity and locations of this trash, as well as the arrangement and appearance of structures across the main house complex.

Stanyarne Plantation - 38CH122

Although only briefly examined through the auspices of a National Park Service Survey and Planning Grant, Stanyarne Plantation offers additional information concerning the development of Kiawah Island. At the most basic level the field investigations were able to document that at least portions of the plantation were intact -- in spite of nearly a decade of development. Consequently, the plantation may be able to provide additional details on the early settlement of Kiawah, allowing exploration of the architectural forms and features which characterized the early period of Kiawah's history.

The investigations also revealed that whatever slave settlements were associated with the Stanyarne Plantation from this early period must have been situated elsewhere -- most likely at the nearby West Pasture Site (38CH123). This reveals that Stanyarne found a reason to isolate, if even by a few hundred yards, his dwelling from the African Americans who labored in his fields. The Stanyarne Plantation was not used by black slaves until the nineteenth century when Shoolbred also found reasons to keep his field slaves well separated from his very elaborate plantation complex.

More recent work at 38CH1107 has revealed a very early slave dwelling, probably representing the earliest period of Kiawah's history when ranching was the primary economic activity. During this period it is likely that white control was either absent or minimal.

Future Research

One Civil War site -- a Union encampment -- has been found eligible for inclusion on the National Register of Historic Places and will likely receive data recovery excavations. As is the case with all "new" research inquiries, there will be legitimate, and possible difficult, questions regarding the validity of research at this (and similar) sites. What, in fact, can archaeology tell us that is not already available in either the official military records, or the unofficial regimental histories? It is very important for those involved in research at Civil War sites to keep a clear research orientation. The sites must not be excavated simply because they date from the Civil War; nor should they be excavated because they produce large quantities of artifacts. The studies

at this site will likely focus on such issues as camp life and diet with the justification that while military records were often quiet meticulous, it is possible that unrecorded occurrences can be documented through archaeological investigations. For instance, did soldiers occasionally hunt and eat wild game? What items did they confiscate from the plantations and how did they use them? How were their camps made more pleasant? Ultimately one the more interesting research issues may involve the different lifestyles of white and black Union troops -- enlisted and officers. Archaeological research is able to reveal differences -- if they exist -- which would likely never be written in either the official or unofficial records.

Data recovery at 38CH123 (the West Pasture Site or Stanyarne Plantation) can yield important information about the lives of nineteenth century slaves who lived and worked at a considerable distance from the Shoolbred Plantation. While Shoolbred maintained strict landscape control at the main house complex, it would be interesting to see if this type of control was also attempted at the West Pasture Site. In addition, the West Pasture Site (38CH123) is part of the oldest plantation on the island dating as early as the 1720s. While 38CH122 (across Salt House Creek from 38CH123) contained the Stanyarne main house complex, portions of 38CH123 were likely used early on for outbuildings or to house most of the slaves. Excavations here will help fill in the early part of Kiawah's historic time line.

The archaeological survey and data recovery at 38CH127 (Vanderhorst Plantation) has illustrated the importance of locating plats whenever possible before field work to guide the survey as well as the need for close interval shovel testing. Our survey was able to locate a large number of structures and middens before data recovery began, and as a result, we were able to document many different areas and better understand the development of the complex. This stands in contrast to the Shoolbred Plantation where of the eight structures thought to exist, only two were identified by the original survey. Although by the end of the project seven of these structures were identified, only three could be examined -- severely restricting our understanding of the plantation complex.

This, perhaps, reflects the single greatest issue confronting plantation archaeology. It is essential to explore -- and understand -- the range of architectural and cultural diversity present. Too often archaeological excavations fail to fully grasp the implications of the architectural features present at main house complexes. Shoolbred's main house and associated wings or flankers clearly reveals exceptional complexity -- not only in the materials used such as the imported marble and slate and the techniques, such as the brick work and plaster, but also in the way all of these materials were put together to create the central theme or idea of the plantation. Brooker (in this publication and in Brooker and Trinkley 1991) observes the evolution of local plantation styles, often faltering and occasionally creating "dead-ends," but slowly developing into the style of building which was uniquely responsive to the local environment. The intermediate architectural forms, and even the hybrids which the evolutionary process spawned, are essential if we are to fully understand the evolutionary process itself. If plantations are to be explored by vague references to a corner here and a wall there, it seems likely that we will never be able to understand the complexity of the past.

Likewise the issue of landscape has been difficult to grasp, perhaps because even geographers, who originated its study, do not really agree on its meaning. At many plantations, including Shoolbred on Kiawah, Edwards on Spring Island, and Haig Point on Daufuskie there are indications of the main plantation house being set within a carefully orchestrated landscape organized not on the lines of those formal gardens from Middleton Place, Crowfield, or Broom Hall, but rather on "picturesque" principles. In England the picturesque landscape came to be associated with the idea of "freedom," in reaction to the tyranny expressed so profoundly by the rigid formality of the absolutist gardens. There is an

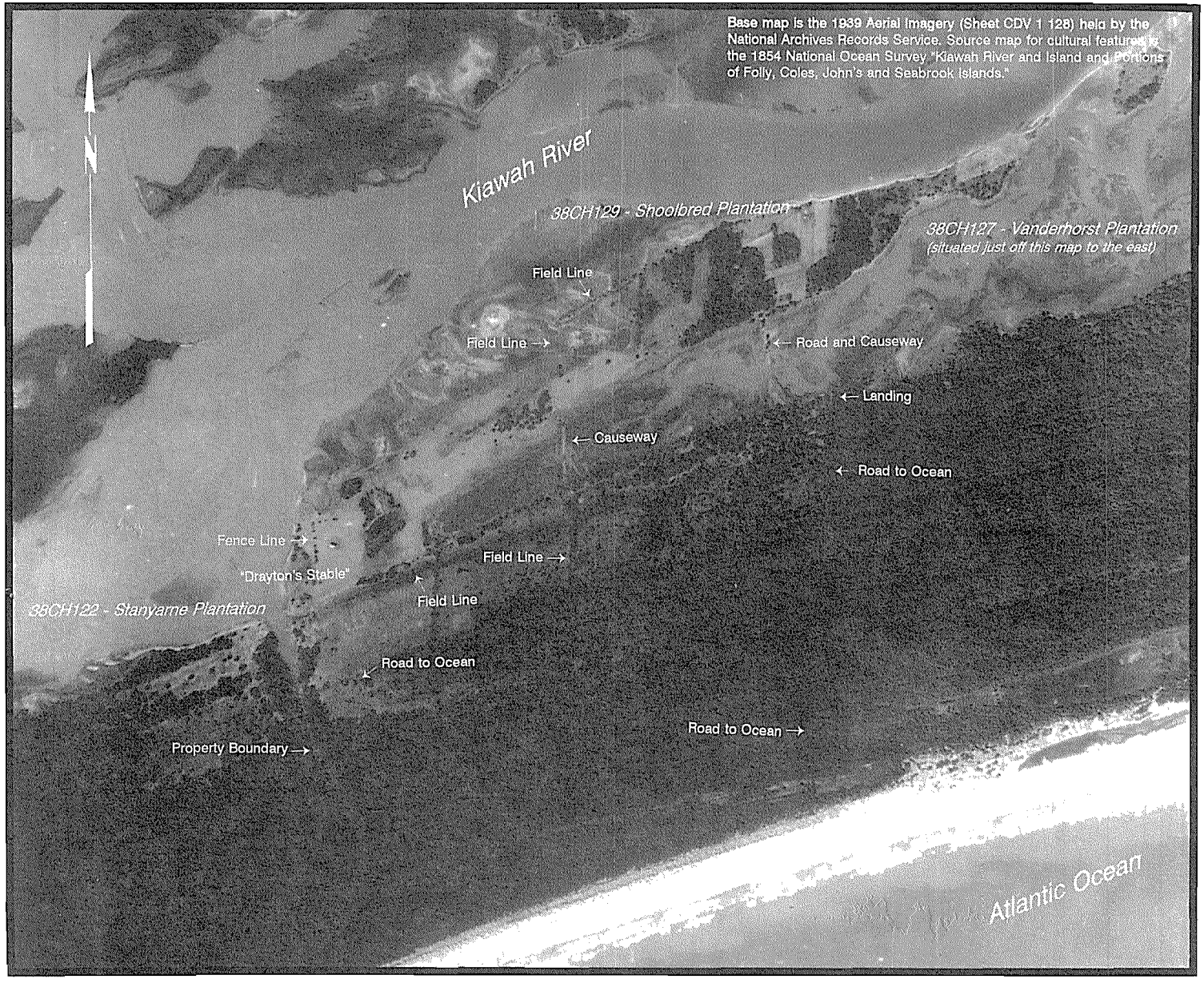


Figure 100. The Shoolbred, Drayton, and Stanyarne plantation landscape in 1939, compared to an 1854 survey.

idealism about the picturesque movement, an appeal to reason coupled with praise for rustic simplicity. Yet on plantations such as those in the South Carolina low country it seems that the concept of the picturesque was transferred with its connotations intact, becoming "one more part in the formal language of a slave owning elite" (Brooker and Trinkley 1991:4). Brooker and Trinkley note that:

> as abolitionist sentiments increased after 1800, planters made idealized, naturalistic scenes for themselves -- scenes which masked, what for us is, the entirely unacceptable face of slavery. To this attitude can also be linked the whole notion of "improvements" in slave housing, the tidy and carefully planned settlements which started appearing just before the American Revolution. These are not unlike the "model villages" where contemporary English landlords "tried to return people to a Rouseausque state of nature" -- a state they had never left in the first place. Tidy peasant houses conducive to rural virtues would theoretically ensure "sobriety, goodness, and perhaps productivity too" (Brooker and Trinkley 1991:4).

At Shoolbred the picturesque landscape incorporated the organized settlement seen in Drayton's watercolor -- the gardens, the structures, and the landing. Also incorporated are the intricate brick drains, some laid on the surface, others buried out of sight. Resembling features found in urban contexts, their function, of course, seems clear. Yet, more importantly, they provide clear evidence of the plantation owner's constant battle to tame what was perceived as a hostile (not picturesque) environment. The cultural implications of these seemingly slight landscape modifications has largely been avoided by archaeologists.

At the level of the plantation complex (see Figure 99 for an idea of this complexity at one plantation, Figure 100 for an overview of a larger area) there is typically a surprising lack of detail in much plantation archaeology. Some research, for example, is constrained by a philosophical orientation, cloaked in Marxism, which emphasizes investigation of power and racism. This approach, surprisingly, at times fails to recognize the complexity of the plantation, composed of a multiplicity of structures, such as barns, stables, kitchens, offices, wash houses, and industrial settlements. The plantation was serviced by roads, cart paths, and walkways. Fences were common and marked off cultural and idealized boundaries, if not real places. Yet, most of these "other" features of the plantation fail to be either discovered or discussed. Work at Shoolbred and Vanderhorst helps us to better understand some this diversity and complexity. It should reveal that there is much more to plantations than we have yet begun to study. As Brooker and Trinkley state:

> we have had varying degrees of success over the past few years in our efforts to preserve some of the artifacts of plantation life -- ceramics, glass, nails, and food bone. Many of these items of household use are preserved in perpetuity for future generations of South Carolinians. But what isn't preserved, and is even often ignored, is the setting in which these artifacts derive a larger, and more significant, meaning. We may found out, albeit too late, that what we have chosen to disregard, might have told us as much, perhaps more, about plantation life, than what we saved (Brooker and Trinkley 1991:6).

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APPENDIX 1.
LETTERS FROM QUASH STEVENS, 1868-1893

Edited by Debi Hacker

The letters from Quash Stevens to various Vanderhorsts have been reproduced as accurately as possible in order to maintain the original feelings and emotions. Spellings and capitalization remain faithful to the original letters. A few minor interventions in the original letters have been made:

- Salutations, closings, date and place lines have been deleted with the information reformatted to provide for standard wording.
- Brackets are used to clarify portions of text that are missing or illegible. Conjectures are accompanied by a question mark, while empty brackets indicate a totally missing or unintelligible word.
- Unintended duplicate words have been eliminated.
- Since the use of punctuation was limited, several spaces have been used to separate complete thoughts to make the letters more readable.

All of these letters are found as part of the Vanderhorst collection at the South Carolina Historical Society in Charleston, South Carolina and are cataloged as 12/213/14.

Georgetown
February 18 [between 1865 and 1868]
To Arnoldus Vanderhorst IV

I have written to you these few lines hoping they may fine yourself and famaly enjoying the blessings of good health I am well at this time I have been expecting a Letter from you Sir for the last two weeks I have Sold the Coast and Binding and thread I expect to be down there Some time in March I wish to know if I must bring the rice or Sell it and bring the money Do tell old master [Elias Vanderhorst] and old mistress [Ann Vanderhorst] howdy for me when you write do Let me know what arrangements you have with the people if you are willing for me to go to Kewah or round o[1] to Liv write and Let me know I think we can do well on ether one of these places raising Stock

Kiawah
January 1868
To Arnoldus Vanderhorst IV

I sen the Boot doon For you I ham giving [picking] the Cotton and have it Soon and comments the 5 Today I Sen you Some potas and I and the hamds did not goo to work int Monday the mules and ox all well The bacon you sent me for 200

[1] This is a reference to Kiawah Plantation and Round O Plantation on the Ashepoo River. Both were major antebellum land holdings of the Vanderhorst family.

ponds it is [only] 156 ponds You had better Bring Some all well

Kiawah
May 23, 1883
To Ardele Vanderhorst

I send the Boait by Willom and Frages. As I can not speair Wineglass. I ham Cuting the Oats and it tisver Fine Mr Freeap says it Will make from 30 to 40 R[ ] I Borrow from Him 2 Cradeal and got one Broking To Do So That Put me Back With the Cuting I send for another by the Boait. My Wife is still sick and yet over Her Troble the Wedder Was so Cole That We need Fiear. The Crop Look Badely and the Cotim is Ding out Say Hody to all. The Chieldorn Send Some Black Beaires and I Sen 2 Doz Egg. All so the Butter and Creaim I send 4 Calves and 6 Lambs

Kiawah
June 6, 1883
To Ardele Vanderhorst

I Send 4 Calves and 6 Lames Butter and Creaim by Wine glass. I Hope to Com Down Next Week Hope all Well With you. Aur Ying Stain Well Heair

Kiawah
June 13, 1883
To Adele Vanderhorst

I Cannot Com Dun This Weeak as I Have to get 5 Palmetto raft ready To Sen of Next Weeak. the Logs is ver much scaterd so I Hav To Hall Them. I Hope all Well. I Hord Last Weeak That you Went To George Town. So I Though Some one Wais Sick Which I Hop not. aur Ying Stain Well Heair and Send the Cord Cream Butter also 5 calves by James.

Kiawah
July 15, 1883
To Adele Vanderhorst

I send 5 bales by the Boauit and the Butter and Creaim 1 Baraileal of Potais. Larieailam is quite Sick With the Fever. All the resst is get oin Well. aur ying stain Well My Wife is get on Nicely. All Send Hody. Please Say Hody To all

Kiawah
November 18, 1886
To Adele Vanderhorst

I Hope This will Fine you all Well and in good Sprit. I Send Don by Wineglass 3 Calves also some Potasto Turnops and Peaieas the Buttr and Creaim I made the Best Crop of Potaito Peais Corn I Have avr mad We Woints Rain vy much the

Catel Fines Water is get Hard I Hav To Dig all the Time To get Water For them our Well on the Iland Has Bin Dry and if rain Doint Com Sone I doint Know Wat We Will Doo For the Woints of Water Theair Has not Bin aney rain Heair 10 Weeaks or more the grass is all Dride up and the Catels Fines Feed Hard and I Hav Grat Trobel to Keep them out of the Crops the Fenc Dois not Hold Them in as Tehir Brake True all the Time and Fortnot For me That We Hav good Nabers on John islan or I Wood Hab bin Sent to the Trill I went sevr Times in spite of all my mite To Keep them Form going ovr Thjeair Samon and I is [ ] and the goe avr Day and Some Times Lait at Night the Stocks is Crazy for the Feails more anevr But I Have the Brige[2] Bilt again and it tis agrait Help to Keep up With Them I Wood Have Lik To Com Doin Buth Can no Leave the Place it tis raineing Now and We Woint it vr much it is 4 oclock in the moring Now I Hope all is Well and in good Sprit Say Howdy To All

Kiawah
May 19, 1887
To Adele Vanderhorst

I send the Butter and Cream Also 1 Bag of Potais 6 Hed of Cabegs aur Ying Stan Weeal Hear the Stocks is Doing Well and all is Well With Me the Butter is Not much is I Wold Like to See Buth Cows is Bad milk as Yeat Sat Hody To All

Kiawah
September 26, 1887
To Adele Vanderhorst

I Havnot Hord From you Since I sine you in the City and I lock it vr Day To Heair Buth Hav not Hord So I gave oud Loking the Cattel Is Not Doing Well I Lost 12 Hads of Cows in the Last 3 months and 3 Had of Sheeap and the Woist of it moast of the Cows Leave young Calves From Too to Tree Weake Hale I Can not Say Waith is the matr With Them if Tis vy dry Hear We Have not Had aney raine For Nearly 2 moints and A vr Bond on the Iland is Dry I have Nevr Seen it So Dry Sin on the Iland. And Have Had to Did Poinds and Cleain out Poinds A vy Weeake To Have Waiter Buth the Waitr is so Bad in A fwe Dayes After That I ird That Have A greadel To Doo With the Lost I Have Some Poinds So Deeap That it Takes Along Paith For the Cows to goe into it the Cropes Have Sae vy much From the Drouth you Cod Set Fier To the Cotton Stackes and it Born as heavily as in Woint the Peais Crops With me is in good Con Diesonj Buth the ondely one on the Iland I Send 2 Lot of Calves To Mr. Johsin 3 in Each Lot and got the money For Them I also Bought A Bull for $31 Doll and Hav Him on the Place and Will Account To you For the Balanc of $37 Dollas We all are Praying For raine as it tis much Neaded I Have to Save all the Hieffr Calves the Stockes is Not in god order.

[2] The causeway or bridge from Kiawah to Seabrook Island, which joined Kiawah with the outside world, was destroyed by the hurricane of 1911.

Kiawah
June 10, 1888
To Adell Vanderhorst

I send 4 Calves and 6 Lames This Week and the Bottr Creaim We Had a god rain Heaiur and avr ting in Prove the Corn Loks Well and the Stocks I send the Calvs Weanvr Theair is Fit Com to market all Well and sen Hody to all

Kiawah Island
July 24, 1893
To Adele Vanderhorst

I Weaint To the City on Tueasdey For the Pordes of see you all and Wais soperise Not To Fine you theair if I hade Knowen That you Waid goin Soosone I wood Come Doine at owence We gade Agradel of raine Heaire and Corn Crope is vy much in geain the Cotton No Bettr the stockes is Doing Well Buth the Price is so Low That I Will Not sell any This month. Pleais Fine in Close Liest of stocke Soll in June I seein Bleainey and gave Him A Liest of the Same I roing To see you All Time is very Duewll theritely Prim Have A Fine Colt in A raine stome so I Name it raine Bowr I Ham glad To say That my wife very much Batter and is good Sperite and all is well and I hope all Well With you and the young Lades and the Cheldon is ingeing the Contlife I Wois Not in the Citey Sin the 8 of Febbery Til Last Tuesday and it Lakes more Like Sundey and it Lokes Tueas All sens Hody To you all

I sein Deain and she Told me That Mr. Elieais is With you Teil Him Hody I wood Like much To see Him

Kiawah
August 17, 1893
Adele Vanderhorst

yours of Came To Hand on the 15 and I get the Blanckets and Put Them in A Box and Shipe as Dreckeshon Too Bobbel + opne sieng you First Let Came on the 5 and Foine me quiete Sick With the Cheil and Fecker I had the Woirset atack I Had For 20 Years I Had To sen For the Dockr yesteday is the Forst I God goe ouite For 3 Weeake in Fack I Have Aregetar Hostelel Heair my Wife and all is Sicke With the Fever also Loeailer

I am very sorry to Heair of Bosetey acedainc it Tiest up wite Sade To me and I Can Hardley onder Stain Ha the acie Hapen Buith gald to Heair He is much Batter I Hope He Will Beeable Top Ouise His Hands some I Ham Suerfin Now With romecket in the Hipe Pleaise Tel Borethey Hody For me I Ham sorey Tahat He Wois Eprive of moste of His mome Holeday Pleaisher Buith Theis Tinges Will Hapen All is sorey To Heair of His Bad Locke and send Hodey

Kiawah
August 29, 1893
To Adele Vanderhorst

We Had Agraite stoim[3] Heair and the Tide Caime owpe in my House and Trow Doin one of the Chimbles 9 House on the Plaise is Woish Don also Chimbles I Had To Let some in the Bigge House[4] Haife of the Slate is Blone Off the Ruef the inter Crope is Lost by Wooter the Tide Came over From the Ochorn The Holl Island Wais Owender Wooter From 2 to 8 Feet very Tinge is Destersory avery greeaione Ortbeso is Cill by Solt Wooter and Neither man or Beais Cod get Freish Wooter I Had To Cock With Solt Wooter Buith it raine Heair on Thirsday Night so it Litel Beter Now For Wooter all the Pipelp[Has Lost all the Proveishen They Hav on Hand as moest of the Litel Bairns Bien Swepte away I Have Buith 2 quuerte of griest on Haind Buthj We Have Not aney STocke as I Can See as yeat Mr. Fry Legill and Famely Had To move oute in the storm in the Night as His House Came of it Balcke He Lost 6 Hands Droing and Neailey all of His Howes Mr Andell[5] Lost Neailey all of His Howes swepte away one Cow and Colt From His Plaise Wois Foind in Woodenlowels Island[6] Mr Frey Lost 3 Horse and Alote of sheepe so We Have Bin so Lockley as No Life or stocke Has Bin Lost I see Nothing Left For Ouest Buith starveishen or Leave Some other Prte of the Countery the Corn Wois all Lost by the Havey raines so No Proveaishen is made or Ctoon That Litel Cotton is Lefte is all yealer so Doint Tink it Woot Picken I Have Lost aboute ane mill of Fincen all swepte in the river the Hands Will bee Com Pell To Leave some to Honte Foode the Steeme Shipe Citey of savemes is Lost alowed the Couse as Some matess and Chears Had Come ouipe on the Beach I Hope all Well With you and Bortey is oute again aner is still sick With Her old Dooies

Kiawah
September 3, 1893
To Adele Vanderhorst

I feel as if you would like to hear from us personally Kiawah is a scene of confusion but we are all here. All crops gone. 9 quarters houses down likewise all chimneys. Our chimeny down also Stevens says only three bags of cotton will be maid on the Island. Cattle all in the fields, fences all gone. We have about 3 qrts. of gr. in the house. Oh! what a night of confusion we had. If some strangers had not come from John's Is. and the rain penned them here that night we would have been a lone. Just to see our things float about. As far as we could see we could not see anything but water. Water came up into the shed rooms. We are thinking what to do. Its a week today since we had the Storm. The wind is back in that quarters no lives lost on your place. For three days men nor beast could get no water. The people kept diging wells to see if they could get some to drink. Cattle would go to the River and try to drink but they could not Since the rains, the dogs are [ ] paralized also my ducks. Turkeys are all

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[3] This is a reference to the hurricane which hit South Carolina on August 27, 1893. A storm tide of 17 to 20 feet was reported and upwards of 2000 people were killed. This was perhaps the worst hurricane to strike Charleston in the last quarter of the nineteenth century.

[4] The "Big House" would be the Vanderhorst mansion on Kiawah Island.

[5] William Andell, owner of plantations on Seabrook and Johns Island.

[6] Wadmalaw Island is about five miles due north of Seabrook Island.

gone. On our Sister Island[7] one colored man lost his wife and 5 children. Oh! the damage is unspeakable. Ann is down, we are all out again Starvation Starvation I hope you are all well your son that had had that sad accident happened to him is out again I shall not tire you close wishing you success

Kiawah Island
September 13, 1893
To Adele Vanderhorst

I Have Not Horde From you Since the greaite stome I rote To you Buth got No replie Buth Theair Hasnot Binne any maile sin the storme Heair as the steamer still on Hillard Theair is No Waze of get the maile But I got Worde yestr Day That one Will Com oure on Thurs Day the reaielf Comete in the Cittey sen Some Proveaishen oure To Bea given outh To the Peailer Which gave oute on Thurs Last. mose of the men Went To the City to get Woorke Buth Came Back bouth Fine Andy Thing to Doe I Ham mo abel To Day To gave you the Condeaishen of Tinges Heair one This Island is boy Possen and the Island Will Not make 4.00 Poinds of Seed Cotton the Corn Will Not Dived oute Haf Busehl To the Head All Llipes is spile by Salt Water I have at leaist 2 miles of Feainces Swept off the Island 11 Hous is flat on the grone With Theair Chimles and Salte Watr With Heavy rains maks the Place Smeile off owll and I Feair We Will Have graite siken We Had greate Trobel To get Fresh Watr Biuth the Havety raines Have given aplenty and Have the Litele Corne That Wois Left So Sour That it Cannot Beains. Buth We are Fourchen in Not Loise andy stocke it tis Hared For me To Hondr stan How None of the Catel is Cill by the Falling Treais the Hole Woode is inrovaine most of the Treais routed bike I Still Have Sickns

Now Mis Adaill I tink if you Will Le me Cut oure the Fallen Treais and Tries Sell them in the Citey it Wode Help the peaple To get some tinge To Eate Clods to Wair and Help in Puting oure the Houses All the Stockes is Doing very Well I have Bine Bisy Cleaine oure the rodes sin the Stome all the Bregs is goine also the Worfe Wich Wois vry valebel To the Plaise Tinges is very glouemy Heair I Hope all is Well With you and Morter is all rite again

Kiawah Island
August 22, 1894
To Adele Vanderhorst

your Letter Came To Hand and I Wois glade To Heair From you A very Ting is very Blue Hear the raine Has Horte the Cropes vey much Both Cottone + Corn Pruteng mch all the Forder is Loste and is still raing We have had raine Heair sience the Last Weeake in Juely oure to the Praisesont much of the Lands is ondr Waatr. all the Catel is Doing very well Buth I Fear the Worst is [ ] as Toomoch raine for the Sheepe. the market is very Low For stocke Calves is Bring From $2.50 to 3.00 Buth I Will Not sely aney stocke at siech Price. Avery ting We Have To sell Bringes Nothing Buth Wenn you goe To By you Have To Pay Hie for all you gets. you sayde you Hope I Will vote for Generl Bluter[8] I Will

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[7] The "Sister Island" is probably Seabrook, just to west of Kiawah.

[8] This is a reference to the 1894 Senate race between Governor Benjamin Tillman and the incumbent, General M.C. Butler. Tillman's populist movement, appealing to rural, upcountry farmers, was based on a hatred for the wealthy "aristocrats" and blacks. Tillman, in an election which verged on violence,

vote with Corets and That Facken in Dars the Generl Buth if the Tillman manergrs Will Lete the Corsea vote This Time you Know to ride 15 mills and Then Cannot vote Dais Not Paz Moest of strate aut Damcrate arong Heare Sayes They Will Not vote atoll the Bline Stackers is very Bad Among the Hoses I had one Sick Mis Andel Lost Tree Neaily all in This Place is Dead. I Hope all is Well With you I tenk you very much For That Fine Hat For it tis So Hote Now That one Cannot Sleepe the nosy is Bade Hear my wife sen Hody To all Rite Some and Let me Heaer Hoe all is

the Tillman is Have Tinges His oneway the Hole state is in Bad Fiex and I Caint see Howe the good Peapel of the state Canstan it much Longer To Be roull by That Pore Class Harf Eacket Harf sileve it tis Drad Fuill No Man Life is safe Now

Kiawah Island
October 14, 1895
To Adele Vanderhorst

I Send one Sack of Pottaeas I Ham Sorey That I Did Not Know soner That you Wais in the Citey as I Wood Like To Have Talk With you Aboute the Plais I Will Doo all I Can To make it Pay you as Well as myself I Wais Toild by Afraind That one Had Sask Him Aboute Woat He Toght the Place Wois Worth With the Socks So it makes me Tink Som one is After it Buth I Know Hoe I am Dealking With and if aney one Woint the Place you Wood gave me the Preffreince and I so remark To my Frind I Have Not miend my intent To aney one Now Mis Adall Pleais rite and Lete me Know So my mind Can Beeat Araist. I Will Have some money Putin the Bank For you This month Hope To Heair sone say Hody To all

Kiawah
no date
To Adele Vanderhorst

Now I Hope Bemen Haes Send the money To you For the stocke I Ham shipe some This month the Cropes you say That you Hol is good I am sory To say is the Worst I Have Eavr sine Heair the Corn is atoilet Lost the Holl Plaise Woint make 2 Carte Lode I lost 13 Ackers myself That I Wooden get me yeairs ouent. the cotton almost is Bad the raine is Tomecmak For any Crope I Have Plainted Agod Lot of Peais and sLipes Buthe if the raines Ceepe on I Will Not make ane of Them the Withr Woiss the Worse I Have Senine Heair Liten Strucke Mr. Andell House and Friten the Famely very much buith No one Wois Huert Theair is Agreadel of Sichnest on the Island and the Catpeailr in the Cotton make avery one Woisse sick I Hope This Will Fine all Well Please say Hody To all the Famely For me

---

easily defeated Butler.

APPENDIX 2.
ADDITIONAL SURVEY OF CIVIL WAR SITES ON KIAWAH ISLAND

Michael Trinkley

Introduction

The South Carolina State Historic Preservation Office (SHPO) specifically requested that Chicora Foundation undertake a metal detector survey of 28CH127 to determine possible artifact classes and site boundaries, a metal detector survey of a portion of 38CH1220 to determine the northern site boundary, and a metal detector survey of 38CH1222 to assist in establishing the boundaries of the site. In addition, subsequent to the metal detector survey at 38CH1222, the State Historic Preservation Office also required that portions of the site be stripped to determine if features could be identified.

These requests largely relate to recommendations included in the Camp Baird, Hilton Head Island study which criticize the use of shovel tests for boundary determinations at military sites (Legg et al. 1991). In addition, the requirements for additional study at 38CH1222 are related to a series of letters and telephone calls generated by a North Carolina collector who was familiar with the site and who claimed that the site was significant based on materials found through the use of a metal detector.

In reviewing the literature immediately available on South Carolina military sites there seems to be a dearth of clear information on the equipment used, the methodology employed, and the interpretation of the findings. Legg and Smith (1989:84-85) only briefly discuss the approach, noting only that transects were used, that the equipment used would detect items to a depth of about 12 inches, and that the detector was "'tuned' not to indicate the presence of small iron objects" (Legg and Smith 1989:85). The only literature immediately identified which discusses the methodological use of metal detectors in archaeological research is Heimmer (1992), who comments that metal detectors can be useful in boundary determinations and are particularly useful when used in conjunction with other survey techniques.

In response to the SHPO's request the work was undertaken by Chicora Foundation using a Tesoro Bandido II™ using an 8-inch concentric coil (electromagnetic type operating at 10KHz). The instrument has the capability to operate in either an all metal mode or discriminate mode (which eliminates ferrous metal response). The all metal mode is the industry standard VFL type which does not require motion of the search coil for proper operation. The discriminate mode is based on motion of the search coil, but allows control over the detector's response to ferrous metals.

Since the primary goal of this work was to explore site boundaries (although at 38CH227 a secondary goal was to identify the artifact data sets which might be present), the instrument was operated in a discriminate mode, with a low discriminate level (set at 3) in order to eliminate relatively few non-ferrous objects. Since operation in the discriminate mode with this particular instrument offers no "threshold" sound to provide an indication of the density of non-ferrous material, the detector was periodically (i.e., alternate transects) switched to an all metal mode to evaluate the amount of associated ferrous materials (which at a military site can be quite dense). While an exclusively all metal search mode would have provided a larger number of potential targets, since the goal of this work was only to establish site limits this was achievable with lesser effort using a discriminate mode.

Further Evaluation of 38CH227

Figure 101 was prepared by Southeastern Surveying in January 1994 at an original horizontal scale of one inch to 20 feet and a contour interval of 0.25 foot in order to accurately record the topography of the site. Inspection of the figure reveals an extensive beach along the Kiawah River with a slight elevation resulting from the deposition of eroded shell. A narrower beach fronts the creek to the southeast of the site, while relatively level marsh characterizes the area south of the remnant site. The only clear indication of the fortification itself are two small areas of parapet using shell midden to provide protective relief. There is some indication (more visible on the map than on the ground) of a terreplain, or gun platform, and embrasure, or parapet opening, facing to the southeast. It seems likely that this represents the southeast corner (or backside) of the fortification.

The use of the metal detector at 38CH227 had two goals: to confirm or refine the boundaries previously established on the basis of topographic features (i.e., high ground surrounded by marsh) and to determine what types of metal artifacts might be present at the site. To achieve these goals the survey incorporated a series of transects following the beach, the beach bluff area, and the site interior, and the backside or marsh area of the site. Figure 103 identifies the location of these transects. Given the goals of the survey and our concern that the wet, saline marsh soils might interfere with accurate metal detector readings, each survey transect was evaluated using both an all-metal and a discrimination mode, with each "hit" or target flagged for subsequent excavation. Each transect was approximately four feet in width.

We found no problem in using the metal detector on either the high ground or the shell bank, although the marsh soils provided a large number of false readings. Ignoring those false readings directly attributable to the marsh soils, there were 18 "hits" identified during the survey, with 16 producing identifiable cultural material. Of those 16 only two produced materials dating from at least the nineteenth century, including one brass nail fragment and one plain brass button (South's Type 9). These two items were "clustered" at the north end of the site. Both exhibit extensive corrosion resulting from the high salinity and periodic wetting and drying. The remainder of the identified items date from the twentieth century and include beverage can pull-tabs (which yield a metal detector signal similar to a brass button), a nailing plate, wire cut nails, and modern wire -- all materials frequently found washing up in marine environments.

This additional work largely confirmed the original survey expectations. The site boundaries remain associated with the high ground, the metal detector survey being unable to identify items in the salt marsh and the two items found being insufficient to refine the boundaries previously proposed. The items recovered, like the salt glazed stoneware found during the survey, are appropriate for the documented period (in fact, the Type 9 button is typical of a colonial period, perhaps pre-dating the War of 1812). The scarceness of such artifacts suggests that, as documented, most of the site has been destroyed. The metal detector survey suggests, although cannot prove, that the shell spit, or extension, to the north is redeposited wave washed material.

Further Evaluation of 38CH1220

Based on the original surface survey the northern boundary of this site was established at the road and ditch (see Figure 104). The road offered areas of excellent surface visibility, while the ditch banks offered the opportunity to explore a cut along the entire 1000 foot length of the site (providing a near functional equivalent of site stripping). The use of a metal detector at 38CH1220 had one goal -- to evaluate the site's northern boundary to determine if artifacts could be found north, across the ditch.

Three metal detector transects were used. One followed the road south of

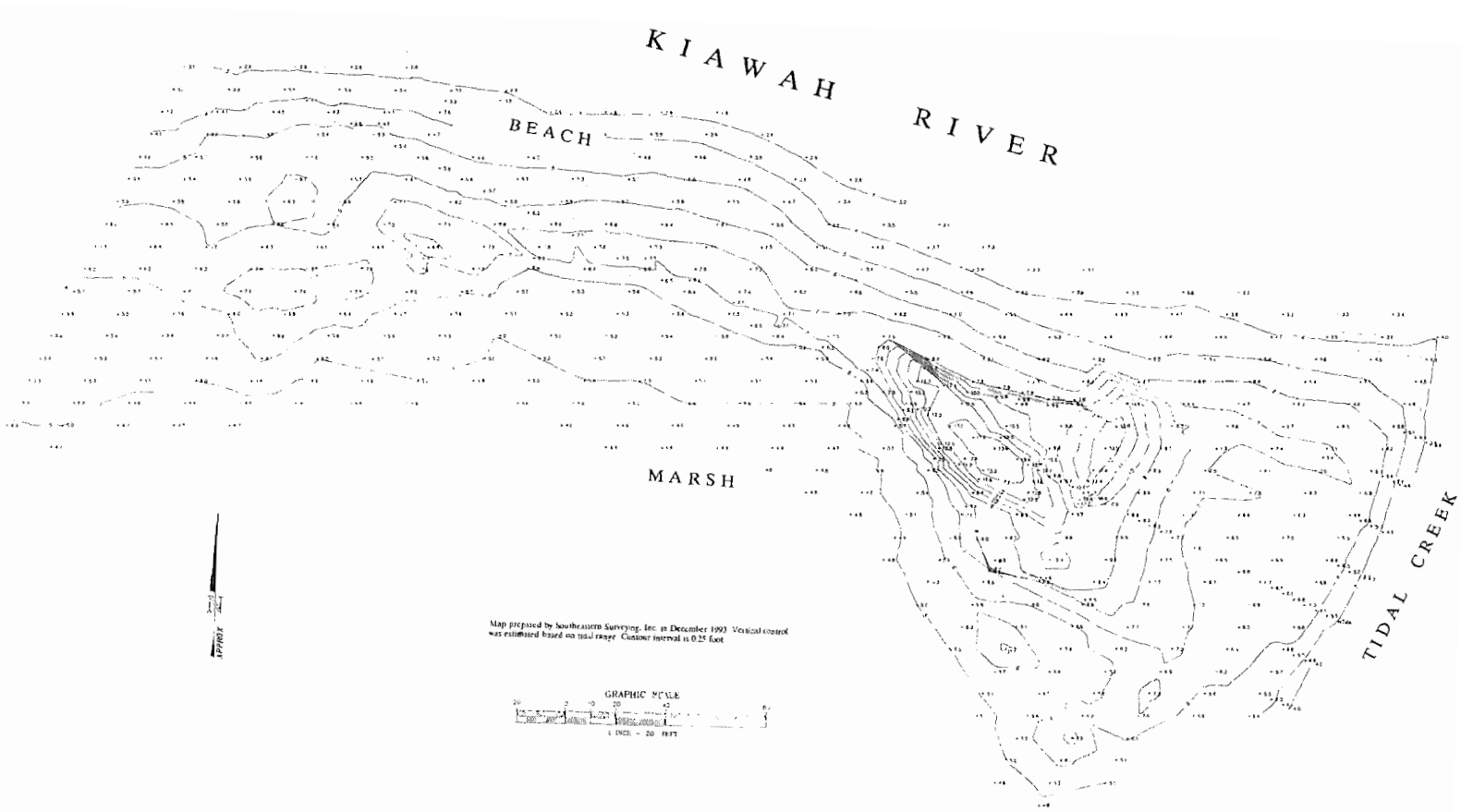


Figure 101. Topographic map of 38CH227.

Figure 102. View of 38CH227 showing its limited topographic relief and extensive erosion.

the ditch, within the current site boundaries. This transect served as a control, to determine the number and types of artifacts present at what was thought to be the site periphery. Two additional transects were placed north of the ditch -- one perpendicular to the ditch toward an area of higher ground and one parallel to the ditch.

Figure 104 reveals that the transect along the road at the site edge produced a few materials potentially associated with the Civil War encampment, including an axe head, a brass nail fragment, a US .577/.58 cal rifle-musket bullet, and a nail fragment (the other two items are .50 caliber machine gun bullets probably associated with the troops stationed on the island during WW II). While artifacts are not abundant, this supports our contention that the transect was placed on the edge of the site.

The other two transects failed to identify any material. They did, however, confirm the presence of very low, wet areas not suitable for a camp site. In fact, much of the area north of the ditch consists of an Army Corps defined wetland (Ray Pantlik, personal communication 1993). Consequently, the boundary of this site is maintained as originally established.

Further Evaluation of 38CH1222

The detector survey was undertaken by establishing a series of five transects bisecting the site every 100 feet north-south (see Figure 105). The detector sweep followed these transects, providing a coverage of about four feet (two feet on either side of the transect centerline). Transects 1, 3, and 5 were

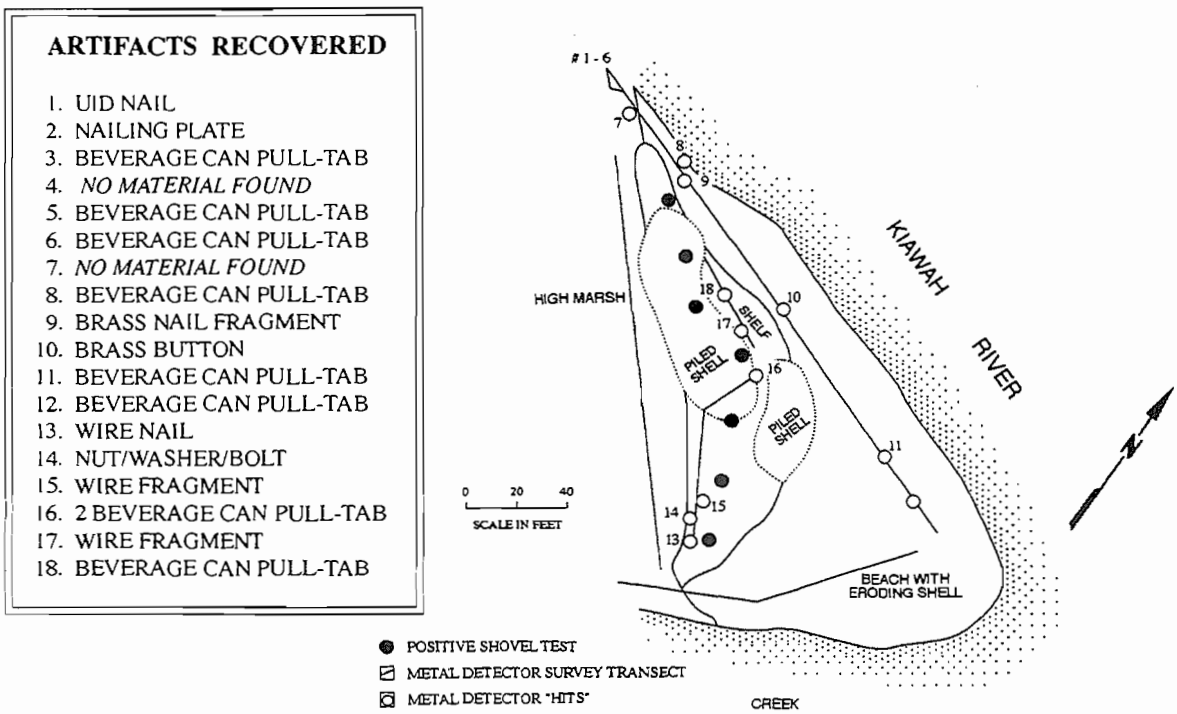


Figure 103. Site 38CH227 showing metal detector transects and "hits".

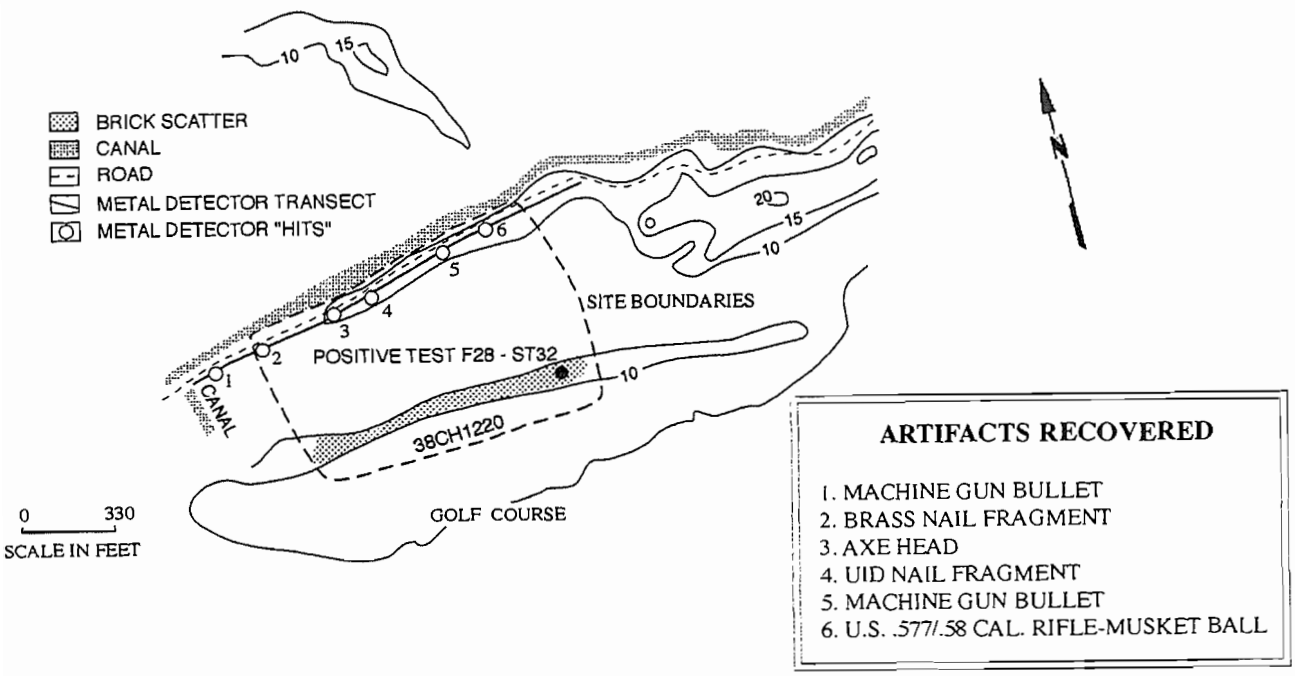


Figure 104. Metal detector survey of 38CH1220.

conducted using the all metal mode, while Transects 2 and 4 were conducted using a discriminate mode. Each hit was flagged for later recordation and ground truthing.

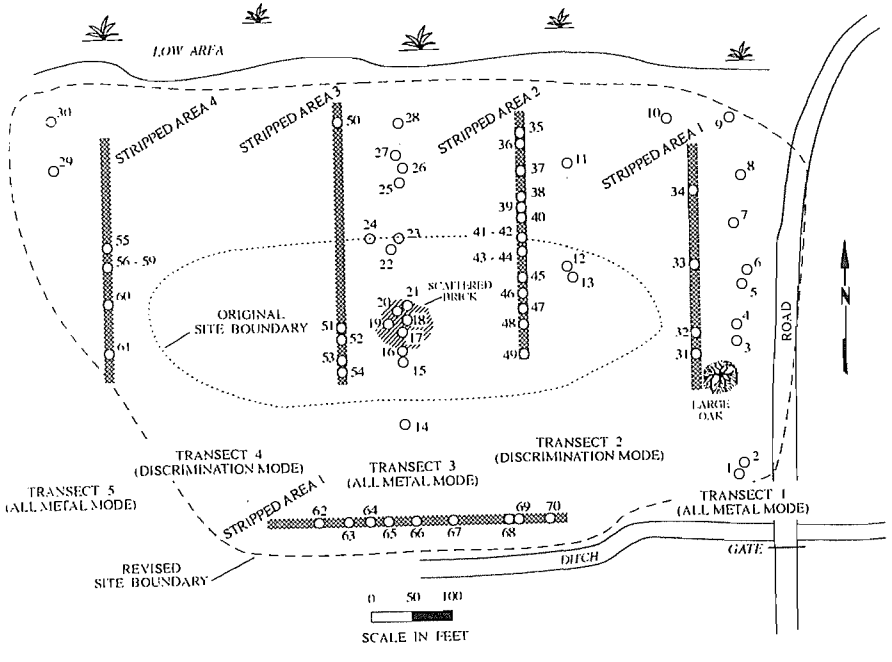
As revealed by Figure 105, Transects 4 and 5 appear to define the western edge of the site. The sparsity of materials found at the southern end of the transects suggests the southern boundary (impacted the east-west ditch dug a number of years ago). Although artifact density along several transects increased toward the north, this probably relates to the denser vegetation in these areas, which in the past probably discouraged relic hunters from entering the area. This northern boundary is also recognized by a marsh inlet and very low ground. The eastern boundary seems to correlate with the north-south access road. The boundaries suggested by this work are about 150 feet north-south by 400 feet east-west.

At the conclusion of the survey the individual hits were mapped in and then recovered through shovel testing. The goals of this work were to verify that the hits were associated with site artifacts and not recent trash, identify the type of material present, correlate the hits with the type of signal, and identify the depths of the various items. The results are also shown on Figure 104.

About this same time the State Historic Preservation Office received communications from a North Carolina collector who felt the site was significant. A map provided by the collector, reproduced here as Figure 106, reveals that the site is 38CH1222 and that the site boundaries suggested by our metal detecting survey are essentially those proposed by the collector. Spurred by the collector's insistence that the site represents an encampment, the State Historic Preservation Office required that a third phase of survey, incorporating a series of three stripped transects, be undertaken. The goal, obviously, was to determine if features typical of an encampment, such as latrines or wells, could be identified.

Consequently, a series of five 10-foot wide transects shown in Figure 105 were opened by Chicora Foundation using a small bulldozer. Several transects revealed essentially identical stratigraphy -- about 0.6 to 0.7 foot of hardpan overlying gray sandy A horizon soils. Below is a yellow sand subsoil. We have identified that the "bulldozing" identified by the collector is actually the placement of hardpan over a portion of the site. Conversations with the equipment operators performing the work reveals that no A horizon soils (i.e., "topsoil") was stripped off during this operation. The addition of this hardpan, however, certainly accounts for the limited success of the earlier metal detecting effort (which was required to penetrate both the 0.6 foot of hardpan before the original soil deposits could be reached). Where the metal detecting was most successful (such as around the brick scatter in the central portion of the site, identified as a "feature" identified by the collector) is also where there was little or no fill.

Regardless, the site stripping was successful at penetrating the overburden and A horizon soils to allow examination of the subsoil for stains. Each stripped cut was visually examined with any suspicious stains shovel scrapped to permit better examination. Two more cuts were placed than required by the State Historic Preservation Office to ensure adequate coverage of all potential site areas. One of the crew members on this project (Ms. Liz Pinckney) was involved in the Folly Island excavations and is specifically familiar with the nature of both well and privy stains. Likewise, the author has been involved in the excavation of two plantation wells. The only feature identified during the stripping operation is the presence of the original road bed and associated ditch (shown on Figure 106). No features of any description were found which might be associated with a Civil War military site. Confirming the statements by the equipment operators, there were no "features" resulting from previous site stripping (i.e., bulldozer gouges, buried organic material, or relic tracks).



ARTIFACTS RECOVERED

1. WIRE FRAGMENT (MODERN)
2. WIRE FRAGMENT (MODERN)
3. BEER BOTTLE FOIL
4. BEER BOTTLE FOIL
5. UID IRON
6. WIRE FRAGMENT (MODERN)
7. UID NAIL FRAGMENT
8. SHOVEL BLADE (7 X 12 INCH)
9. 20 CUT NAIL FRAGMENTS
   SUSPENDER SNAP
10. BRASS KNAPSACK HOOK
11. CUT NAIL
12. BRASS LATCH
13. BEER CAN (MODERN)
14. *NO MATERIAL FOUND*
15. CUT NAIL
16. 2 CUT NAIL FRAGMENTS
17. CUT NAIL
18. 2 STRAP IRON FRAGMENTS
19. BRICK
20. 4 UID IRON FRAGMENTS
    CUT NAIL FRAGMENT
21. CUT NAIL
    WIRE NAIL
22. SPIKE FRAGMENT
23. SPIKE FRAGMENT
24. BRASS NAIL FRAGMENT
25. RIFLE SHELL (MODERN)
26. SPIKE FRAGMENT
27. SPIKE FRAGMENT
28. LEAD STRIP
29. *NO MATERIAL FOUND*
30. *NO MATERIAL FOUND*
31. KETTLE FOOT
32. CUT NAIL
33. UID NAIL FRAGMENT
34. CUT NAIL FRAGMENT
35. WIRE NAIL
36. 7 UID IRON FRAGMENTS
37. IRON RING
38. UID NAIL FRAGMENT
39. IRON HOOK
40. UID NAIL FRAGMENT
41. UID IRON FRAMGENT
42. 2 UID NAIL FRAGMENT
43. UID N AIL FRAGMENT
44. UID NAIL FRAGMENT
45. U.S. BAYONET SCABBARD TIP
46. UID NAIL FRAGMENT
47. CUT SPIKE
48. *NO MATERIAL FOUND*
49. CUT NAIL FRAGMENT
50. UID NAIL FRAGMENT
51. BRASS KNAPSACK STRAP TONGUE
52. UID NAIL FRAGMENT
53. CUT NAIL FRAGMENT
54. LEAD FRAGMENT
55. PINTLE
    UID NAIL FRAGMENT
56. U.S. .577/.58 CAL.
    RIFLE-MUSKET BALL
57. *NO MATERIAL FOUND*
58. *NO MATERIAL FOUND*
59. UID NAIL FRAGMENT
    U.S. .577/.58 CAL.
    RIFLE-MUSKET BALL
60. UID NAIL FRAGMENT
61. UID NAIL FRAGMENT
    ASPHALT FRAGMENT
62. UID NAIL FRAGMENT
63. BRASS NAIL
64. SPIKE FRAGMENT
65. UID IRON
66. U.S. .577/.58 CAL.
    RIFLE-MUSKET BALL
67. *NO MATERIAL FOUND*
68. U.S. .577/.58 CAL.
    RIFLE-MUSKET BALL
69. SPIKE FRAGMENT
70. U.S. .577/.58 CAL.
    RIFLE-MUSKET BALL

Figure 105. Site 38CH1222 metal detecting and stripping.

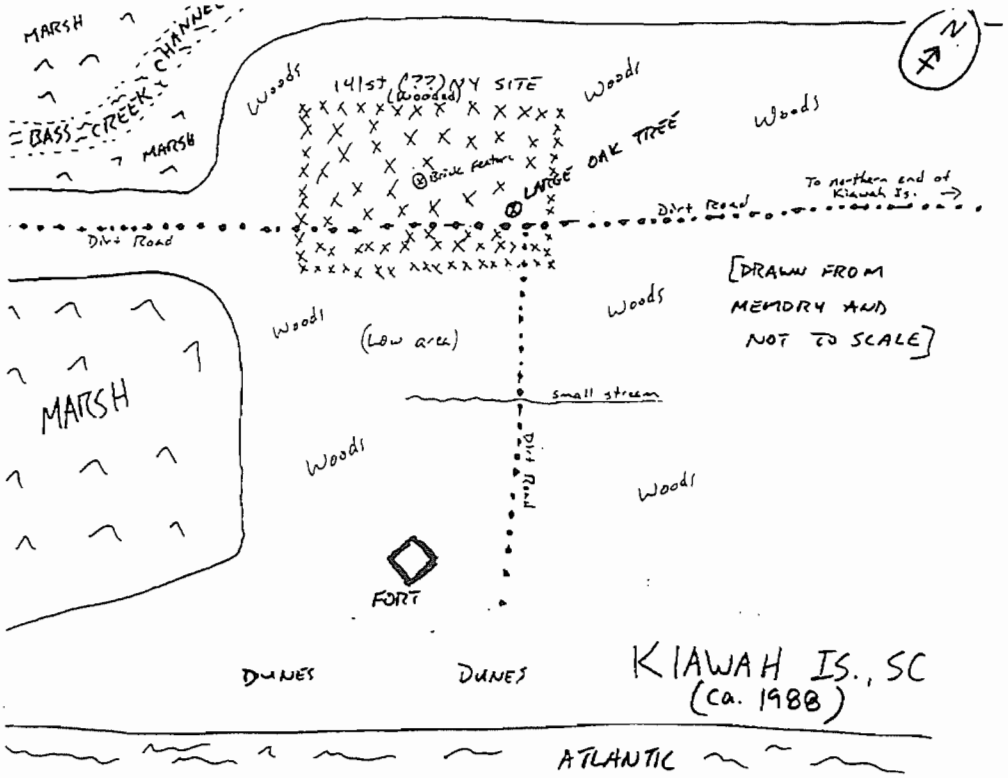


Figure 106. Map of the site area by relic collector.

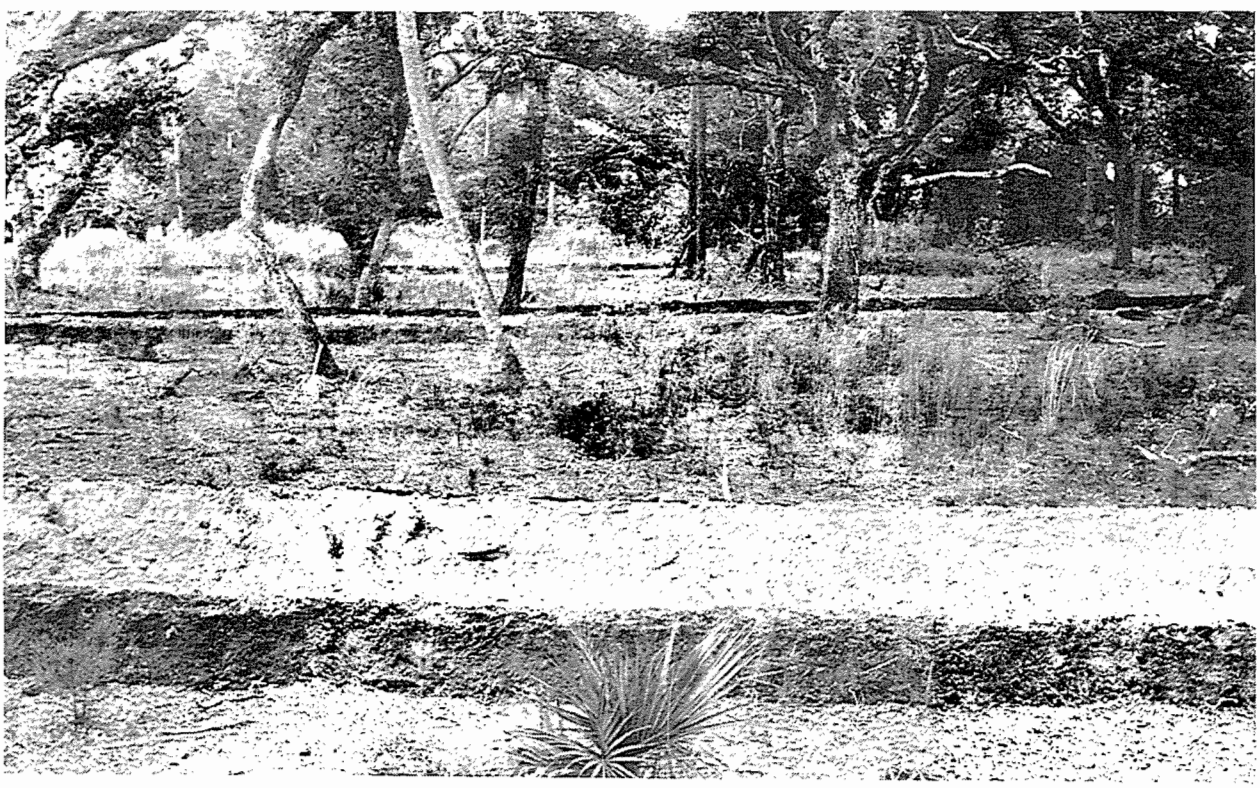


Figure 107. View of site area during stripping.

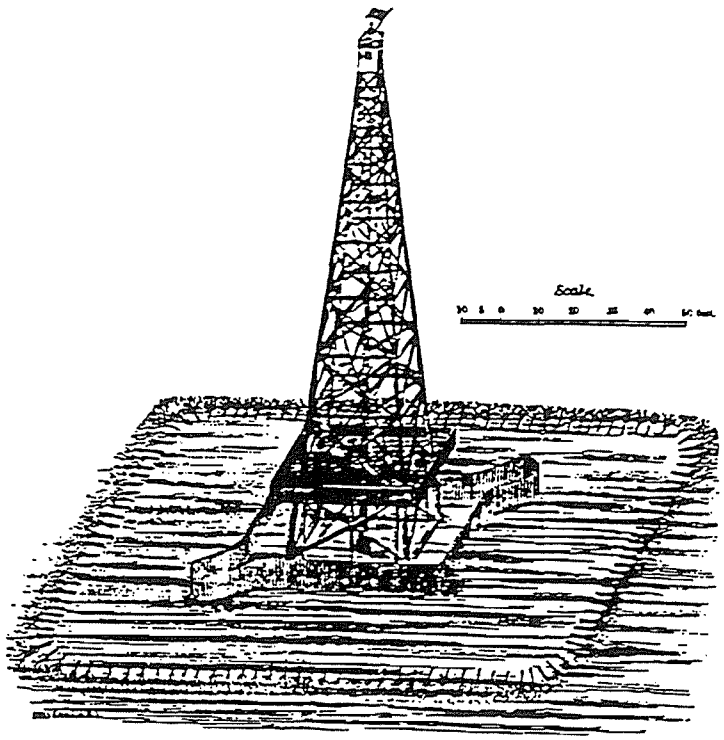


Figure 108. Drawing of signal tower, adopted from Hagy (1993).

While not required by the State Historic Preservation Office, one additional step was taken prior to the backfilling of these cuts. Each one was used as a metal detector transect. Using a non-discrimination mode, 38 "hits" were recorded, then excavated. Two of these proved to be false readings while 29 resulted in the recovery of non-military items, 73% of which are architectural (primarily nail fragments). Seven "hits" yielded military artifacts, including one brass knapsack strap tongue, one U.S. bayonet scabbard tip, and five U.S. .577/.58 cal rifle-musket bullets.

The additional survey at 38CH1222 has made a substantial contribution to our understanding of the site. We can confirm that the site reported by the collector is the same as 38CH1222. There is no substantive difference between the site boundaries proposed by the collector and proposed as a result of the metal detector survey refined with site stripping. A series of five cuts, however, failed to provide any evidence for preserved subsoil features (although they did produce a small quantity of military items).

The information generated by this additional study -- the absence of features and the relatively small quantity of military items -- fails to support the contention that the site represents a military encampment, although military use of the site is clear. Since the artifacts are dominated by architectural remains, especially large spikes, it may be that the site was the location of a signal tower. Such an explanation would account for the large number of architectural remains relative to military items. The seemingly scattered concentrations of military items may reflect a series of pickets responsible for the signal tower.

Signal tower construction, and use, has not been thoroughly researched. However, Hagy (1993) illustrates a period engraving of a "signal tower between

Folly Island and Hilton Head" (Figure 108). This drawing shows what appears to be a defensive perimeter and tower, with the entire "site" covering an area of 160 feet square. It is not clear whether pickets would be encamped inside or around the perimeter feature.

From a methodological perspective the instrument used performed very well, providing good signals of relatively small ferrous objects (such as spike fragments) to a maximum depth of 1.2 feet. Used in the discriminate mode alone it is likely that the boundaries would have been less clearly defined, largely because so few non-ferrous objects were present. The detector was also successful at locating subsurface bricks in the all-metal mode, noting the concentration in the center of the site, corresponding the vandalized feature previously identified (and also reported by the North Carolina collector). Stripping of the site served to clarify issues which were unresolved -- the site boundaries were further refined, the stripped cuts allowed more successful metal detecting to be undertaken, and most importantly, the cuts revealed that no features could be identified.

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