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Discovery at Santa Elena: Boundary Survey

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Discovery at Santa Elena: Boundary Survey

Description
This report presents the results of archaeological research carried out on Parris Island, South Carolina, to expand our knowledge of occupation by Spaniards in the sixteenth century.

Keywords
Excavations, Parris Island, Spanish, French, Port Royal Sound, South Carolina, Archaeology

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by

Chester B. DePratter and Stanley South

with contributions by

James B. Legg, Dennis G. Graham, Jr. and Lisa R. Hudgins

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PREFACE

This report presents the results of archaeological research carried out on Parris Island, South Carolina, to expand our knowledge of occupation by Spaniards in the sixteenth century. The first of three projects reported here was designed to locate the boundary of the sixteenth century Spanish settlement of Santa Elena beneath the U.S. Marine Corps golf course. The second project was a search for the location of the Spanish Governor's estate on Barrow Point, eight tenths of a mile west of the Santa Elena site. The third project attempted to determine whether the area around the Marine Corps Officers' Club on the north bank of Ballast Creek had been occupied by Spaniards during the sixteenth century. The methods used to search for the boundaries of these areas and the results of these projects are presented herein.

In carrying out these archaeological search objectives, we fully realized, from past excavation projects, that we would be finding evidence of occupation of the site by Native Americans long before the Spaniards appeared on the scene. We knew, too, that we would find evidence of those Indians who met the Spaniards, some of whom lived in Santa Elena as servants, companions, and mates. We also understood that we would be finding evidence of those who lived on the island in the eighteenth and nineteenth centuries, long after the Native Americans had gone, during the plantation period of use of Parris Island. We also realized that wherever we have excavated on the island we have discovered evidence of the most recent, twentieth century occupants, the personnel of the United States Navy and Marine Corps.

In previous projects, since he first began his work on Parris Island in 1979, South has taken care, as part of his professional obligation, to religiously record such evidence of Native Americans, planters and their African American slaves, and the Marine Corps occupation, although his primary goals were focused on discovering all he could about the sixteenth century Spanish presence on Parris Island (South 1979a:21-28, 1980b:58-64, 1982:22-25, 53-55, 60, 69-86, 98-110, 1983:42, 66, 70-79, 1984:16-19, 79-84, 1985:25-30, 72-73, 1986:16, 23-30, 47-66). Given this extensive track record of recording evidence of all occupations, it was accepted as a given that this well-established anthropological/archaeological tradition of recording the evidence from all periods of occupation on Parris Island would be continued in the present project.

Therefore, on one page of this report the reader may find what the surviving documents have to say about Spanish Santa Elena and her people, Spaniards, African Americans and Native Americans, and on the next page read a discussion of what we know of the nineteenth century planters and the African Americans who tilled the soil where Santa Elena once stood. This may be followed by illustrations of U.S. Marine Corps military accoutrements from the first World War and bombs dropped in the 1930s when the soil where Spaniards trod was used as a bombing range. Needless to say, this type of presentation keeps the reader on his/her toes.

As the readers move through the pages to follow, we hope their attention will be drawn to the variety of information an archaeological site has to offer about the behavior that took place in the past and the processes driving that behavior as revealed by the historical archaeology record. That record is a multi-layered palimpsest on which each occupation has left a mark in the archives and the soil, a mark that is not totally erased by each succeeding wave of people who use the site. It is the archaeologist's responsibility to recover and decipher that complex record and to press on it a meaning. In this report that record is revealed, not as neatly separated sets of cultural remains taxonomically classified
into chapters in time and space (which the archaeological record certainly is not), but as a
document still having much of the complicated character of the archaeological record
clinging tenaciously to it.

Sponsorship

The projects reported here were accomplished through the joint sponsorship of the
South Carolina Institute of Archaeology and Anthropology, University of South Carolina,
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Report Appendices

The body of this report contains background information, methodology, and results
of the Santa Elena boundary survey. Additional information relating to this work is
contained in several appendices:

Appendix A  Site Designations, Proveniences, and Grid
Appendix B  Identification Citations for Artifact Figures
Appendix C  Provenience Numbers for Illustrated Artifacts
Appendix D  Artifact Catalog Description for 38BU162Q

Published in a separate volume:
Appendix E  38BU162Q Artifact Catalog
Appendix E  38BU1399 Artifact Catalog
Appendix F  38BU1435 Artifact Catalog

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Chapter 1

INTRODUCTION

In this report we answer the question, "What was the boundary of Santa Elena?" This simple question is not so easily addressed because a great deal of archaeological expertise must be brought to bear on the relationship between the question and the logistics necessary to effectively produce an answer. This has been the case since South first began his question-answering journey through archaeology at Santa Elena (South 1979a). As will become evident in this report, more so than in any research report yet published on work at Santa Elena, the best results can be obtained through a skillful blending of archaeology with historical documentation. This is made possible through the unique blending of the strengths of the co-authors of this report and the fact that their projects are research-driven.

The question is often asked, "Just what are you doing at Santa Elena?" A simple reply might be, "We are answering questions." Each archaeological season addresses a series of questions to the unique archaeological record represented by the Santa Elena ruins. In 1979, the question was "Is this place the location of sixteenth century Spanish Santa Elena, or is it the location of French Charlesfort?" (South 1979a). In the process of addressing this question, a fort, thought to be the ruin of Fort San Felipe II, was discovered, and the answer was found to be, "Yes, this is the site of Spanish Santa Elena and her forts, San Felipe and San Marcos."

South returned in the fall of 1979, asking the question, "How deep is the moat of Fort San Felipe?", and "How much evidence still remains inside the ruin of Fort San Marcos, explored by Major Osterhout in 1923?" (Osterhout 1923, 1936). Also, he asked "Do the architectural clues found in the sampling project reflect the site of a Spanish building protected by that fort?" The answer was, "Yes, a simple hut of a soldier or a servant or slave is represented by those architectural clues" (South 1980b).

Other questions followed, such as, "If the architectural clues from sample squares correctly predicted the location of a Spanish hut, do other such clues reflect other Spanish buildings?" The answer was a resounding, "Yes", as three Spanish buildings were discovered in that question-answering season of archaeology (South 1982).

Other archaeological projects followed, addressing other questions concerning the forts and other parts of the town (South 1983, 1984, 1985, 1986), funded by a series of enlightened sponsors also interested in the answers archaeology was revealing at Santa Elena. A 1993 search for another fort led to discovery of a Spanish pottery kiln (DePratter and South, in preparation). The location of the boundary of the town, addressed early by South's archaeological methodology (South 1980b, 1982b), was not completely answered until the project reported in this volume was undertaken.

A visitor to our excavations might well ask, "When will you be through digging at Santa Elena?" The reply is, "When we stop asking questions that only archaeology can answer." Translations of a wealth of sixteenth century Spanish documents have been available since the 1920s (Connor 1925, 1930 and others), for historians to explore to their heart's desire, but only the archaeological record can provide the site-specific answers to questions such as those outlined above.

What are the broader questions we are addressing through archaeology at Santa
Elena, beyond the level of inquiry exemplified by this report? One question is, "What is the relationship between Santa Elena and its sister city, St. Augustine, located in what is now the State of Florida?" (Figure 1). In 1573, when Santa Elena was the capital of Spanish Florida, 45 farmers and their families lived there, while the little outpost fort at St. Augustine had only six married farmers, illustrating the contrast between the two settlements at that time (Connor 1925:83).

A broad historical question is that voiced by historian, Paul Hoffman (1982), shortly after the work at Santa Elena had begun, "Why Santa Elena?" This is a question requiring a perspective beyond those more site-specific ones usually addressed by archaeologists. Hoffman (1982:2) said in relation to the location of Santa Elena in Port Royal Sound:

Given the well-known Hapsburg penchant -- exaggerated in the values of Philip II -- to maintain dynastic territorial claims at almost any cost, it follows that the Spanish would try to block a French return by creating their own occupation within the estuary area. From that decision flowed the location of the town and its forts.

Archaeology at Santa Elena can address the question of the location of forts in relation to the town of Santa Elena, and the question of the size and shape of the fort, and the buildings in the town, and their relationship to each other. But the answer to Hoffman's question requires a grander perspective, a wider angle lens, as it were, to see beyond the immediate material remains, to the cultural processes that were in effect at the time, processes of which the citizens of Santa Elena were totally unaware.

Such questions have been asked since the first work at Santa Elena began, dealing with ethnicity, the interaction between the Native Americans and the Spaniards, and the contrast between the British colonial system and the Spanish system represented at Santa Elena (South 1979a:2-5). The question of status reflected in social class differences in Santa Elena has been of considerable interest in our research (South 1983:70, 1984:79, 1985:36, 60, 1988c:47-59), resulting in a Status Artifact Model, designed to identify socioeconomic levels or "classes" at Santa Elena (South 1989:7-10).

Of particular interest from a theoretical underpinning point of view in our Santa Elena research have been questions relating to energy theory in understanding world cultural systems. South (1988c:27) has pointed out that:

The control of energy resources from the environment leads to the concentration of economic power in the hands of individuals and families, and this power tends to become fixed as socioeconomic status within a society.

The archaeological record and historical documentation clearly reveal two contrasting socioeconomic classes at Santa Elena: the controlling family of Pedro Menéndez, the founder of the colony, and other government officials; and the lifestyle of the "slaves, soldiers, artisans, craftsmen and settlers who were often close to starving, suffering 'extreme need of everything'" (Connor 1925:307, 313; South 1989:8).

We have summarized here some of the ideas and questions we are addressing as we continue to explore the archaeological record at Santa Elena. Each season of work carries with it a set of ideas, hypotheses if you will, to be tested against the empirical archaeological evidence we sift from the soil of Parris Island. Our question in the project reported herein focuses on the use of a shovel-testing methodology to discover the boundary of Santa Elena and something about the layout of the town, and in the process to reveal information about the use of this southern tip of Parris Island by Native Americans long before the Spaniards came somewhat forcefully upon the scene.
Figure 1. The Southeast Coast showing the relationship between Santa Elena and St. Augustine.
Chapter 2

HISTORICAL BACKGROUND

In April, 1562, two French vessels commanded by Jean Ribault arrived in Port Royal Sound on the coast of present-day South Carolina (Figure 2) (Quinn 1979:II, 292). The French Huguenots aboard those ships were searching for a place to establish a colony free of the religious persecution they suffered in France. Ribault built a fort, Charlesfort (located somewhere on Port Royal Sound), and left a garrison of 27 men in it while he returned to France for supplies and additional colonists (South 1982a; DePratter and South 1990). Ribault's return was delayed by civil war in France, and soon tiring of the desolation at Port Royal, the men left in Charlesfort mutinied, killed their commander, and returned to France in a boat they constructed (Quinn 1977:242-244; 1979:II, 293-307). A year later, a second French expedition led by René Goulaine de Laudonnière established a new French outpost, Fort Caroline, on the St. Johns River near present-day Jacksonville, Florida (Quinn 1977:245-261; Lyon 1983:33-35).

Upon learning of these attempted French settlements in a land long considered by the Spanish Crown to be Spanish territory, Philip II dispatched Pedro Menéndez de Avilés to Florida to deal with this French intrusion. Menéndez arrived in Florida in September, 1565, and within weeks he had killed or captured nearly all of the few hundred Frenchmen then residing in Fort Caroline (Lyon 1983).

Upon his arrival, Menéndez had established a small outpost at St. Augustine on the Atlantic coast of Florida to serve as a base for operations against the French (Lyon 1983:115-117). Following his defeat of the Frenchmen, Menéndez strengthened the defenses at St. Augustine against counter attack; he then established several other military outposts on both sides of the Florida peninsula and up the Georgia coast (Quinn 1977:264-267; Lyon 1983:136-142).

First Spanish Occupation at Santa Elena (1566-1576)

In January, 1566, Menéndez received a report that the Frenchmen were going to attempt to establish another settlement in Florida, so he gathered a fleet of ships and sailed north from St. Augustine to counter that effort (Lyon 1983:36, 43; 1984:2). He did not encounter any sign of French presence on this trip, but he decided to establish an outpost on present-day Parris Island near Beaufort, South Carolina. He chose this spot because Ribault's initial settlement in Florida had been on or near Parris Island in 1562-1563, and he was concerned that the Frenchmen might return to that same area (Hoffman 1982:2). Thus Santa Elena became the second of the "two or three towns" Menéndez had agreed to establish in Florida under his contract agreement with Phillip II (Lyon 1983:49).

Menéndez' outpost at Santa Elena consisted of a small fort, Fort San Salvador (the location of this fort is currently unknown), with a garrison of about 80 men. In late summer, 1566, Captain Juan Pardo arrived at Santa Elena with an additional force of 250 men, necessitating construction of a larger fort, Fort San Felipe (Figure 3) (Kerrigan 1951:128-129; Lyon 1984:2). In December, 1566, Captain Pardo and 125 of his men were sent inland on an expedition intended to establish friendly relations with interior Indians and ultimately to find an overland route to Mexico. This was to be the first of
Figure 2. Santa Elena vicinity on the southern tip of Parris Island, S.C.
Figure 3. The Parris Island Golf Course in the area of the seventh, eighth and ninth fairways.
two Pardo expeditions inland in 1566-1568; neither of Pardo's expeditions reached beyond the Appalachian Mountains (DePratter et al. 1983; Hudson 1990).

While Pardo was involved in the interior, Pedro Menéndez focused on strengthening his hold on all of Spanish Florida. In his contract with Phillip II, Pedro Menéndez had agreed to bring 100 farmers among those in his initial expeditionary force, and he was also obligated to bring an additional 400 settlers to Florida within three years of his arrival (Lyon 1983:48-49). He began settling civilian farmers and artisans at Santa Elena in 1568, and by August, 1569, there were nearly 200 settlers living there in a community composed of about 40 houses; the town was controlled by an organized city government (Lyon 1984:4).

Jesuit missionaries worked to convert the Indians around Santa Elena to Catholicism beginning in 1569 (Lyon 1983:4). These missionaries, including Juan Rogel who had previously served in southwest Florida among the Calusa, soon encountered difficulties in their task because the Indians near Santa Elena were mobile and refused to settle in permanent towns (Zubillaga 1946:471-479).

Disease epidemics plagued the Santa Elena colonists during their first years, with major outbreaks occurring in 1570 and 1571 (Bushnell 1981:13; Lyon 1984:6). Supply ships arrived at irregular intervals, and there were times when both settlers and soldiers suffered greatly as a result. Short supplies caused the residents of Santa Elena to turn to local Indians for help, and before long the Indians were in revolt due to ever increasing demands for food by the Spanish (Lyon 1983:4-5). Part of the garrison of Fort San Felipe was withdrawn by Menéndez in 1570, but it was subsequently reinforced to full strength (Connor 1925:293-321).

While Menéndez' first settlement was at St. Augustine, he soon made Santa Elena his capital in Florida. When his wife and her attendants arrived in July 1571, they settled at Santa Elena. Santa Elena was a small, struggling community with a total population of 179 settlers and 76 soldiers in August, 1572 (Lyon 1983:6). Settlers were primarily farmers, who by this time were growing a variety of crops including corn, squash, melons, barley, and grapes; livestock, including hogs and cattle, as well as chickens, had been introduced and were being raised with limited success (Connor 1925:299; Lyon 1983:6; 1992:56-67).

Pedro Menéndez de Avilés, Adelantado of Florida, died in 1574 while on a mission to Spain. During Menéndez' absence, Don Diego de Velasco, one of Pedro Menéndez' two sons-in-law and Lieutenant Governor, served as interim governor; he continued in that position following Menéndez' death. Menéndez' daughter, Catalina, inherited the title of Adelantado of Florida, and ultimately her husband, Hernando de Miranda, was appointed Governor. Miranda, however, did not actually arrive at Santa Elena until February, 1576 (Lyon 1984:9). During the years that Velasco served as interim governor, he had several run-ins with settlers, and he mistreated the Indians residing in the vicinity of Santa Elena. This poor relationship with the Indians led to a series of attacks on Santa Elena. The loss of thirty soldiers in these attacks ultimately forced the temporary abandonment of both the fort and town at Santa Elena in late summer, 1576 (Lyon 1984:10). As the soldiers and settlers waited to cross the bar in departing Port Royal Sound, they were able to see the town and fort being burned by Indians (Connor 1925:199).
A French Intrusion

Only a few months after Santa Elena was abandoned, a French ship, Le Prince, wrecked in Port Royal Sound (Connor 1925:269). This ship carried a large contingent of Frenchmen who may have been intent on resettling Port Royal Sound (Connor 1925: 269; 1930:27). The survivors of the wreck built a fort on high ground, and soon they were viciously attacked by Indians who thought they were Spaniards. Once the Frenchmen were able to establish their identity, the Indians befriended them and took them to their villages (Quinn 1977:296; Lyon 1984:11).

Second Spanish Occupation at Santa Elena (1577-1587)

In October, 1577, Santa Elena was reoccupied by a military force commanded by Pedro Menéndez Marqués, who had been appointed Governor of Santa Elena to replace Hernando de Miranda. Miranda was in Spain facing charges resulting from his abandonment of Santa Elena (Lyon 1984:11). Menéndez Marqués anticipated that the Indians might attack any force that tried to return to Santa Elena, so he took with him from St. Augustine a prefabricated fort that he and his 53 men were able to erect in only six days (Connor 1925:267).

At this point, Santa Elena was only a military outpost, and St. Augustine retained its new-found position as Florida's capital (Lyon 1984:12). Gutierre de Miranda, brother of former Governor Hernado de Miranda, was appointed to serve as Governor and Captain of the new fort which was called San Marcos. Menéndez Marqués soon found other duties for Miranda, however, and Captain Tomás Bernaldo de Quirós was appointed interim governor at Santa Elena in August, 1578 (AGI: Santo Domingo 125, No. 150-A, Stetson Collection). Between 1577 and 1580, Santa Elena's Governor Miranda and interim governor, Captain Bernaldo de Quirós, in conjunction with Florida Governor Menéndez Marqués, attacked and subdued the several Indian groups who had been involved in the destruction of the first town of Santa Elena (Connor 1930:225-227, 247-257).

In Fall, 1578, Captain Alvaro Flores de Valdés made two visits to Santa Elena on an inspection tour. His written accounts provide an excellent description of Fort San Marcos, its armaments, and its garrison (Connor 1930:153-175, 181-187). A plan of that fort presented in Figure 4 depicts it precisely as it was described by Flores; authorship of that plan (found in AGI: Mapas y Planos, Mexico 46) is not known, but it may well have been drawn by Flores.

Once the Indians had been subdued, settlers returned to Santa Elena. Bernaldo de Quirós rebuilt the town during his tenure, and when he departed in November, 1580, the town contained more than thirty houses (AGI: Santo Domingo, 125, No. 150-D Services of Tomás Bernaldo de Quirós, no date, Stetson Collection). By 1580, the population of Santa Elena had grown to about 400 people; there were no settlers at St. Augustine at this time (Connor 1930:279).

Gutierre de Miranda resumed his command at Santa Elena in November, 1580, and he built a sizable estate nearby (AGI: Santo Domingo 231, Feb. 27, 1588, St. Augustine Foundation Database # 886). Following the defeat of local Indian populations, existence in Santa Elena was relatively peaceful, and it is easy to imagine that the people residing there must have had great optimism concerning their future in this new land.
This optimism may have been shaken by word of an English settlement to the north. In 1584, the English made their first effort to claim part of Spanish Florida by settling a colony at Roanoke on the North Carolina coast (Quinn 1985:28-44).

Two years after that first attempted settlement at Roanoke, word arrived in Florida that Francis Drake and a large expeditionary force had attacked several major Spanish settlements in the Caribbean, and that he might be intent on an attack against Florida (Wright 1951; Covington 1965). As a result of this warning, an effort was made to strengthen fortifications at both St. Augustine and Santa Elena. Gutierre de Miranda undertook the work at Santa Elena, and soon Fort San Marcos was surrounded by a newly excavated moat, reinforced curtain walls, and new casemates and gun platforms (AGI: Santo Domingo 231, No. 64, Stetson Collection). A contemporary diagram detailing the work accomplished by Miranda at Fort San Marcos is illustrated in Figure 5 (AGI: Mapas y Planos, Florida y Luisiana 2). In June, 1586, an English fleet commanded by Francis Drake attacked and destroyed the town of St. Augustine (Wright 1951; Covington 1965). Santa Elena was not subjected to attack by Drake. The destruction of St. Augustine forced the Spaniards to consolidate their limited supplies and personnel in a single Florida outpost, and St. Augustine was chosen due to its proximity to Cuba. Santa Elena was abandoned in the summer of 1587; the town and fort were dismantled, and materials not worthy of salvage were burned (Lyon 1984:15).

Following this second abandonment, Santa Elena was never reoccupied. In the subsequent decades, the Spanish maintained a series of missions extending along the Georgia coast with priests occasionally visiting the Indians in the vicinity of Santa Elena, but the town of Santa Elena was never reestablished (Chatelain 1941:123).

Conclusions

From documentary sources, we know the basic outline concerning the history of the brief Spanish presence at Santa Elena. More of that history is contained in additional documents that have not been studied and translated. An additional increment of the site's history lies buried in the ground of the golf course on Parris Island, current home of the Marine Corps Recruit Depot. It is only through continuing research in Spanish archival sources in conjunction with field archaeology that the complete story of the Santa Elena settlement and its occupants will emerge. The following chapters describe our efforts to merge these two disciplines, archaeology and history, in order to better understand the early European settlement and occupation of Spanish Florida.
FIGURE 5. The 1686 plan of Fort San Marcos.
Chapter 3

PROJECT BACKGROUND

As early as the seventeenth century expedition of William Hilton (1664) to Port Royal Sound, the small fort on the southern tip of Parris Island was identified as French Charlesfort of 1562-1563. That identification continued on into the early twentieth century when extensive excavations were conducted at that site under the direction of Major George Osterhout (1923, 1936). Beginning in the 1920s, as historians began focusing more and more research on the Spanish occupation of Port Royal Sound, several authors including Mary Ross (1923, 1925) and Jeannette Thurber Connor (1925, 1927) concluded that the town of Santa Elena was located on Parris Island, and that Osterhout had excavated Spanish Fort San Marcos. This interpretation was eventually accepted by General Eli Cole (1926) who initiated Major Osterhout's work at the site, and by A. S. Salley (1927) who originally believed that the Parris Island fort was indeed Charlesfort. Major Osterhout (1936) never accepted the proposition that he had excavated Spanish San Marcos rather than French Charlesfort. The dispute was finally resolved when Albert Manucy (1957), a National Park Service archaeologist in St. Augustine, Florida, examined portions of Osterhout's collection and concluded that all of the artifacts recovered by the Major were identical to those found in St. Augustine and that they were in fact Spanish in origin.

Archaeological Sampling at Santa Elena 1979-1985

Modern research in the Spanish colonial town of Santa Elena was initiated in 1979, when Stanley South, in a one-week long project, excavated the first test units directed toward identifying the town (Figures 6 and 7). Because South was working with a limited budget and a small crew composed primarily of his family members, his initial work consisted of implementation of a sampling scheme which would allow him to extract the greatest amount of information from the site with the least possible effort. To achieve this goal, he choose to excavate a series of 42 sampling units within Sampling Frame 162, covering an area of 90 by 420 ft located along the marsh edge north of Fort San Marcos (Figure 7). Not only was this within the area Hoffman (1978) had proposed as the location of the town of Santa Elena based on documentary sources, but it was within the area we were allowed to excavate, i.e. the area between the 8th fairway of the golf course and the marsh edge (South 1979a:6).

South chose to excavate small sampling units first rather than immediately opening large blocks, because he wanted to learn about the distribution of materials relating to the town before he began more extensive excavations. According to sampling theory, a small sample of excavated material could be used to predict what would be found if the larger unit were excavated. The sampling strategy used by South (1979a) is known as a systematic unaligned subsurface sampling design (Redman and Watson 1970:279-291). This strategy was designed to eliminate excavator bias while at the same time providing systematic coverage of the area sampled so that predictions based on the recovered artifacts will be reliable.

Initial Sampling Frame (38BU162)

In implementing this strategy, South divided Sampling Frame 162 into 30 foot squares, and a randomly selected three foot square was excavated within each 30 ft
Figure 6. The 1994 landscape features on the Parris Island Golf Course.
Figure 7. The 1979-1985 sampling frames at the Santa Elena site.
square. This method produced a one percent sample of the entire 37,800 sq ft within the spacing of the three foot squares, South (1979a) used a table of random numbers to select those three foot square units that were to be excavated in each larger square. South used one-quarter inch (six millimeter) hardware cloth to screen all excavated soil in order to maximize recovery of artifacts and to assure equability among contents of all excavated units.

South (1979a:4-5) anticipated that this one percent sample would allow him to determine the location of Spanish structures and other construction features related to the occupation of Santa Elena. This expectation was based on the fact that houses in Santa Elena were constructed of wattle and daub. Documents indicate that the houses in the town were burned on several occasions. South expected to find evidence of these burned houses in the form of fired clay daub, in association with iron spikes or nails; a compacted, fired, floor surface; postholes; and Spanish pottery. In the 42 three foot squares excavated by South in that first brief field season, he did in fact find evidence of at least one burned Spanish structure. That building, identified by South as a soldier’s hut, was subsequently excavated (South 1980b:4-43).

During that initial one-week project, South not only found the remains of the town and one of its buildings, but he also discovered a moat surrounding a European-style fort. Following identification of the moat in his three foot squares, he subsequently excavated a series of slot trenches that allowed him to trace the entire surviving portion of the moat. This moat was subsequently identified as belonging to Fort San Felipe II, occupied by the Spaniards between 1570 and 1576 (South 1979a:7-12).

The success of this initial research project ultimately led to the instigation of a long-term research project that continues up to the present (Appendix A). With support from a number of agencies and other sources, including the National Science Foundation, the National Endowment for the Humanities, the Explorers Club of New York, the National Geographic Society, the Columbian Quincentennial Commission of South Carolina, and others, twelve field projects have been conducted at Santa Elena since 1979.

The twelve field projects conducted to date have had three major foci. Initial efforts involved continuation of the sampling strategy in an effort to further identify the most densely occupied portion of the town. The second focus involved block excavations in the town, and the third focus involved excavations in the two forts.

Further Sampling and Testing in the Town

Building on the successes achieved through the excavation of the initial sampling frame in summer, 1979, a total of five sampling frames (38BU162, 38BU162B, 38BU162F, 38BU162J, and 38BU51A) covering an area of 274,500 sq. ft (6.2 ac) have been tested at Santa Elena, and a total of 305 three foot squares have been excavated during this process. (Figure 7). An additional sampling frame, 38BU51B, located south of Fort San Marcos (Figure 7), was abandoned following excavation of only two sampling units in disturbed and redeposited soils (South 1980b:52-3).

In fall, 1979, South returned to Santa Elena and excavated three foot squares in two additional sampling frames. First, he extended his original 38BU162 sampling frame farther south toward Fort San Marcos; this resulted in excavation of an additional 22 three foot squares (South 1980b:51). This 38BU162 extension contained an abundance of Spanish artifacts and components of his structural data set including daub, nails, and
other construction related material. At the conclusion of this second project, South (1980b:211) estimated that he had found evidence of thirteen Spanish houses.

The 38BU162B sampling frame, excavated next, was located along the western edge of the 8th fairway. The 54 three foot squares excavated in 38BU162B contained fewer artifacts and less Spanish structural data than was recovered from the 38BU162 sampling frame located closer to the marsh edge. Upon completion of the 1979 project, South (1980b:55) concluded that the "central area for disposal of Spanish pottery fragments is located between the two forts" and that most of the area included within his 38BU162B sampling frame was within an area "peripheral" to the main occupation area of Santa Elena (South 1980b:51, 55).

Sampling frame 38BU51A, excavated in Fall, 1979, was on the southern margin of the site adjacent to the access road leading to Fort San Marcos (Figure 7). The 24 sampling units excavated in this incomplete sampling frame produced fewer Spanish artifacts than the other sampling frames listed above. South (1980b:52) concluded that this frame was beyond the boundaries of the main part of the town and was not one of the "major occupation sites in Santa Elena so far as the discard of refuse is concerned."

Sampling frame 38BU162F was located to the north of Fort San Felipe II (South 1983). Sampling units in the frame encountered evidence of 13 human burial features believed to date to the plantation period occupation of the site. A cemetery was known to exist in this area due to the presence of a marked grave dated 1909 and the fact that two graves were found during excavation of the adjacent northwest bastion of Fort San Felipe II (South 1983:62). The southern portion of this sampling frame produced Spanish sherds in moderate density, but the amount of Spanish material recovered decreased toward the north end of the sampling frame. South (1983:79) used this distributional information to argue that "the main occupation of Santa Elena occurred south of Fort San Felipe [II] and not toward the north."

The 38BU162J sampling frame, which fell within the 8th fairway, was excavated in Summer, 1985, with 132 three-foot squares being excavated (South and Hunt 1986:3). In this sampling frame, concentrations of Spanish material were scattered across the area tested, with a concentration of structure-related artifacts located beneath the 8th fairway directly west of Fort San Felipe II. Despite the abundance of structure related remains in this area, South and Hunt (1986:9) again concluded that sampling to date revealed "the central area of Santa Elena to be between the two forts."

Block Excavations in the Town of Santa Elena

Once South had determined to his satisfaction that the core of the occupation area at Santa Elena was located between the two forts, he proposed that future work at the site be focused on opening of "large block excavations the size of football fields...to discover more about the architectural layout of Santa Elena, her buildings, streets, plazas, and gardens" (South and Hunt 1986:30). By the time that statement was published, South had already begun his explorations in the town, beginning in the area located between the two forts.

Structure 1--The D-shaped Hut

In 1979, South (1980b:9-43) excavated a small D-shaped structure that he interpreted as a soldier's hut. This hut (38BU162A) was constructed of posts set three to six ft (0.9 to 1.83 m) apart; an abundance of fired clay daub in the postholes indicate that
this structure was of wattle and daub construction. In the center of this structure, which was approximately 12 ft (3.7 m) in diameter, was a fired soil feature resulting from use of the area as a hearth. The straight side of this building presumably contained the doorway, and that side faced the marsh; the vista and breezes provided were undoubtedly factors in its construction.

Structure 2

In 1979, South (1979:44-50) also exposed a series of aligned postholes in the 38BU162A excavations that were identified as part of what he interpreted as Structure 2. Subsequent work in the area of this second structure indicated that it was not, in fact, a discrete Spanish structure (See Appendix A).

Structures 3, 4, and 5

In 1981, the first large block unit (38BU162C) was excavated in the town between the two forts (Figure 6) (South 1982). This L-shaped block, covering approximately 3200 sq. ft, contained the remains of three Spanish structures around an open courtyard. Structure 3, located on the eastern edge of the courtyard, was 26 ft (7.9 m) long and at least 10 ft (3.0 m) in width. Structure 4, along the southern side of the courtyard, was 32 ft (9.8 m) in length, and also of undetermined width but it was at least 14 ft (4.3 m) wide. Structure 5, on the west side of the courtyard, was 42 ft (12.8 m) long and 12 ft (3.7 m) wide. The courtyard associated with these three structures was 51 ft (15.5 m) across (between Structure 3 and 5) and at least 50 ft (15.2 m) in length. Postholes thought to represent another structure, Structure 6, were found to the north of Structures 3 and 5.

All three of the structures excavated in 1981 were constructed of widely-spaced posts set into dug postholes. Spacing of postholes was quite variable, ranging between 4 and 15 ft (1.2 and 4.6 m). Spacing was uneven and divergent even among the exposed walls of a single structure. There were daub processing pits adjacent to each of the three structures, but the majority of those discovered were in the courtyard near Structure 5 (South 1982:34). Additional daub processing pits would undoubtedly have been discovered if excavations had been conducted on all sides of the exposed structures. Three postholes in Structure 4, located south of the courtyard, contained fragments of oystershell mortar of the type that may have been used in wall construction during the second occupation of the town (South 1982:38). No well was found during excavation of these structures; if a well were associated with these building, it is likely that it was located beyond the limits of the excavated area.

A Change in Strategy

In 1982, South returned to Santa Elena to continue his excavations in the town. During that 38BU162D field season, he excavated four 20 by 30 ft blocks (6.1 by 9.2 m) (total area 2300 square ft) surrounding the area where he discovered Structures 3, 4, and 5. Each of these blocks was positioned in a location intended to maximize the discovery of additional structures (South 1983:5).

Structure 6

One of the 20 by 30 ft blocks excavated in 1982, identified as the "Central Area," was positioned to allow further exploration of Structure 6. Excavation of this block indicated that Structure 6 consisted of several postholes, but they did not form the
structure walls necessary for delineation of a structure. Use of the Structure 6 designation was discontinued following these excavations (South 1983:15).

Additional 20 by 30 Foot Block Units

The remaining three 20 by 30 ft blocks excavated in 1982 exposed numerous features, including daub processing pits and oyster shell filled pits, as well as scattered masses of unfired daub, but no new structures were identified. South (1983:21) concluded, following completion of these excavations, that 20 by 30 ft blocks were not sufficiently large to allow identification of discrete structures.

A 20 by 20 Foot Block

In 1985, a 20 by 20 ft (6.1 by 6.1 m) block unit (38BU162K) was excavated on the west side of the 8th fairway (Figure 6). This unit was placed at a location predicted to be occupied by a structure based on evidence found during excavation of sampling frame 38BU162J. No structure was found at this location, but South and Hunt (1986:19-32) noted that the excavation unit was too small to allow delineation of structure walls.

Two unusual features were found during the excavation of the 20 by 20 ft block (South and Hunt 1986:26-29). These features were small pits containing burned glass beads in association with a British ball-clay tobacco pipe stem; these features apparently relate to a burial ritual conducted by African American occupants of the site in the nineteenth century. Similar bead pits have been found adjacent to the cemetery north of Fort San Felipe (South 1983:75; South et al. 1988:163-166).

Structure 7

Following completion of the 1985 excavations, no additional large blocks were excavated in the town of Santa Elena until 1991. In that year, South was joined on the Santa Elena Project by Co-Director, Dr. Chester B. DePratter. At that time, DePratter served as Chairman of the Columbian Quincentennial Commission of South Carolina. The members of that Commission voted in 1990 to make the research at Santa Elena the major focus of their activities relating to the 500th anniversary of Columbus' arrival in the New World. The Commission sought to enhance the research conducted at Santa Elena through the addition of an educational program that would increase the number of visitors to the site and add to the educational aspect through the hiring of paid guides, all trained archaeologists, to lead site tours and answer any questions posed by visitors. This educational program, which was a great success, has been described elsewhere (South 1992).

The 1991 excavations (38BU162L) were located in the town of Santa Elena directly to the north of the block in which Structures 3, 4, and 5 were discovered (Figure 6). The excavations were in a block unit measuring 50 by 90 ft (15.2 by 27.4 m) in maximum dimensions and covering a total of 4100 sq. ft (South and DePratter, MS). These excavations exposed roughly two thirds of a large, square structure along with associated features. The 1992 field season (38BU162M) involved excavation of another block unit measuring 40 by 90 ft (12.2 by 27.4 m) and covering 3600 sq. ft adjacent to the 1991 excavations. This additional work resulted in the exposure of the remaining one half of the structure discovered the previous year (South and DePratter, in preparation). This structure, now identified as Structure 7, was square, 22 ft (6.7 m) on a side, constructed around a framework composed of three rows of three posts each. The evenly-spaced postholes were each about three feet (0.91 m) in diameter and three feet deep; posts were 0.7 to 0.9 ft (0.21 to 0.27 m) in diameter. Two of the corner postholes
contained two posts each, suggesting either reinforcing of those corners or possibly the replacement of rotting posts during the use-life of the structure. Surrounding this building were masses of fired clay and lime mortar made from burned oyster shells. Analysis of the excavated evidence indicates that this building had both oyster shell mortar and clay daub used in construction of its roof and perhaps its walls. This fits well with the account of Pedro Menéndez Marqués who, in a March, 1580, letter described just such flat-roofed structures being built for the first time at Santa Elena to prevent damage caused by flaming arrows fired into the town by attacking Indians (Connor 1930:283; Lorant 1946:97).

Adjacent to Structure 7 at each of the two corners on the west side was a well. These features were clearly identifiable by their distinctive size and configuration. The presence of a barrel liner was confirmed in one of the wells, but it was not completely excavated. The other well was left undisturbed. Around Structure 7 were several daub processing pits, trash pits, and other occupation-related features.

Structure 7 Backyard

In 1993, a block unit (38BU162N) measuring 40 by 70 ft (12.2 by 21.3 m) covering an area of 2800 sq. ft was excavated to the east of Structure 7 (Figure 6). This unit is believed to include part of the back yard of the town lot occupied by Structure 7 (see discussion below). No structural remains were found in the 1993 excavations, although there were features scattered throughout the unit. A well was discovered and excavated in 1993; this well was found to be seven feet (2.1 m) deep. In the lower portion of the well shaft was a single barrel four and one half feet tall with four iron bands; field observations indicated that an upper barrel had been removed at the time that the well was abandoned. There were few artifacts in the well fill, but it did contain a good collection of insects, wood fragments, and other plant debris (South and DePratter, Ms).

The well excavated in 1993 was adjacent to another well excavated by South (1982:111-126) in 1981. The 1981 well was nine feet (2.7 m) deep and would originally have been lined with two barrels; as was the case with the 1993 well, the uppermost barrel had been removed when the well was abandoned. The lower barrel found in the 1981 excavations was well-preserved. South stabilized this barrel and took it to the laboratory for conservation and further analysis. Examination of the barrel exterior revealed that this five foot tall barrel had six iron bands. In addition to the iron bands, it had roughly 20 withe-woven wooden bands at its lower end, and an unknown but lesser number of similar bands toward the upper end which was partially deteriorated (South 1982:124).

The two wells were adjacent, and one must have been a replacement for the other, although we can not say which was earlier because they do not overlap. When it was excavated, the 1981 barrel was thought to be associated with Structure 2. The 1993 excavation block included the trenches excavated by South (1980b:44-49) when he originally identified Structure 2, but no additional evidence for that structure was uncovered; Structure 2 is no longer identified as a Spanish structure.

If not associated with Structure 2, then what is the association of these two wells? It is likely that they are associated with Structure 7 located to the west. They would be in the backyard of this structure, and may have served a kitchen or other outbuilding located there. Or, if Structure 7 truly dates to the later occupation of the site, these two wells may belong to an earlier structure located to the north or south in unexcavated portions of the town. Only future excavations will resolve this question.
Excavations in Forts San Felipe and San Marcos

A second focus of the research conducted at Santa Elena has been investigation of the known forts at the site. One of the forts, Fort San Marcos, was visible and had been partially excavated by Major Osterhout in the 1920s (Osterhout 1923, 1936; Cole 1926). South (1979:9-12) discovered a second fort, currently identified as Fort San Felipe II, in his initial sampling frame. Each of these forts has been partially excavated since 1979, with the bulk of the work focused on Fort San Felipe.

Fort San Felipe

Following the discovery of Fort San Felipe through excavation of his three foot squares in 1979, South (1980b:65-71) excavated a ten foot wide trench across the west wall moat as part of the 38BU162 project. The moat was found to be 14 ft (4.3 m) wide and 5 ft (1.5 m) deep; archaeological evidence indicated that the moat was a dry moat that never held water.

South returned to Fort San Felipe in 1982 to continue work on the moat. This fort was occupied from 1572-1576, if its current identification is correct. The eastern half of this fort has been destroyed by erosion since it was constructed more than 400 years ago, but the remaining portion of the interior appeared to South to be well preserved based on surface indications.

The 1982 Fort San Felipe project, excavation of the fort's northwest bastion (38BU162E), covered 3860 sq. ft (South 1983:43-75). Excavations revealed that the moat surrounding this bastion was 15 to 18 ft (4.6 to 5.5 m) wide and from 5 to 6 ft (1.5 to 1.8 m) deep. Along the inner margin of the moat was a wooden palisade constructed of individually set posts 6 to 11 in (0.5 to 0.9 m) in diameter. When the fort burned, this palisade fell outward, and portions of the burned posts were found laying in the bottom of the moat. Sand that fell on top of these burning palisade posts was scorched by the heat (South 1983:59-60). A number of Spanish artifacts were recovered from moat fill.

There were no Spanish features observed within the palisade line of the northwest bastion. It is likely that cannons which occupied this bastion were resting atop a layer of earth fill; this would have raised them above the surrounding ground level by several feet.

The following season, South returned to Fort San Felipe to excavate a portion or the fort's remaining interior (38BU162G). This project was directed toward discovery of the two buildings, casas fuertes, that Spanish documents indicated were located in this fort (South 1984:5). Those buildings were built in 1572, and the surrounding palisade was constructed in 1574; the entire fort was abandoned and burned by local Indians in 1576 (Hoffman 1978). South (1984) excavated a large block measuring 30 by 120 ft (9.1 by 36.6 m) with two small adjacent blocks in the western half of the area enclosed by the moat. Total excavated area was 3725 sq. ft.

In 1984, South (1985) excavated the eastern half of the fort interior. The block unit (38BU162H) covered an area measuring 40 by 120 ft (12.2 by 36.6 m); this block totaled 3,925 sq. ft not counting unexcavated units around trees and small test units that had been previously excavated. The 1983 and 1984 excavations each revealed a portion of a single, large structure within the surviving part of the fort. This building, which measured 50 by 70 ft (15.2 by 21.3 m), was a casa fuerte, or stronghouse, of the sort that would be constructed in a fort. The postholes created during construction of this building were up to 5.5 ft (1.7 m) in diameter and 3.5 ft (1.1 m) deep (South 1984:33-46). Each excavated posthole showed that the building associated with these posts had been a
substantial structure that was destroyed by fire. The building was subsequently rebuilt using the same postholes, but the posts used in this rebuilding were smaller than those used originally (South 1984:33-50). Adjacent to this building were three wells; all were excavated, and two were found to have wooden barrels preserved in the portion that extended below the water table (South 1985:31-50). No evidence was found for a second casa fuerte or stronghouse in this fort (Figure 5).

Fort San Marcos

Another project (38BU51) involved exploratory excavation at the site of Spanish Fort San Marcos (Figures 3 and 5) which was once believed to be French Charlesfort (Osterhout 1923). South's exploratory work in this fort, conducted in 1979, revealed that Major Osterhout had carried out a controlled and systematic exploratory trenching project there in 1923. South's excavations also verified Osterhout's reported discovery of intact wooden palisade posts. Three such posts exposed in 1979 were found to be 1.0 to 1.4 ft (0.3 to 0.44 m) apart (South 1980b:75). In excavations inside the fort, South (1980b:81) recovered fragments of oystershell plaster that had been used to coat boards nailed to upright posts; these plastered boards or timbers may have formed the walls of the casa fuerte or stronghouse in this fort (Figure 5).

Summary

In summary, through use of a sampling strategy South was able to define a fort and an area of burned structures located between the two known forts. As a result, he was able to focus on opening large block units once the sampling was completed. The purpose of these block units was to excavate examples of various structure types as well as to begin accumulating evidence relating to town orientation and layout. The long-term goal of South's research at Santa Elena was, and continues to be, to better understand the origin, occupation, and destruction of this European community transplanted to the shores of South Carolina more than 400 years ago. The following chapters describe an additional effort toward that goal.
Chapter 4

BOUNDARY SURVEY METHODOLOGY (38BU162Q)

The boundary survey was conducted to determine the limits of the town of Santa Elena and to determine as much as possible about the distribution of structures and the town plan. Sampling was conducted not only within the area known to contain the town, but also in two other areas (Figure 8). A sampling project was conducted to the west of Santa Elena at Barrow Point (38BU1399) in an attempt to discover the remains of Governor Miranda's estate. Another sampling project was conducted near the Officers' Club (38BU1435 and 38BU1436) because a fifteenth or early sixteenth century ceramic sherd was found there. These two projects are described elsewhere in this volume.

This chapter describes the methods and results of a sampling strategy designed to discover limits of the town of Santa Elena. Knowledge of the town limits is essential to planning and interpreting future archaeological work on the site. This information will also be of great assistance to the Marine Corps in their management and protection of this National Register of Historic Places property.

Previous Attempts to Discover Site Boundary

Between 1979 and 1985, South excavated three foot squares in six separate sampling frames (Figure 7), as was described in the previous chapter. These sampling frames covered approximately 6.2 acres, with most of that area being located to the north and northwest of Fort San Marcos. Another sampling frame, 38BU51B, located to the south of Fort San Marcos, was abandoned after only two holes were excavated due to the disturbed nature of the soil profile in that area (South 1980b:52). This frame is not included in the 6.2 acres total for the sampled area.

Within the 6.2 acres (2.5 ha) sampled by South, he was able to distinguish some variability in the distribution of Spanish artifacts. Sampling Frame 162F to the north of Fort San Felipe II had relatively few Spanish artifacts, and that number diminished toward the north end of the frame. Likewise, sampling frame 51A revealed only a light scatter of artifacts that diminished toward the west end of the frame. The remaining sampling frames, 162, 162A, 162A Extension, 162B, and 162 J, all contained quantities of Spanish artifacts, but even within these frames South noted variability in the artifact distributions. For instance, based on data available to him at the time, South (1980b:52-55, Figs. 31, 32), delineated a "central" area of burned structures and Spanish pottery between the two forts, and a "peripheral" area for both structures and pottery west of Fort San Felipe and the 8th fairway of the golf course. As was noted in the previous chapter, the majority of the excavations in the town of Santa Elena have been focused on the "central" area of town between the forts (Figure 6).

Despite these years of diligent effort by South, the size and layout of the town of Santa Elena remained unknown. How was the problem to be resolved? Clearly a sampling strategy would be necessary, because the town was known, based on South's sampling, to cover more than 6.2 acres. But how much larger than that could it be?

No contemporary town plan exists, although there are two diagrams showing forts. The fort plan depicting Fort San Marcos in 1578 has two buildings, one labeled "the house
Figure 8. The 1994 shovel testing projects on Parris Island.
of married women" and the other with an unreadable label (Figure 4). At the time this plan was drawn, the town had not been resettled following the 1576-77 abandonment, so there were no buildings present other than the two indicated. The other fort diagram depicts a 1586 fort, also called Fort San Marcos (we believe), but it does not show any portion of the nearby town (Figure 5). Thus we are left without clear documentary information on either the location of the town or its layout (see Hoffman 1978).

Archaeological Sampling at St. Augustine, Florida

South's attempts to discover the boundary of Santa Elena can be compared to the current state of knowledge relating to sixteenth century St. Augustine, Florida, Santa Elena's sister city and the only other Spanish town in the southeastern United States with a sixteenth century occupation (Figure 1). St. Augustine was founded in 1565, a year prior to Santa Elena's founding, but throughout the twenty years that Santa Elena was occupied, it was a larger and more diversified settlement than St. Augustine. Santa Elena was the capital of all Spanish Florida from about 1566 to 1576, and even after that it was the place where the majority of Florida's settlers were located. St. Augustine became Florida's capital in 1576 when Santa Elena was temporarily abandoned (Lyon 1984:12).

After Santa Elena was abandoned in 1587, St. Augustine continued as the capital of Spanish Florida, and has experienced continuous occupation up to the present. This means that the earliest Spanish occupation zone at St. Augustine is buried beneath at least a meter of accumulated debris dating to the late sixteenth, seventeenth, eighteenth, nineteenth, and twentieth centuries (Deagan 1983:250; 1985:9).

Faced with this complex picture, Kathleen Deagan (1978, 1980, 1981a 1981b, 1982, 1983, 1985) has conducted archaeological research at St. Augustine since the early 1970s. As part of her research, she designed a strategy intended to find both the location and extent of the sixteenth century town at St. Augustine. This modest research goal was made difficult by the fact that there is a modern town sitting on top of the cultural level for which she was searching. Some areas were not available for testing because they are covered by buildings, roads, and parking lots (Deagan 1981a:628). This, combined with deep overlying deposits, makes all archaeological research on the sixteenth century component at St. Augustine a much more difficult proposition than exists at Santa Elena with its present use as a golf course.

Deagan (1981a) tested an area covering approximately 43 acres (17.4 ha - our estimate based on her maps) in the southern half of modern St. Augustine where previous work had suggested that the sixteenth century town might have been located. This work was enhanced by the existence of a 1586 map made by Baptista Boazio who accompanied Drake when he sacked and burned St. Augustine (Bigges 1969). Where the ground surface was accessible, Deagan and her crew placed auger holes at ten meter intervals on a ten meter grid. Testing was done with a power auger with a four inch (10.2 cm) diameter bit. Each auger hole was drilled to a maximum of 51 in (1.3 m), the length of the auger bit. In some cases, this depth was not sufficient to reach the base of the occupation zone including the sixteenth century component (Deagan et al 1976:16). Of the area to be tested, 54 percent was inaccessible due to modern obstructions such as buildings, roads, etc. Deagan excavated a total of 585 auger tests, and 376 or 64.3 percent contained "datable artifact material." A total of 7.61 percent of all auger tests excavated contained diagnostic sixteenth century objects; nearly 80 percent of these sixteenth century diagnostics were St. Johns period Indian sherds that were contemporary with sixteenth century Spanish occupation (Deagan, Bostwick, and Benton 1976; Deagan 1981a).
Within the 43 acres sampled, Deagan was able to delineate an area covering approximately 10.5 acres (4.0 ha -- this is our estimate based on maps in Deagan 1981a) which she proposed as the sixteenth century occupation area. Boundaries of this sixteenth century locality were based on the distribution of 64 ceramics sherds (from 49 auger tests) known to have been made and used in the sixteenth century. This included locally-made St. Johns series Indian pottery, as was noted above.

Archaeological Sampling at Old Mobile, Alabama

Another project utilizing subsurface testing to delineate the boundaries of an early colonial town is Gregory Waselkov's (1991) work at French colonial Mobile occupied 1702-1711. The site of "Old" Mobile (as distinguished from modern Mobile) is located in an industrial park developed in the 1950s. Waselkov (1991:11) estimates that the site covers 120 acres (48 ha). Only 25 acres (10.8 ha) had been tested by the time of his 1991 report (the only one currently available), and within this 25 acres is a hazardous waste lagoon that precluded testing of 8 acres (3.2 ha), so the actual area tested through 1991 was 17 acres (6.9 ha). Since 1991, Waselkov (personal communication, February 1, 1995) has returned to the site and completed testing of the entire 120 acre (48.6 ha) tract.

Waselkov (1991) used shovel excavated test units in his effort to delineate site limits and discover individual houses based on artifact concentrations at Old Mobile. His shovel tests were each 30 cm (1 ft) square and 30 cm deep, with all fill screened through 1/4 in (0.6 mm) hardware cloth. Shovel tests were spaced at four meter (13.12 ft) intervals over most of the 120 acres, although wider spacing was used at the margins of the occupation zone. The four meter testing interval was selected by Waselkov (1991:13) based on the size (11.55 by 5.5 m, or 37.9 by 18.0 ft) of a French structure previously excavated on the site. Four meter spacing was believed to be adequate for discovery of other such structures. More than 12,000 shovel tests have been excavated by Waselkov and his field team, and that phase of the work is now completed. Waselkov's (1991) original report covered the initial sample of 4,508 shovel tested excavated in 1990; a report covering the completed shovel testing is in preparation (G. Waselkov, personal communication, Feb. 1, 1995).

Waselkov (1991) used presence/absence of various diagnostic artifact categories in his computer-generated distribution maps, rather than a simple distribution based on frequencies of known early eighteenth century French artifacts. He hypothesized that clusters of artifacts with a high diversity of materials present would represent structures. Using this technique, Waselkov (personal communication, Feb. 1, 1995) has been able to identify approximately 80 artifact clusters (presumably each one representing a structure) within the 120 acres tested. Two of those structures have so far been excavated (Waselkov 1991:33-169).

Archaeological Sampling at San Luis de Talimali, Florida

Gary Shapiro (1987) conducted extensive sampling in his search for structures and other cultural features at San Luis de Talimali, near Tallahassee, Florida. San Luis was an important seventeenth and early eighteenth century mission outpost with a military garrison and a population of settlers and their families. Shapiro (1987:45) was interested in identifying functionally distinct parts of the site and determining whether the site was laid out in a formal manner. He also hoped to find evidence of social and ethnic differentiation within the community.
In order to delimit this occupation, Shapiro conducted an auger survey over an area of approximately 33 acres (13.4 ha - our estimate based on Shapiro 1987: Figure 20). Within the sampled universe, eight inch (twenty cm) diameter auger tests were excavated on a ten meter grid. A total of 1,435 auger tests were excavated by Shapiro and his crew (Shapiro 1987:32). These tests were not excavated stratigraphically; all material from each test was recovered as a single collection.

Distribution maps were prepared based on weight of artifact types including Native American and Spanish pottery (combined), Spanish burned clay and daub, and chipped stone. Simple presence was plotted for nineteenth century artifacts (Shapiro 1987:37-42). Based on these distributions, Shapiro proposed locations for the Spanish church, the plaza, an Indian council house, and an "open activity area" perhaps used as a market place (Shapiro 1987:45-48). Alignments indicated on pottery and daub distribution plots were interpreted by Shapiro (1987:47) as an indication that the town had a formal layout with an orientation 45 degrees west of north. Variations in the distribution of Spanish ceramics were interpreted by Shapiro (1987:48) as evidence for "ethnic and/or economic" differentiation within San Luis. The observed distribution, suggested that higher status individuals lived closer to the plaza than those of lower status.

Santa Elena Boundary Survey Methods

In planning the Santa Elena boundary survey, the first question we addressed was how large an area needed to be included in the survey universe. Using information recovered by excavation in previous sampling frames, we knew that the occupied area of the town covered more than six acres. The western margin of the occupied area was known only at the southern end of the artifact scatter adjacent to Fort San Marcos, and the northern margin had been identified in the area immediately adjacent to the marsh edge beyond Fort San Felipe. Between those two extremes, previous work had provided no clear indication of the western margin of the town. Given this fact, plus our expectation that there might be scattered settlement beyond the actual margins of the town, we decided to include a large enough area within our sampling universe to be certain that we had reached the farthest edge of both the town and any immediately adjacent settlements.

The Sampling Universe

With this goal, the present landscape features provided convenient boundaries for our sampling universe. The marsh edge served as the eastern and northern boundaries, the paved access road served as the western and southern boundaries. The area enclosed within these features is approximately 35 acres (14.2 ha) and includes the 7th, 8th, and 9th holes of the golf course (Figure 6). Not all 35 acres were accessible to testing, however.

A 1.75 acre (0.71 ha) block surrounding the golf course clubhouse was eliminated from the sampling universe because much of it was covered by buildings, pathways, and parking lots (Figure 9). The area surrounding the clubhouse was tested during a search for a missing fort, and the results of that project will be included in a later report (DePratter and South, Ms).

Additional areas that were not available for testing were also golf course-related. Both tees and greens are constructed on mounds of earth up to four feet (1.2 m) high. This meant that beneath the tees and greens the Spanish occupation zone was buried beyond the depth to which shovel tests can be expeditiously excavated; this problem existed for all three golf holes within the sampling universe as well as the large tee platform associated with the driving range (Figure 6 and 9). A large ditch approximately 5 ft (1.5 m) deep, dug to drain the low lying portion of the driving range, destroyed a 30 ft (9.1 m)
wide strip from the driving range to the northwest corner of Fort San Marcos; that disturbed strip was not tested.

Areas within the two known forts were not tested (Figures 6 and 9). Both forts clearly were within the limits of the town, and there was nothing to be gained by testing within them. Also, the entire interior of Fort San Felipe II had already been excavated (South 1984, 1985).

The previously excavated block units within the town were eliminated from additional sampling (Figures 6 and 9). All artifacts were removed from those areas during excavation, and they would have shown up as blank spots on the computer-generated distribution maps. These various exclusions from the 35 acre (14.2 ha) sampling universe total seven acres (2.83 ha), including the 1.75 acre (0.71 ha) tract surrounding the club house. Most of these seven acres were beyond the limits of the town based on our analysis of shovel testing data, so the boundary survey was not adversely impacted by these exclusions.

**Spacing of Shovel tests**

Once the survey universe was delineated, the next consideration involved spacing of shovel tests. Common practice among contract archaeologists currently working in the field is to use a 20 or 30 m (98.4 ft) interval for site discovery and 10 to 20 m (32.8-65.6 ft) spacing for site definition (James B. Legg, personal communication, February 9, 1995). As noted above, Deagan used ten meter (32.8 foot) spacing for her auger survey of St. Augustine, Waselkov used a four meter (13.1 foot) spacing in his Old Mobile project, and Shapiro used ten meter (32.8 ft) spacing at San Luis. After considering various options, 30 ft (9.15 m) was chosen as the interval to be used at Santa Elena. All archaeology conducted there to date has used engineers scales in ft and tenths of ft; use of that scale was continued in the boundary survey.

The 30 foot interval was selected because of South's previous sampling at the site. That work involved excavation of one 3 ft square out of each 30 ft grid square sampled thus yielding a one percent sample (South 1979:4-5). Continuation of the 30 ft spacing would provide continuity with previous work, and at the same time produce the data necessary to delineate the town. (Site grid is discussed in Appendix A.)

The decision was made to employ a systematic aligned sampling strategy (Redman and Watson 1970) in the 1994 project rather than the systematic unaligned strategy previously employed by South (1979) in his three foot square sampling. This change in approach was made for two reasons. First, the time involved in surveying in the location of nearly 1400 randomly chosen points would have created a logistical nightmare that would have consumed all of the time available for fieldwork. Second, we were confident that the 30 foot interval spacing over the large area being tested would allow delineation of town boundaries and identification of artifact clusters beyond the limits of the town.

**Excavation Methods**

The size and method of excavation for the shovel tests was another matter for consideration prior to the beginning of the project. Since we had both used posthole digger testing (DePratt 1976, 1983; South and Widmer 1976, 1977:119-150) as a means of site discovery and site delineation projects, we had some knowledge of the problem at hand. Given the fact that Santa Elena had a brief occupation span, marginal parts of town would be expected to have a low artifact density, and that is indeed what South discovered during excavation of his three foot squares; as he reached the edge of the artifact scatter
representing the remains of Santa Elena, the number of artifacts found in each test unit decreased dramatically. Given these considerations, we immediately eliminated both power augers and posthole diggers as options for subsurface sampling tools, because the sample size each produced was too small to allow consistent recovery of artifacts.

With these smaller sampling implements eliminated, we were left with shovel excavated test units as our only remaining option. But how large should the shovel tests be? Contract archaeologists typically excavate shovel tests 30 cm (0.98 ft) in diameter to a depth of 30 to 50 cm (1.0 to 1.6 ft). In the interest of enhancing our probability of recovering a significant number of artifacts in each shovel test, we determined that larger units would serve our needs better. We settled on shovel test holes measuring 0.9 by 1.8 ft (0.27 by 0.55 m) excavated with square shovels to the base of the occupation zone as it was exposed in each test. The size of the test was based on the dimensions of a square shovel; each hole was one shovel blade width wide and two blade widths long.

One advantage to these larger than usual shovel tests was that they provided enhanced visibility of the stratigraphy exposed in each end of the excavated unit. This was important at Santa Elena which had broad, but undelineated, areas of disturbance caused by golf course construction and maintenance, construction and use of the World War I training camp that previously occupied the site, and other factors. Through excavation and recording of the shovel tests as they were excavated, we wanted to monitor that disturbance. This was accomplished through observation and recording of the west profile of each shovel test.

All soil was to be removed from each test by stratigraphic zone based on observation of soil color, texture, and inclusions (shell, coal, asphalt, etc) in the soil as it was removed. All soil was then screened through one quarter inch (0.6 cm) hardware cloth by stratigraphic zone with the artifacts from each zone bagged separately.

Recording Shovel Test Data

Standardized designations were chosen for each of the stratigraphic zones known to exist on the site based on South’s (1982:17) previous work. "A" was assigned to the modern dark humus/plow zone encountered at the surface in most units; within the town area this zone contained mostly post-Spanish occupational debris. "B" was assigned to the light brown zone which in most tests was found directly below the modern humus. Within the town area this "B" zone, which was an old weathered humus layer, contained Spanish artifacts as well some eighteenth century material. Beyond the limits of the town this "B" was simply the lighter colored soil zone or shell layer located directly beneath the modern humus zone; in many such cases, this zone contained no artifacts. "C" was assigned to features encountered during excavation of the testholes; features were identified based on changes in soil, color, contents, or observation of feature margins in side walls of bottoms of shovel tests. "F" was assigned to designate disturbed soil associated with modern earth moving; generally this fill was identified on the basis of color and differential compaction. Additional letters were used to identify observed variations in specific shovel tests, but most relate to naturally occurring soil deposits that pre-date the Spanish occupation of the site and so they need not be discussed here.

A preprinted form (Figure 10), used to record information relating to each shovel test as it was excavated, standardized the recording process, a necessary step when more than two dozen individuals were involved in shovel test excavation. Each excavator was instructed to record a measured stratigraphic column on the prepared diagram, and then provide a written description in the allotted space to the left of the prepared form.
Figure 10. A completed shovel test data form.
This written description was intended to allow increased record of field observations and also to facilitate comparisons between shovel tests excavated by different individuals.

In the center of the form was a pre-drawn shovel test floor plan intended to be used when features were encountered, most commonly at the base of the "B" zone. This floor plan block was accompanied by a north arrow and a pre-drawn southwest corner nail so that orientation of recorded features would be consistent. A space was provided at the bottom of the form so that each excavator would have a place to record additional observations made as the shovel test was being recorded.

**Laying Out the Grid and Locating Shovel Tests**

In the field, the actual laying out of the shovel test locations was conducted with the assistance of a Marine Corps surveying team from Camp LeJeune, North Carolina. This five person team with prior archaeological experience laid out a 30 foot interval grid over the entire 33.25 acres (excluding the 1.75 acres surrounding the clubhouse) of the sampling universe in only three working days. Nails wrapped with surveyor's flagging were placed at each 30 foot interval grid point.

Once these nails were in place, sequential provenience numbers were assigned to those nails that fell on grid points that were to be tested (Figure 9). Nails that fell on golf tees or greens, previous excavations, etc. were not assigned provenience numbers. Following standard convention, each nail was located in the southwest corner of the 30 ft block that it represented. Where possible, shovel tests were excavated with this nail marking the southwest corner of the shovel test with the long axis of the test oriented east/west. In some cases, the point marked by the nail was inaccessible due to roots, roadways, concrete foundations, etc., and the shovel test was moved away from the nailed point. In all cases, the distance the shovel test was moved from the surveyed point was kept to a minimum, and the distance and direction that the shovel test was moved from the surveyed point was recorded.

**Shovel Test Excavations and Hazards**

In the manner described above, 1,383 shovel tests were plotted and excavated in a period of slightly more than six weeks (Figures 11-14). Crew size for this project varied from five to twelve people over the course of the six weeks. Work could have been completed sooner, but the crews were instructed to remove themselves from golf fairways and the driving range whenever golfers were present. This procedure caused many temporary delays in completion of the project, but it eliminated the potential for injury by an errant golf ball. Despite several close calls, no crew member was struck by a misdirected ball.

**Collections Processing**

Once excavations were completed, the collections were returned to the laboratory for processing. All collections were washed and bagged in plastic zip-loc bags by provenience and artifact type. Analysis involved sorting and counting by artifact type rather than using artifact weight as Shapiro used at San Luis. Counting artifacts was consistent with all previous research at Santa Elena. The 38BU162Q Artifact Catalog is being produced in a separate volume as an appendix to this report. The original artifact catalog is available for review at the South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia, South Carolina.
Figure 11. 38BU162Q. The shovel testing crew at work on the driving range.

Figure 12. 38BU162Q. Two person team excavating last shovel test.
Figure 13. 38BU162Q. Crew member at work on a shovel test.

Figure 14. 38BU162Q. Shovel test 1099 showing profile with Spanish midden.
Chapter 5

BOUNDARY SURVEY RESULTS (38BU162Q)

Once all collections were processed, the resulting artifact counts were entered into computer data files. Contour maps showing the distribution of various artifact types (Spanish ceramics, plantation period, Marine Corps period, Indian ceramics, etc.) were then produced by the University of South Carolina College of Humanities and Social Sciences Computer Lab using SAS/GRAPH, Version 6.09. Discussion of each of these distributional plots is presented below.

Computer-Generated Distributional Plots

Collections recovered during the 1994 shovel testing project were used in the preparation of seven computer generated distributional plots. These plots include three relating to the pre-sixteenth century Indian occupation, one relating to the sixteenth century Spanish-contemporary Indian ceramics, one for the Spanish period occupation, one for plantation period occupation, and a final one relating to the Marine Corps use of the site. An eighth plot includes combined Spanish and Spanish-contemporary Indian ceramics; this combined plot will be discussed elsewhere in this report.

These plots are based on variable numbers of artifacts ranging from a low of 183 sherds dating to the Refuge/Deptford period Indian occupation to 2425 objects dating to the twentieth century. Because of this range, the plots have differing contour intervals depending on the number of artifacts recovered and the peak number of artifacts recovered from individual shovel tests. The data presented on the plots has not been smoothed or enhanced in any way. In all cases, the contour values are clearly defined on the individual plots.

Stallings Island Pottery Distribution

Stallings Island pottery is a distinctive ceramic ware characterized by surface trails and interior voids created when vegetal matter was burned away during vessel firing. During the manufacturing process, potters mixed Spanish moss, palmetto fibers, or other fibrous material with the clay used to make pots; it is this fibrous "tempering" material that was consumed during firing. This type of ceramics is commonly referred to as fiber-tempered. The local fiber-tempered ware is called Stallings Island Series (Griffin 1943; Sears and Griffin 1950; Sassaman 1993). Stallings Island Series ceramics began to be made around 4500 years ago, and there is no evidence for the use of any decoration until around 3700 years ago. A variety of decorated types including punctated, incised, and incised and punctated types were made between 3700 and 3100 years ago (DePratter 1979; Sassaman 1993).

This ceramic ware is readily identifiable, even when the sherds being analyzed are small. A total of 276 Stallings Island sherds were recovered from 144 shovel tests in the Santa Elena boundary survey. Nearly all of the Stallings Island sherds were undecorated; only a few sherds were punctated (Figure 15A). All Stallings sherds, whether plain or decorated, were combined on the distributional plot (Figure 16).

The distribution of Stallings Island ceramics is concentrated toward the northern end of the sampled area, with only a few scattered sherds located south of Fort San Felipe.
Figure 15. 38BU162Q. Stallings Island and Refuge Series pottery: (A) Stallings Island Punctated; (B) Refuge Punctated; (C, D, E) Refuge Simple Stamped.
Figure 16. 38BU162Q. Distribution of Stallings Island pottery.
This distribution is undoubtedly related to local topography and creek access. The land to
the north of Fort San Felipe is five to seven feet higher in elevation than the land to the
south of that fort. Also, the present creek channel runs along the bluff line north of the
fort, and it seems likely that it must have followed the same course during the Stallings
Island occupation. The people who made Stallings Island pottery were oriented toward use
of marsh related food resources, and ready access to a tidal creek would have been an
important factor in choosing habitation sites. The Stallings Island occupation clusters
closest to the marsh edge came from a discontinuous shell midden up to one foot (0.3 m)
thick. The distributional plot indicates a scatter of Stallings Island sherds over an area
covering approximately 20 acres (8.1 ha). The plotted concentrations may represent either
household clusters or specialized activity areas.

Refuge/Deptford Pottery Distribution

Refuge ceramics are sand and fine grit tempered wares containing a variety of
surface treatments including punctation, incision, dentate stamping, and simple stamping
(Waring 1968b; DePratter 1976, 1979). The Refuge period dates from 3100 to 2400 years
ago (DePratter 1979). Deptford ceramics are also sand and fine grit tempered, occur later
in time than Refuge wares, and contain various surface treatments including linear check
stamping, check stamping, complicated stamping, and cord marking (Caldwell and Waring
1939a, 1939b; DePratter 1979, 1991b). The Deptford period dates from 2400 to 1500
years ago (DePratter 1979).

For the most part, sherds of Refuge and Deptford types were readily identifiable in
the sample from Santa Elena (Figures 15B-E and 17A). One possible exception is
represented by a small number of cord marked sherds that were identified for the purposes
of this analysis as Chatham County Cord Marked (Figure 19) (DePratter 1991b:179-180).
These sherds may be related to Deptford Series types or to a lower coastal plain type found
along the Savannah River and described as Wilmington Cord Marked by Stoltman (1974)

Another ceramic series that was included with Refuge and Deptford material in the
current analysis is the Oemler series (Figure 17B-F). This ceramic series is similar in paste
to most Deptford types, but its distinctive decorative treatments distinguish it from ordinary
Deptford wares. First identified at the Oemler site on Wilmington Island in 1939, this
ceramic series still has not been fully described (Waring 1968a:220; DePratter 1991b).
(Waring 1968:220) referred to the Oemler materials as a "floating" complex with Deptford
affiliations, and we know little more about this series today.

Oemler ceramics have been found on a number of sites stretching across much of
the Georgia coastal plain and north at least as far as Santa Elena (DePratter 1976, 1979,
1991b). A distinctive set of stamped decorative treatments including fine rectilinear checks,
rows of small triangles, triangle-filled triangles, herringbone, and other motifs, make the
decorated sherds of this series readily identifiable; whether there is a plain type associated
with these decorated sherds is not known at present. No Oemler assemblage has ever been
recovered in good stratigraphic context.

Only a handful of Oemler sherds were recovered during shovel testing at Santa
Elena, and those large enough to photograph have been illustrated (Figure 17B-F).
Because these ceramics probably fall within the Refuge/Deptford time range, that have been
included with materials of those periods in the distributional plot.

A total of 183 Refuge/Deptford (and Oemler) sherds were found in 110 of the
1,383 shovel tests excavated (Figure 18). Based on this relatively small sample, the
Refuge/Deptford occupation appears to be clustered at the extreme northern end of the sampled area in a pattern similar to the distribution observed for the Stallings Island material. A portion of the rather dense shell midden (up to one foot thick) encountered at the north end of the sampled area may date to the Refuge/Deptford occupation. A slight scatter of materials dating to these periods are found over the rest of the sampled area, but

Figure 17. 38BU162Q. Deptford and Oemler Series pottery: (A) Deptford Check Stamped; (B) Oemler Complicated Stamped, right hand portion shows evidence of surface abrasion; (C, D, E) Oemler Check Stamped; (F) Oemler Complicated Stamped.
Figure 18. 38BU162Q. Distribution of Refuge and Deptford Series pottery.
in only three cases were more than one sherd found in a single shovel test in the area southwest of Fort San Felipe.

**Wilmington/St. Catherines Pottery Distribution**

Wilmington pottery types, recognizable by their coarse clay or grog tempering, were first identified and described in W.P.A. excavations in Chatham County, Georgia (Caldwell and Waring 1939a, 1939b). St. Catherines types, also clay tempered, were described by William Steed (1970) as a result of work by Joseph Caldwell on St. Catherines Island, Georgia, in 1969 and 1970. Since that time, descriptions of both types have been modified by DePratter (1979; 1991b) based on reanalysis of collections used by Caldwell and Waring to develop the original type descriptions and extensive survey along the northern Georgia coast.

In the analysis of any collection from the lower coast of South Carolina or the northern coast of Georgia, type identification of the clay tempered pottery is one of the greatest problems for any analyst. Separation of the clay tempered from the remainder of a collection is generally not a problem, because the pieces of clay used as tempering material are readily distinguishable, even in small sherds. It is separating the clay tempered material into Wilmington and St. Catherines types that is the real problem. While it is true that Wilmington pottery usually has coarser clay tempering than does St. Catherines pottery, and cord marking on Wilmington vessels is generally "heavier" than on St. Catherines vessels, these distinctions are difficult to make when the sherds in the collection being analyzed are small. This size factor was certainly present in the collections recovered through shovel testing at Santa Elena.

Because of the relatively small size of recovered sherds and the overall small sample size, no effort was made to differentiate Wilmington and St. Catherines pottery in the present analysis (Figure 19 C-F illustrates identifiable sherds of St. Catherines Series). The combined Wilmington/St. Catherines period sherd distribution reflect the use of the site area between 1500 and 800 years ago (Figure 20). A total of 274 Wilmington/St. Catherines sherds found in 147 shovel tests were used in the generation of this distributional plot.

The Wilmington/St. Catherines distribution is quite similar to that observed for both Stallings Island and Refuge/Deptford pottery. Clustering of the occupation at the north end of the sampled area must have been related to the same selection for higher, well drained soil with tidal creek access and perhaps access to a source of drinking water that was demonstrated by the two preceding distributions. This occupation may have contributed to the dense shell midden found at the north end of the sampled area. The Wilmington/St. Catherines distribution shows a slightly more intensive use of the area just north of the clubhouse, but that occupation was not nearly as dense as that at the north end of the site.

**Unusual Sherd**

During excavation of the Santa Elena shovel tests, a very unusual sherd (Figure 21) was found in shovel test 1232. Although it may be a fragment of wall plaster or some other type of construction, it does have sufficient curvature to suggest that it is part of a vessel. The broken edge of this "sherd" clearly shows that it was fabricated by plastering clay over a framework of twisted and interwoven cords. The holes left when these cords burned during firing can be seen along the right edge of the sherd in Figure 21B; another row of similar holes is partially visible along the fractured left edge in the same view. Both obverse and reverse views (Figure 21 A and C) exhibit internal cord impressions in places where the surface layer of clay has broken away.
Figure 19. 38BU162Q. Chatham County and Wilmington/St. Catherines Series pottery: (A) Chatham County Cord Marked rim; (B) Chatham County Cord Marked; (C) St. Catherines Cord Marked rim, rim stamped with cord wrapped paddle; (D) St. Catherines Cord Marked; (E) St. Catherines Cord Marked; (F) St. Catherines Net Marked.
Figure 20. 38BU162Q. Distribution of Wilmington and St. Catherines Series pottery.
The obverse surface (Figure 21A) has two rows of small triangular-shaped punctations along its left margin and two honing grooves across its center. The reverse surface (Figure 21C) has a single reed or cane punctation on its left edge, and cordage casts are visible in the lower right portion of the figure. If any tempering material is present in this sherd, it is very fine sand; no tempering particles are visible to the unaided eye.

**Stone Tools**

Three stone tool fragments were found in shovel tests. A broken projectile point tip of unknown type is illustrated in Figure 22A. An "eared" Yadkin projectile point (Coe 1964: Figure 42) dating to the Refuge/Deptford or Wilmington/St. Catherines occupation is illustrated in Figure 22B. The other stone tool (Figure 22C) is a small triangular point contemporary with the Spanish occupation at Santa Elena (South 1991:81).

**Spanish-Contemporary Indian Pottery Distribution**

The latest prehistoric pottery series on the lower South Carolina coast and the northern Georgia coast is composed of complicated stamped, incised, burnished, and plain types. This ceramic series was first defined by Caldwell and Waring (1939a, 1939b) at the Irene site at the mouth of the Savannah River; they called the pottery they observed there Irene. Irene series ceramics begin to be made around 675 years ago and gradually developed into the Altamaha series types that are found at Santa Elena and at late sixteenth and seventeenth century mission sites found along the Georgia coast. The Altamaha series was first defined by Joseph Caldwell (1943) based on his work at a Spanish mission site located near Darien, Georgia. Subsequently, Hale Smith (1948) defined the San Marcos series based on similar collections made during excavation of the moat of the Castillo de San Marcos in St. Augustine. This moat was originally dug in 1686, and thus material found in it must date later than that. Altamaha and San Marcos materials are quite similar, and undoubtedly should be identified as a single, discrete series.

South (1980b:58) in previous work at Santa Elena chose to use Chicora series, "the more general term for complicated stamped, incised, reed punctated, and plain wares (including Irene)" which he had proposed in 1973 (South 1973:54-55; 1976:28-29). He anticipated that ongoing research would ultimately lead to clarification of the problems associated with classification and description of late prehistoric and early historic period pottery collections. The final solution has not been achieved to date despite efforts by DePrater (1984, 1991b), Braley (1986, 1990), Piatek (1985), and others. One of the goals of the current analysis of all Santa Elena ceramics is to resolve this complex problem. That resolution should be achieved in the coming years as analysis is completed.

For the purposes of the present study, we have returned to South's generalized Chicora series for use in the distributional plot of Spanish-contemporary Indian pottery (Figure 23). This plot is based on the distribution of Chicora Series sherds that includes a variety of named types including Irene Plain, Irene Burnished, Irene Complicated Stamped, Irene Incised, Altamaha Check Stamped, Altamaha Line Block Stamped, Altamaha Simple Stamped, and Altamaha Red Filmed (DePratter 1991b:11).

Most sherds of the "Chicora" series recovered during shovel testing are believed to be contemporary with the Spanish occupation of the site, although there may have been intermittent use of the site in the century or so prior to its occupation by the Spaniards or in the decades following its abandonment (see, for instance, Hilton 1664 and Chatelain 1941:123). Given our present state of knowledge and the generally small size of the sherds recovered from the shovel tests, no effort has been made to identify evidence (if such evidence exists) of these possible earlier and later occupations.
Figure 21. 38BU162Q. Unusual sherd: (A) obverse surface contains two rows of angular punctates, honing grooves, and cord cross-sections; (B) view of same sherd in cross-section, holes along right edge are voids created when internal cords burned away; (C) reverse surface contains cord cross-sections and reed punctuation on left edge.

Figure 22. 38BU162Q. Stone tools of Coastal Plain chert: (A) re-sharpened projectile point tip, type not known; (B) "eared" Yadkin projectile point; (C) small triangular projectile point, contemporary with Spanish occupation.
Figure 23. 38BU162Q. Spanish contemporary Indian pottery--"Chicora" Ware Group: (A, C) curvilinear complicated stamped; (B) cross simple stamped; (D) line block stamped; (E) check stamped; (F) burnished rim sherd with punctations; (G) simple stamped, red filmed interior; (H) incised.
The Spanish-contemporary Indian pottery distribution (Figure 24) covers most of the sampled area. A total of 1,393 sherds of Spanish-contemporary Indian pottery was found in 567 of the 1,383 shovel tests excavated. As can be seen by comparing this distribution to the Spanish pottery plot (Figure 27), the Indian pottery and Spanish pottery distributions match very closely along the eastern part of the sampled area. This reflects the use of Indian pottery in Spanish households in the town of Santa Elena. South (1982) found that approximately 50 percent of pottery recovered during excavations in town proveniences was Indian and the other half was Spanish. Concentrations of Indian pottery on this plot may be indicative of low status Spanish households; that interpretation is considered in a later section of this report.

There are also other interesting features on the distributional plot. First, there is clearly a scatter of Indian pottery beyond the limits of the town as defined by the concentration of Spanish pottery. This Indian pottery distribution is partially obscured by the large vacant space on the distribution map that resulted from soil removal during construction of the driving range. Even with that disturbance, there was clearly some Spanish-contemporary Indian occupation of the area west and north of the town limits. One possible explanation for this distribution is that Indians who came to visit Santa Elena were able to camp on the edge of town. This, and other aspects of the Spanish-contemporary Indian pottery distribution will be discussed in greater detail in a later section of this report.

**Spanish Ceramics Distribution**

The major purpose of the Santa Elena boundary research project was to discover the limits of the Spanish occupation at Santa Elena. Previous research succeeded in locating the central portion of the town, but the actual extent of the occupation was unknown (see discussion above). Given the known intensity of site occupation based on South's previous work and the relatively low density of Spanish artifacts in peripheral portions of the occupied area (South 1980b:55), size of shovel tests employed in the 1994 sampling strategy was increased over standard practice to insure recovery of sufficient artifacts to allow mapping of the occupation boundary.

The shovel tests contained a wide variety of Spanish artifact types, including lead shot, nails, spikes, barrel band fragments, a ball button, a buckle, a coin, a crossbow bolt tip, a pintle eye, a scissors fragment, and a fragment of a small bronze bell; a selection of these items is illustrated in Figure 25. These non-ceramic artifact types occurred in very low frequency scattered across the entire area sampled. Their distribution was not computer plotted due to the small sample size, but each was identified and catalogued during analysis.

Ceramics made and used by the occupants of Santa Elena constituted the largest proportion of the recovered Spanish artifacts (Figure 26). These ceramic materials were readily identifiable and easily classified based on the published works of Goggin (1960, 1968), Cervantes (1977), the Listers (Lister and Lister 1976, 1987), South, Skowronek, and Johnson (1988), Deagan (1987), and Markem (1994). The 975 sherds found in the shovel tests were identified as Spanish majolica (15.79%), Italian majolica (0.31%), imported earthenware (13.64%), locally-made micaceous redware (6.26%), olive jar (62.97%), Mexican redware (0.41%), and Chinese porcelain (0.51%). For relevant sherd counts see Appendices D and E.

Of the 1,383 shovel tests excavated, 351 contained a total of 887 Spanish sherds in A and B levels (Figure 27). These sherds were employed in the computer plot; sherds in
Figure 27. 38BU162Q. Distribution of sixteenth century Spanish ceramics.
fill or from features were not used in this plot. The distribution as plotted by the computer shows that the Spanish occupation of Santa Elena was concentrated within an area covering about 15 acres (6 ha). The town was in the form of an elongated, truncated triangle a little over 700 ft (213 m) wide at the southern end and tapering to only about 300 ft (91.5 m) wide at its northern end; total length of the town was about 1200 ft (367 m). The western edge of the town has apparently been destroyed by construction of the golf course driving range. Fort San Marcos was in the southeastern corner of the town. Beyond the limits of this 15 acre concentration of Spanish artifacts, there were only scattered Spanish sherds in what were probably garden areas immediately adjacent to the town. A number of discrete artifact concentrations are apparent in the distribution plot. Those concentrations, along with a projected town layout, are discussed in the following chapter of this volume.

Figure 25. 38BU162Q. Spanish artifacts: (A-C) wrought iron nails; (D) iron buckle; (E) lead shot, approximately .52 cal. (11.5mm); (F) bronze bell fragment; (G) partially melted Spanish coin fragment.
Plantation Period Artifact Distribution

South's previous excavations at Santa Elena (1979) indicated that there was an extensive plantation period occupation over much of the area previously occupied by Santa Elena. Surface indications of this occupation exist in the form of a brick structure footing located just to the west of Fort San Felipe and remains of a small tabby structure at the road edge northwest of the golf clubhouse.

Figure 26. 38BU162Q. Spanish introduced ceramics: (A) glazed olive jar; (B) Mexican Red Painted (Aztec red ware); (C) red filmed Orange Micaceous ware (a very unusual type); (D) green glazed earthenware; (E) red lead-glazed earthenware; (F) honey-colored lead-glazed earthenware; (G) Columbia Plain majolica; (H) Santo Domingo Blue on White majolica; (I) Ming porcelain.
Figure 24. 38BU162Q. Distribution of Spanish contemporary Indian pottery--"Chicora" Ware Group.
Concentration of Nineteenth Century Objects

- O = sample point
- = 21–36 objects
- = 37–100 objects

Figure 28. South's (1979:25) artifact density distribution for nineteenth century objects.
When South conducted initial testing at the site in 1979, he found a dense concentration of plantation period material along the shoreline in the vicinity of Fort San Felipe (Figure 28); that concentration was most dense in the area of the southwest bastion of that fort (South 1979a:23-25, Fig. 9A). South (1979a:24) calculated a mean ceramic date for historic period ceramics excavated in the sampling frame around Fort San Felipe and the "mean" date of occupation based on that assemblage was 1844. A later sampling frame excavated to the north of the Fort San Felipe encountered a plantation period cemetery; the only extant gravestone, dated 1909, indicates that the cemetery continued to be used into the present century (South 1983:77-79). South also found three plantation period features containing blue glass beads; one of these may have been associated with a burial in the cemetery mentioned above (South 1983:72-75), and the other was several hundred feet to the southwest (South 1986:26-27). These pits were interpreted by South (1983:75) as representing cremation of possessions in a religious ceremony of African origin by plantation slaves. These previous discoveries indicated that we would find a substantial plantation period occupation when we conducted our boundary survey.

The plantation period history of the southern part of Parris Island is not completely known at present, because many of the relevant records were destroyed in the Civil War. The first recorded owner of Parris Island is Robert Daniel who was given all of what was called Port Royal Island at the time as part of his holdings as a Landgrave awarded in 1698. Daniel sold the island to Edward Archer in 1701, and Colonel Alexander Parris acquired the island subsequently called Parris Island from Archer in 1715 (Webber 1925). Parris Island remained in the hands of the Parris family until 1751, when it was awarded to Nathaniel Barnwell to cover debts owed by the Parris estate. John Barnwell inherited the southern part of the island from his father in 1775, and the Barnwell family apparently owned that part of the island until John Barnwell's death in 1800 (Butler et al.1995:30).

Robert Means married John Barnwell's daughter Mary, and either bought or inherited Barnwell's former holdings on the island (Butler et al. 1995:27-43). Mills' Atlas, originally published in 1825, identifies "Means" as the owner of the southern end of Parris Island, and a small black dot indicating the location of his holdings is located near the eastern shoreline of the island in the area previously occupied by Santa Elena (Figure 29) (Mills 1965). Following Means' death in 1832, his lands were divided between his son Thomas and his sons-in-law, Dr. Henry Fuller and Thomas Fuller. In the 1850 slave census, Thomas Means is listed as owning 71 slaves on Parris Island, and Dr. Thomas Fuller owned 145 slaves on the same island (Butler et al. 1995:43-44). Given the fact that both of these men received portions of Robert Means' holdings on the south end of the island, it is conceivable that one of their plantations was located on the site of Santa Elena and the other is represented by the extensive plantation period component at site 38BU1399 discussed elsewhere in this report.

During the Union occupation of Port Royal Sound beginning in 1861, land holdings on Parris Island were confiscated and sold for failure to pay taxes. Attempts to reclaim these confiscated land after the war ended generally failed, but some land holders were apparently able to purchase their former holdings from their new owners, many of whom were freed slaves. The Stroeber map (1873) and the Vignoles and Ravenel Map (1873) both place the name "Means" on the southern end of the island, suggesting that Thomas Means or his descendants may have been able to reacquire their lands (Butler et al. 1995:49-54). Another possible, and perhaps more likely, explanation is that these two 1873 maps were based on out-of-date information.

The former Means land was in the hands of freeholders in the 1860s and 1870s, and in fact a portion of the tract was used as a freedman's farm school run in its early days by a Mr. Zacha (Ramona Grunden, personal communication, February 23, 1995; Holland
Figure 29. Detail of 1825 Mills' Atlas map of Beaufort District showing Means' Plantation.
1969:57; 1864 Beaufort Co., S.C., tax maps, National Archives Record Group 48). Part of the south end of the island was acquired by the Niver family in 1865, and they continued to buy small parcels from freeholders on into the early twentieth century (Niver 1904); the precise boundaries of the Niver holdings are not known. By 1881, the area around Santa Elena was in the hands of the Snyder family (Doyle 1881-1883); the location of their dwelling and associated buildings is not currently known, but the late nineteenth and early twentieth century material in the vicinity of the golf clubhouse may relate to their ownership and use of the land. John Michael Doyle, who was involved in construction of one of the lighthouses on the southern tip of Parris Island noted in 1881 that the population of Parris

Figure 30. 38BU162Q. Eighteenth century ceramics: (A) burnished colonoware sherd; (B) Lead/manganese glazed red earthenware; (C) Buckley Ware; (D) combed and dotted yellow slipware; (E) brown salt-glazed stoneware; (F) Nottingham stoneware; (G) molded white salt-glazed stoneware; (H) scratch-blue white salt-glazed stoneware; (I) creamware (Royal Pattern).
Figure 31. 38BU162Q. Nineteenth century ceramics: (A) shell-edged creamware (green-edged); (B) shell-edged pearlware (blue-edged); (C) relief-molded blue-edged whiteware; (D) pearlware (blue painted); (E) annular whiteware; (F-G) annular creamware (mocha); (H) blue transfer-printed whiteware (willow pattern); (I) blue transfer-printed whiteware; (J) sponged whiteware; (K) cork stamped annular whiteware; (L) light creamware/whiteware; (M) porcelain finial; (N) feldspathic glazed stoneware bottle.
Island was about 800, and that total included only two white families (and the Snyders were one of those) (Doyle 1881-1883). By the turn of the twentieth century, the United States Marine Corps (USMC) was beginning to acquire and use portions of Parris Island (Alvarez n.d.). Land on the south end was leased from the Niver family (Niver 1904).

Using research conducted elsewhere on British colonial ceramics, we can readily separate those made in the eighteenth century from those made in the nineteenth century (Atterbury 1980; Noël Hume 1970; Godden 1966; Hughes and Hughes 1957; Miller 1980, 1987, 1991; Miller and Stone 1970; South 1977a; Towner 1957, 1965; Watkins 1950). Ceramics recovered from the 1994 shovel testing indicate that the Santa Elena area was occupied in both the eighteenth (Figure 30) and nineteenth (Figure 31) centuries.

![Figure 32: 38BU162Q. Eighteenth and nineteenth century artifacts:](image)

- (A) white brass (tombac), South Type 7 button, (18th century type);
- (B) gilt brass button, South Type 18 (19th century type), backmark "TREBLE GILT";
- (C) silver plated brass button, South Type 18 (19th century type), backmark "PLATED";
- (D) bone 4-hole button;
- (E) porcelain 4-hole button;
- (F) lead bale seal (obverse is incised with symbols);
- (G) blue glass bead;
- (H) faceted clear glass bead;
- (I) brass thimble.
A wide variety of additional plantation period non-ceramic artifacts were also found during shovel testing. These include bottle glass, nails, bricks, pipe fragments, glass beads, buttons, marbles, scissors, thimbles, bale seals, barrel bands, files, hoes, hooks, hinges, iron pot fragments, and other assorted metal objects (Figures 32 and 33). About two dozen sherds of colonoware (Ferguson 1992:18-32) were recovered along with other plantation period materials; the small size of many sherds precluded their positive identification as colonoware.

Figure 33: 38BU162Q. Eighteenth and nineteenth century artifacts: (A) ball clay tobacco pipestem with foot; (B) ball clay tobacco pipestem with scale motif; (C) ball clay tobacco pipe bowl with ribbed motif; (D) ball clay tobacco pipe bowl; (E) cast iron pot fragment; (F) molded aqua bottle base with pontil scar; (G) crystal wine glass, base of bowl.
In the present distributional study, artifacts from the entire plantation period occupation were considered as a single analysis unit; no attempt was made to distinguish between the eighteenth and nineteenth century artifacts. A total of 2,034 plantation period artifacts were recovered from 490 shovel tests. Those plantation period artifacts were distributed throughout the sampled area, but a major concentration exists just west of Fort San Felipe (Figure 34). This elongated concentration may be the location of a main house complex or a group of slave-occupied dwellings; several discrete buildings may be indicated by the artifact clusters within this concentration. Only additional excavations will indicate the precise meaning of this concentration. The late eighteenth to early twentieth century artifact concentration in the golf club house vicinity (not plotted on Figure 34 because it was found and excavated in 1993) is also a good candidate for a main-house complex.

The plantation and post-bellum period of occupation for the shovel test sample spans the years from about 1775 to 1900. The early end of this range correlates with the acquisition of the southern end of the island by John Barnwell at the time of his father's death. It is possible that John Barnwell established a plantation on his Parris Island holdings at that time. It was his property and buildings that were acquired and used by Robert Means and his descendants until the Civil War. It is likely, then, that the bulk of the plantation period material recovered at Santa Elena relates to the Barnwell and Means occupation, with some fraction deposited by the free holders who owned portions of the tract between 1861 and the time the property was acquired by the Snyder family. It is likely that the Snyders farmed using black tenants, so some of the materials recovered during shovel testing may relate to that operation as well.

Twentieth Century Artifact Distribution

Artifacts dating to the Marine Corps period occupation were ubiquitous and were dispersed over the entire sampled area. These materials all date to the twentieth century use of the site, and relate to use of the area as a training facility, a bombing and artillery range, and a golf course (Catlin 1919; Captain George Lenhart, personal communication, April 1993; Woodrow Garvin, personal communication, 1993, 1994).

Toward the end of the nineteenth century, the federal government began acquiring land on the north end of Parris Island for use first as a Navy coaling and supply station and then as a drydock. Following completion of the drydock in 1895, the island saw a variety of uses as a Marine Corps officer training school, recruit depot, and disciplinary station (Alvarez n.d.).

In 1915, Parris Island became the site of a Marine Corps Barracks, and by 1918 training facilities were being constructed on the south end of the island directly on top of Santa Elena (Figure 35) (DeRoode 1916). These facilities housed the "Sea School" where selected Marines received specialized training in detached ship-board duty (Alvarez n.d.).

The Sea School was soon expanded to include a "boot camp" facility referred to on available maps as the "Maneuver Grounds" (Rogers 1918; Catlin 1919; Tittoni 1920) (Figure 36). The addition of this basic training facility was necessitated by entry of the United States into World War I in April, 1917, and a sizable fraction of Marines inducted to fight in that war went through boot camp on the site of Santa Elena. A further expansion of this training facility was planned in June, 1918 (Rogers 1918) and most of the expansion was apparently completed (Tittoni 1920) (Figures 36 and 37). The end of the war in November, 1918, however terminated the need for these expanded training facilities, and most of the training-related buildings on the site of Santa Elena were demolished sometime later. A 1928 map (Anonymous 1928) indicates that all of the training facility buildings in
Figure 34: 38BU162Q. Distribution of eighteenth and nineteenth century artifacts.
Figure 36. Detail of the Tittoni Map of 1920.
Figure 37. Detail of the Rogers Map of 1918.
the vicinity of Santa Elena had been torn down, and only a fire station and a few other scattered buildings remained on the site at that time.

In excavations conducted by South (1982:23-24; 1985:26-28) across the site, he has found footing holes relating to the World War I era training camp. Excavation units contain large numbers of Marine Corps artifacts as well as abundant construction related debris, such as concrete and bricks, and large quantities of coal. The "A Level" (in our field terminology) across the entire site area contains an abundance of crushed shell that was apparently used for surfacing walkways, parking lots, etc., associated with the training facilities (South 1980b:6; 1982b:17). Abundant tent stake holes one to two inches across, also undoubtedly associated with the training facilities, are encountered in excavations across the site; these small stake holes occasionally served to introduce plantation or Marine Corps period artifacts into Spanish features (South 1982:25).

There is good evidence from the area around the golf clubhouse (DePratter and South, in preparation) that the site area was repeatedly plowed following the demolition of the training facility. The precise dates of this agricultural activity is not currently known but it probably occurred between the late 1920s and early 1930s, and perhaps again in the early 1940s (Woodrow Garvin, personal communication, May, 1993).

Farming activity must have been impacted by use of the site area as practice range for aerial bombing and field artillery. Maps and informant interviews indicate that there were target areas in the marsh south of the golf clubhouse and in the vicinity of the 8th hole beginning in the mid-1930s (Alvarez n.d.; Captain George Lenhart, personal communication, May 21, 1994; Steve Wise, personal communication, January, 1995). The use of the site as a target location is of unknown duration, although a map dated 1946 shows a target location near the 8th hole (Steve Wise, personal communication, January, 1995).

In 1947, construction began on the golf course that currently occupies the site area. The 7th, 8th, and 9th holes and practice driving range are located in the sampled area, and the clubhouse is located in the adjacent to the 7th tee and the 9th hole. Evidence of golf course activity is present across the site surface in the form of landscape features, Shovel testing resulted in recovery of large numbers of artifacts relating to the training facility, the bombing and artillery range, and the golf course (Figures 38-43). The twentieth century artifact distribution plot (Figure 44) illustrates the distribution of artifacts relating to the training facility, artillery practice, and bombing. We felt there was no need to include the golf course related material in a distributional plot, because the extent of the golf course features is evident on the surface. A total of 2,341 artifacts from 602 shovel tests were employed in generation of the distribution plot. The list of artifact types recovered is contained in Appendix D.

Artifacts relating to the use of the site area as a training facility were found across the site. Nearly every shovel test excavated in the southern two-thirds of the sampled area contained the crushed shell associated with roads and paths connecting the structures pertaining to the training facility. Also common were construction-related debris such as chunks of concrete, nails, window glass, sash weights, etc. Coal, probably fuel for heating, was also scattered across the site. Insignia, coins, and other personal items were less abundant. A number of dated artifacts were found including coins dated 1907, 1917, and 1918, and a shaving stick dated 1912 (Figure 39).

One shovel test, Provenience 10, penetrated a World War I era trash deposit that undoubtedly relates to the training facility (Figure 9). This deposit, which was of a least 1.4 ft (0.42 m) deep and of undetermined width, contained an abundance of tin can
fragments, melted bottle glass, crown bottle caps, a mess knife, ash, and cinders. Additional artifacts from this feature including a USMC mess bowl, plate sherds, a mess knife, USMC hat device, a web equipment strap buckle, and bone and plastic shirt buttons are illustrated in Figure 38, along with contemporary artifacts recovered from other proveniences. Because of the unique nature of this feature, artifacts found in it are not included in the 2,425 artifacts used to generate the distributional plot for this period.

Evidence for use of the site as a bombing target is abundant in the form of miniature zinc alloy and iron practice bombs found buried across the site (Figure 41). These bombs

![Image of military artifacts](image-url)

**Figure 38.** 38BU162Q. World War I USMC military artifacts: (A) USMC uniform button, cuff size, backmark "D.EVANS AND CO."; (B) USMC hat insignia, cast brass; (C) USMC equipment closure snap, button-face type; (D) brass equipment closure snap frame, marked "PAT. OCT. 3 '05" (E) USMC Company "B", hat insignia, cast brass; (F) M1911 .45 cal. automatic pistol cartridge, headstamp "FA 10 16", (Frankford Arsenal, Oct. 1916); (G) brass web equipment strap adjuster; (H) brass uniform trouser button, small; (I) brass uniform trouser button, large.
were not intended to explode, but they contained a "signal" cartridge that discharged on impact and signaled the location of the strike (Captain George Lenhart, Personal Communication, April, 1994; Bureau of Ordnance 1947; Departments of the Army and Air Force 1950:232).

Artillery shells used on the "Santa Elena" range consisted of two varieties of 75mm shells (based on recovered fragments—see Figures 41 and 42) used during World War I and up through the 1930s (War Department 1930:14-30). One of these was a high explosive round fitted with the MK IV point-detonating (impact) fuse (Figure 42 D). The other was a shrapnel round, intended to explode in the air and discharge a pattern of 0.5 inch diameter lead alloy balls. These lead alloy balls (Figure 42 B) are easily confused with lead shot of the type found in the Spanish and plantation period occupation, and care must be taken in separating these two distinct types of artifacts.

Figure 39. 38BU162Q. World War I USMC Period personal artifacts: (A) U.S. Liberty 5¢, 1907; (B) U.S. Buffalo 5¢, 1917; (C) U.S. Lincoln 1¢, 1918; (D) aluminum thimble, marked "CHI - NAMEL PRIZE GRAINER/GERMANY"; (E) composition (plastic) button; (F) lead toothpaste tube, marked "THE PEPSODENT CO./ CHICAGO"; (G) "WILLIAMS HOLDER TOP SHAVING STICK PAT. U.S.A. 10-17-11/2-27-12". nickle-plated brass lid.
Figure 40. 38BU162Q. World War I Period USMC artifacts: (A) aqua soda bottle, unmarked; (B) USMC hotel porcelain mess ware, marked "U.S.-19-"; (C) manganese cork-top bottle neck; (D) aqua cork-top bottle neck; (E) USMC hotel porcelain mess ware, marked "-SM-"; (F) porcelain electric insulator; (G) brass tent rope slip; (H) brown salt-glazed stoneware drain pipe.
Artifacts relating to the golf course were distributed across the sampled area. These included beer cans, cigarette filters, cleats from shoes, golf balls, etc. (Figure 43). As was noted above, these golf course-related artifacts were not used in the generation of the twentieth century artifact distribution plot.

Summary and Discussion

A total of 9,072 artifacts recovered from 1383 shovel tests allowed computer-assisted plotting of seven distributions covering the entire sampled area. Although the

Figure 41. 38BU162Q. Bombing range artifacts: (A) AN-MK 23, 3lb. iron practice bomb (cartridge has blown out nose of bomb); (B) AN-MK 43 4.5 lb. zinc alloy practice bomb; (C) aluminum fragment of crashed aircraft.
major focus of the shovel testing project was identification of town boundaries for Santa Elena, the data recovered allowed distributional assessments to be made for three prehistoric Indian periods, for the plantation period, and the twentieth century Marine Corps occupation of the site. This information will add to our understanding of materials relating to these several occupations recovered in previous excavations and in future projects.

Figure 42. 38BU162Q. Twentieth century USMC ordnance artifacts: (A) fragment of high explosive artillery shell; (B) 50 cal. lead-alloy shrapnel ball from 75mm shrapnel shell; (C) fragment of copper rotating band from artillery shell; (D) MK IV point detonating fuse for 75mm high explosive artillery shell; (E) .30 '06 rifle or machine gun cartridge, headstamp "RA 42" (Remington Arms 1942).
The goal of identifying the limits of the town of Santa Elena was achieved. The town is now known to cover approximately 15 acres with related Indian occupation expanding that to more than 25 acres. Beyond the limits of the town, scattered Spanish sherds indicate that there may have been gardens or agricultural fields to the north and west of town. Additional details of the observed Spanish artifact distribution will be discussed in the following chapter.

Figure 43. 38BU162Q. Golf course artifacts: (A) game ball; (B) range ball; (C) score card pencil; (D) wooden tee; (E) Coca-cola bottle fragment; (F) Budweiser beer can fragment, mowed.
SANTA ELENA BOUNDARY SURVEY
PARRIS ISLAND, S.C.
DISTRIBUTION OF 20TH CENTURY U.S.M.C. ARTIFACTS
38BU162Q - 1994

KEY
1-13 ARTIFACTS
14+ ARTIFACTS

Figure 44. 38BU162Q. Distribution of twentieth century USMC artifacts.
Chapter 6

RECREATING THE SANTA ELENA TOWN PLAN

The asiento or contract between Pedro Menéndez and Philip II pertaining to the colonization of "La Florida" required Menéndez to take one hundred settlers with him on his initial expedition, in addition to 400 soldiers and sailors. Within three years he was expected to take an additional 400 settlers there. Of the 500 settlers, at least 200 were to be married (and presumably they would have families with them), and at least 100 were to be farmers. According to conditions of the asiento, Menéndez was to establish two or three towns with each one having a stronghouse built of stone, adobe, or wood, and surrounded by a moat with a drawbridge. He was also to bring 500 slaves as a labor force to assist in construction and cultivation of sugarcane (Lyon 1983:48-49).

When Menéndez sailed for Florida, he claimed to have more than 1500 people aboard his several ships; other accounts place the number at less than 1000 (Lyon 1983:98). Among this number were 138 soldiers who were artisans or craftsmen. These individuals included stonemasons, carpenters, tailors, coopers, bakers, a master brewer, eight blacksmiths, a hatmaker, a bookseller, five barberos (barbers and healers), and two surgeons. One hundred seventeen soldiers were listed as farmers, and 26 of those brought their wives and children with them to Florida on that first expedition (Lyon 1983:92).

St. Augustine was established first as a military outpost when Menéndez arrived in 1565, and once the French at Fort Caroline had been dispatched, Santa Elena was founded in 1566 as capital and major settlement of Florida. As a result, Santa Elena was the larger of the two settlements between 1566 and 1576 with a maximum population of approximately 200 settlers and 100 soldiers. Temporary abandonment of Santa Elena in 1576-1577 caused the capital to be shifted to St. Augustine. Following the abandonment, the fort at Santa Elena was rebuilt in 1577, but no new settlers arrived there until 1580. The Santa Elena population rose to perhaps 200 during this second occupation which lasted until 1587 when the town (and fort) were abandoned (Lyon 1984).

This occupational history means that there are two discrete occupational episodes at Santa Elena. The first lasting from 1566 to 1576, and the second from 1577 to 1587. We know from documentary sources that the town and forts were burned at the end of each of these occupations. This means that the archaeological record contains remains of two burned towns, each occupied for ten years. Also present on the site are the remains of at least three (and possibly more) forts.

No contemporary town plan exists for Santa Elena, although there are two diagrams showing forts described earlier in this report. The fort diagram depicting Fort San Marcos in 1578 has two buildings, one labeled "the house of married women" and the other with an unreadable label (Figure 4). No other town structures are indicated. The other uncaptioned fort diagram depicts Fort San Marcos in 1586 but it does not show any portion of the nearby town (Figure 5).

Because of this absence of a town layout map, we are forced to examine other sources for clues relating to the layout and appearance of the town. Royal ordinances pertaining to town layout, an English map of St. Augustine in 1586, scattered documentary sources, and the archaeological record as it is currently known, all provide information that allows a hypothetical reconstruction of the town.
Royal Ordinances Concerning Towns and Settlements, 1563 and 1573

Because town layout was fairly formalized in sixteenth century Spanish colonial communities, we have a reasonable idea of what the layout of the town may have been. In 1563, Philip II of Spain issued a set of ordinances relating to how new settlements in the Indies should be selected and settled (Hoffman and Lyon 1976:Appendix I). Ten years later a modified set of ordinances was issued with additional directions concerning town layout (Crouch et al. 1982). These Royal ordinances provide a useful perspective on sixteenth century site selection, town planning, and property distribution, and they provide specific information that can be used to help interpret observations based on archaeological clues to town layout and settlement.

Ordinances 34-41 of the 1573 set, for instance, pertain to the selection of the proper site for a town (Crouch et al. 1982:8-9). Ordinance 111 (Crouch et al. 1982:13) then summarizes these criteria as follows:

Having made the selection of the site where the town is to be built, it must, as already stated, be in an elevated and healthy location; [be] with means of fortification; [have] fertile soil and with plenty of land for farming and pasturage; have fuel, timber, and resources; [have] fresh water, a native population, ease of transport, access and exit; [and be] open to the north wind; and, if on the coast, due consideration should be paid to the quality of the harbor and that the sea does not lie to the south or west; and if possible not near lagoons or marshes in which poisonous animals and polluted air and water breed.

The site Pedro Menéndez chose for Santa Elena fits these criteria well. It has an excellent harbor (Port Royal Sound), the sea is to the east, parts of the site are elevated, farm land is located nearby, there was a native population upriver, and it was open to the north wind (Figures 2 and 8).

Once the location for a town was chosen, according to the ordinances, "the main plaza is to be the starting point for the town" (Ordinance 112). The plaza should be near the landing place if the town is in a coastal setting, and in the center of town if the town is located inland. It should have "at least one and a half its width for length inasmuch as this shape is best for fiestas in which horses are used." The plaza should be proportional to the number of town residents but should be no less than 200 feet by 300 feet and maintain the proportions of one to one and one half (Ordinance 113) (Crouch et al. 1982:13).

Streets (Ordinance 114) were to be laid out from the plaza--one from the center of each side and two from each corner. The entire plaza margin and the streets originating from the sides of the plaza were to have arcades or "portals" to be used by merchants (Ordinance 115). Smaller plazas were to be built in other parts of the town as it grew in size (Ordinance 118) (Crouch et al. 1982:14). Once the town was laid out and temporary housing was erected, a palisade or ditch was to be constructed around the plaza "so that they [town residents] may not be harmed by Indians or natives."(Ordinance 128) (Crouch et al. 1982:16).

A measured plan was to be made of the town, and Ordinance 110 (Crouch et al.1982:13) clearly specifies the manner by which such a plan was to be drafted:

A plan for the site is to be made, dividing it into squares, streets, and building lots, using cord and ruler, beginning with the main square from which streets are to be run to the gates and principal roads and leaving
sufficient open space so that even if the town grows, it can always spread in the same manner.

The "temple" of the cathedral was to be built, in coastal towns, so that it could be seen upon entering or leaving the port, and in such a place that its buildings could be used as defensive structures in time of attack. Lots assigned for the principal church, parish, or monastery should be "a complete block so as to avoid having other buildings nearby" (Ordinances 119 and 120) (Crouch et al. 1982:14).

Major towns were to have lots assigned for the cabildo (or municipal council) house, customs house, and arsenal. A hospital for the poor and non-contagious was to be built near the church, while another hospital for those suffering from contagious diseases was to be built in an elevated place, if possible, in an orientation that would prevent "harmful wind" from passing through it (Ordinance 121) (Crouch et al. 1982:15).

The ordinances then turn to assignment of lots. Lots on the plaza were not to be assigned to individuals, but they were instead reserved for "buildings of the church and royal houses and for city use" (Crouch et al. 1982:15). Shops and houses for merchants were to be constructed before these official buildings were constructed; these shops and houses were to be built for the merchants by the townspeople, and a tax on goods was to be imposed sufficient to cover these construction costs (Ordinance 126). Lots remaining after distribution to the church, government buildings, hospitals, and merchants were to be distributed by lottery to settlers; lots closest to the plaza were to be distributed first and those farther away reserved for settlers who arrived later (Ordinance 127) (Crouch et al. 1982:15-16).

Lots in the town were to be of a prescribed size. Peonías were small plots measuring 50 pies in width and 100 pies in length (Ordinance 102). Using the accepted conversion for a pie, these small lots would have been approximately 44 by 88 ft (13.4 by 26.8 m) (St. Augustine Foundation Database #1107, St. Augustine, Florida). Larger lots, called caballería, were 100 pies in width and 200 pies in length (Ordinance 105); converted to modern measurements, that would be approximately 88 by 176 ft (26.8 by 61.0 m). Individuals who received caballerías also received 500 fenegas (approximately 800 acres) of agricultural land for wheat or barley, 50 fenegas (80 acres) of land for corn, two huebras (about 2 acres) for gardens, forty huebras (about 40 acres) of dry land for trees, and unspecified fenegas of pasture lands sufficient to raise 50 sows, 100 cows, 20 mares, 500 sheep, and 100 goats. Recipients of peonías were given 100 fenegas of wheat or barley land, ten fenegas (16 acres) for corn, two huebras (about 2 acres) for a garden plot, eight huebras (about 8 acres) for trees, and pasture land for 10 sows, 20 cows, 5 mares, 100 sheep, and 20 goats (Ordinance 106) (Hoffman and Lyon 1976:Appendix I). Both agricultural and pasture tracts assigned to caballería holders were to be "given surveyed and marked within closed boundaries;" agricultural lands assigned as peonías were surveyed and bounded, but pasture lands were held in common with others (Ordinance 107) (Hoffman and Lyon 1976: Appendix I). No settler was to be given more than five peonías and three caballerías (Ordinance 103) (Crouch et al. 1982:12).

Once lots were assigned, settlers were to erect their tents for temporary shelter; settlers were to be encouraged to bring their tents when new settlements were to be established. Those without tents were to make huts "of easily available local materials, so that they may have shelter" (Ordinance 128) (Crouch et al. 1982:16).

Beyond the initial town limits, a "commons" was to be established "where people may go for recreation and take their cattle to pasture without them making any damage"
(Ordinance 129). Land beyond the commons was be distributed by lottery for use as pastures and farm lands, with the number of lots of farmland to equal the number of town lots (Ordinance 130). Settlers were to be provided "at small cost" with the tools and materials needed to build their houses "with good foundations and walls" (Ordinance 132). These houses were to be built so that they "may enjoy the air of the south and north as these are the best." Each house should be built strongly enough that it could be used for defensive purposes, and each should contain space for horses and other work animals. Yards and corrals were to be "as large as possible for health and cleanliness" (Ordinance 133). All buildings in the town were to be of one type "for the sake of the beauty of the town" (Ordinance 134) (Crouch et al. 1982:16-17).

A reasonable question to ask is whether these ordinances (or at least similar concepts) were employed by Pedro Menéndez who laid out the sister towns of Santa Elena and St. Augustine. A partial answer to this question can be found in a map of St. Augustine drawn in 1586 (Figure 45).

The Boazio Map

The 1586 St. Augustine plan was drawn by a participant in Drake's sack and looting of St. Augustine (Bigges 1969). The so-called Boazio map was done by Baptista Boazio, an Italian "page" or attendant who was traveling with Drake's Lieutenant General (Keeler 1981:290, 317-319). Little is known about Boazio, but if he is truly the author of the map of St. Augustine (and four others relating to the Drake expedition), then he possessed some skills as an artist and cartographer. (Figure 45)

On the St. Augustine map, the town and its nearby fort are shown in plan from a bird's eye view. The fort is shown adjacent to the harbor entrance, and the town is located some distance to the south. The town layout, as depicted by Boazio, consists of residential blocks separated by a grid composed of streets running north/south (parallel to the shoreline) and east/west. The "core" of the towns contains six elongated blocks shown with buildings all around their margins, with each building facing the street. Buildings are shown as varying in size and shape, with some possible two story structures indicated. The interior of each of these blocks is open, with some areas containing obvious formal gardens, others containing scattered trees, and still others shown as open spaces. No buildings are indicated within these six blocks except for those directly along the streets.

Three other blocks are shown to the south (left on the map) of this core. These three blocks are smaller than those in the core with fewer lots indicated; it is possible that these blocks represent expansion of the town to the south, and full blocks had not yet been settled. Or, as another possibility, there may have been low lying land on that edge of town that prevented full blocks from being added in that direction. Each of these three partial blocks contains houses along street margins, but no buildings in lot interiors. As was the case with the "core" area, there is some, though perhaps less, variation in sizes and forms of building represented.

Along the river's edge to the east of the "core" blocks are two additional blocks. Each of these blocks differs from the nine others to the west in that neither of these river front blocks contains any open space. One of these blocks, the northernmost of the two, is filled with three rows of small structures with alleys or roads running between the rows. All of the buildings are identical, single story structures perfectly aligned from one end of the block to the other. The second, or southernmost, of these river front blocks, is smaller than the first, and may again be due to low lying or unassigned land toward the
south end of this block. Houses in this block show more variability than is found in the
other river front lots to the north. These two blocks with smaller, more closely spaced
houses may have been the precinct where soldiers, servants, and the 20-30 Royal slaves
that we know were present in St. Augustine at the time of Drake's raid lived (Bushnell
1981:82).

An obvious feature on every building shown on the Boazio plan is a chimney.
Sixteenth century Spanish structures would not have had chimneys; heating would have
been by charcoal brazier and cooking would have been done outside (Manucy
1962:29,33,81; Deagan 1980:27). Presumably the artist was drawing houses in the style
which he knew from previous experience, not in the style that they existed in St.
Augustine.

Boazio's plan also show three structures in addition to the houses discussed
above. These additional structures are indicated as "M," "N," and "O" on the plan. Structure "M" is identified in Boazio's caption as "The towne house." This would appear
to be a government building, and may have housed the cabildo (or municipal council),
the customs house, and offices for other officials as prescribed in the 1573 ordinances
(Crouch et al. 1982:15). Structure "N" is identified as "A high scaffold for a watchman." Why this watchtower would be located in the town rather than at the fort closer to the
harbor entrance is not known. Perhaps the tower was placed on the point of highest
elevation. Whatever the reason for its placement, this tower would have been used to
sight arriving ships and thus warn both the fort garrison and townspeople of possible
attack. The other building, indicated on the map by the letter "O," is the church. The
church is located adjacent to the end of one of the "core" blocks, and appears to be
separated from it by only a narrow street.

Previous researchers have noted that sixteenth century St. Augustine lacked a
"centrally located plaza" as prescribed in the 1563 and 1573 Royal ordinances. Manucy
(1962:18) says the town plaza was laid out by Governor Méndez de Canzo at the end of
the sixteenth century. Deagan (1982:190) speculates that a plaza might never have been
laid out in sixteenth century St. Augustine in an effort to maximize residential use of the
high plot of land on which the town was settled. From the placement of buildings as
shown on the Boazio map, it is apparent that there was indeed a "plaza," but at the time
the map was drawn, it was not identified as such by Boazio. The church "O" is located at
the southeast corner of a large, empty area, and the government town house "M" is at the
northwest corner of the same open area. This open area, with the principal religious
structure at one corner and the primary government building at the opposite corner is
consistent with the town layout prescribed in the ordinances. It seems logical that
Menéndez and his successors would have anticipated growth at St. Augustine and put
the plaza on the north edge of the initial settlement to allow room for future growth.
Boazio may not have realized he was crossing a plaza when he and Drake's forces
invaded St. Augustine, or perhaps the presence of an open space without buildings was
not considered an important enough feature to record on his map. Whatever the reason,
the feature was not labeled. It appears, at least from our perspective, that sixteenth
century St. Augustine did have a plaza, albeit not a centrally located one.

Surrounding the town is an undeveloped space, perhaps the commons, which
contains only two enclosed compounds and related small structures located to the west of
town. These compounds may represent the holdings of government officials who were
granted such land as part of their compensation for service (Hoffman and Lyon 1976;
1563 Ordinance 107), or they may have pertained to maintenance of "Royal" stock. In a
declaration written by St. Augustine steward, Juan de Junco, in response to charges
brought against him, he states that he constructed a "palm covered hut" and a wooden
enclosure for goats three to four arquebus shots from the fort; this compound was occupied by two shepherds and an unknown number of goats. Another compound closer to town housed chickens (AGI EC 154-A, fo. 1203-1237, December 10, 1569). Perhaps the compounds shown on the Boazio map were similar to the one described by Junco. Beyond these compounds on Boazio's map are gardens and larger farm fields which appear to contain corn.

The town, as drawn by Boazio, contains approximately 230 houses which would seem to be too many. Documents indicate that the St. Augustine population was approximately 70 or 80 soldiers and 200 to 250 others, including settlers and their families, servants, and slaves at the time of Drake's attack (Keeler 1981:208). An anonymous account, the so-called "Primrose" journal written by a participant in Drake's attack, says that the town contained 250 houses which is consistent with Boazio's depiction (Keeler 1981:208). Some documents indicate that Indians began burning the town as soon as the English captured the nearby fort; it is possible that it was partially destroyed when the English attacked it and the 250 figure is simply a rough estimate (Covington 1965).

Archaeology of Sixteenth Century St. Augustine

Kathleen Deagan has mounted a major effort in St. Augustine to discover archaeological remains of the sixteenth century component at that site. That effort began in earnest in 1976 with a search for the limits of the sixteenth century occupation and continues to the present (Deagan et al. 1976, 1981a, 1981b). Her search for that earliest Spanish occupation at St. Augustine has been frustrated by the deep, later deposits overlying the sixteenth century occupation; in most places those deposits are 5 feet (1.5 m) thick (Deagan 1985:190). Not only are the deposits relating to the earliest European occupation deeply buried, but they have also been extensively intruded by wells, trash pits, pipelines, and house footings from seventeenth through twentieth century occupations (Deagan 1980:26; 1983:250). These problems are further compounded by the fact that St. Augustine is still an active, thriving city today. Most town lots contain buildings which are located along street fronts and sit squarely atop the remains of earlier buildings that occupied that location. Back yards contain driveways, garages, and other impediments to exposure of the sixteenth century component (Deagan 1981a:627).

St. Augustine Town Plan

Using available documentary sources and archaeological data, Kathleen Deagan (1981b), historians Paul Hoffman and Eugene Lyon (1976), and architectural historian Albert Manucy (1977) have all attempted to determine the original town plan of sixteenth century St. Augustine. In an effort to conduct testing based on the results of these town plan studies, Deagan (1981b, 1985:13) predicted the location of four street segments in sixteenth century St. Augustine; archaeological excavations confirmed that two of the four proposed street segments actually existed in the ground. The degree to which the sixteenth century street layout conformed to the present layout is not known, although at least some of the modern streets apparently date to the earliest occupation of the town.

Structures and Wells in St. Augustine

Deagan has had little success in discovering and excavating sixteenth century structures in St. Augustine. Only two small structures of this period have been reported by Deagan (Deagan 1985:13). One structure, located on the Joseph de León site (SA-26-1), was 5.5 by 3.5 m (18.0 by 11.5 ft) with wood post construction (Braley 1977; Deagan
1985:13). The other, a wattle and daub structure measuring approximately 3.5m (11.5 ft) by at least 4 m (13.1 ft), was found at the Trinity Episcopal Aloha site and may have been a kitchen structure (Vernon 1980; Deagan 1985:13). A few other incomplete structures have been found, but the portions uncovered were not sufficient to allow estimation of size (Deagan 1985:13). This difficulty in excavating early structures is caused by the fact that modern structures occupy the same building sites.

Deagan has had greater success at finding wells. Thirteen sixteenth century barrel wells have been found and excavated in St. Augustine. These wells are consistently spaced 12 to 15 m (39.4 to 49.2 ft) apart and about 12 to 15 m back from the modern street edge. Deagan (1982:190; 1985:13) has interpreted this spacing as evidence that town lots in St. Augustine followed the proscribed dimensions for peonía given in the 1563 Royal ordinances cited above. These small town lots were 50 Spanish feet across, and that correlates well with the observed spacing of wells; given the observed measurements these wells would have been in a centrally located position within the backyard area of a 44 by 88 ft (13.4 by 26.8 m) lot.

Drawing upon excavations on several town lots in St. Augustine, Deagan (1982:199) has constructed a typical lot plan for "Hispanic" St. Augustine (Figure 46). Deagan's accompanying text states that this "lot element pattern" applies to St. Augustine households dating from the sixteenth through eighteenth centuries (Deagan 1982:198-199). Houses were built adjacent to the street with an unattached kitchen structure located toward the rear of the lot. A loggia, or covered porch, was generally attached to the south end of the house. Wells were located in the backyard, and trash pits and sheet refuse deposits were also found in the same area. The entire household complex, as presented by Deagan, would have been surrounded by a "garden wall."

This "typical" lot, based on excavation of household lots dating from the sixteenth to eighteenth centuries, may also apply to Santa Elena. There is no direct evidence from either St. Augustine or Santa Elena for "garden walls" in the sixteenth century, although there is a strong likelihood that lots would have had some sort of fencing or wall around them to keep livestock from wandering away, since the Royal Ordinance 133 did prescribe that houses should include space for horses and other work animals (Crouch et al. 1982:16). Neither Deagan (1982:190; 1985:13) nor Manucy (1985:48) includes in their discussion of lot size the possibility that there may have been large caballería lots in St. Augustine.

As a result of numerous field projects in St. Augustine, Deagan has identified the location of the sixteenth century town of St. Augustine, and she has made great strides in excavating available areas, i.e. those not covered by roads, buildings, parking lots, etc. She has been able to identify old street segments that are no longer used, parts of several buildings, and at least 13 sixteenth century wells. She has also been able to propose a "typical" lot pattern for Spanish St. Augustine. Despite all this effort, her ability to reconstruct the town plan and describe structures and activities relating to individual house lots is limited by the amount of exposure she is able to achieve on individual lots. This is a problem not found at Santa Elena where there are neither buildings, nor roads, nor parking lots concealing the archaeological remains.

Santa Elena Town Plan

So, given the preceding background information, what can be said of the town layout at Santa Elena? Prior to the shovel testing survey undertaken in 1994, excavations had not been directed toward discovery of the overall town plan. South's sampling frame research was directed toward discovery of the most intensively occupied part of town, so
Figure 46. Lot plan for St. Augustine, Florida. From Deagan 1982, Figure 8.
that block excavations could be conducted there. His block excavations were intended to expose a series of structures in places where his three foot squares suggested that such structures might be found. Also, South excavated test units in Fort San Marcos and conducted extensive excavations in Fort San Felipe, because of research questions relating to these fortifications.

Alignment of Structures

Using information available to him, South (1980b:12-14) began to speculate on the layout of town following his discovery of the structure (38BU162A) that he identified as a "soldier's hut" (Structure 1 on Figure 47). At the time, South thought that the "vineyard ditches" that run across much of the site dated to the Spanish occupation (South 1980b:14). Using the alignment of these ditches relative to the two forts and the hut he uncovered, South concluded that because the hut lined up with the moat of Fort San Felipe constructed during the first occupation, rather than with the orientation of Fort San Marcos and the vineyard ditches, the hut must therefore date to the first occupation (1566-1576) at Santa Elena. South (1980b:13) saw this alignment as the "Rosetta Stone" to be used to interpret the alignment of the forts and the layout of the town. He realized that the "importance of alignment relative to the two forts and the structures in the city of Santa Elena will not be known fully until more of the Santa Elena structures are found" (South 1980b:13-14). Elsewhere he did propose discrete, non-overlapping locations for these two distinct occupations of the town (South 1980a:208, Figure 1).

When more extensive excavations were conducted in the town in 1981, South found that the alignment problem was not so clear-cut. The three structures (3, 4, and 5) surrounding a courtyard that he found in that season did not match the alignment of the soldier's hut (Figure 47). He did find part of what he thought was another structure (Structure 2) that did align with the hut, but Structure 2 was found through subsequent excavations to not be a structure. South (1982:43) discussed these different alignments in relation to the two periods of occupation at Santa Elena and the 1576 destruction of the town, but he was unable to reach any final conclusions concerning town layout given the conflicting data available to him. He did note that "If Structures 3 and 5 are indeed reflective of a north-south running street during the first Santa Elena, excavation farther north in line with these structures, or toward the south, should produce other building ruins along this same street" (South 1982:43).

Additional excavations were conducted adjacent to Structures 3, 4, and 5 in 1982 (South 1983:5-21). These excavations were small blocks measuring 20 by 30 ft, and they did not contain significant architectural remains. Thus, the alignment question remained unresolved. In his discussion of the 1982 excavations, South (1983:21) concluded by stating: "We have the ruins of the city but large excavation areas must be exposed before we begin to confidently know the layout and alignment of the various structures once forming the city." These conclusions were restated by South and Hunt in their discussion of another small block unit excavated in 1985 that failed to find structural features. After recognizing that sampling and excavations to date had pinpointed the major occupation areas within the town, South and Hunt (1986:30) went on to say:

It is now time to use this information to get a far better picture of Santa Elena's layout than has been possible using the methods utilized thus far. Large block excavations the size of football fields must now be excavated to discover more about the architectural layout of Santa Elena, her buildings, streets, plazas, and gardens.
Figure 47. Conjectured lot layout for part of Santa Elena.
The opportunity to conduct those large scale excavations did not come until 1991, when South and DePratter excavated a large block unit directly north of Structures 3, 4, and 5. Excavation of this block exposed one half of Structure 7, and the other one half was exposed in 1992. Structure 7 was a large building, roughly 22 ft (6.7 m) square, constructed of large upright posts 11 ft (3.1 m) apart. Walls of the structure were apparently of wattle and daub, and the roof was covered with oyster shell mortar, perhaps overlying a layer of daub. A large block unit was excavated to the east of this structure in 1993, exposing what may have been part of the backyard (South and DePratter Ms.).

With excavation of this structure came the opportunity to reconsider the possible town layout for Santa Elena. When the alignments of Structures 3, 4, and 5 were compared to that of Structure 7, their walls were found to be in perfect alignment (Figure 47). Based on this alignment, the assumption can be made that these adjacent structures were built and occupied at the same time. But do these structures date to the 1566-1576 occupation or the 1577-1587 occupation?

First or Second Occupation?

A clue relating to the period of occupation for these structures can be found in the archaeological record. Structure 7 was constructed using large amounts of oyster shell mortar, and Structures 3, 4, and 5 contain lesser amounts of the same material. In a letter dated March 25, 1580, Pedro Menéndez Marqués wrote that flat-roofed houses were being constructed in Santa Elena of wood and mud (i.e. daub) with a coating, inside and out and on the roof, of lime made from oyster shells (Connor 1930:283). He goes on to say that because of this construction technique, the Indians have lost their "mettle" or spirit, perhaps because it was no longer easy for them to set fire to houses when they attacked the town. The implication from Menéndez Marqués statement is that this construction technique was something new and different, and this follows from what is known from documentary sources: there are no pre-1580 references to flat roofed houses with lime being used as a component in wall or roof construction.

Given Menéndez Marqués statement, we believe that houses in Santa Elena that show extensive use of lime mortar made from oyster shells (not to be confused with imported lime made from limestone) should date to the second occupation of the town (i.e. 1577-1587). This means that Structure 7 with its masses of oyster shell mortar dates to that second occupation, and Structure 3 (and its two associated buildings) must date to that same occupation because it is so perfectly aligned with Structure 7.

If we are correct in concluding that these adjacent structures are contemporary and date to the second occupation, then where are the remains of the buildings that occupied the same lots during the first occupation? Those buildings would have been burned when the Indians destroyed the town in 1576 (Connor 1925:199), so their remains should be readily identifiable in the ground. If such buildings exist, they have not been found. Neither Structure 7 nor the adjacent Structure 3, 4, 5 complex intrudes on any earlier building, nor have any additional buildings been found in the excavated areas surrounding those structures. It is as if these structures were built in an area that had not been previously occupied.

A possible explanation for this dilemma can be found in the relative location of the two known forts. Fort San Felipe is located to the north of the excavated structures, and Fort San Marcos is located to the south. Fort San Felipe was built and used during the first occupation of the town, and was destroyed by fire in 1576. At the time that it was occupied, this fort would have had, as its primary task, defending the entrance to Port Royal Sound against intrusion by European forces. If Structures 3, 4, 5, and 7 were
occupied at the same time that Fort San Felipe was in operation, then they would have been located directly between the fort and the harbor entrance. We would suggest that this position would not have been a desirable place to live. Any defense against attack by water would have necessitated firing large projectiles directly over (or through) Structures 3, 4, 5, and 7. This is an unlikely prospect.

The absence of first occupation activity on the lots occupied by these structures may then relate to the use of Fort San Felipe as the primary defensive structure from 1572-1576. Then, after the one year abandonment, Fort San Marcos was built at the south end of town in 1577, and San Felipe was never reoccupied (Figure 47). This would have made the area between the forts a more desirable location for settlement, because the guns of Fort San Marcos would have fired south and east across the marsh in defense of Santa Elena, and not directly through the town as we now know it based on our boundary survey. We suggest that it was at this time, when town lots were redistributed between 1578 and 1580 as the second town was being established, that the lots containing Structures 3, 4, 5, and 7 were among the first assigned. During the first occupation they would have remained unassigned to allow a proper field of fire from Fort San Felipe.

**Lot Dimensions**

But what of the size of these occupation lots located between the two forts? An indication of at least one dimension can be found in the three buildings excavated by South (1982) in 1981. Structures 3, 4, and 5 were built around an open courtyard. The buildings (and the courtyard) cover an area measuring approximately 70 ft (21.3 m) north/south and 80 ft (24.4 m) east/west, an area too broad to have fit on a *peonia* lot as described in the 1573 Royal ordinances discussed above. The lot containing Structures 3, 4, and 5, had to have been larger than a *peonia*, and we believe that lot must have been a *caballería* lot measuring 100 *pies* by 200 *pies* as prescribed in the Royal ordinances. Such a lot would be approximately 88 by 176 ft (26.8 by 53.6 m) and would be the type of lot given to government officials or other important personages.

**Lot Layout**

When *caballería*-size lots are projected on a plot of the known structures at Santa Elena, we see that there is a good correspondence between those structures and the hypothesized lot boundaries (Figure 47). On the proposed lot containing Structures 3, 4, and 5, portions of all three structures have been excavated, but the eastern half of the lot has not been excavated. The refuse concentration shown on this and adjacent lots are taken from the computer generated plot for the distribution of sixteenth century Spanish ceramics (Figure 27). If we are correct in our hypothesized lot reconstruction, we would expect to find a well (or wells) in the backyard of the structure 3, 4, and 5 complex, perhaps just east of Structure 3. There may also have been a detached kitchen in the back part of the lot, if Deagan’s St. Augustine findings concerning lot layout apply to Santa Elena (and we suspect that they do). The large refuse disposal area on the "back" or eastern part of the lot is right where it would be expected given what is known from St. Augustine excavations (Figure 46).

The next projected lot to the north contains Structure 7 and related features. This structure was large, and well constructed with postholes three feet in diameter and three feet deep. Wells were present at the northwest and southwest corners of this building; two additional wells were found to the east of the building in what may have been the backyard to this lot. Structure 1, originally interpreted as a soldier's hut (South 1980b), falls on the northern margin of this lot, and it may be the residence of a household servant.
associated with Structure 7. The large refuse disposal area in the north central part of this lot has not been excavated.

The next projected lot north of Structure 7 has not yet been excavated (Figure 47). This lot extends to within 50 feet of the moat of Fort San Felipe but does not intrude into it. We suspect that this is another caballería lot, although we do not at present know anything about the structure or structures that may occupy it. The location of the refuse concentration in the center of this lot differs from the pattern seen in the two adjacent lots, so it could be that this lot differed in use from the other two described above. Only further work will resolve this question.

Additional large lots may have been located between Structure 4 and Fort San Marcos, but no excavations have been conducted in that direction. The fact that there are multiple refuse concentrations in this area may indicate the presence of several smaller peonía lots, or these refuse concentrations may result from use of this area during both the first and second occupations.

*Shoreline Position and Erosion*

Based on these lot projections, we can speculate on the position of the shoreline to the east of structures 3, 4, 5, and 7 at the time the town was occupied. South (1979) found the remains of Fort San Felipe to the north of these buildings in his initial sampling frame in the summer of 1979. Excavation of slot trenches showed that the eastern half of the fort has been washed away during the past 400 years (South 1979:10). Limited excavations conducted in Fort San Marcos also showed evidence of loss of part of that fort to erosion (South 1980b:72-75). Based on this work, he assumed that some part of the town of Santa Elena had been lost by the same erosion process.

The lots as outlined on Figure 47 would have measured approximately 88 by 176 ft (26.8 by 53.6 m) as noted above. If we are correct about the dimensions of these lots, then there has been little erosion on the eastern ends of those lots based on the way these lots fit onto the modern landscape. There may have been another row of lots farther to the east, but we consider that prospect unlikely given the relative position of the forts. Therefore, there may have been no loss of any part of the town to erosion. Any loss may have involved erosion of a wooded fringe along the marsh edge.

Just such a wooded fringe is indicated on the 1586 plan of Fort San Marcos (Figure 5) where the word *monte* appears just outside the moat on the fort's north and west sides. We suspect that these woods may have extended along the entire shoreline. We can use that same plan shown in Figure 5 to estimate total shoreline loss due to erosion. As can be seen on that plan, the eastern edge of the fort (east is to the lower edge of the page) is located directly adjacent to the creek; the large dot adjacent to the creek is identified by a caption that says it marks the place where "they disembark." Scaling this fort plan to the remaining portion of the fort as outlined by the moat, approximately 150 ft (45.7 m) of shoreline has been lost in the area of Fort San Marcos. The loss may be somewhat less in the area of Fort San Felipe where, based on the configuration of the fort, erosion may have removed less than 100 ft (30.5 m). The projected shoreline based on these erosion estimates is shown on Figure 48.

*A Projected Street*

Figure 47 shows a projected street that runs north/south in front of Structures 5 and 7. The west walls of Structures 5 and 7 are aligned, and it is likely that they fronted on a street that South (1982:43) predicted on the basis of the orientation of Structures 3
Figure 48. Conjectured town plan for Santa Elena.
and 5. We think that it is unlikely that structures 5 and 7 would have fronted directly on the street edge as Deagan has proposed for St. Augustine houses, however. As was noted above, wells were located at the northwest and southwest corners of Structure 7. Their placement indicates that they are contemporaneous with that structure, and that means that the street would have been located some distance farther to the west, beyond these wells. A large trash-filled feature was found still farther to the west, and we believe that it was associated with Structure 7 as well. If that is indeed the case, then the street adjacent to Structures 5 and 7 would have been located at least 20 ft (6.1 m) west of their west walls. The street, as plotted, is oriented 12 1/2° west of north.

A Projected Plaza

A possible plaza, shown on Figure 48, is based on the distribution plot for Spanish ceramics (Figure 27). On Figure 27 there is a break in the distribution located between North 540 and North 660 on the site grid and extending east/west across the entire occupied area. We suspect that this area, from which only a few sherds of Spanish ceramics were recovered, is the plaza. In order to satisfy ourselves that this break in the distribution was real and not an artifact of our shovel testing strategy, we generated a plot of the sampling universe in combination with the distribution of Spanish ceramics (Figure 49). As can be seen on that figure (areas not sampled are white), the possible plaza was adequately tested, with only a few small blocks around a practice green and a ditch (see Figure 6 for positions) excluded from the sampling universe. This means that the observed absence of artifacts in the proposed plaza is real.

To further investigate the possible origin and function of this open space, we generated a distributional plot that combined Spanish ceramics with contemporary Indian pottery (Figure 50). The vacant space is still apparent on this plot, though it is slightly constricted. After studying Figure 27, 49, and 50 singly and in combination, we are convinced that a plaza is the best explanation that we can provide at present for the obvious break in the artifact distribution based on shovel tests. Based on the artifact distribution plots, the dimensions of this possible plaza are 175 ft (53.4 m) by approximately 350 ft (106.7 m), though these estimates are subject to future revision.

Correlation of Artifact Concentrations with Population Estimates

Within the approximately 15 acres of the town, the contoured distribution map (Figure 27) shows at least 31 distinct concentrations of Spanish pottery; several additional concentrations would undoubtedly have been found in areas that were not available for testing or that were destroyed by construction of the driving range that is located in a scooped out depression along the western margin of the occupation area (Figure 6). At present we can not say for certain whether the plotted artifact concentrations represent the location of structures or refuse heaps, but based on those concentrations that are adjacent to our previous excavations, there is at least a strong suggestion that they are indeed refuse piles. That then brings up the question of whether a single refuse pile might have been used by more than one household. Given the observed wide spacing of the concentrations and the fact that the town was probably divided up into individual house lots, we suspect, though we can not prove at present, that each lot would have had its own disposal pile. Whether the same lot layout and refuse disposal heaps were used during both occupations is not known at present.

If we take the 31 plotted Spanish ceramics concentrations, and add another 10 based on spacing of recognized heaps to cover the area that was not available for testing (or was disturbed during construction of the driving range), then we come up with a total of approximately 41 concentrations. This figure can be compared to the number of
Figure 49. 38BU162Q. Distribution of Spanish ceramics relative to the testing universe.
Figure 49. 38BU162Q. Distribution of Spanish ceramics relative to the testing universe.
Figure 50. 38BU162Q. Distribution of combined Spanish ceramics and Spanish-contemporary Indian pottery.
houses in the town as listed in contemporary documents. An August, 1569 list of households includes 40 houses, four of which were occupied by groups of single men (St. Augustine Foundation Data base # 1398; AGI:CD 941, August. 1, 1569). Another tabulation of married persons (each presumably occupying a separate house) residing at Santa Elena lists 49 household units in the town in 1572 (St. Augustine Foundation Database # 1504; AGI Escribabla de Cámara 1.024-A, August 2, 1572). A final listing composed of individuals who sued to recover losses incurred with the abandonment of Santa Elena in 1587 lists 34 individuals and their properties (AGI:Santo Domingo 2528, February 21, 1590; Mary Ross Collection, Atlanta, Georgia).

Other documents provide estimates of the number of houses in the town. Testimony by Tomás Bernaldo de Quirós, who was in command at Santa Elena and Fort San Marcos from 1578 to 1580, noted that there were more than 30 houses built in the town during his tenure, and a notary testifying in his behalf says there were more than 40 houses of clay and flat roofs there by November 1580 (AGI:Santo Domingo 125, No. 150-D, no date, Stetson Collection). Writing to the King in March, 1580, Governor Pedro Menéndez Marquès says that there were at that time 60 houses at Santa Elena, 30 of which were plastered with oystershell mortar (Connor 1930:283). Given the above figures, it is possible that Menéndez Marquès' estimate is an exaggeration, or that some of the houses he counted were temporary houses built for soldiers. We known that there were soldiers houses located on the edge of town, because in one of the many Indian attacks on the settlement in 1576, a group of "huts where the soldiers lived and one where the meat was" were destroyed (St Augustin e Foundation Database, ACR:Can 47, No. 22, Images 451-455, Reel 107, no date). In any event, the 41 concentrations of Spanish pottery that the computer delineated based on our sample data are consistent with what we know of the number of structures present in Santa Elena at any given time. Of course there is still the problem of sorting artifact concentrations from the first and second occupations, but that sort of refined work will require additional excavations.

Projected Locations for a Fort and Church

Other interesting features to be noted on the computer generated plots include the extremely high concentration of material to the west of Fort San Marcos (Figures 27 and 50). This area, close to the landing and sanctuary in the fort in time of attack, must have been a particularly desirable place to live. We suspect that we will find the remains of the household of Pedro Menéndez de Avilés, Adelantado of Florida, in this area. It is also likely, based on documentary evidence, that one of the missing forts (actually a blockhouse) is located here; our suggested location for that fort (Fort San Marcos of 1577) is indicated on Figure 48. Directly across the "plaza" from this potential fort location is a large blank spot indicative of a low artifact density. This area devoid of habitation debris may be the church grounds, and the fact that it is directly across the plaza from a suspected fort makes this possibility even more intriguing. The scattered but discrete artifact concentrations on the extreme north end of town far from the landing and the protection of the forts undoubtedly represent habitations of soldiers or lower class residents of the town.

An interesting feature of the computer generated plot of Spanish ceramic distribution (Figures 27 and 48) is the fact that there are huge voids or blank spots in the distribution. This distribution pattern probably relates to individuals disposing of refuse within the bounds of their own property. It is also related to the fact that the town was occupied for such a short period of time--there simply was not sufficient time for the scatter of garbage to cover the entire area within the limits of the town. Calculations based on the projected town boundary (Figure 48) and the total of 874 Spanish ceramic sherds found in shovel tests indicate that there are approximately 600,000 fragments of
Spanish ceramics in the town (not including those contained in the forts). An estimate of Spanish contemporary Indian material both in the town and in the area immediately surrounding the town would total more than 750,000 pieces of pottery. And these estimates do not include the non-ceramic objects that the Spanish inhabitants would have used and discarded or abandoned on the site.

Needless to say, the 1994 boundary survey provides an abundance of research questions that will be addressed in the years to come. Some of those questions are discussed in Chapter 9.
Chapter 7

THE SEARCH FOR THE GOVERNOR’S ESTATE ON BARROW POINT
(38BU1399)

Gutierre de Miranda was appointed Governor and Captain of Fort San Marcos when Santa Elena was resettled by Pedro Menéndez Marqués in Fall, 1577 (Lyon 1984:12). Miranda was in Santa Elena for less than a year before Menéndez Marqués sent him to Cuba to arrange for the former Santa Elena settlers residing there to return to Florida. The Governor of Cuba refused to allow their departure, and ultimately the Crown had to dispatch an order requiring that they be allowed to depart (Lyon 1984:12). From Cuba, Miranda traveled on to Spain, perhaps to meet with the Crown concerning the settlers, and by July, 1579, he was preparing to return to Florida. In a letter advising Pedro Menéndez Marqués of Miranda's intent to return, the King stated that Miranda was to be given "two estancias and caballerías of lands and city lots in order to build, plant, and raise livestock" and so that he might have "his seats and farms there." The letter goes on to say that Miranda was to be allowed to bring two slaves and 600 ducats worth of goods into Florida without having to pay customs duties (AGI:Santo Domingo 2528, Stetson Collection, July 6, 1579, notes from Center for Historic Research, St. Augustine).

Upon his return to Santa Elena in November 1580, Miranda found that the interim Santa Elena Governor, Captain Tomás Bernaldo de Quirós, had pacified the local Indians after four years of war (AGI: Santo Domingo 125, No. 150-A, Stetson Collection, notes from Center for Historic Research, St. Augustine). This peace with the local Indians allowed Miranda to develop the estate lands that were given to him as a result of the Royal order.

The extent of Miranda's holdings are difficult to determine. The King ordered that Miranda be given "two estancias and caballerías" as noted above, but the precise acreage involved in those grants is difficult to determine. The Royal ordinances pertaining to settling new lands prescribed that persons receiving caballerías would get a total of 550 fenegas of land for crops, ten huebras for a garden, another 40 huebras for "planting trees on high ground," and an unspecified parcel of pasture land sufficient for 50 sows, 100 cows, 20 mares, 500 sheep, and 100 goats (Hoffman and Lyon 1976:Appendix). Five hundred and 50 fenegas (about 1.6 acres each) of land would be about 880 acres plus about 50 acres for garden space and trees (figured at about one acre to the huebra) not counting the land for pasture (St. Augustine Foundation Database # 1107, weights and measures; Hoffman and Lyon 1976: Appendix). By comparison, ordinary town lots, or peonta, came with only 110 fenegas and 10 huebras of land not counting pastureage; these figures total about 186 acres (Hoffman and Lyon 1976: Appendix). If the land granted to Miranda followed those figures contained in the Royal Ordinances, it means that his holdings on Parris Island would probably have been in the neighborhood of 1,200 to 1,500 acres.

Following the abandonment of Santa Elena in 1587, Gutierre de Miranda and the other settlers at Santa Elena filed claims to cover their losses there. Miranda's claims were substantiated by testimony from several witnesses. Those witnesses certified that Miranda's holdings included houses, gardens, corrals, livestock, farm properties, and cultivated land. One witness testified that Miranda owned two ranches: one for hogs and the other for larger livestock. Another witness estimated that the total number of structures belonging to Miranda on his various holdings totaled about 50. As to value, one witness
estimated that the entire estate (including Miranda's houses and properties in town) was worth 4,000-5,000 ducats (St. Augustine Foundation Database # 886, AGI SD 231, Feb. 27, 1588). This figure can be compared to the value of individual settler's houses and gardens in the town which were valued at 14 to 90 ducats each. The total reimbursement claim for all of the houses (except Miranda's) in the town came to a total of only 1,391 ducats (AGI:Santo Domingo 231, Doc. 57, January 26, 1590, Mary Ross Collection).

Possible Locations

One of the witnesses in the Miranda suit noted that Miranda's "ranch" was 1/2 league from the fort. A 1576 petition by settlers at Santa Elena states that the island on which Santa Elena was located was "one league long and half a league wide" (Connor 1925:147). Measurements taken from a modern map indicate that the island (the southern end of the landform currently called Parris Island is a discrete island) on which Santa Elena was located measures 2.6 miles (4.2 kilometers) north/south and about 1.2 miles (1.9 kilometers) east/west. This suggests that the league measure used at Santa Elena was the "legua legal" or legal league that equaled 2.63 miles (4.23 kilometers) (Chardon 1980). If this is so, then based on the testimony mentioned above, Miranda's estate located one-half league from the fort would be at a distance of about 1.3 miles (2.09 kilometers).

In order to gain an idea of where Miranda's estate might have been located, we began roughly scaling 1.3 mile distance from the known site of Santa Elena. When this distance is projected toward the north a site east of Page Field, bordered by Means Creek on the east, could be considered a likely location (Figure 8). However, DePratter and South (1990) excavated a mile-long exploratory trench there searching for French Charlesfort of 1562 and found no evidence of Spanish occupation in that area.

Further west, the center of Page Field was also considered as a possibility, but it has no access to deep water, so this site was not considered likely. Also, the construction of Page Field would have destroyed the archaeological evidence of such an occupation in that area. By default, then, the high ground to the west of Santa Elena seemed a likely possibility for the location of the Spanish governor's ranch, with access to deep water on the north bank of the Broad River, and with a good view of Port Royal Sound.

The Search on Barrow Point

The locality known as Barrow Point is named for General Robert H. Barrow, who, when he was Commanding General of the Parris Island Marine Recruit Depot, was responsible for preserving this attractive, live oak-canopied grove beside the Broad River (Steve Wise and Woodrow Garvin, personal communication, 1995). The point is just west of the 2nd hole of the Parris Island golf course (Figure 51).

Barrow Point was investigated in 1995 by C. Butler and his colleagues during a survey of antebellum sites on Parris Island. They identified a nineteenth and twentieth century occupation there and assigned the number 38BU1399 to the site (Butler et al. 1995:123-129) (Figure 52). Our interest was focused on this site when we heard reports that Spanish pottery had possibly been found there in the antebellum site survey (although we subsequently learned that this was not the case). We resolved to conduct a shovel testing project here in an attempt to find evidence of some of the 50 structures said by the Spanish witness to have been owned by Governor Miranda.

The evidence we sought would be in the form of Spanish pottery and other artifacts such as those familiar to us from our work at Santa Elena. If concentrations of such artifacts resulting from Spanish occupation were present on Barrow Point, our shovel
Figure 51. 38BU1399. Site map.
Figure 52. 38BU1399. Map of site as recorded by Butler et al. 1995:124.
testing strategy, such as the one we had carried out on the Santa Elena site, should reveal their presence. The shovel testing conducted by Butler et al. (1995:92) used a 30 meter interval between shovel tests. We chose to use a much closer 30 foot (7.62 m) interval in our shovel testing project (consistent with the Santa Elena boundary survey) with the expectation that if some Spanish pottery had, indeed, been found on the site, other evidence of Spanish occupation would likely be present.

We excavated a total of 252 shovel tests covering 5.2 acres at Barrow Point (Figure 53-55). A sherd of Spanish Olive Jar was recovered in the first shovel test, but no other Spanish sherds were found in the other 251 shovel tests (Figure 55).

Native Americans on Barrow Point

Our shovel testing revealed that the site contained a considerable number of Native American pottery sherds, some of which are likely contemporary with the Spanish occupation at Santa Elena. A total of 205 Indian sherds were found on this site in our 252 shovel tests. Eighty-six of out shovel tests contained a total of 129 Spanish-contemporary or "Chicora" Indians sherds (see our discussion of "Chicora" in Chapter 5). An additional 76 prehistoric Indian sherds were found in 51 shovel tests.

The 76 prehistoric sherds include Stallings Island, Refuge/Deptford, Oemler, Chatham County, and Savannah types (see Chapter 4 for discussion of typology; also DePratter 1991b for Savannah series types). These sherds (Figures 56 and 57; Appendix F) were distributed across most of the sampled area; they were so few in number that their distribution need not be presented here.

The Spanish contemporary Indian, or "Chicora" material consisted of the usual range of stamped, incised, and plain wares (Figure 58, Appendix F); the collection from Barrow Point is indistinguishable from the larger collection recovered during shovel testing at 38BU162Q. The distribution of these materials shows that they are clustered in the central portion of the area sampled. This places the occupation on high ground some distance from the low swamp to the north but also removed from the highest part of the landscape which is adjacent to the present shoreline.

The number of Spanish contemporary Indian sherds we found suggests that there was a sizable occupation of the site during this period. Our 252 shovel tests (each 0.9 by 1.8 ft) represented a 0.18 percent sample of the 226,800 square feet (5.2 acres) (2.1 hectares) within the sampling frame. This means that the 129 Spanish contemporary Indian sherds we recovered represent a total population of about 64,500 sherds of that period.

Because we found only one Spanish sherd in our shovel testing at Barrow Point, we can not link the "contemporary" Indian occupation there directly with the Spanish occupation of Santa Elena, although we believe that the two occupations are related. It is possible that Barrow Point was used as a campsite by Indian groups coming to visit Santa Elena. Or it is possible that if Miranda's estate was at or near Barrow Point, these materials were deposited there by Indians hired (or forced) to work there. Perhaps future testing of areas adjacent to the 1994 sampling frame will help answer this and the many other questions we have about the location of Miranda's estate and its operation.

Nineteenth Century Occupation on Barrow Point

In addition to the Spanish contemporary Indian artifacts resulting from our shovel testing on Barrow Point, 993 artifacts dating from the nineteenth and early twentieth centuries were found in 164 of the shovel tests (Figure 55). Of these objects, 842 were
Figure 53. 38BU1399. View to west with Broad River/Port Royal Sound in background.

Figure 54. 38BU1399. View to east with golf course in background.
Figure 55. 38BU1399. Provenience map showing distribution of nineteenth century ceramics.
architectural in nature, such as cut nails, brick fragments, etc. The 151 remaining objects were ceramics, bottle glass, tobacco pipe fragments, buttons, an iron bit fragment, a gun flint fragment, and a pewter spoon with incising in the bowl such as that attributed to African slaves (Ferguson 1992:117) (Figures 59 and 60).

The ceramics are typical of those seen on sites of the second and third quarters of the nineteenth century, such as late creamware, edged whiteware, annular creamware and

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Figure 56. 38BU1399. Stallings Island and Refuge Series pottery: (A) Stallings Island Punctated; (B) Stallings Island Incised; (C) Refuge Plain, lower left surface abraded; (D, E) Refuge Simple Stamped.
transfer-printed pearlware and ironstone/whiteware (Figures 59 and 60). A similar assemblage was collected from the site by Butler et al (1994:109).

One of the buttons from a shovel test was made of Goodyear's patented rubber, and was dated 1851 (Woshner 1977:36). Another button was a U.S. enlisted men's coat button of the Civil War period marked "EXTRA QUALITY" of a type manufactured after 1854 (Albert 1976:40) (Figure 60).

Figure 57. 38BU1399. Deptford and Savannah Series pottery: (A-C) Deptford Check Stamped; (D) Chatham County Cord Marked; (E-G) Savannah Check Stamped, G is a rim; (H) Savannah Corn Cob Impressed.
Nineteenth century features on the Barrow Point site are the alignment of some of the live oak trees in an avenue 25 feet wide and a six foot square brick foundation for a structure seen in 30-foot square unit 100 (Figures 51 and 55). Butler and colleagues (1995:123) reported finding piers from three structures on 38BU1399.

An attempt to locate the focus of discard of nineteenth century ceramics using the distribution of the 86 sherds of the period was done by shading the 30-foot squares having nineteenth century sherds present (Figure 55). Normally we use this approach to pinpoint the location of structures, since refuse, such as broken ceramics are known to have habitually been discarded adjacent to buildings, in a pattern known as the Brunswick Pattern of Refuse Disposal (South 1977:47-51). However, the 38BU1399 site was bulldozed in recent years in the process of clearing the site, and all along the tree line is a thick bank of topsoil loaded with bricks, sherds, glass, etc. from the scraping of the site.

Figure 58. 38BU1399. Spanish contemporary Indian pottery--"Chicora" Ware Group: (A) curvilinear complicated stamped; (B) incised; (C) simple stamped with finger pinched rim; (D) check stamped; (E, F) line block stamped; (G) indistinguishable stamp.
Who Lived on Barrow Point?

The question arises as to who lived on Barrow Point in the early nineteenth to early twentieth century to leave the material remains present in our research area. As we pointed out earlier, Robert Means owned the southern part of Parris Island at one time, and his name appears on the Beaufort County map from Mills' Atlas of 1825 (Mills 1965). At Robert Means' death in 1832, his southern Parris Island holdings were inherited by his son, Thomas Means, and his sons-in-law, Dr. Henry Fuller and Thomas Fuller (Butler et. al 1995:43-44). The 38BU1399 site was probably occupied by one of these individuals shortly after the death of Robert Means in the 1830s. This inference is based on the fact that the earliest nineteenth century occupational remains on the site date from the second quarter of the nineteenth century.

Following the Civil War, the Barrow Point tract was owned by the Niver family. On a 1928 map showing the southern part of Parris Island, (Parris Island Museum Map #840165 CO-16), an arrow is seen pointing to the west from the former maneuver ground in the direction of Barrow Point, labeled "Nivers Beach." Dr. Steve Wise, Curator of the Parris Island Museum, supplied us with a copy of a pamphlet entitled, "Prospectus for the development of Port Royal Harbor and Paris [sic] Island into a Great Shipping Port and Railway Terminal", dated 1904, written by W. H. Niver.

In the pamphlet Mr. Niver states that he had lived on Parris Island and vicinity since 1867 (Niver 1904:16). He said that in 1865, "Mr. Christian Wadsworth Niver, now deceased, came from his home in Columbia Co., New York, to this place." The next year he was joined by his brother, the author of the pamphlet, who shared the dream of developing a port and railroad terminal on Parris Island. The "Niver's Beach" designation on the 1928 map indicates that Barrow Point was the location of the Niver home place on the bank of Broad River.

In the pamphlet are two photographs of particular interest to us because of our interest in Barrow Point. One of these shows the Niver's residence near the proposed railroad terminal on Broad River, with an avenue of trees and a road leading to the house. This avenue of trees, now taller, still stands on the Barrow Point site (Figure 51). Another photograph shows the "Avenue Leading from W. H. Niver's Residence to Broad River and Proposed Railroad Terminal, Paris Island, South Carolina."

Twentieth Century Occupation on Barrow Point

The major quantity of objects from the twentieth century was 324 fragments of glass and architectural items such as wire nails, bricks etc. The presence of a .22 long rifle shell case and a .12 gauge shotgun shell probably reflect hunting activity on the site. The catalog of these items and those described above can be seen in Appendix F. These artifacts reveal that occupation continued into the first quarter of this century. The DeRood map of 1916 shows a building on the site, with two others some distance to the north (Figure 35).

Among the 403 twentieth century objects recovered from 72 shovel tests were fragments of a high explosive artillery shell and .50 caliber lead-alloy balls from a shrapnel
Figure 59. 38BU1399. Historic ceramics: (A) Spanish olive jar fragment (the only Spanish sherd from BU1399); (B) creamware; (C) green edged creamware; (D) blue edged whiteware; (E, F) annular creamware; (G) blue transfer-printed whiteware; (H) brown salt-glazed stoneware; (I) molded ironstone-whiteware; (J) white porcelain.
Figure 60. 38BU1399. Nineteenth and twentieth century artifacts: (A) pewter spoon, marked "PTD. SEPT 1851", bowl heavily incised with tree or fish motif, possibly African American in origin (Ferguson 1992:117), (B) iron bit fragment; (C) honey colored gunflint fragment; (D) ball-clay pipestem fragment; (E) rubber 2-hole button, backmark "N.R. Co./GOODYEAR'S PT. 1851" (Novelty Rubber Company); (F) Civil War (M1854) U. S. enlisted men's coat button, backmark "EXTRA QUALITY"; (G) brass 4-hole button, similar to USMC type, but 2-piece construction; (H) fragment from high explosive artillery shell, early 20th century; (I) 50 cal. lead-alloy ball from 75mm shrapnel shell, early 20th century.
artillery shell (Figure 60) (War Department 1930:18). These objects are artifacts of the interesting to note that, in contrast to the Marine Corps items recovered from 38BU162Q, where an occupation is also indicated, those from 38BU1399 are from artillery shell impacts alone.

It may well be that the Niver house on Barrow Point was once the family home of Thomas Means or one of the Fuller men. In any case, the earliest nineteenth century occupational remains date from the second quarter of the nineteenth century, as indicated by the ceramics. If Christian Wadsworth Niver purchased his home when he arrived on Parris Island in 1865, and it was still the residence of his brother W. H. Niver in 1904, when the pamphlet was written, the artifacts we found on the site, dating from the third quarter of the nineteenth century to the early twentieth century, must be from the Niver occupation. From surviving records and archeology we see a nineteenth century time span closely matching the period of accumulation of the artifacts recovered on Barrow Point.

Conclusions

Our search of 5.2 acres on the high ground overlooking Port Royal Sound at Barrow Point failed to find evidence of Miranda's estate. Given the extensive erosion of this part of the shoreline, it is possible that Miranda's improvements, including buildings and corrals, were located west of the present bluff and have been lost to erosion caused by tides and storms.
Chapter 8

SHOVEL TESTING AT THE PARRIS ISLAND
MARINE CORPS OFFICERS' CLUB
(38BU1436 and 38BU1435)

In 1992, while fishing in the Beaufort River near the Parris Island Officers' Club, three miles (4.8 km) north of Santa Elena (Figures 8, 61, and 62), South's son, Robert, found a sherd of brown salt-glazed stoneware. Having worked with South at Santa Elena, Robert was aware that it might be of interest and brought it to his father for identification. Not having ever seen stoneware of that type, South laid it on his desk to be identified at a later time. Archaeologist Linda Carnes, with the Archaeology Section of the North Carolina Department of Cultural Resources, upon seeing the sherd, identified it as Siegburg Rhenish stoneware, dating from the mid-fifteenth to the mid-sixteenth century (Evison et al. 1974:213; Gaimster 1987:339).

Our curiosity was aroused as to why such an early stoneware sherd would be found on the shore of the Beaufort River. Upon visiting the site in 1993, we found a number of red paste lead glazed earthenware sherds, unfamiliar to us, lying on the beach. This led us to question whether they came from a shipwreck, a ballast dump, or from some sixteenth century French or Spanish occupation along Ballast Creek, maybe on the high ground where the Parris Island Officers' Club is located. This beach collection, including the stoneware sherd, was assigned site number 38BU1436.

In spite of the fact that we have never seen a Rhenish stoneware sherd at Santa Elena, we resolved to explore the possibility that it might have resulted from a Spanish occupation. We were also aware that it might have washed upon the shore of the Beaufort River from a shipwreck lying in the river nearby. We resolved to look for any sign of possible occupation of this high-ground site by Spaniards in the early sixteenth century to see if we could discover the origin of this unique fragment of stoneware pottery. To do this we carried out a limited shovel testing transect survey around the Officers' Club in October 1994, a site designated as 38BU1435.

Two isolated finds had been made near the Officer's Club by Butler et al., (1995:145-148) in their survey of the antebellum sites on Parris Island; north of our transect area they found isolate find #34, two residual sherds, and west of it they found isolate find #35, five "musket balls." We suspect the five "musket balls" may well be .50 caliber lead-alloy balls from a twentieth century 75mm shrapnel shell.

The Shovel Testing Transects Around the Parris Island Officers' Club (38BU1435)

The layout of the area of the Parris Island U.S. Marine Corps Officers' Club is illustrated in Figure 62. It is located on high ground between Ballast Creek and the marsh of the Beaufort River. Our strategy was to encircle the Officers' Club with a line of shovel tests with the expectation that any occupation of the high ground at this site by Spaniards (or Frenchmen) in the sixteenth century would be revealed through the recovery of fragments of pottery and other artifacts, as had been the case at Santa Elena.
Our method involved laying out linear transect lines and excavating a shovel test at each 30 foot interval. Placement of shovel tests is illustrated on Figure 62. We dug a total of 62 shovel tests (Figures 63 and 64).

We found that there had been a lot of disturbance in the entire area during the twentieth century. We found no Spanish (or French) artifacts of any kind. We also found no examples of the red lead-glazed stoneware we had seen on the river bank in front of the Officers' Club, designated as 38BU1436. We did find 19 Indian sherds reflecting occupation on the site before the Marine Corps occupation in the twentieth century, but no Spanish (or French) occupation was represented in the collection. Among the objects recovered in the survey were fragments of concrete, wire nails, nineteenth century ceramics, bottle glass, pipe stems from the plantation period, brick fragments, fragments of copper and iron, and cinders, as well as other miscellaneous twentieth century items. The catalog of these items is included in the Appendix G.

The transect shovel testing project at the Officers' Club produced no evidence for Spanish occupation on this point of land. It seems likely, therefore, that the sixteenth century Rhenish stoneware sherd, and the red paste lead glazed earthenware sherds found on the bank of the Beaufort River, might be from a shipwreck or ballast dump located somewhere up-river from the riverbank site of 38BU1436 (Figure 8).

Figure 61. 38BU1436. Base of fifteenth/sixteenth century Sieburg or Raeren Rhenish stoneware vessel showing conjectured vessel form.
Figure 62. 38BU1435. Site map.
Figure 63. 38BU1435. View to north with Beaufort River in background.

Figure 64. 38BU1435. View to west with Officers' Club at right, and yacht basin in background.
Chapter 9

CONCLUSIONS AND FUTURE RESEARCH

The results of the three research projects conducted under a Department of Defense Legacy Resource Management Program grant are presented in this report. The boundary of the town of Santa Elena was successfully determined through our shovel testing methods used at Santa Elena. In the process, as we expected, we recovered information about the use of Parris Island by Native Americans thousands of years before the Spaniards arrived, and saw the wider distribution of pottery made by those Indians contemporary with the Spanish occupation, suggesting that Indians of that period may have lived on the outskirts of the town of Santa Elena.

We anticipated the presence of plantation period artifacts, and these were indeed discovered in considerable quantity. Through our distribution map of the nineteenth century ceramic fragments, we discovered the most intensively used area of the site during that period, a period when the island was occupied primarily by an African American labor force raising crops for plantation owners.

We found, through those same methods, abundant evidence of the use of the site in the twentieth century by the U.S. Marine Corps, as an important World War I era training facility, bombing and artillery range, and finally a golf course.

We discovered that if Spanish Governor Miranda's ranch estate were located on Barrow Point, its remnants must be represented primarily by Native American pottery fragments contemporary with the Spanish occupation of the island, since only a single Spanish olive jar fragment was found in that study. This result will prompt us to focus elsewhere if we again undertake a search for the governor's estate.

Our question as to whether there was a sixteenth century Spanish occupation around the Parris Island Officers' Club was answered in the negative. We found out through our exploratory project there that the interesting sixteenth century stoneware sherd found on the bank of the Beaufort River at site 38BU1436 was likely washed there from a wreck (or possibly a ballast pile) located nearby.

As always, however, our efforts at the Santa Elena site were focused primarily on discovery of evidence relating to the town itself. The delineation of the boundary was a major result of our effort. The most exciting aspect of our boundary search, however, is the interpretive results we were able to tease from the distribution of Spanish pottery on the site. Under the assumption that the denser clusters of ceramic fragments directly reflect the location of refuse dumps on individual lots in Santa Elena, we were able to hypothesize, in conjunction with research into the Spanish documents, a Santa Elena town lot layout. This result is the most important to emerge from our boundary survey.

There are a number of important research questions that we will be able to address with future research projects. Now that we have information pertaining to the size and orientation of the several second-occupation lots located between the two forts, we can excavate the remaining portions of the two partially excavated lots uncovered during the 38BU162C and D seasons and the 38BU162L, M, and N seasons, respectively. Such excavations will lead to recovery of a complete set of data relating to the occupants of those
lots, allowing us to fully understand the material culture assemblage each contains. We will then also be able to map the placement of buildings, wells, and refuse deposits on those lots, and that will help us predict and ultimately interpret similar distributional information found on other lots as they are excavated. Using this information, we will be able to fully assess the status and position of the residents of the structures we have found so far, as well as to refine our predictive models to help us interpret occupational evidence on lots we shall excavate in the future.

Once we have baseline information derived from complete excavation of these two lots, then we can turn to other lots in the town. By carefully choosing lots from different parts of the town, we should be able to identify lots occupied by merchants, craftsmen, farmers, soldiers, etc. Excavation of such an array of lots should allow us to better approach many interesting questions including status differentiation, differential access to goods and materials including both imported and locally available foodstuffs, variations in lot layout and house construction styles, and so on. In short, we will gradually come to understand how the diversity of people settled at Santa Elena functioned and worked together as parts of a small, isolated frontier community. We shall also develop a better understanding of that community's relationship to St. Augustine and other Spanish settlements of the period.

Additional work will be necessary to further elucidate the layout of the town before individual lots can be selected and excavated. Such refinement must begin with work on the street that we have postulated to exist west of Structures 5 and 7. If there is indeed a street in the location suggested, then it should be identifiable through archaeological excavation. Confirmation of that street will allow us to proceed with postulating and testing the location of additional streets, and ultimately to discover more fully the town layout.

Research also must be conducted in the presumed plaza as we have identified it on the basis of shovel testing. We will need to determine whether the low artifact density there is truly a result of its use as a plaza of some later, Marine Corps-related earth moving. Testing might include excavation of block units at various points within the proposed boundaries to search for clues as to its origin, investigation at the margins to determine whether earthworks were placed there as prescribed in the Royal ordinances cited previously, and other excavations to search for the "arcades" that may have been there for the use of merchants and others.

Additional major research efforts will focus on two other large cultural features proposed on the basis of shovel testing. These two features, the possible fort and church indicated on Figure 48, will be relatively easy to test through block excavations. If they are found to be the structures that we suspect they are, then they will be excavated. The fort will be important because the two other known forts have each been badly disturbed by erosion, but a fort at the location suggested should be well preserved and contain critical information relating to the 1577-1587 occupation of the town. If the church is found at the location indicated, then further excavations there should reveal a great deal about this important structure and its place and function within the town. Once the church is found, the town cemetery should be relatively easy to locate in the immediately surrounding area.

All of these proposed excavations will produce clues relating to the difference between the first and second occupations of the site. We will gradually be able to address a number of important questions. Was the town layout the same for both the first and second towns? When the town was rebuilt, were houses and other buildings built directly on top of the buildings that previously occupied the same lot? What was life at Santa Elena like for its residents, whether soldiers, merchants, farmers, or officials, who resided in the various
sections of the town? Were there, surrounding the town, either buildings or camping areas provided for Indians who visited Santa Elena to trade, negotiate, or work? And so on.

The list of potential research topics is, of course, endless. And exciting. Now that we have completed the boundary survey, the prospect for future research on the site of Spanish colonial Santa Elena is more exciting than ever, because our research questions will be more refined and more enlightened than was formerly possible. The coming years will without doubt produce new and spectacular insights into the occupation history of this small town occupied for only a couple of decades. We look forward to those discoveries with greatest anticipation.
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Bolton, Herbert E.  

Bolton, Herbert E. (editor)  
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Appendix A

SITE DESIGNATION, PROVENIENCES, AND GRID

In 1979, when South began work at Santa Elena, his first project was designed to determine whether there were remains of a Spanish town on the site. At that time, he did not know the location of the town or the extent of the occupied area. In the past 16 years, as knowledge about the site has increased with each field season of research, the known boundaries of the town have been modified based on new data. The 1994 boundary survey project covered a much larger area than previous projects, and the original grid was expanded to incorporate the new research universe. Expansion of the grid and site designations for various parts of the site are discussed below.

38BU51 and 38BU162

When South began his work at Santa Elena, the immediate area of the fort that had been explored by Major George H. Osterhout (1923) was designated as site 38BU51, and that site was subsequently placed on the National Register of Historic Places. South assumed that archaeological features west of that fort would have been a part of the Spanish site of Santa Elena directly relating to the fort and chose to use the 38BU51 designation for that area as well. The area south of a line along the north edge of the 7th fairway of the Parris Island Golf Course was designated as the 38BU51 area (Figure 6). The area north of that line, the area where South thought he might find the ruins of the Spanish settlement of Santa Elena, he designated as site number 38BU162. This was done in an effort to separate the area associated with the fort from the domestic settlement of Santa Elena.

Provenience Numbers

As various projects were carried out, South began to designate each project by adding a letter to the end of the site number to allow the different assemblages to be accessioned separately (Figures 6 and 7). This procedure was specified in the Procedures Manual being used by the Institute of Archaeology and Anthropology at the time, and has continued to be used to the present. Projects excavated in the 38BU51 site area include BU51, BU51A, BU51B, BU51C, and BU51D. Projects in the 38BU162 site area include BU162, and BU162A through Q (the letters I and O were not used to avoid confusion with numbers 1 and 0).

The boundary survey described in this report was assigned project number 38BU162Q. This project number was assigned despite the fact that the sampling universe crosscut the areas previously identified as two separate sites—38BU51 and 38BU162. A single project number was used so that shovel tests could be numbered sequentially in order to minimize confusion and reduce record keeping errors in those localities where sites 38BU51 and 38BU162 intersect.

Twelve seasons of work have been conducted in 1979, 1981-1985, and 1991-1994. A total of 21 provenience numbers have been assigned to sampling and excavation projects conducted during the 12 field seasons. The following list identifies each of the assigned provenience numbers, provides a brief description of the work that was included, gives the year the work was done, and provides a reference to where the description of that portion of the Santa Elena investigations has been described and published.

Another Santa Elena site number, 38BU1103, appears in the State Site Files at SCIAA. This number, which includes both 38BU51 and 38BU162, was assigned by the Low Country Council of Government without our prior knowledge or consent. Because this number duplicates pre-existing assigned numbers, we do not use it in the field or in our publications. We note its presence here only to clarify the situation.
Reference Points and Site Grid

When South (1979:6) began his field work at Santa Elena, he established a series of permanent reference points (RPA, RPB, and RPO) in a line parallel to the present marsh edge. That line was oriented at 19 1/2 ° west of magnetic north (in June, 1979). Through subsequent seasons South added additional reference points [RP(B), RP(C), RPD, RPG, RPH, RPI, RPM, and RPW] as he excavated sampling frames distant from the original set of reference points.

Using these reference points, South transit plotted sampling frames and block units as they were to be excavated. Individual excavation units (including both 3 foot square sampling units and10 foot squares) were designated by sequential provenience numbers rather than "traditional grid designations" (South 1982:9). Thus, each season, the number 1 was used for surface collected material (as in 38BU162A-1), and subsequent numbers were used to designate excavation units and features (for example, in the 162 A season there were 194 assigned provenience numbers designated 38BU162A-2 through 38BU162A-194).

For the boundary survey reported in this volume, the established grid system was expanded to cover the entire 35 acre sampling universe. South's RPO was assigned grid coordinates N540 W90 so that the entire boundary survey sampling universe would fall in a single quadrant. This placed the 0/0 point for the grid in the marsh to the southeast of Ft. San Marcos (i.e. the fort with the granite Charlesfort marker). Alignment of this grid is still 19 1/2 ° west of north.

South's reference points established prior to 1994 have the following coordinates:

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<thead>
<tr>
<th>Reference Point</th>
<th>Grid Coordinate</th>
</tr>
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<tbody>
<tr>
<td>0</td>
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</tr>
<tr>
<td>A</td>
<td>N740 W90</td>
</tr>
<tr>
<td>B</td>
<td>N920 W90</td>
</tr>
<tr>
<td>(B)</td>
<td>N1340 W90</td>
</tr>
<tr>
<td>(C)</td>
<td>N1430 W90</td>
</tr>
<tr>
<td>D</td>
<td>N740 W390</td>
</tr>
<tr>
<td>G</td>
<td>N580 W390</td>
</tr>
<tr>
<td>H</td>
<td>N240 W390</td>
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<tr>
<td>M</td>
<td>N240 W490</td>
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<tr>
<td>W</td>
<td>N1160 W90</td>
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## Appendix A

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<th>Published Reference</th>
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<td></td>
</tr>
<tr>
<td>51</td>
<td>1979</td>
<td>South 1980b:72-85</td>
</tr>
<tr>
<td>51A</td>
<td>1979</td>
<td>South 1980b:52</td>
</tr>
<tr>
<td>51B</td>
<td>1979</td>
<td>South 1980b:52</td>
</tr>
<tr>
<td><strong>38BU162</strong></td>
<td></td>
<td></td>
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<tr>
<td>162</td>
<td>1979</td>
<td>South 1979a:1-30</td>
</tr>
<tr>
<td>162</td>
<td>1979</td>
<td>South 1980b:65-71</td>
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<tr>
<td>162 ext.</td>
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<td>South 1980b:51</td>
</tr>
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<td>162</td>
<td>1981</td>
<td>South 1982:111-126</td>
</tr>
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<td>162A</td>
<td>1979</td>
<td>South 1980b:4-43</td>
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<td>162A</td>
<td>1979</td>
<td>South 1980b:44-50</td>
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<tr>
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<td>1979</td>
<td>South 1980b:51-52</td>
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<td>162C</td>
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<td>South 1982:1-110</td>
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<tr>
<td>162D</td>
<td>1982</td>
<td>South 1983:5-42</td>
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<tr>
<td>162E</td>
<td>1982</td>
<td>South 1983:43-75</td>
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<td>1982</td>
<td>South 1983:77-81</td>
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<td>162G</td>
<td>1983</td>
<td>South 1984:1-88</td>
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<td>162H</td>
<td>1984</td>
<td>South 1985:1-84</td>
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<td>162J</td>
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<td>South and DePratter (in preparation)</td>
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<tr>
<td>162N</td>
<td>1993</td>
<td>South and DePratter (in preparation)</td>
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<td>162P</td>
<td>1993</td>
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<tr>
<td>162Q</td>
<td>1994</td>
<td>DePratter and South (this report)</td>
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Appendix B

CITATIONS FOR FIGURES

Citations for Figures - 38BU162Q

Figure 4
Archivo General de Indias, Seville. Mapas y Planos, Mexico 46. From Hoffman 1978, Figure 8.

Figure 5
Archivo General de Indias, Seville, Mapas y Planos, Florida y Luisiana 2. From Hoffman 1978, Figure 9.

Figure 15
Griffin 1943; Sears and Griffin 1950; Waring 1968b; DePratter 1976, 1979; Sassaman 1993. (SCIAA Photos 30, 31)

Figure 17
Caldwell and Waring 1939a, 1939b; Waring 1968a; Stoltman 1974; DePratter 1979, 1991b. (SCIAA Photos 31, 32)

Figure 19
Caldwell and Waring 1939a, 1939b; DePratter 1979, 1991b; Steed 1970; Stoltman 1974 (SCIAA Photos 26, 27, 31, 32)

Figure 21
No citation (unique sherd). (SCIAA Photos 31, 33)

Figure 22
Coe 1964:47-48, 110. (SCIAA Photos 10, 20)

Figure 23

Figure 25
South, Skowronek and Johnson 1988. (SCIAA Photo 2)

Figure 26
Skowronek, Johnson and South, "The Sixteenth Century Spanish Imported Ceramics at Santa Elena: A Formal Analysis", in South, Skowronek and Johnson 1988:205-298. (SCIAA Photo 1)

Figure 30

Figure 31

Figure 32
Noël Hume 1970; South 1964: 113-133. (SCIAA Photo 5)

Figure 33
Noël Hume 1970. (SCIAA Photo 6)

Figure 38
Albert 1976; Schulz et. al., 1977; Vivas 1993:10, 86, 91. (SCIAA Photo 8)

Figure 39
No citations. (SCIAA Photo 7)

Figure 40
No citations. (SCIAA Photo 9)
**Figure 41**
Bureau of Ordnance 1947; Departments of the Army and Air Force 1950. (SCIAA Photo 40)

**Figure 42**
Hogg 1985; Vivas 1993; War Department 1930. (SCIAA Photo 41)

**Figure 43**
No citations. (SCIAA Photo 39)

**Citations for Figures - 38BU1399**

**Figure 56**
Griffin 1943; Sears and Griffin 1950; Waring 1968b; DePratter 1976, 1979; Sassaman 1993. (SCIAA Photos 7-8)

**Figure 57**
Caldwell and Waring 1939a, 1939b; DePratter 1979, 1991b. (SCIAA Photos 8-10)

**Figure 58**

**Figure 59**

**Figure 60**

**Citations for Figures - 38BU1436**

**Figure 61**
Evison et al. 1974; Gaimster 1987.
Appendix C

PROVENIENCE NUMBERS FOR ILLUSTRATED ARTIFACTS

Site Number: 38BU162Q

Figure 15. Stallings Island and Refuge Series Pottery:
(A) 1366B, (B) 1015B, (C) 1250A, (D) 852B, 
(E) 1296B. (SCIAA Photos 30-31)

Figure 17. Deptford and Oemler Series Pottery: (A) 1260B, 
(B) 436F, (C) 1104B, (D) 696F, (E) 359B, (F) 476B.  
(SCIAA Photos 31-32)

Figure 19. Chatham County and Wilmington/St. Catherines Series Pottery: (A) 
1294B, (B) 1194B, (C) 1285-B2, (D) 1259B, 
(E) 1318B, (F) 1064B. (SCIAA Photos 26-27, 31-32)

Figure 21. Unusual Sherd: 1232B. (SCIAA Photos 31, 33)

Figure 22. Stone Tools. (A) 33B, (B) 497B, (C) 158B. (SCIAA Photos 10, 20)

Figure 23. Spanish Contemporary Indian Pottery--"Chicora" Ware. Group: 
(A) 1259B, (B) 395C, (C) 856B, (D) 205B, (E) 206B, 
(F) 185B, (G) 948B, (H) 395C. (SCIAA Photos 26-29)

Figure 25. Spanish artifacts: (A) 171B, (B) 1, (C) 920B, (D) 627B,  
(E) 684B, (F) 392B, (G) 83B. (SCIAA Photos 2)

Figure 26. Spanish introduced ceramics: (A) 169B, (B) 920B, (C) 529B,  
(D) 790B, (E) 391B, (F) 692B, (G) 478B, (H) 354B,  
(I) 423B. (SCIAA Photo 1)

Figure 30. Eighteenth century ceramics: (A) 1230A, (B) 68A, (C) 628B, 
(D) 457B, (E) 525B, (F) 542B, (G) 397C, (H) 364B, (I) 
532A. (SCIAA Photo 4)

Figure 31. Nineteenth century ceramics: (A) 303B, (B) 563B, (C) 706B,  
(D) 393A, (E) 868F, (F) 654B, (G) 576F, (H) 1157A,  
(I) 512A, (J) 303B, (K) 421A, (L) 483B, (M) 627A,  
(N) 535B. (SCIAA Photo 3)

Figure 32. Eighteenth and nineteenth century artifacts: (A) 593B, (B) 718B,  
(C) 505C, (D) 195A, (E) 745F, (F) 693C, (G) 624B,  
(H) 673B, (I) 271A. (SCIAA Photo 5)

Figure 33. Eighteenth and nineteenth century artifacts: (A) 1254B, (B) 329B,  
(C) 695B, (D) 694B, (E) 554B, (F) 659A, (G) 726A.  
(SCIAA Photo 6)
Figure 38. World War I USMC military artifacts: (A) 709A, (B) 10D, (C) 133B, (D) 533B, (E) 234A, (F) 1, (G) 10D, (H) 30A, (I) 358B. (SCIAA Photo 8)

Figure 39. World War I USMC Period personal artifacts: (A) 700A, (B) 304A, (C) 533A, (D) 133B, (E) 10D, (F) 823F, (G) 277A. (SCIAA Photo 7)

Figure 40. World War I Period USMC artifacts: (A) 287B, (B) 10D, (C) 798B, (D) 10D, (E) 4F, (F) 852A, (G) 1309A, (H) 76A. (SCIAA Photo 9)

Figure 41. Bombing range artifacts: (A) 1101B, (B) 490B, (C) 403B. (SCIAA Photo 40)

Figure 42. Twentieth century USMC ordnance artifacts: (A) 1209B, (B) 814B, (C) 1271B, (D) 163A, (E) 1128B. (SCIAA Photo 41)

Figure 43. Golf course artifacts: (A) 571A, (B) 545F, (C) 679A, (D) 466A, (E) 783A, (F) 792A. (SCIAA Photo 39)

Site Number: 38BU1399

Figure 56. Stallings Island and Refuge Series pottery: (A) 105A, (B) 123A, (C) 156D, (D) 193B, (E) 181A. (SCIAA Photos 7-8)

Figure 57. Deptford and Savannah Series pottery: (A) 241A, (B) 155B, (C) 240A, (D) 58B, (E) 103A, (F) 60A, (G) 34B, (H) 90A. (SCIAA Photos 8-10)

Figure 58. Spanish contemporary Indian pottery--"Chicora" Ware Group: (A) 185A, (B) 31A, (C) 52A, (D) 80A, (E) 172B, (F) 218A, (G) 106A. (SCIAA Photos 9-10)

Figure 59. Historic Ceramics. (A) 2A, (B) 77A, (C) 1, (D) 1, (E) 89A, (F) 47A, (G) 18A, (H) 137A, (I) 28A, (J) 81A. (SCIAA Photos 1, 5-6)

Figure 60. Nineteenth and twentieth century artifacts: (A) 1, (B) 48A, (C) 138A, (D) 89A, (E) 186A, (F) 42A, (G) 48A, (H) 25A, (I) 33A. (SCIAA Photo 2)

Site Number: 38BU1436

Figure 61. Drawing Base of fifteenth/sixteenth century Siegburg or Raeren Rhenish stoneware vessel showing interpretive vessel form: BU1436-1.
Appendix D

ARTIFACT CATALOG DESCRIPTION FOR 38BU162Q

The artifact catalog for the 1,383 shovel tests dug in the 38BU162Q boundary survey project consists of seven 8 1/2 by 11 inch notebook volumes and two volumes of data used for the computer maps showing the distribution of various artifact classes. A copy of these notebooks is being placed with Dr. Stephen Wise, Director of the Parris Island Marine Corps Museum at the Parris Island Marine Recruit Training Depot. The artifact totals from those catalogs are presented below.

The Native American Artifact Catalog

Pre-Spanish Indian Pottery Catalog

- Stallings pottery 286
- St. Catherines and Wilmington pottery 280
- Deptford and Refuge pottery (includes cord-marked and other) 192

Spanish Contemporary Indian Pottery Catalog

- Spanish Contemporary pottery (Chicora) 1,423
- St. Johns pottery (Timucua) 6

The Spanish Ceramic Catalog

The following list of ceramic groups was used in that catalog to classify the Spanish-introduced wares for the boundary survey. The specific types within these groups can be seen in Spanish Artifacts from Santa Elena by South, Skowronek and Johnson (1988). A total of 887 Spanish pottery fragments recovered from the shovel tests were used to produce the sixteenth century Spanish pottery distribution map in Figure 27. The remaining 98 Spanish pottery sherds were from features or fill soil. The 887 Spanish pottery fragments were combined with the 1,423 Indian pottery fragments to produce the distribution map seen in Figure 50.

16th Century Spanish Ceramic Catalog

SPANISH CERAMIC GROUPS

- Majolica 154
- Earthenware 133
- Olive Jar 614

SANTA ELENA MICACEOUS REDWARE (locally made) 61
ITALIAN CERAMICS (blue on blue) 3
MEXICAN CERAMICS (red painted) 4
CHINESE CERAMICS (Ming porcelain) 6
TOTAL 16TH CENTURY CERAMICS 975
THE SPANISH NON-CERAMIC ARTIFACT CATALOG

Due to the scarcity of non-ceramic Spanish artifacts from the shovel tests, only the 887 ceramic fragments were used in the distribution map to delineate the boundary of Santa Elena (Figure 27). The non-ceramic Spanish artifacts are quantified in the catalogs as follows:

The Spanish Non Ceramic Artifact Catalog

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<th>Category</th>
<th>Count</th>
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<tr>
<td>GLASS</td>
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</tr>
<tr>
<td>LEAD SHOT AND SPRUE</td>
<td>14</td>
</tr>
<tr>
<td>ARCHITECTURAL (wrought nails and spikes)</td>
<td>58</td>
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<tr>
<td>BARREL BAND FRAGMENTS</td>
<td>6</td>
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<tr>
<td>OTHER SPANISH ARTIFACTS</td>
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<tr>
<td>Ball buttons</td>
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</tr>
<tr>
<td>Pintle eyes</td>
<td>1</td>
</tr>
<tr>
<td>Scissors fragments</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL SPANISH NON-CERAMIC ARTIFACTS</td>
<td>93</td>
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</table>

Fired clay daub from burned Spanish houses was also weighed and tabulated by grams. It was not included, however, in the distribution tables presented in this study.

THE 18TH AND 19TH CENTURY PLANTATION ARTIFACT CATALOG

Because our interest in the eighteenth and nineteenth century was in determining the boundary of the occupation of the site during the plantation period, we combined the total of all such artifacts for the distribution map shown in Figure 34. The identification of these plantation period artifacts was made based on the previous experience of the research team. These 2,000 artifacts are tabulated in the seven catalogs mentioned above using the following categories:

The 18th and 19th Century Plantation Artifact Catalog

<table>
<thead>
<tr>
<th>Category</th>
<th>marble marble</th>
</tr>
</thead>
<tbody>
<tr>
<td>CERAMICS</td>
<td>Scissors</td>
</tr>
<tr>
<td>COLONOWARE</td>
<td>Strap hinge</td>
</tr>
<tr>
<td>BOTTLE GLASS</td>
<td>Thimbles</td>
</tr>
<tr>
<td>ARCHITECTURAL (cut nails, bricks, etc.)</td>
<td>Tool shank</td>
</tr>
<tr>
<td>TOBACCO PIPE FRAGMENTS</td>
<td>Window latch</td>
</tr>
<tr>
<td>OTHER</td>
<td>Wire</td>
</tr>
<tr>
<td>Bale seal</td>
<td></td>
</tr>
<tr>
<td>Barrel bands</td>
<td></td>
</tr>
<tr>
<td>Beads</td>
<td></td>
</tr>
<tr>
<td>Buttons</td>
<td></td>
</tr>
<tr>
<td>File</td>
<td></td>
</tr>
<tr>
<td>Hoe</td>
<td></td>
</tr>
<tr>
<td>Hooks</td>
<td></td>
</tr>
<tr>
<td>Hotchkiss shell fragment</td>
<td></td>
</tr>
</tbody>
</table>
THE 20TH CENTURY ARTIFACT CATALOG

We know from documents of the U.S. Navy and Marine Corps occupation of Parris Island since the late nineteenth century. This occupation involved the U.S. Marine Corps as well as those households, primarily black families tending agricultural plots. It also involved the use of the Santa Elena area of Parris Island as a bombing range in the 1930s. Since the 1940s the Parris Island Golf Course has occupied the site once used by Spaniards in the 16th century.

The question we were asking about this 20th century occupation of Parris Island is where this occupation took place spatially on the Santa Elena site. The obvious answer is, "Everywhere on the site." This was demonstrated by the artifact distribution map seen in Figure 44. To address this question with the artifacts recovered in our shovel tests through the distribution study, we listed in our catalog those artifacts thought to be from the Marine Corps World War I period, the practice bomb evidence for the 1930s bombing range, and the Parris Island Golf Course Period from the 1940s. The identification of the artifacts from these periods was based on the expertise of the various members of the analysis team. All twentieth century artifacts with the exception of the Parris Island Golf Course Period were used to produce the artifact distribution seen in Figure 44. The tabulation of these 2,341 artifacts are included in the seven catalogs mentioned above.

The 20th Century Artifact Catalog

CERAMICS

GLASS

ARCHITECTURAL (wire nails, bricks, plumbing)

AMMUNITION

M1906 .30 cal. cartridge case, mfg. 1942
Shrapnel balls
75mm shell fragment
75mm shell fuse (M IV brass point detonating fuse)

BUTTONS

USMC uniform, cuff size
USMC equipment closure snap, button face type

INSIGNIA

USMC hat insignia, eagle, world and fouled anchor motif
USMC hat insignia, Company "B"

COINS

1907 nickle
1917 nickle
1918 penny

OTHER ARTIFACTS

Airplane fragment (WWII)
Barrel Band
Bolt
Comb (plastic)
Dish (iron)
Grommets (brass)
Handle (metal)
Hose (rubber)
Insulator, electric (porcelain)
Insulator, electric (ceramic)
THE PARRIS ISLAND GOLF COURSE ARTIFACT CATALOG

Since the 1940s the Marine Corps Parris Island Golf Course has been located on the site of Santa Elena. Objects associated with the golf course were recovered in some of the shovel tests we excavated. These artifacts were cataloged and tabulated along with all other artifacts, but were not included in the twentieth century artifact distribution map seen in Figure 44. Golf course related artifacts were cataloged as follows:

The Parris Island Golf Course Artifact Catalog

Beer cans
Cigarette filter
Golf balls
Wooden tees
Pull tabs from drink cans
Pencils

THE NON-DIAGNOSTIC ARTIFACT CATALOG

The presence of generally non-diagnostic objects were included in our catalog from the 38BU162Q shovel test project. These are present in the catalog as follows:

Non-diagnostic Artifacts
(presence only recorded)
Window glass
Shell (oyster, clam, razor, conch, etc.)
Metal fragments
Rocks
Coal
Lime Mortar
Other

140
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