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The Search for Santa Elena on Parris Island, South Carolina

Stanley South
University of South Carolina - Columbia, stansouth@sc.edu

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The Search for Santa Elena on Parris Island, South Carolina

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THE SEARCH FOR SANTA ELENA ON PARRIS ISLAND
SOUTH CAROLINA

by Stanley South
with an Introduction
by Robert L. Stephenson

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Prepared by the
INSTITUTE OF ARCHEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
August 1979
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INTRODUCTION

Robert L. Stephenson
Program Director

The initial phase of a long-range program of research into the sixteenth century European presence in the coastal areas of South Carolina has now been completed. The Institute of Archeology and Anthropology at the University of South Carolina has conducted a one week exploratory archeological project on Parris Island, South Carolina, followed by four weeks of laboratory analysis of the recovered materials. The report of that brief project is the subject of the following pages. This first project has been highly successful and implementation of the second phase of the program has already begun.

This initial project and the one soon to follow are concerned with the Spanish occupation of the Port Royal Sound area, specifically on the southern tip of Parris Island, during the period of 1566-1587. Other projects within this long-range program will include investigations of other areas of the South Carolina coast as well as inland areas. These will be in search of earlier Spanish settlements of the sixteenth century such as that of San Miguel de Guadape established by the licentiate Lucas Vazquez de Ayllon, the explorations and short-lived posts established by Juan Pardo in the inland areas, and the French settlements such as Charlesfort, as well as continuation of the research on Parris Island relating to Santa Elena and the forts of San Felipe and San Marcos. The techniques, methods, and theoretical framework for pursuing these investigations will be those of several scientific disciplines brought into concert to focus on a single, broad subject under the general "umbrella" of the Institute of Archeology and Anthropology at the University of South Carolina. History, archeology, ethnography, human geography, geomorphology, cartography, and ecology are among the disciplines that will provide a data base for interpretation and exploration of the sequence of events that took place here in the first century of European settlement. It is an exciting program and one that has great potential for major contributions to an understanding of our American Colonial heritage.

The background of this Sixteenth Century Research Program is of some interest now that work has been initiated and the prospects are optimistic for a systematic continuation of soundly based research.

The brief, one week project reported in the following pages seems to have come about rather suddenly. As with most things that happen suddenly, however, there was an extensive background of antecedents. The Spanish and French presence on the South Carolina coast in the sixteenth century has, of course, been known since very early historic times. The English colonists were well aware of it almost a century later. They made every effort, in the 1670's, to protect themselves from any potential renewed efforts of the Spanish, then based at St. Augustine, to retake this coast (Cheves 1896).
memory, as well as surface evidence on the ground, lingered on into the nineteenth century. In the 1850's a specific location on the tip of Parris Island attracted the attention of Captain George Parsons Elliott whose father (?), Dr. R. E. Elliott, had previously scouted Port Royal Sound for the site of Charlesfort* (Salley 1925: 33). Captain Elliott and the historian Jeptha R. Simms, measured the mounds at the site and excavated for a gate to what they believed was Charlesfort (Hoffman 1978: 5).

In 1916 a brief survey of the site and "a perfunctory excavation" was apparently conducted by Dr. H. M. Stewart of Beaufort, South Carolina (Hoffman 1978: 7).

Two years later the U. S. Marine Corps began building training facilities on the site for the Marine Corps Recruit Depot. In July or August of that year they leveled the mounds and filled in the moat on the assumption that this was a Civil War structure. However, Colonel John Millis recognized that this was the site thought to be Charlesfort and he and Brigadier General Eli K. Cole, then Commanding General of Parris Island, made drawings and photographs of the site (Hoffman 1978: 8). By this time there was a general consensus that this was the site of the French Charlesfort.

As an interesting sidelight to this, some twenty-six years later I served in a Marine Corps Engineer Company under Brigadier General William B. Croka who, as a Captain in 1918, had been in charge of building these training facilities. General Croka once told me of the incident, knowing that I was an archeologist, and expressed regret that the mounds had been leveled before they had been fully excavated. Even 20 years after that, when I had moved to South Carolina in 1968, General Croka reminded me of the incident in a Christmas greeting and expressed the hope that I would have a chance to see this interesting old fort site.

The consensus that this was Charlesfort reached a climax in 1923 when Major George H. Osterhout, Jr., U.S.M.C. was assigned to excavate the site. He published his results in the Marine Corps Gazette of June 1923 (Osterhout 1923). This was a major excavation revealing stockade posts of cedar, fortification ditches, bastions and a substantial inventory of artifacts, all identified as the remnants of Charlesfort. Major Osterhout's excavation was competently done and his identification was based on the current consensus that this was a French fort. Specialists in distinguishing between French and Spanish artifacts were not available to him.

*The name of the French post established in 1562 by Jean Ribault is spelled several ways in the historic documents—Charles Forte, Charles Fort, Charlesforte, and Charlesfort. We have, here, adopted the spelling used by A. S. Salley, Jr. who based his usage on that of Laudoniere (Salley 1926).
The Huguenot Society of South Carolina commissioned a handsome monument, in 1925, to commemorate Jean Ribault and his settlement of Charlesfort and erected it in the center of the site that Major Osterhout had excavated.

That same year, however, the consensus was seriously challenged and Mary Ross published a report identifying the site as the Spanish settlement of Santa Elena with its forts of San Felipe and San Marcos. She based her identification on Spanish documents, primarily her translation of The Inspection of Alvaro Flores de Valdes (Ross 1925: 353-357). Two years later Alexander S. Salley, Jr. supported this identification (Salley 1927: 114-116) though he had, earlier, accepted the French identification (Salley 1919). The question remained unresolved for another three decades.

In 1957, Albert Manucy, an historian with the National Park Service, reexamined the artifacts and other data from the Osterhout excavations and identified them all as being of Spanish origin (Manucy 1957). This seemed to clinch the Spanish identification and a large plaque was subsequently erected near the site to identify the Spanish presence here.

Despite all of these investigations over a period of a century the general knowledge of the French and Spanish presence on the South Carolina coast was little known to the general public. The work of the DeSoto Commission in the 1930's created a public awareness of the DeSoto expedition's travels through South Carolina but only a few specialists in the subject were aware of the coastal settlements. State history texts made but brief reference to the subject and outside the state the matter was almost unknown. However, much of the basic documentation is to be found in the excellent resources of the Caroliniana Library at the University of South Carolina and the South Carolina Department of Archives and History. All are on public record and are available to everyone.

The Institute of Archeology and Anthropology was established at the University of South Carolina in 1967. When I became Director of the Institute and South Carolina State Archeologist in September 1968, our first project was excavation of the 1670's English site of Charles Towne for the Tricentennial Commission. For this work I hired Mr. Stanley South from the North Carolina Department of Archives and History. During the work at Charles Towne, Mr. James Barnett, Executive Director of the Tricentennial Commission, discussed with me the earlier French and Spanish settlements of the sixteenth century. I was, of course, reminded of General Croka's comments and eagerly pursued an interest in the subject, but there were no funds and no time to begin a serious investigation. Mr. Barnett's research assistant, Miss Lucia Harrison (now Mrs. Lucia Jaycox) began to provide me with information in 1969, about the Ayllon expedition and the settlements around Port Royal Sound. The Parris Island site excavated by Major Osterhout was assigned number 38BU51 in the State-wide Inventory of Archeological Sites in 1971 at the Institute. Slowly a file of data
developed including many of the items mentioned above—Osterhout, Ross, Salley, Manucy—and a volume by Paul Quattlebaum entitled, *The Land Called Chicora*, published in 1956.

I took the opportunity to visit the Parris Island site on three separate occasions during those years and the Institute nominated the site on the tip of Parris Island to the National Register of Historic Places on April 22, 1974. It was nominated under the common name of "Charles Forte (38BU51)" but also under the "and/or historic" names of "Ribault Monument, San Marcos, San Felipe" with appropriate documentation. The nomination pinpointed the site by coordinates of latitude and longitude and specifically referred to the area excavated by Major Osterhout.

In the fall of 1975, Mr. Charles Gay, a student at the University of South Carolina, requested permission from the Secretary of the Navy and, later, from the Marine Corps to excavate at the site. The Marine Corps referred the request to me and to the State Historic Preservation Officer, Mr. Charles Lee. Mr. Lee had no objection so long as the work was done with the approval of the State Archeologist. I responded that no work should be done at such an important historic site without fully qualified professional archeological direction. Mr. Gay had worked on some archeological sites but he was, in no sense, a trained archeologist. He met with Mr. South and me and others at the Institute later that fall, and subsequently, showed us some of the information that he had derived from documents in the Caroliniana Library and from ground inspection of the site. These included some fragments of ceramics (or pictures of them) and a cryptic map that, I am sure, meant something to him but was certainly unclear to us. He was not specific as to where the ceramics were found and mentioned other documents to which he had access, that were not available to anyone else.

As it later turned out, Mr. Gay had visited the site in November, 1975 immediately following a heavy storm that had eroded a section of the bank of Means Creek adjacent to the site. He had seen two "U" shaped soil discolorations in this bank and had interpreted them correctly as the cross-sections of the ditch surrounding a fort. These discolorations were not on the cryptic map that he showed us at the Institute but were on a map that he provided in late July 1979. Apparently he had, indeed, correctly identified this site location at that time. However, since he had only provided us partial information when he visited with us in 1975 we did not have this important clue to the site. We conducted our work in July 1979 on the basis of the Spanish documents and our own inspection of the ground after the storm-washed, cutbank of the creek had been overgrown with vegetation and was not visible. Apparently, as so often happens, two researchers had arrived at the same conclusions about this site from totally different approaches to the problem.

Any archeological excavation, no matter how well it is done, destroys the original context of the data in the ground. If in the
process of that destruction every up-to-date method of data recovery is not used, if the data are not recovered, recorded, maintained, analysed, interpreted, and explained in the most complete way possible we are guilty of irresponsible destruction of our American heritage. This is true of even the smallest archeological site and becomes increasingly significant with increased importance of the site. The Parris Island site is of the utmost importance to the heritage of America and to that of Spain, France, and England. The archeological process requires a sound, systematic, program approach coupled with adequate funding, the assistance of several related disciplines, a strong support base of facilities and uninterrupted increments of time to carry the work to completion.

It is fortunate that so little excavation has been done in the past at this site. Several excavations have been conducted culminating in Major Osterhout's work. I have not been able to learn what training he had but he did have a good base of funding, time, and facilities. His work was well done in the standards of the 1920's, at a time when there were few extensively trained archeologists. Since then our profession, like any other, has matured a great deal. We have learned much from the experience and pioneering of our predecessors. We, in fact, have had those predecessors as our teachers, learning much from them and improving our methods and theories as we continue to learn. Today a well-trained archeologist is able to derive far more information from the ground than he could have half a century ago. We must, therefore, be ever vigilant that only the best trained scholars with adequate funding and support facilities and a systematic program are permitted to conduct excavations in these fragile, irreplaceable, archeological sites.

This Institute, with its competent, well-trained, and experienced staff has not felt capable of conducting responsible archeology at Parris Island until recently. We have had the strong support base required but have not had the funding nor sufficient time to even consider entering into a research program at Parris Island. That is now changing and the prospects are optimistic for a systematic, long-range, reasonably funded research program into the sixteenth century period on the South Carolina coast. We also have, in addition to our archeologists, access to trained scholars from other disciplines to join in this research.

Two eminent historians, Dr. Paul E. Hoffman, of Louisiana State University, and Dr. Eugene Lyon, of Vero Beach, Florida have spent several years working in the Archives of the Indies in Spain. Their research was based on the sixteenth century Spanish presence on the North American Atlantic Coast, especially relating to St. Augustine. They were funded, at least in part, by the National Geographic Society and they developed a wealth of information pertaining to San Miguel de Gualdape, Santa Elena, and other Spanish settlements as well as to St. Augustine. Spurred by this research, Mr. Joseph R. Judge, Associate Editor of the National Geographic Magazine became increasingly interested in Santa Elena and San Miguel de Gualdape.
Meanwhile Dr. Charles H. Fairbanks of the University of Florida, along with his students, particularly Dr. Kathleen Deagan, had been conducting archeological research at St. Augustine and had been working closely with Dr. Hoffman and Dr. Lyon. Dr. Fairbanks suggested that the Institute of Archeology and Anthropology might like to conduct a research program on the South Carolina coast and offered his help and support. This suggestion was also made by Dr. George Stuart of the National Geographic staff.

In April, 1978, Mr. Judge and Dr. Stuart visited the Institute and discussed the matter with Stanley South and me. A research program was outlined to focus on Port Royal Sound with initial work to take place in the area of Major Osterhout's excavations. We were encouraged to apply to the Research Committee of the National Geographic Society and to request the help of Dr. Hoffman and Dr. Lyon. I had already been in correspondence with Dr. Hoffman regarding San Miguel de Gualdape. Mr. Judge agreed to arrange the appropriate permission from the Marine Corps.

In September a visit was made to the site by Dr. Hoffman, Mr. Judge, Mr. South, and myself. Plans were then developed for a preliminary archeological investigation and a long-range research plan. In November, Dr. Hoffman provided us with an historical report on the forts on Parris Island resulting from his archival research. This excellent document provided us with the historical data necessary to prepare a proposal which we submitted to the National Geographic Society's Committee on Research in February 1979. A Federal Antiquities Act permit was applied for in March and granted in April.

In May the Committee on Research notified us that our proposal was not accepted because the budget was too high and the proposal too diffuse but invited us to revise it and resubmit it with more specific data.

Stanley South and I revised the budget by cutting back on field time and thus on the amount of work to be done. We had no more specific data however, so we resubmitted the proposal with only a reduced budget. However, we decided to secure more specific data from the ground before the Committee on Research would have time to act on our new proposal.

I requested a small budget from Dr. A. Riley Macon, Associate Provost for Research at the University of South Carolina, for a week of field research. The request was granted with the strong support of Dr. Macon and the University's administration. We deeply appreciate these funds and thank Dr. Macon, Dr. Francis T. Borkowski, the Provost, and President James B. Holderman because these funds secured the future of this research program.

With these funds Stanley South put together a one week, random sampling project of a portion of the site to search for concrete evidence of Santa Elena. The work was done with a largely volunteer crew plus two paid crewmen and regular staff of the Institute. The results
of this highly successful project are reported in the following pages. Not only was evidence of the structures of Santa Elena found but an unexpected bonus was achieved in finding the fortification ditches of Fort San Felipe II. We had not expected to find the latter because we had thought that both San Felipe I and II were situated on small islands off the shore of Parris Island. This was based upon the documentary research and our inspection of the area in September 1978. We immediately reported these results to the National Geographic Society and our grant was awarded at the July meeting of the Committee on Research.

On July 12, 1979 the National Geographic Society held a press conference in Washington to announce the results of the University of South Carolina's work at Parris Island; work that was soon to be supported by the Society. Dr. Lyon, Dr. Hoffman, Dr. Macon, Mr. South and I participated with Mr. Judge in the conference. The Commandant of the Marine Corps, General Robert H. Barrow, attended to assure us of the strong support and cooperation of the Marine Corps on whose property the site is located. We are grateful for their cooperation. We are especially grateful for the fine cooperation that has been extended by Major General J. V. McLernan, Commanding General, Marine Corps Recruit Depot, Parris Island, and implemented by his Staff. Colonel Charles M. Schreiner and Captain Ron W. Kelemen, of the G-4, Chief of Staff office, and Master Sgt. J. M Walker of the public relations office, have made every effort to assist the work. The additional strong assurance from the Commandant is especially appreciated.

Following the press conference, Mr. Judge made a small amount of funds available from the National Geographic Magazine to allow us to do the laboratory analysis and reporting of the results of the July field work. We are most grateful for this assistance and for the firm support of our work that this funding represents. This first project has, therefore, become a joint project of the Institute of Archeology and Anthropology, University of South Carolina and the National Geographic Magazine.

The press conference created international awareness of the Spanish presence on this coast, an awareness that the historic events of the sixteenth century have long deserved. The show is on the road now and we can be optimistic that the program will progress as well as it has started.
THE SEARCH FOR SANTA ELENA ON PARRIS ISLAND, SOUTH CAROLINA

Stanley South
Principal Investigator

Project Background

In order to obtain site specific data on the location of the sixteenth century Spanish city of Santa Elena to support a research proposal to the National Geographic Society a one week exploratory archeology project was funded by the Office of Research through the Associate Provost for Research, Dr. A. Riley Macon, as a joint project with the Institute of Archeology and Anthropology at the University of South Carolina, Dr. Robert L. Stephenson, Director. The project was conducted from July 1-8, 1979 on Parris Island, South Carolina by Stanley South using two assistants from the Institute, his family, and a number of volunteers. The research design is included in the Appendix along with a more detailed project background. A summary is presented here.

The research goals were oriented around exploring three marsh islands to locate evidence of Forts San Felipe I and San Felipe II, two of the forts protecting the city of Santa Elena (38BU162) from 1566 to 1570 (Hoffman 1978) and locating evidence of the city of Santa Elena thought to be on the mainland of Parris Island. After some probing and testing of the islands it was apparent that little fruitful archeological information was to be found there since nothing but water-laid sand was seen. All effort then focused on the mainland of Parris Island (see Appendix for research design and site maps).

Historical research by Dr. Paul Hoffman of the History Department of Louisiana State University in Baton Rouge had revealed that the city of Santa Elena should have been located to the northwest of the site of Fort San Marcos built at Santa Elena in 1577 (Hoffman 1978). Hoffman also indicated that the traditional site on the southern tip of Parris Island is the remains of the Spanish Fort San Marcos, not that of the French Charlesfort of 1562 (Hoffman 1978). If this is indeed the case then some distance to the northwest of Fort San Marcos, in the area covered by the northwest gun of that fort, the city of Santa Elena should be found. It was here, between the golf course and the water's edge, that the search for the city of Santa Elena was begun. The discovery of the moat of Fort San Felipe II within the research frame was a pleasant surprise, since it had been assumed that it was offshore, perhaps on a tree covered island no longer extant (Fig. 1 Appendix).
The historical importance of Santa Elena as a major Spanish colonial city is well known to those involved in research of Spanish colonial documents (Hoffman 1978; Connor 1925, 1930; Ross 1925; Sailey 1925, 1927). Discovery of the site of the city, that dated from 1566 to 1587, would be a first step toward bonding the rich historical data with the archeological record of that occupation. This is an obvious historical question of interest to students of American colonization.

A question of broader interest is the relationship between the conquest and colonization model used by Spain in the early sixteenth century in Mexico and that used in the third quarter of the sixteenth century in colonial Florida and the degree to which these differences or similarities may be expected to be revealed in the archeological record.

The contrast between material goods within the British colonial system compared with those in the Spanish colonial system as revealed in the archeological record is a question of interest. For instance, at the British colonial settlement at Charles Towne in 1670 the inventory of the settlement expedition, inventories of individual households, and the inventory of a general merchandise store revealed no ceramics listed among the many items tabulated. Excavation at the fort site at Charles Towne produced only 23 fragments of seventeenth century British pottery (South 1971). In contrast, the excavation at Fort San Marcos by Osterhout on Parris Island in 1923 revealed a considerable quantity of Spanish majolica and olive jar fragments (Osterhout 1923; Manucy 1957). When this is compared with the Spanish inventories of the royal supply at Santa Elena in 1576, we find listed 110 botijas (olive jars) of oil (Goggin 1960: 3-5), 156 dozen plates, 135 dozen bowls, 8 dozen pots, 6 dozen ceramic stewpots (casuellas), 39 dozen pitchers (jarros) and 1 dozen large glazed earthenware tubs (lebrillos) (Hoffman, personal communication; 1978; AGI EC 153-A, No. 1, fol. 2vo-4.). This is a dramatic difference in the functional role ceramics played in Spanish colonial life as compared with its role in the British colonial system one hundred years later. These data would suggest a far greater quantity of ceramics should be recovered from the city of Santa Elena than from the Charles Towne site. This being the case ceramics should well be a major indicator for the location of Santa Elena, whereas at Charles Towne the site could not have been located using only the presence of ceramics as a monitor of the location of the site.

The explanation of this dramatic difference in the use of ceramics between the two colonial cultural systems as revealed by documents likely relates to the evolution of ceramics, particularly tin ash glazed ware (majolica, faience, delft) in Italy, Spain, France and England (Liverani 1960) and the role ceramics played in the everyday life of these cultures in relation to wooden trenchers, leather trenchers and pewter.
Spanish majolica (Goggin 1968) and Spanish olive jar fragments (Goggin 1960) are expected to be major indicators of the Spanish presence in the sixteenth century city of Santa Elena. We do not know whether the discarding of such broken objects was done adjacent to the houses as was the case in British colonial towns of some two hundred years later (South 1977: 47), but if so, such ceramic fragments might also cluster to reveal locations of houses.

The Mean Ceramic Date Formula has been developed for determining the mean date represented by a collection of Spanish majolica (South 1977: 238). If quantities of Spanish majolica are recovered from the Santa Elena sampling project the usefulness of this dating tool can be tested. Testing such tools is a means whereby the theoretical framework upon which such tools were constructed is indirectly tested as well.

A monitoring of the architecture of Santa Elena can be proposed by use of fired clay daub. The houses in Santa Elena were built of wattle-and-daub (Connor 1930: 283), and were burned by Indians who attacked the town in 1576. Fired clay from this event should be found in concentrations around the sites of such structures provided no major alteration of the content of the surface zone came about in the centuries to follow, such as earth moving. By locating such clusters of daub and excavating beneath them to discover postholes and impressions of wall trenches the architectural remains of the city of Santa Elena could be discovered.

Once the artifact and architectural data from Santa Elena are revealed a major point of interest will be comparison with quantitative analysis and archeological/architectural data being recovered by researchers in Florida.

The excavation at Santa Elena is expected to reveal Indian pottery contemporary with the sixteenth century Spanish occupation since it is assumed that some Indian goods, particularly pottery, would be used by the Spanish in Santa Elena to augment their supply of majolica and other ceramics from Spain. The relationship between such pottery and known sixteenth century types such as San Marcos pottery of the St. Augustine Period (1565-1750), (Smith 1948: 313-319), Irene pottery from the mouth of the Savannah River (Caldwell and McCann 1941), and the Chicora Ware Group pottery generally (South 1973) is expected to be a close one. Most of our data on these wares come through chronological control via radiocarbon dates, but at Santa Elena we have a potential for tightly identifying certain types in an historically documented framework.

The question of the degree to which Spanish colonization in the Southeast may have influenced local Indian ceramic decorative elements is an area long open to speculation. Excavation at Santa Elena may eventually produce data relating to this area of Spanish-Indian contact as to assimilation or exchange of material culture items and elements. I expect the Spaniards used local Indian building materials using a Spanish model for houses and town plan (Kubler 1940: 24-28).
These are only a few of the ideas to be explored from excavation on the site of Santa Elena in the years to come. This project, however, will concentrate on specifics so that a foundation for testing such ideas can be laid through the pinpointing of data concentrations such as artifacts, daub, and architectural features.

Research Strategy

Only a small portion of the site of the suspected location of Santa Elena can be excavated in only the one week's time scheduled for this project. Therefore, a most efficient procedure is to excavate a controlled sample of a large area, perhaps one percent of the total area, and project from the sample interpolations to the whole area involved. The reason for conducting such a sampling procedure is as follows.

There were more than 60 houses reported to have been in the town of Santa Elena in 1580 (Connor 1930: 238; Hoffman 1978: 40). This information comes from a letter from Pedro Menendez Marques to the King of Spain, written from Santa Elena, March 25, 1580, in which he says:

This village is being very well built, and because of the method which is being followed, any of the houses appears fortified to Indians, for they are all constructed of wood and mud, covered with lime inside and out, and with their flat roofs of lime. And as we have begun to make lime from oyster-shells, we are building the houses in such a manner that the Indians have lost their mettle. There are more than sixty houses here, whereof thirty are of the sort I am telling your Majesty (Connor 1930: 283).

Eugene Lyon translates this passage as follows:

2 March 1580 - This town is being very well made and, by the order which is current, every house is a fortress against Indians, for they are all made of wood and clay, whitewashed outside and within and with flat roofs of lime as now we have made lime of oysters. They go on making the houses in such a way that the Indians have lost their spirit and there are here more than 60 houses, of which 30 are of the kind about which I tell Your Majesty (Eugene Lyon, personal communication, August 7, 1979).

We might suspect that the first houses in Santa Elena, burned four years prior to this description of the second town, would have been built using similar construction involving clay daub or "mud"
as was the case with the houses in 1580. Since the first town was burned in 1576 by the Indians (Connor 1925: 201) each house should have had around it a quantity of fired daub or clay. Such clay was found on the suspected site of Fort San Marcos, during a visit in 1978, along with a musket ball, Columbia Plain Majolica (Goggin 1968: Plate 3), and some sherds of Indian pottery.

If the burned houses are represented in the ground by clusters of fired clay daub, and if we can assume that such clusters have survived later digging activities on the site, then a sampling scheme designed to monitor such clusters might be the most effective means of locating the houses in Santa Elena. Given this means for identifying the location of burned clay-daubed structures it is possible to conduct a stratified systematic unaligned subsurface sampling design (Redman and Watson 1970) which will allow clustering of concentrations of daub fragments representing houses to be seen on a SYMAP as projected by a computer (Dudnick 1971; South and Widmer 1977: 119; Lewis 1977: 151). Such clustering would then allow pinpointing of house locations for more detailed excavations to discover postholes for walls of the house.

If such a method is demonstrated on this site to be a sound one through discovery of house architecture where daub clusters are found then the entire site of the city of Santa Elena could be monitored by sampling and later excavation conducted on the site of the daub clusters.

Artifacts such as nails, Spanish majolica, etc. would also reveal clustering provided they were present in quantities large enough to be revealed by the sampling units. It is expected, however, that daub will be the major means of monitoring the location of the structures in Santa Elena. The determination of cultural affiliation of the daub clusters can be achieved by analysis of the density of artifacts seen to coincide with the daub. For instance, if Spanish majolica of the sixteenth century is seen to coincide in density with density of daub clusters we can infer that the daub clusters represent structures of the Spanish occupation of the sixteenth century.

Method

The area between the golf course and the tidal marsh edge is about 200 feet wide and several hundred feet long. Such a large area cannot be adequately sampled in such a low budget project but a portion can be. I selected an area measuring 90 by 420 feet, divided into 42 thirty foot square units. Inside each 30 foot square unit a single three by three foot square was excavated and the contents recovered by sifting through a 1/4 inch screen. This represents a 1% sample of the entire area of 37,800 square feet.
It is expected that this method will reveal various individual house locations as indicated by clay daub.

Some subsurface features may well be seen in the 42 three-foot squares, and these will be in the form of ditches, tree holes, pits, and other disturbances into the subsoil zone beneath the upper layers of the site. When ditches are seen in the bottom of the three foot squares these will be explored by cutting slot trenches to determine their width, and in some cases other slot trenches may be cut in order to test the length of such ditches, intersections and turns, etc. Some such ditches may represent property lines, for instance. If time permits and conditions warrant a long narrow exploratory trench may be cut to search for architectural features such as ditches at the subsoil level.

By this two pronged method of three-foot square sampling to get at artifact dispersion and thereby at house architecture, combined with the slot trench cutting method as dictated by ditches that may be found below the topsoil zone, the maximum amount of statistical data as well as architectural feature data can be recovered in a minimum time frame. Such a dual strategy should reveal evidence of the city of Santa Elena if such data are in the area of the 90 by 420 foot research frame.

A three-foot square from each 30 foot square was positioned by choosing from a table of random numbers a number for each row and column of 30-foot squares. The intersecting numbers for the rows and columns were used to position each square on the grid. A protractor and scale were then used to arrive at an angle and distance for each square using as a base one of three reference points A, B, and C, where an iron rod was driven into the ground (Fig. 1). The position of the reference points was determined by simply eye-balling the area between the marsh and the golf course so that the 90 by 420 area would be laid out conveniently within the area we were allowed to excavate. As luck would have it this orientation of our research frame was very close to that used by the Spaniards in 1570 when they constructed the second Fort San Felipe and although we were not looking for the fort in this location, our research frame intercepted it at the northern end (Fig. 1).

Positioning the three-foot squares in the field was simply a matter of setting the transit up on the reference points A, B, and C, and shooting the angles and pulling tape to the corners of the 42 squares already positioned on paper. A Brunton Compass was used to align each square to the research frame.

All material recovered from the three-foot squares was sifted by means of a mechanical sifter or a hand-held sifter though 1/4 inch mesh screen. The topsoil zone was removed in .5 foot levels and varied from .5 to 1.5 feet in depth. Those squares toward the southern end of the frame were more shallow and this appeared to be the result of removing of topsoil in this area to be used in
FIGURE 1. The sampling area (research frame) showing the location of the 42 sampling squares and the moat of Fort San Felipe II.
forming the tee for the 8th hole of the Marine Corps golf course. Those squares in the area of the moat of Fort San Felipe II were usually about 1.5 feet in depth, the moat having acted as a funnel to lower the grade in the area of the moat during its period of use and after.

The topmost .5 foot level was designated by the letter A, the second by the letter B, and the third by the level C. In some cases a D and E level were also removed when disturbance extended to that depth. All material except oystershell, clam shell, etc. was kept under the observation that most of the shell seen in the first few squares was seen to lie at the top few inches of the site, with the Spanish material underlying it. Therefore, the decision was made to discard the shellfish remains as representing primarily a post-Spanish occupation on the site, namely an early nineteenth century component seen in the area between square 21, 25, and 26, and a Marine Corps component which probably was deposited on the site during World War I, a time when the area was being used by the Marine Corps as an encampment (Osterhout 1923; U. S. Marine Corps Photos). The Marine Corps occupation was seen in the recovery of buttons with an eagle sitting on a fouled anchor as well as other twentieth century objects. The marine shell is finely broken as though recovered from a beach and it is speculated that it may have been brought onto the site as a surfacing material by the Marine Corps. Oystershell midden may well be on the site as a result of Spanish or Indian occupation but it is not represented by the highly broken beach shell layer seen on the surface in this area of the site.

All other material not going through the screen was kept for analysis, including the brown daub-like iron concretions seen in abundance in some layers of some squares. Through examination of the subsoil layers of clean, undisturbed yellow sand it was determined that these objects are a subsoil inclusion but due to their similarity to fired daub fragments these were kept so that a careful separation of these from daub fragments could be carried out in the laboratory rather than in the field where errors in judgement might occur.

Field Observations

Using the above research design and methodology excavation was begun. From the excavation of the first three-foot squares Spanish majolica and Spanish olive jar fragments were recovered, providing clear evidence for the occupation of the site by the Spanish. The most frequent type majolica found was Columbia Plain majolica (Goggin 1968: 117) which Goggin assigns to the period from ca. 1493 to ca. 1650, with fragments of olive jars (Goggin 1960) also being present.

The eastern half of square 4 contained a concentration of very
large oystershells and clam shells with Spanish pottery. The west half of the square had an intrusive ditch at a diagonal angle to the research grid frame. This midden offered encouragement that Spanish features were indeed to be found in this area and suggested that this may well be the site of the city of Santa Elena. Only further detailed excavation in later projects could demonstrate this positively.

Squares 1, 9, 10 and 12 also contained diagonal ditches at the subsoil level and it was speculated that these may have some connection with the Spanish occupation since Spanish pottery was seen to come from some of these ditches. Square 10 was enlarged to search for a possible junction with a ditch seen in Square 9, and the intersection was seen. The expansion of these squares was carried out in conformity with the research design which stated that such would be done in order to explore any ditches and other features about which additional data were needed. A cut nail was found in the contents of the ditch in the expanded area of Square 10, which eliminated a Spanish origin for this series of ditches since cut nails are known to have come into existence in the 1790s and must post-date that time period (Nelson 1963).

The east edge of Square 12 was expanded to check on a diagonal ditch seen there and the edge of a concrete septic tank lid was found. Probing with a steel rod revealed the outline of the square concrete lid, and this too was found to be parallel with the diagonal ditches. It appeared at this time, therefore, that the ditches were likely a drain field for the septic tank which was probably dug by the Marine Corps during its early twentieth century use of the site as an encampment area (Fig. 1).

These features, plus other pit features, tree root holes, etc., lying beneath from .5 to 1.5 feet of topsoil provided encouragement that the archeological record of the Spanish occupation does indeed lie beneath the present surface of the ground and that evidence of architectural features such as house wall posts may be located when broader archeological areas are exposed.

**The Discovery of Fort San Felipe II (1570 - 1576)**

Shortly after the discovery of the cut nail in the diagonal ditches and the diagonally aligned septic tank (Fig. 1) and its identification as a twentieth century feature, attention was focused on Squares 24, 25, and 28, which contained the edge of features parallel with the archeological grid (Fig. 1). From these squares it was apparent that another alignment different than the Marine Corps septic tank drain field, was present on the site. This discovery came on July 4th, but it was not until the following day that exploratory trenches were cut toward the south from Square 24.
and to the west from Square 28 in an effort to determine the width of the features which apparently were at right angles to each other and almost parallel with our grid. The trenches were continued until it was revealed that ditches fourteen feet wide were involved. As this discovery was made it became apparent that a major ditch feature was present, a feature that might be a fortification ditch since few such ditches of this width are associated with a domestic occupation on a site.

Slot trenches were cut at various intervals to follow the ditch toward the north and south from Squares 25 and 28, and toward the east and west from Square 24 (Fig. 1). By Friday the 6th of July it was apparent that a two bastioned fort moat was being revealed by the slot trench method. This discovery was a surprise to those involved with chasing the fort ditch since it had been assumed that the second Fort San Felipe was located on an island some distance to the east of the research frame (Appendix). It was apparent after considerable discussion and debate and reference to the documentary evidence (Hoffman 1978; Connor 1925; Ross 1925), that the moat we had found was that of the second Fort San Felipe. Begun in 1570 as two fortified or "strong houses" (casas fuertes), and finished in February 1572, a moat was dug around the strong houses in 1574 and two wells were dug inside the fortified area. The fort was attacked by Indians and burned in 1576, along with the city of Santa Elena (Hoffman 1978: 23; Connor 1925: 201).

Although the discovery of the fort was an exciting event for the crew, the work of excavating the 42 squares continued (Fig. 2) so that the original research design could be carried out in spite of the fact that the presence of the fort in the northern half of the research frame left only the southern half of the frame for the possible discovery of data from the houses in the city of Santa Elena. A buffer zone around the fort might well have been established where no houses were allowed to be built, so that there would be an open area near the fort in case of attack by Indians. There was some concern, therefore, that the fort had usurped most of the research frame, leaving only a slim chance for the discovery of a house from Santa Elena.

After the discovery of the fourteen foot wide ditch at Square 28, speculation was begun as to how far to the north the ditch would continue before turning toward the east to parallel the ditch seen in Square 24. The answer was soon forthcoming as a depression in the ground was seen 100 feet north of Square 28, extending toward the east. This appeared to be the still-visible remains of the bastion ditch and the ditch along the north curtain wall of the fort. As slot trenches were cut to follow the fort ditch this indeed proved to be the case (Fig. 1).

To reveal this surface evidence the assistance of volunteer crewmen Robert Parler, a registered land surveyor, was used to collect data for drafting contour intervals for illustrating this
FIGURE 2. Excavation in progress at one of the sample squares.

FIGURE 3. Spanish olive jar neck in the moat fill in Square 34.
depression and what appeared to be a slight rise where the original parapet had been (Fig. 1).

When the transit-shot points for slots and ditch edge were connected like a dot-to-dot game the interpreted moat outline seen in Figure 1 was the result. This revealed a moat 200 feet from the outer edge to outer edge at the bastions and 160 feet wide to the outer edge at the north-south curtain walls. The east bastions appear to have been cut away by the erosion at the creek edge but further work may reveal some bastion evidence on the sloping bank at the creek.

As exploratory slot trenches were cut to discover the fort moat edge some Indian pottery was seen to come from the fill of the fort moat as the bottom of the slot trench was being cleaned for transit plotting of points. Spanish pottery, majolica and olive jar fragments were also seen to come from the fill soil of the moat itself. In Square 34 no moat edge was found but an extension toward the west (Slot 45) revealed the edge of the moat. It was here that a neck of an olive jar was found in the moat fill (Fig. 3).

This technique of extending slot trenches off previously excavated squares was done with Squares 22, 23, 31, 34, and 38 (Fig. 1). In all there were 9 sample squares that struck the moat of the fort. Trenches off Square 23 at the southwest bastion revealed two moat ditches, the inner one apparently being a defense mechanism to allow continued defense of the fort, even after the artillery piece in this bastion was lost to an attacking enemy. However, complete excavation of this area of the fort is needed before an understanding of the details of the fort moat can be had.

In order to determine the depth of the fort moat slot 54 toward the south off square 24 was excavated and sifted to the bottom, which proved to be at a depth of five feet from present ground surface. Only a few Indian sherds and a few olive jar fragments were found in this small sample of the moat.

By Saturday, July 7th the 42 sample squares had been completed and the basic outline of the fort had been determined by slot-trenching, so back-filling of the site was begun and continued until 10 p.m. Saturday night and most of the day Sunday before it was completed, ending the one week project.
FIGURE 4. Top row: 1 to r, green lead glazed earthenware (45), Columbia Plain majolica (63), Yayal Blue on White majolica (59), glazed olive jar fragment (13B). Bottom row: 1 to r, olive jar fragment (22C), Columbia Plain majolica (63), fired clay daub (5C).

FIGURE 5. Chicora Ware-group Indian pottery. 1 to r, incised (17C), reed-punctated (34B), (31C), (40D), incised (7A). Bottom row: 1 to r, incised (28), reed-punctated (36B), (6A), rectilinear complicated stamped (43).
Classification of the Data

Several cultural components were present in the area of the 90 by 420 feet research frame. These are listed as follows with diagnostic artifacts associated with them.

PRE-SPANISH COMPONENTS (INDIAN)

<table>
<thead>
<tr>
<th>Artifact Class</th>
<th>Source</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaic Period</td>
<td>Griffin 1952</td>
<td>5 lithic flakes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 projectile point stem fragment</td>
</tr>
<tr>
<td>Stallings Period</td>
<td>Griffin 1943, Sears and Griffin 1950</td>
<td>14 Fiber tempered</td>
</tr>
<tr>
<td>Cape Fear Cordmarked</td>
<td>South 1973</td>
<td>1 sherd</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 basket impressed sherds</td>
</tr>
<tr>
<td>Deptford Check Stamped</td>
<td>Caldwell and Waring 1939</td>
<td>3</td>
</tr>
<tr>
<td>Deptford Simple Stamped</td>
<td>Caldwell and Waring 1939</td>
<td>4</td>
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</table>

SIXTEENTH CENTURY INDIAN POTTERY (Fig. 5)

<table>
<thead>
<tr>
<th>Brand</th>
<th>Source</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicora</td>
<td>South 1973</td>
<td>275</td>
</tr>
<tr>
<td>Irene</td>
<td>Caldwell and McCann 1941</td>
<td></td>
</tr>
<tr>
<td>Unidentified (probably Chicora)</td>
<td></td>
<td>589</td>
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</table>

SIXTEENTH CENTURY SPANISH POTTERY (Fig. 4)

<table>
<thead>
<tr>
<th>Brand</th>
<th>Source</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia Plain Majolica</td>
<td>Goggin 1968: 117</td>
<td>89 (6 with some green)</td>
</tr>
<tr>
<td>Yayal Blue on White</td>
<td>Goggin 1968: 128</td>
<td>9</td>
</tr>
<tr>
<td>Olive jar fragments</td>
<td>Goggin 1960</td>
<td>253</td>
</tr>
<tr>
<td>Glazed olive jar fragments</td>
<td>Goggin 1960</td>
<td>70</td>
</tr>
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</table>
ASSOCIATED SIXTEENTH CENTURY POTTERY

<table>
<thead>
<tr>
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<th>Source</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unidentified blue on white</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Green glazed earthenware (found in six-</td>
<td>Charles Fairbanks and Kathleen A. Deagan,</td>
<td>7</td>
</tr>
<tr>
<td>teenth century Spanish contexts)</td>
<td>personal communication</td>
<td></td>
</tr>
<tr>
<td>Red lead-glazed earthenware</td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>Unglazed red painted ware</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

SIXTEENTH CENTURY ITALIAN POTTERY

<table>
<thead>
<tr>
<th>Artifact Class</th>
<th>Source</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligurian majolica</td>
<td>Lister &amp; Lister 1976: 32</td>
<td>3</td>
</tr>
<tr>
<td>blue on blue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SEVENTEENTH CENTURY (Not present)

EIGHTEENTH CENTURY (Not present)

NINETEENTH CENTURY

<table>
<thead>
<tr>
<th>Artifact Class</th>
<th>Source</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creamware</td>
<td>Noël Hume 1970: 126-28; South 1977: 212</td>
<td>18</td>
</tr>
<tr>
<td>Pearlware</td>
<td>Noël Hume 1970: 128-131; South 1977: 212</td>
<td>6</td>
</tr>
<tr>
<td>Whiteware</td>
<td>South 1977: 212 1974: 105</td>
<td>63</td>
</tr>
<tr>
<td>Porcelain</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Cut nails; buttons of bone, porcelain and brass; and tobacco pipe fragments were all treated as a unit with ceramics 427
TWENTIETH CENTURY

<table>
<thead>
<tr>
<th>Artifact Class</th>
<th>Source</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Marine Corps buttons</td>
<td>Johnson 1948: 81</td>
<td>Type 341, S-Type, &quot;An eagle in flight to left, head down to right, holding bight of anchor rope in beak; grasping pendant slanting fouled anchor in talons. 13 5-pt stars and rope ends on right side.&quot; In use from 1830 to 20th century.</td>
</tr>
</tbody>
</table>

Brass grommets for canvas. One has "PAT. PlND. PAT. OCT. 3, '05" Wire nails, wire tacks, screws, porcelain insulators, and brass ferrules for pencil erasers.

All these items were tabulated as a unit, and are thought to represent the U.S. Marine Corps occupation of the site during and after the period of World War I. Total objects: 202. This interpretation is based on photographs taken by George Osterhout, Jr. in 1923 (From U.S. Marine Corps files), and research by Paul Hoffman (1978).

Some items, such as wrought iron spikes and nails were not included in the analysis tabulations since their contextual association was not known and could not be safely assigned.

Analysis of the Sixteenth Century Spanish Component

The components of primary concern here are those of the sixteenth century. The basic question of chronology of the Spanish majorica types is answered by reference to Goggin who says in regard to Columbia Plain majorica that it is a major form of the 16th century with the greatest frequency in the second half of that century (1968: 124). Yayal Blue on White, he says, reaches its maximum concentration in the middle of the same century, about 1550-65, which fits well with the known dates of the occupation of Santa Elena (Hoffman 1978).

South (1977) has devised a mean ceramic date formula for use with majorica based on Goggin's (1968) data, wherein index dates for Columbia Plain and Yayal Blue on White of 1535 and 1532 were substituted for Goggin's median dates of 1572 and 1575 (South 1977: 239). Since only these two types are involved in the present analysis South's assigned index dates provide a date far too early whereas Goggin's dates are on the mark.

The dates of the use of Fort San Felipe II are from 1570 to
1576, for a median occupation date of 1573 (Hoffman 1978). Using Goggin's median dates for Columbia Plain and Yayal Blue on White with the frequency of these fragments results in the mean ceramic date for the majolica from the San Felipe fort area as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Sherd Count</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia Plain</td>
<td>1572</td>
<td>X</td>
</tr>
<tr>
<td>Yayal Blue on White</td>
<td>1575</td>
<td>X</td>
</tr>
<tr>
<td>TOTALS</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>

It is obvious that Goggin's median dates provide a far more accurate mean occupation date based on majolica alone than do the index dates assigned by South to accommodate Goggin's chronological occupation data with the frequency of majolica he obtained from those sites (South 1977: 239). Such information will eventually allow the mean ceramic dating tool to be honed to accuracy far more effectively than is apparently now the case.

These data provide the chronological control for identification of the Spanish occupation period on the site of the research frame. Spanish pottery was tabulated and programmed as a stratified systematic unaligned subsurface sample for producing a computer projected map of the areas of density on the sites. The results can be seen in Figure 6B, where Spanish pottery is seen to cluster within the fort in two areas and at the southwestern corner of the research frame.

Fired clay daub was tabulated by weighing with the results seen in Figure 6A also resulting in a cluster in the southwest corner of the research frame coinciding with that for Spanish pottery. This allows us to suggest that there is a connection between the fired clay daub and the Spanish pottery, and that the daub is likely the result of a Spanish structure in this area. It is interesting to note, however, that fired clay daub did not cluster within the fort as was the case with Spanish pottery. However, a few fragments of fired clay daub containing oyster shell fragments and lime lumps were found in the squares inside the fort suggesting that a different type of clay mortar was used on the structures inside the fort.

The reference cited earlier in which two types of houses were described for Santa Elena in 1580 (Connor 1930: 283) suggests two types of mortar were in use: that having shell and lime inclusions as opposed to that composed entirely of clay. The daub remains and the reference appear to coincide in this instance.

The cluster of Spanish pottery and daub in the southeast edge of the research frame are the kind of data the research strategy was designed to elicit. When the next archeological project is undertaken on the site the degree to which these clusters predict a structure in the city of Santa Elena will be tested by excavating a large area above the area of these clusters.

One of the pottery types of interest during the excavation
FIGURE 6: A. Concentration of fired clay daub predicted from sample squares.

B. Concentration of sixteenth century Spanish pottery predicted from sample squares.
was a thin red lead-glazed earthenware similar in appearance to redware seen in the eighteenth century. However, no other eighteenth century ware was seen on the site so it was speculated that this redware may have been associated with Spanish pottery. Since Spanish pottery was found in all 42 squares except one, and nineteenth century materials were found in all but 8 of the squares, it is possible that the redware was associated with either of these components. In Square 5, however, three of the redware sherds were fire-damaged after manufacture. This was seen as a clue to their possibly having been inside the burned structure responsible for all the fired clay daub that came from this square. If this were the case the ware would be Spanish-associated. This question could be addressed by obtaining a separate SYMAP print-out for this red lead-glazed earthenware. The results can be seen in Figure 7B. This ware too, coincides with the cluster projected for Spanish pottery and for fired clay daub, providing evidence that this ware is indeed associated with the Spanish occupation at this spot. Subsequently it was learned (Kathleen A. Deagan, personal communication) that this type of ware does indeed occur in Spanish contexts of the sixteenth century in St. Augustine.

Another type, similar to the thin glazed redware, is a thin, unglazed, red-painted ware, only 5 sherds of which were recovered in the sampling study. It is thought that these too, are associated with the Spanish period of occupation, and similar sherds have been found in Spanish contexts in St. Augustine excavations (Kathleen A. Deagan, personal communication), and may have originated in The Dominican Republic.

During the excavation 11 lead balls of various diameters were recovered from the sample squares. The question of their association with sixteenth century Spanish occupation or the later nineteenth or twentieth century period was of interest. These too, were programmed for SYMAP projection of clustering, with the result seen in Figure 7A. Here again, the cluster of lead balls falls in the area of the suspected Spanish house site, suggesting that these balls were dropped during the occupation of that structure.

The incised, reed punctated, complicated stamped pottery resembling a late Irene (Caldwell and McCann 1948) complex, and more recently seen to fall within the ware-group called Chicora (South 1973), was anticipated to be contemporary with the Spanish occupation of the site and to perhaps cluster in those areas used by the Spanish occupants. However, when the SYMAP projections were received it appeared that neither the Indian pottery of this ware including those labeled as unidentified (Fig. 8A), or those clearly identified as Chicora (Fig. 8B) were concentrated in the same areas as the Spanish pottery. In fact, a major concentration over the fort ditch appears evident. This phenomenon of Indian pottery in the fort moat was noticed during the field work when this ware was often found in the moat fill during the cleaning process in slots and squares. It is apparent, therefore, that to demonstrate a
FIGURE 7:  
A. Concentration of Lead Balls predicted from sample squares.  
B. Concentration of Red Lead-glazed earthenware predicted from sample squares.
FIGURE 8: A. Concentration of Indian pottery predicted from sample squares.

B. Concentration of Chicora pottery predicted from sample squares.
contemporaneity between the Chicora Ware-group pottery and Spanish pottery the two wares must be found in tight contextual association with large size fragments of Indian pottery present, indicating contemporary use. (See South 1979 for discussion of size as an important variable in artifact analysis.) The possibility exists that the Chicora pottery was dropped on the site prior to the Spanish occupation, and given the conflict between the Spanish and the Indians one could suggest that not much exchange of pottery was going on (Connor 1925). However, all was not conflict, and friendly relations with the indians during some periods would likely have produced some contemporary pottery made by Indians having contact with Spanish households in Santa Elena. Only further excavation of tightly controlled contexts will shed light on this question since density projections via SYMAP do not present a clearly defined case for association of the two components.

A clue to the association of the Indian pottery with the Spanish occupation is seen in the fact that a number of the Indian sherds from the moat, especially, were soot-coated and others were coated on the interior surface with what appeared to be burned food remains. This suggests that they may date from the same period of occupation as the Spanish occupation, but demonstration of this fact awaits other associational data.

The tabulation of the pottery types and artifact classes and groups used in the SYMAP analysis is seen in Table 1.

<table>
<thead>
<tr>
<th>POTTERY TYPES AND ARTIFACT CLASSES USED IN THE ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia Plain Majolica</td>
</tr>
<tr>
<td>Blue on white</td>
</tr>
<tr>
<td>Yayal Blue on white</td>
</tr>
<tr>
<td>Italian</td>
</tr>
<tr>
<td>Olive Jar</td>
</tr>
<tr>
<td>Glazed olive jar</td>
</tr>
<tr>
<td>Green glazed earthenware</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Red lead-glazed earthenware</td>
</tr>
<tr>
<td>Unglazed red painted ware</td>
</tr>
<tr>
<td>Chicora Pottery</td>
</tr>
<tr>
<td>Indian Pottery</td>
</tr>
<tr>
<td>Lead balls</td>
</tr>
<tr>
<td>19th century artifacts</td>
</tr>
<tr>
<td>20th century artifacts</td>
</tr>
</tbody>
</table>

22
One of the most valuable contributions the Santa Elena site can make is its potential for controlling sixteenth century material culture associations for the years 1566 to 1587. The fact that such a narrow range of material culture items and pottery types was recovered is remarkable. This suggests that further excavation of features will provide excellent data for pinpointing in time the artifact relationships reflecting Spanish colonial culture during this twenty-one year period.

Tighter control is perhaps possible if we consider the fact that the city of Santa Elena from 1566 to 1576 was located in the immediate area of Fort San Felipe II, with the Santa Elena of 1577 to 1587 centered around the fort of San Marcos. It is possible, therefore, that we may find that these two Santa Elenas can be isolated in space, in which case the comparison of Spanish colonial material culture for two separate decades can be achieved. Such a step would be a major one for helping to understand sixteenth century Spanish colonial material culture patterns.

Analysis of the Nineteenth Century Component

A nineteenth century component was identified on the site by the presence of creamware, pearlware and whiteware, cut nails, buttons of bone, porcelain and brass, and tobacco pipe fragments. The total of all these objects was used in the SYMAP program. The chronological placement of this occupation is seen to have been during the first half of the nineteenth century, with the mid-nineteenth century types such as Ironstone Ware being absent (South 1974).

A date from ceramics can be determined. This date is known as the mean ceramic date, and has been found to correspond well with the known median occupation date for a number of sites with which it has been tested (South 1977). The following tabulation of the ceramics from the 42 sample squares produces a mean ceramic date of 1844 for the nineteenth century occupation as based on ceramics present.
19th Century Ceramics

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Date</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearlware, plain</td>
<td>2</td>
<td>1805</td>
<td>3610</td>
</tr>
<tr>
<td>transfer printed</td>
<td>2</td>
<td>1818</td>
<td>3636</td>
</tr>
<tr>
<td>mocha</td>
<td>1</td>
<td>1843</td>
<td>1843</td>
</tr>
<tr>
<td>green edged</td>
<td>1</td>
<td>1805</td>
<td>1805</td>
</tr>
<tr>
<td>Creamware</td>
<td>16</td>
<td>1798</td>
<td>28768</td>
</tr>
<tr>
<td>mocha</td>
<td>1</td>
<td>1798</td>
<td>1798</td>
</tr>
<tr>
<td>annular</td>
<td>1</td>
<td>1798</td>
<td>1798</td>
</tr>
<tr>
<td>Whiteware</td>
<td>51</td>
<td>1860</td>
<td>94860</td>
</tr>
<tr>
<td>blue edged</td>
<td>4</td>
<td>1860</td>
<td>7440</td>
</tr>
<tr>
<td>green edged</td>
<td>2</td>
<td>1860</td>
<td>3720</td>
</tr>
<tr>
<td>polychrome painted</td>
<td>1</td>
<td>1860</td>
<td>1860</td>
</tr>
<tr>
<td>annular</td>
<td>4</td>
<td>1860</td>
<td>7440</td>
</tr>
<tr>
<td>mocha</td>
<td>1</td>
<td>1860</td>
<td>1860</td>
</tr>
<tr>
<td>Porcelain (9)</td>
<td>87</td>
<td>160438</td>
<td>87 = 1844</td>
</tr>
</tbody>
</table>

This date corresponds well with the Mills Atlas map of Beaufort District of 1825 (Mills 1965), which shows the tip of Parris Island in the area of Fort San Marcos occupied by "Means" and the area to the north of the Fort San Felipe area occupied by "Habersham." One of these families, or their slaves, is likely responsible for the nineteenth century deposit of artifacts seen in the research frame.

The SYMAP projection of the density of nineteenth century objects as revealed by the 42 sample squares is seen in Figure 9A. The major concentration of nineteenth century objects is located over the southwest bastion of Fort San Felipe, the area of the fort known to have two moat ditches. As excavation was proceeding in this area great difficulty was encountered compared with the area of the northwest bastion in that quantities of oystershell midden had been thrown into the depression caused by these bastion ditches, causing rough digging. The SYMAP projection reveals that this area was being filled by someone in the first half of the nineteenth century, apparently to get rid of the depression caused by the 16th century bastion, and still visible at that time. The filling was likely being done to level the ground for cultivation.

During the excavation a number of fragments of oystershell mortar were found in some of the squares. We have no evidence that the Spaniards were using tabby mortar at this time; in fact, the description of the construction of the houses in Santa Elena says oystershell lime was being used to cover clay walls and roofs (Connor 1930: 283). Therefore, it was suspected that this oystershell mortar (tabby) was a result of nineteenth century occupation on the site. A separate tabulation of such mortar fragments from the 42 squares was undertaken so that perhaps through density correlation with other artifact classes a determination of the time period involved for this mortar could be found. The result is seen in Figure 9B, where a correlation with nineteenth century artifacts
Concentration of Nineteenth Century Objects

- ○ = sample point
- ⋄ = 21-36 objects
- ⋄ = 37-100 objects

Concentration of Oystershell Mortar

- ⋄ = 9-36 gms.
- ⋄ = 37-245 gms

COMPUTER PROJECTED ARTIFACT DENSITIES

FIGURE 9: A. Concentration of Nineteenth century objects predicted from sample squares.

B. Concentration of oystershell mortar as predicted from sample squares.
(Fig. 9A) is demonstrated. This mortar is thus identified as coming from the nineteenth century fort moat-depression-filling activity on the site.

**Analysis of the Twentieth Century Component**

Twentieth century Marine Corps buttons, grommets (dated 1905), wire nails, wire tacks, screws, porcelain insulators, and brass pencil ferrules were tabulated as a unit to identify the density areas for the twentieth century occupation of the area by the Marine Corps. A total of 202 such objects was recovered from the 42 sample squares. The result of this analysis is seen in Figure 10B, where the greatest density for such objects is seen above the north moat ditch, and where a depression is still to be seen today. It is apparent from this cluster that there was an attempt by the Marine Corps to fill this depression in the early decades of the twentieth century. They were not entirely successful, however, since the ditch and bastion depression are still visible.

A question that came up early in the excavation of the 42 squares was that relating to the origin of the unfired clay balls seen in the sifter screen in some squares. These clay balls were being recovered from a site where sand is the major soil component and therefore clay is out of place as a natural phenomenon. Such clay may well have been brought to the site to plaster houses, such as was described for the houses in Santa Elena. When such houses burned not all clay daub would become fired as durable fired clay lumps, and some may have survived as sticky grey clay lumps. This was the theory expressed in the field, so all such daub was also kept to test this hypothesis. Theoretically such daub should cluster in the same areas as fired daub if it originally was part of the same structures. The result of this test is to be seen in Figure 10A, where a major cluster of unfired daub is seen extending across the moat ditch just south of the northwest bastion of Fort San Felipe. The fact that this does not correlate with the Spanish data, the nineteenth century data, or the twentieth century data, suggests that an additional formation process is involved unrelated to that represented by the other density clusters. The significance of this material is yet to be determined, but it is suspected that it relates to a recent twentieth century process on the site, perhaps connected with the construction of the golf course.
Research frame

Concentration of Unfired Daub

○ sample point
○○ = 61 - 250 gms.
○○○ = 251 - 10,132 gms.

Concentration of Twentieth Century Objects

○○○ = 19 - 28 objects
○○○○ = 29 - 91 objects

COMPUTER PROJECTED ARTIFACT DENSITIES

FIGURE 10: A. Concentration of unfired daub predicted from sample square.

B. Concentration of twentieth century objects predicted from sample squares.
Stratigraphic Considerations

The topsoil zone of the site varied from .5 to 2.2 feet in depth before the subsoil sand was seen. This resulted in the site being excavated in .5 ft. levels, labeled "A" to "E" from top to bottom, though the "C" level was usually the bottom level. It was noticed that generally there was a shell layer on the top of the site, often about .5 ft. in depth, which was attributed to the Marine Corps occupation period. Theoretically these three or four levels of the squares could be given the traditional stratigraphic analysis to attempt to see which components were later than others. However, in this project we have not analyzed the data in that manner under the assumption that a great deal of disturbance has gone on on the site in the past four hundred years and considerable mixing has taken place. Therefore, for the purpose of this analysis all levels in each square were combined to reach the artifact counts that were used in the SYMAP projections. It was anticipated that horizontal isolation of components might remain relatively intact in spite of assumed disturbances and that such horizontal isolation would be far more fruitful than questions addressed to chronological separation through vertical stratigraphy. The results of the SYMAP study have demonstrated that this was indeed the case.

Summary and Implications for Future Work

The result of the one week sampling project at Parris Island on the suspected site of the city of Santa Elena are as follows:

1. The moat of Fort San Felipe II (1570-1576) was located.
2. The correlation of Spanish pottery density with fired clay daub density suggests that a Spanish structure should be located in the southwest corner of the research frame.
3. The red lead-glazed earthenware pottery is of Spanish origin.
4. The question of why lead balls cluster at the suspected house site and not within the fort needs to be explored.
5. The relationship between Chicora pottery and the Spanish occupation must be worked out with care in further excavations.
6. A nineteenth century dump area over the southwest bastion of Fort San Felipe was designed to level the depression caused by the bastion.
7. Oystershell mortar is the result of nineteenth century
occupation in the area and was included with dump materials placed in the depression over the southwest bastion area in the early part of the nineteenth century. The materials came from the occupation of the area by "Means" or perhaps "Habersham" whose plantations were located in the general area at the end of the first quarter of the nineteenth century.

8. An effort was made by the U.S. Marine Corps in the first quarter of the twentieth century to fill the depression on the north side of the fort caused by the moat of San Felipe II and at the same time to dispose of unwanted rubbish. This effort was not entirely successful since the depression and embankment of the moat and parapet can still be seen on the surface of the ground.

9. The contrast seen in the documents between the material goods, particularly ceramics, used by the Spanish of the sixteenth century at Santa Elena compared with the absence of such items in inventories from the seventeenth century occupation by English at Charles Towne, has now been demonstrated to be the case with the archeological record also.

10. The use of the mean ceramic dating tool when applied to majolica from sites such as that at Santa Elena where only one or two majolica types are present is seen to be invalid as presented by South (1977). The use of Goggin's original median dates and date-range is seen to be more effective in producing accurate date estimates for the occupation (Goggin 1968) in this case since only two majolica types are involved.

Recommendations

As a result of the information provided in the one week project at Parris Island a seven month continuation of the exploratory assessment phase of the project has been funded by the National Geographic Society's Research Committee. This $27,000.00 project is designed to assess the archeological potential of the various sites in the area of Parris Island. Focus will be on exploring off-shore to attempt to locate evidence of Fort San Felipe I (1566-1570), to examine a section of the moat of San Felipe II, to open an area above the daub and Spanish pottery cluster in the southwest corner of the research frame, to continue the excavation of sampling squares to locate further evidence for structures in the city of Santa Elena and to conduct test excavations over critical areas of Fort San Marcos to determine the extent to which the excavations of 1923 have damaged the archeological record.
This project will be undertaken as a joint effort of the National Geographic Society, and the Institute of Archeology and Anthropology, and will be carried out with the cooperation of the United States Marine Corps. It is planned to begin on September 9, 1979.

Acknowledgements

The one week project at Parris Island was a low budget, largely volunteer, effort for which help was received from a number of people. Special acknowledgement is due to Dr. A. Riley Macon, Vice-Provost in the Office of Research at the University of South Carolina, through whom the grant from the Committee on Research and Productive Scholarship was obtained. Special acknowledgement is also due to Dr. Robert L. Stephenson, State Archeologist and Director of the Institute of Archeology and Anthropology and Parris Island Project Director, through whose office the expedition was undertaken.

I would like to thank Joseph R. Judge, Associate Editor of the National Geographic Magazine, and Dr. Paul E. Hoffman, Consulting Historian at Louisiana State University for introducing me to the site of Fort San Marcos and Santa Elena in September 1978, and sharing with me their research suggestions as to the location of the city of Santa Elena and the three forts which guarded her gates. Hoffman's research synthesis was an invaluable document which guided our research strategy throughout the project.

The fullest cooperation was received from the United States Marine Corps Recruit Depot, Parris Island, South Carolina through the office of Col. C.W. Schreiner, Jr., Assistant Chief of Staff G-4, and Cpt. R.W. Kelemen, assistant to Col. Schreiner, and Master Sergeant Jerry M. Walker, Public Affairs Chief. This cooperation is a most appreciated and vital aspect of the archeology research program on Parris Island.

Acknowledgement is due to Dr. Kenneth E. Lewis of the Institute of Archeology and Anthropology for his assistance with constructing the research design used in the project. I also thank Charles Gay of the staff of the Caroliniana Library at the University of South Carolina for the loan of the government aerial photo CDU 2AA-47, from which the sites pinpointed by Paul Hoffman (Appendix this report) were related to the present site.

Thanks are due to the two paid crewmen Joe Joseph and Mike Harmon of the Institute of Archeology and Anthropology whose four days of labor was an invaluable contribution to the success of the project. Thanks too, are due to Dr. Kenneth E. Lewis for cooperation in making possible volunteers to assist with the field work. Full-time volunteers for the project were James Scurry and Helen Haskell, of the Institute of Archeology and Anthropology, who provided valuable help in the field.
I would like to thank the members of my family who volunteered to take part in the week of work: my wife, Jewell, for acting as a very capable provenience control and data recording assistant; my son, David, who took leave time from his forestry research duties at Auburn University to act as an assistant archeologist after having been trained in the field with me on several projects in his earlier years, and my son and daughter Robert and Lara. They dug, sifted, pulled tape, recorded transit data, and backfilled squares at a level beyond their ages of 12 and 10 years, even though, as they later stated, "it was not as much fun as soccer or gymnastics."

A number of volunteers assisted with the project for a single day or several. Darby Erd, Draftsman for the Institute of Archeology and Anthropology, was assigned to the project for the week and rendered valuable assistance in his new role as field crewman. Darby's wife, Pelham, also assisted for two days. Robert Parler assisted with digging, backfilling, and particularly his talents were valuable in drafting the topographic map of the area of the north moat area of Fort San Felipe II. Thanks also go to Sammy Lee and Bob Parler of Orangeburg for the loan of their power sifter throughout the project. This was a valuable contribution to the success of the sampling design, as was their two day volunteer work period on the site. Other volunteers on July 4th were Dr. Larry Lepionka of the Beaufort Regional Campus of the University of South Carolina and his wife, Lisa, and Emmit Bufkin and John and Jane Picking. Thanks go to all these volunteers.

I would like to thank Bill Monteith of Columbia for the loan of a metal locator for use in exploring the island off-shore in our search for San Felipe II. Thanks are due to Dr. Paul Brockington who made arrangements for the use of the Institute's large flat bed truck and made power sifters available when they were needed most. Thanks too, go to Richard Taylor of the Institute staff for picking up the power sifter in Orangeburg and delivering it to the site.

In the analysis and preparation of the report I would like to thank Gordon Brown, Institute Photographer, for printing the photographs used in the report, and Jim Sexton for assistance with computer programming information. Particular thanks are expressed to Michael Hartley who washed the artifacts and assisted with the analysis and classification of the data. Special acknowledgement is made to James Scurry who, with Michael Hartley, programmed the SYMAP data and saw it through the computer.

I would like to thank Dr. Robert L. Stephenson for reading the manuscript and offering his suggestions. Thanks too, to Ken Pinson, of the Institute of Archeology and Anthropology for his editorial comments and suggestions. I would like to acknowledge the help of Angela Talaber in typing the manuscript.

Valuable comments and interaction of Spanish artifacts was
provided by Dr. Charles Fairbanks of the University of Florida who consulted with me in this area. Thanks too, to colleagues Dr. Leland G. Ferguson, Michael G. Hartley and Dr. Kathleen A. Deagan for valuable interaction.

Appreciation is expressed to Joseph R. Judge and his staff at the National Geographic Society office for the press conference held on July 12th at which the discovery of Santa Elena and Fort San Felipe II were announced. Thanks also, to Joseph R. Judge for funding the analysis phase of the project through the National Geographic Magazine.

A special word of thanks is given to Consulting Archeologist, Rex Wilson, of the Interagency Archeological Services Division, Office of Archeology and Historic Preservation, through whose office the Federal Antiquities Act Permit No. 79-SC-077 was issued, under which the Parris Island Project was carried out.

Thanks is also expressed to the media representatives who have taken such an interest in the discoveries resulting from the project.
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MAPS

APPENDIX

RESEARCH DESIGN FOR AN EXPLORATORY ARCHEOLOGY PROJECT ON PARRIS ISLAND

Stanley South  June 25, 1979

Project Background

On December 8, 1978 "A Proposal for a Sixteenth Century Research Program at the Institute of Archeology and Anthropology at the University of South Carolina" was written. On January 10, 1979 "A Proposal to the National Geographic Society by the Institute of Archeology and Anthropology University of South Carolina for a Sixteenth Century Research Program" was submitted to the National Geographic Society in the amount of $47,600. This involved the testing of two sites of Ft. San Felipe dating from 1566 to 1576, the location of which was proposed by Paul E. Hoffman (1978), based on his research, as well as testing on the suspected site of the two towns of Santa Elena, occupied from ca. 1566 to 1576 and 1580 to 1587 (Hoffman 1978). In addition, the more extensive work would be done on the site of Fort San Marcos, dating from 1577 to 1587 (Hoffman 1978). This proposal was rejected by the National Geographic Society's Committee for Research and Exploration.

In talking with Edwin W. Snider, Secretary of that Committee, it was learned that considerable concern over the sites of Fort St. Felipe and the site of the town of Santa Elena had been expressed by some of the Committee since these sites had not been demonstrated to be the actual sites of the Spanish as suspected, based on Hoffman's research. Also, it was thought that the proposal was too general regarding these sites and that more specific details were needed. He suggested we search for funding elsewhere, perhaps with the National Endowment for the Humanities.

A second proposal was submitted minus the major crew members and less some of the time block proposed to do an adequate study of the four sites involved. The amount involved in this submission to the National Geographic Society in the early days of May was $26,981. It was hoped that funding could be made available so the work could be done prior to 1980. However, the project will not be considered until the July 10th meeting of the Research Committee, too late to acquire personnel for the summer of 1979, so those trained personnel standing by were released to join other expeditions.

Research Goals

As a result of the research of Paul Hoffman (1978) he offers
the PROPOSITION that the traditional site on the southern tip of Parris Island, South Carolina is not that of Charles Fort built by the French in 1563, but, rather, is the site of Fort San Marcos, built by the Spanish and dating from 1577 until its abandonment in 1586.

If this proposition is correct two main postulates follow:

1. Two forts known as San Felipe, dating from 1566 to 1676, were built to the northeast of Fort San Marcos and remains of these should be found in that area. (Three high spots or "islands" in the marsh are shown on the aerial photographs in this area, as shown on the attached Figure.)

2. The two towns of Santa Elena built by the Spanish from ca. 1566 to 1576 and from 1580 to 1587, should be located to the northwest of Fort San Marcos and to the west of Forts San Felipe, probably on the same site.

Exploratory excavation of test squares on the suspected islands of high ground in the marsh should reveal evidence in the form of artifacts dropped there by the Spanish occupants of Forts San Felipe. The discovery of such objects would provide support for Hoffman's proposition as to the identity of the fort on Parris Island long thought to be that of Charles Fort, but thought by Hoffman to be that of Fort San Marcos.

Some discovery of a series of house remains on the mainland of the island to the northwest and west of the suspected sites of Fort San Marcos and Forts San Felipe would tend to verify the existence of the towns of Santa Elena on this site as suggested by Hoffman. A sampling scheme is one means of testing this proposition without actually excavating the entire site. If houses can be located through sampling more extensive excavation can follow on firmer ground. The goal of the present project is to test the Hoffman proposition by sampling on the two suspected sites.

**Sampling at the Suspected Site of Santa Elena (38BU162)**

Acting on the suggestion that more specifics were needed on the sites prior to funding by the National Geographic Society a proposal for a one week exploratory archeology project was made to Provost for Research, A. Riley Macon, and on June 20, a Research and Productive Scholarship grant was funded in the amount of $842. This small amount would fund subsistence and lodging for several volunteers plus two paid laborers for the few days from July 2nd through July 6th, 1979.

The two sites to be explored during this period are those mentioned by Mr. Snider as lacking specifics sufficient to convince some of the members of the Committee of the validity of the sites, being the
sites of San Felipe and that of the town of Santa Elena. The research of Paul Hoffman (1978) has indicated that the town of Santa Elena would likely be located to the northwest of Fort San Marcos. If the traditional site on the end of Parris Island is the site of Fort San Marcos from 1577 to 1586, then the site of Santa Elena should be located on the higher ground, a part of which is located between the golf course and the water's edge.

In the original proposal I stated that excavation in this area "should produce subsurface evidence of some of the 60 houses said to have been there in the second period of the history of Santa Elena from 1580 to 1587 (Connor 1930: 283; Hoffman 1978: 40)." Specifics for such a statement are always spelled out in the research design on which a project is undertaken. In this case we have the description of Pedro Menendez Marques to the King written from Santa Elena, March 25, 1580, in which he said:

This village is being very well built, and because of the method which is being followed, any of the houses appears fortified to Indians, for they are all constructed of wood and mud, covered with lime inside and out, and with their flat roofs of lime. And as we have begun to make lime from oyster-shells, we are building the houses in such a manner that the Indians have lost their mettle. There are more than sixty houses here, whereof thirty are of the sort I am telling your Majesty. (Connor 1930: 283).

We might suspect that the first houses in Santa Elena burned four years prior to this description of the second town, would have been built using similar construction involving clay daub or "mud" as was the case with the houses in 1580. Since the first town burned in 1576 when destroyed by the Indians (Hoffman 1978), each house should have had around it a quantity of fired daub or clay. Such clay was found on the suspected site of Fort San Marcos, along with a musket ball, Columbia Plain Majolica (Goggin 1968: Plate 3), and some sherds of Indian pottery, when the site was visited by Robert Stephenson, Joseph Judge, Stanley South, Paul Hoffman, and George Stuart in September 1978. More recently, in May 1979, Stanley South and Jewell South walked over the suspected site of Santa Elena and found, where an uprooted cedar tree had disturbed the ground, a large quantity of fired clay daub, perhaps from a burned clay house.

Given this means for identifying the location of burned clay-daubed structures it is possible to conduct a stratified systematic unaligned (Redman and Watson 1970) sampling design which will allow clustering of concentrations of daub fragments (representing houses) to be seen on a SYMAP as printed by a computer (Dudnick 1971; South and Widmer 1977: 119; Lewis 1977: 151). Such clustering would then allow pinpointing of specific sites for further more detailed excavation. It is expected that such a sampling method applied to the suspected site of Santa Elena would reveal house locations through fired daub fragments. Artifacts, whether nails,
Spanish majolica, or other objects would also reveal clustering provided they were present in quantities large enough to be revealed by the sampling units. It is expected, however, that because of the large quantities of fired daub compared with other artifacts left by Spanish occupation that daub will be the major means for identifying house sites through a sampling strategy.

The area between the golf course and the tidal marsh edge is about 200 feet wide and several hundred feet long. Such a large area cannot be adequately sampled in such a low budget project, but a portion can be. I have selected an area measuring 90 by 420 feet, divided into 42 thirty-foot square units, inside of which a single three by three foot square will be excavated and the contents recovered through sifting through a 1/4 inch screen. This sample represents a 1% sample of the entire area of 37,800 square feet. It is expected that this method will reveal various individual house locations as monitored by fired clay daub.

Some subsurface features may well be seen in the 42 three-foot squares, and these will add to the information for the area. If ditches are found to be present these may well be followed using slot trenches in an effort to determine their extent and possible function as property lines, for example. If time permits and conditions suggest it a long narrow exploratory trench may well be cut to search for architectural features at the subsoil level.

Sampling at the Suspected Sites of Fort San Felipe

Although three high "islands" were to be seen on the 1959 aerial photograph of the area (CDU Aerial Photograph 1959: 2AA-47) only one can be seen from the southern tip of Parris Island. The others may well be found when a boat is available to explore the marsh area to the northeast of the suspected site of Fort San Marcos, the area where the two forts of San Felipe are thought to have been located according to Hoffman's proposition.

Sampling on these sites can be accomplished by probing, metal locator use in a controlled manner, with the goal being to find any evidence of past occupation of these high spots by sixteenth century Spaniards. Mapping of the islands and the positioning on the map of any exploratory squares or trenches will accompany the excavation of such test squares. The primary goal here is discovery of any evidence to support the idea that here was located the two forts of the 1560s and 1570s known as San Felipe. The discovery of such evidence will tend to support Hoffman's proposition in regard to the forts of San Marcos and San Felipe as well as the site of the town of Santa Elena.
The one week project at Parris Island is designed to sample two and possibly three sites to search for evidence of Spanish occupation in the sixteenth century. This is done to test the proposition by Paul Hoffman that the fort on Parris Island is that of Fort San Marcos of 1577 to 1587, rather than that of Charles Fort of 1562. The project is sponsored by the Office of Research of the University of South Carolina, through the Institute of Archeology and Anthropology. A major purpose of the project is to discover data relating to Spanish occupation on the sites so that a funding proposal can be written to The National Endowment for the Humanities instead of to the National Geographic Society, or, in the event that the present pending proposal is funded by the National Geographic Society, in addition to that proposal (as suggested by the secretary of their Research Committee).

In the original proposal a cost of $80,248. was planned, with the University of South Carolina funding 41% of this amount of the joint U.S.C./Geographic project. In the revised proposal of $58,128.00 the University of South Carolina part of the project amounts to 54% of the joint project. If major funding can be obtained from the National Endowment for the Humanities for the role of the National Geographic and the University of South Carolina would be considerably reduced in such a three-way sponsorship of the project. It is very likely that the National Geographic Society, having rejected our first proposal, will also reject the second one. Indeed, they have suggested we look for funding elsewhere. If such proves to be the case the present project will provide specific data upon which the proposal to the National Endowment for the Humanities can be presented with more specifics in hand than was the case with the National Geographic. In such an event a better case for funding could be made.

When the exploratory project is completed the computer analysis will be conducted, the artifacts catalogued, conserved and tabulated, and the report on the results of the project will be prepared. This phase of the project will be funded by the Institute of Archeology and Anthropology and is expected to cost far more than the minimum budget used to recover the data sample. Recommendations for further work and funding proposals will be prepared using the report resulting from this project.

Stanley South, Archeologist
Institute of Archeology and Anthropology
University of South Carolina
Columbia, South Carolina  29208
June 25, 1979
FIGURE 1: The location of the site of Fort San Marcos (38BU51) and the area of the suspected site of Santa Elena (38BU162) on Parris Island, South Carolina.
Sites of the Spanish Forts of San Felipe and San Marcos before the Pueblo of Santa Elena (1566-1587)

Possible site of San Felipe II (1570-1576)

Possible site of San Felipe I (1566-1570)

Site of the pueblo of Santa Elena (1566-1576, torn down in 1580-1587)

San Marcos (1577-1587)

Location of the 90 by 420 ft. Research Frame 39SU162

Parris Island

Sources:
Connor 1925: 265: 1930: 283
Hoffman 1978
CDU aerial photo: 2AA-47

Stanley South, Archeologist
Institute of Archeology and Anthropology
University of South Carolina
Columbia, South Carolina
December 5, 1978

FIGURE 2: Sites of the possible forts of San Felipe and San Marcos before the Pueblo of Santa Elena (1566-1587), on Parris Island, South Carolina.
Figure 7

Figure 3: Copy of Paul Hoffman's (1978) locational map used in the construction of the research design for the Parris Island Project.