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# ARCHAEOLOGICAL TESTING OF SoC<sup>V</sup>282, JENKINS ISLAND, SOUTH CAROLINA

## Michael Trinkley

The northern portion of  $SoC^{V}282$ , a Middle Woodland shell midden situated on Jenkins Island in Beaufort County, South Carolina, will be impacted by the proposed widening of U.S. 278. Although the site had been disturbed by agriculture, and had been subjected to construction activity prior to investigation, it was believed that subsurface features, if present, might be intact, as would the lower midden levels. Previous surface collections indicated occupations at the site from the Middle to Late Woodland periods. It was believed that the site would be representative of these primarily Middle Woodland small shell middens found in the vicinity, and that testing the site could provide directions for future intensive investigations at similar sites.

Seven man-days were spent in the field (April 1978) surveying and excavating 85 cubic feet of shell and loamy sand. As a result of this work 4 features and 2 post holes were discovered from five 5-foot squares, and a quantity of artifactual remains were collected. Copies of the field notes are on file at the Institute of Archaeology and Anthropology (University of South Carolina) and the Research Laboratories of Anthropology (UNC-Chapel Hill). The materials recovered from this site have been catalogued by the Research Laboratories of Anthropology (UNC-CH) as site Soc<sup>V</sup>282. The site is recorded as 38 Bu97 in the Institute of Archaeology and Anthropology site files.

A grid was established for the site along north-south and east-west magnetic lines. This closely conforms to the existing U. S. 278 orientation of S87°03'E. A half-inch steel rod, driven flush with the ground, serves as point 200R 200 about 30 feet from the edge of existing U. S. 278. A concrete block, buried off the right-of-way, at 400R 200, serves as the site datum, having an assumed elevation of 100 feet. This north-south grid line is tied into station 333 of the U. S. 278 survey, and that station (a nail in the existing pavement) has an elevation of 98.96 feet, while 200R 200 has an elevation of 100.74 feet (Figure 2).

Although the major purpose of this work was to salvage as much information as possible, work at Lighthouse Point, an Early Woodland shell ring (Trinkley 1976a), as well as previous work by Calmes (1967) and Southand Widmer (1976), suggested several lines of research to be pursued. Of particular interest was the collection of data relevant to the intensity and length of occupation while emphasis was placed on the collection of food remains. It is hoped that this excavation will provide data useful for more intensive and extensive investigations of other Middle Woodland shell midden sites.

## ENVIRONMENT

 $SoC^{V}282$  is situated on a finger of high ground on the east side of Jenkins Island, 0.4 mile south of Skull Creek and 0.2 mile north of Jarvis Creek (Figure 3). The site, which is bisected at its northern end by U. S. 278, follows the edge of the marsh for a distance of 2000 feet, and is found inland for about 50 feet. Although clearing and grubbing for the proposed widening of U. S. 278 scattered shell along the right-of-way, it appears that the site is concentrated in the area immediately adjacent to the marsh.

The project area lies within the sea island region of the Coastal Plain province, where the geological stratigraphy consists of a basal carbonate section of late Eocene age at about 70 feet below Mean Sea Level, overlaid by moderately indurated maris, clays, and sands of Early Miocene age (Hawthorne Formation). The surface layer, consisting of unconsolidated sands, sandy clays, and clays, dates from the Pleistocene and Holocene ages (Colquhoun 1972:75).

The soils in the immediate vicinity of  $SoC^{V}282$  are of the Wando-Seabrook Association, surrounded by tidal marsh soils such as Capers and Bohicket soils (USDA 1978). The Wando soils are slightly higher than the Seabrook soils and with a water table at 5.0 feet below surface. This soil has a dark brown surface layer (Ap) of loamy fine sand about 0.7 feet in thickness. The underlying material (C1 to C2) is brown loamy sand. The Seabrook soil has a surface layer of dark grayish brown loamy fine sand about 0.8 foot in thickness. The C horizon is dark brown to yellow fine sand, and the water table is found at a depth of 2.0 to 3.0 feet. Brown iron-ore concretions are common to both soils. The Wando soils, having a higher elevation and low water availability, will support few hardwood species, while the Seabrook soils are highly productive and easily support upland hardwoods.

The potential natural vegetation (Küchler 1964) of the Jenkins Island area is Oak-Hickory-Pine and Southern Mixed Forest (beech, sweetgum, southern magnolia, pines, oaks and hickories). Recently pollen analysis has been heavily utilized by archaeologists to reconstruct generalized vegetation patterns. In particular, Frey (1953) and Watts (1969, 1971) are useful for the lower Coastal Plains of South Carolina. Summaries of the literature have been provided by Crawford (1974), and Michie (1979). Wright (n.d.:23) states, "The transformation to temperate deciduous forest similar to that of today occurred rapidly through a series of successional stages, and in most of the area it was essentially completed by 9,000 years ago, with relatively minor changes since then in the proportion of the principal forest components." Crawford (1974:4), discussing the complex considerations involved in the interpretation of pollen diagrams, states, "It is



Figure 1. Port Royal Sound and vicinity.



not necessarily true that trends in pollen diagrams reflect parallel changes in vegetational frequency for the species in question." It has been shown that some taxa, such as the oaks, are over-represented, while others may be under-represented.

There are stands within the Beaufort area today which closely approximate the posited forest of 1000 B.C. Blackard, Parker and Sumrell (1972:280) describe a stand composed of hickory, laurel, oak, live oak, willow oak, and sweetgum on the drier sites, while red maple, black gum and Carolina ash were found on the wetter tracts. Previous work suggests that the types of vegetation in the coastal area have changed little since 2000 B.C., although the percentage of pine seems to have increased, perhaps because of burning and logging (Trinkley 1976).

The study of upland wildlife by Blackard, Parker and Sumrell (1972) provides data on the density of various animals in the Beaufort area. Because these figures are influenced by hunting and encroaching urbanization they should be regarded as minimums, rather than average figures. White-tailed deer have a population equivalent to one per 20 acres, while there are more than three water-fowl per acre and two clapper rail nests have been found per acre of marsh.

Studies of oyster, clam and crab productivity in the Port Royal vicinity (Bearden and Farmer 1972:210-211) show that there was approximately 2150 acres of intertidal oyster beds, with a volume of 0.05 to 1.0 bushel per square yard. Today, 15 per cent of the oysters in the Port Royal vicinity are 3.0 inches in length or over. Large clam beds exist in the area, although clams usually occur singly on sandy bottoms.

The salinity of the waters in Mackay and Skull Creeks averages from 24 to 33 ppt with an elevated salinity level during the summer because of the small amount of fresh water flowing into the system (Ballentine 1972:119-127). Tidal amplitude ranges from about 6 to 10 feet, and the maximum limit of salt water up the Broad River is 35 miles, with brackish water extending another 5 miles (U. S. Army Corps of Engineers 1972). The only potable fresh water in the area occurs as ground water found in small ponds (Gardner 1972:108).

Fifty-nine species of fish are found in tidal creeks surrounding Port Royal, with the greatest diversity being exhibited in the larger, more stable streams. Ten species constitute approximately 98 per cent of the total catch, but of these only mullet is known to have been used extensively aboriginally (see Trinkley 1974). Seven other species found archaeologically are listed by Turner and Johnson (1972:186-189) as being available in the vicinity (toadfish, flounder, drum, sea trout, snapper, sea catfish and ray). Three additional species (sturgeon, gar and gaff-topsail catfish) are available in the channel reaches and shore area (Hicks 1972:195). The work of Turner and Johnson (1972:182-185) suggests a fish biomass of 54 pounds per acre of tidal creek. In a catchment one mile in diameter around  $SoC^{V282}$ , there are approximately 160 acres of high ground, 205 acres of partially inundated tidal marsh, and 44 acres of tidal creeks and channels. Thus, within one day's round trip of the site, the aboriginal hunter and/or gatherer could expect to find a variety of foods, including shellfish (roughly 10,000 pounds of oysters and 70 pounds of clams), mammals, fish, birds and plants. The site is situated in close proximity of resources.

Although the application of recently collected environmental data to the period 500 to 1000 years ago is fraught with uncertainty and difficulty, additional archaeological research, with the collection of faunal and ethnobotanical material, will allow more accurate statements to be made. This brief review of the environment surrounding Jenkins Island gives some insight into the aboriginal life 1000 years ago, suggesting that the sea islands were much as they are today.

# EXCAVATIONS

The excavation procedures followed at this site are similar to those developed by Joffre Coe in North Carolina and utilized at the Lighthouse Point shell ring (Trinkley 1976a). After a grid was established, five foot squares were laid out, each square being identified by the co-ordinate of its southeast corner.

All soil from square excavation was screened through one-quarter inch mesh, and soil samples were retained from square and feature fill. Both color, and black and white photographs, as well as plan and profile drawings, were taken at each stage of excavation.

Four 5-foot squares were excavated forming a trench running perpendicular to the marsh, from 350R200 to 350R220, as well as one 5-foot square at 315R220 bordering U.S. 278 (Figure 4). The N350 trench was laid out in an area believed to be the main portion of the site to be disturbed by the highway project, on the basis of surface collection and probe holes. Subsequent excavation revealed that these indicators were accurate and that the trench bisected an area of intensive occupation.

The stratigraphy at  $SoC^{V282}$  consists of 0.5 foot of crushed shell mixed with brown loamy sand (level 1) overlying mottled yellow sand (level 2) to a depth of about 1.3 foot where a moist, white/gray sand is encountered (Plate 2). The archaeological evidence suggests that this site was lightly cultivated, probably to a depth of about 0.5 foot during the late 1950s and early 1960s. This cultivation affected the integrity of the archaelogical remains by scattering and crushing the shell. However, agricultural practices appear to have ceased prior to the use of equipment heavy enough to thoroughly mix the shell. About 0.1 to 0.2 foot of this plow disturbed shell had been stripped off by the contractor during clearing and grubbing, leav-



Figure 3. Environmental surroundings of SoC<sup>V</sup>282.



Plate 1. View of site from marsh.



Plate 2. Square 350R220, top of level 2 with 0.6 foot removed, north profile.



Figure 4. Plan and profile view of 350R205-220 and 315R220.

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ing 0.3 foot of disturbed shell overlying 0.2 foot of intact shell midden.

It has not been possible to identify a buried humus level, and it appears that aboriginal activity mixed the occupational debris with the thin A horizon so that today shells are found pushed down into the yellow sand to a depth of 0.4 foot. The humus, once buried by the Middle Woodland shell midden, may also have been rapidly leached out. Shell appears to have been deposited 50 feet west of the marsh and was concentrated in an area about 20 to 30 feet in diameter.

Small probe holes were dug in the cardinal directions away from the excavation units, revealing that the density of shell in the upper 0.5 foot of soils falls off rapidly to the north and east, and more gradually to the west and south. Extensive midden deposits continue southward along the marsh edge and midden is also found to the west bordering on a shallow slough (38 Bu99).

Four features and two post holes were found during this excavation. Feature 1, at 317.5R217.25, appears to be either a shallow pit or a depression which was filled in with 0.2 foot of shell and black soil. The southern half of this feature was destroyed during recent ditching along the road, but the northern half measures about 6.10 by 2.6 feet. The few shells found mixed in the depressions were oyster and the only other artifactual remains found were two sherds.

Feature 2, a shallow pit filled with compact oyster shells, was observed in the N350 profile from R210 to R213. The pit, 0.4 foot thick, appeared to originate in level 1 and may have been cut off by plowing activity. The shell remains in the pit were mixed with yellow sand. The portion of this pit extending into 345R215 was not excavated.

Feature 3, a fire pit located at 350.4R214.8, was encountered in squares 350R215, 220 and was bisected by the N350 wall. Only the northern half of this feature was excavated, but the total estimated size of the pit is 3.2 by 2.0 feet, with a depth of 1.1 feet. This pit was excavated into two distinct strata, an upper brown sand lens 0.25 foot thick and a black/gray sand layer. Two sherds were recovered from the pit as well as small quantities of both charcoal and oyster shell. The bulk of the shell was found in the upper brown sand lens and was unburnt.

Feature 4 is a shallow pit encountered in the R200 profile, from N352.5 to N354.3, having a depth of 0.2 foot. The upper portion appears to have been disturbed by plowing as was Feature 2. The portion of the pit extending into 350R200 was not excavated. The pit appears to be a small bowl-shaped depression filled with compact whole oyster shells, extending down into the mottled yellow sand.

After the excavation of Feature 1, a posthole, having a depth of 0.5 foot, was found at 317.4R215.55. A second posthole was found at 353R215.1 having a depth of 0.2 foot. Although both of these postholes appear to be

isolated occurrences, too small an area was excavated to determine if a pattern might be present.

In each square excavated, once level 1 was removed, there were patches of scattered shell in the yellow sand having depths of as much as 0.4 foot, probably representing irregularities in the original ground surface which were filled in with shell.

## ARTIFACTS

Other than food remains, the midden is a sparse producer of artifacts. Only 104 potsherds were found, while no worked bone or lithics were recovered, and only 6 specimens of worked shells were identified. While the major contribution of this site is not in the area of typology or functional studies, data useful in subsistence reconstruction were collected, as well as needed comparative material.

*Pottery.* The 104 sherds recovered during the investigation represent five wares (Cape Fear 45%, Wilmington 34%, Savannah 17%, Irene 1% and Colono-Indian 3%) and 10 types (see Plate 3, Figure 5). These remains fit, to a surprising degree, previously established types with little variance. The Cape Fear types cord-marked, knotted net-impressed and plain have been described by South (1960), and the only difference in the present sample is the fabric-impressed sherds. No Cape Fear rim sherds were found.

The Wilmington sherds recovered fit the type description of Caldwell and Waring (1939) as well as South's (1960) description of Hanover ware. However, no fabric-impressed sherds such as those described by South were found. The paste was contorted and frequently coil fractures were difficult to detect. Two rim sherds of Wilmington cord-marked were found, both exhibiting a flattened lip with a straight rim. Cord-marking occurred on the lip as well as into the interior face of both sherds.

Cape Fear and Wilmington wares together account for 79 percent of the pottery found at SoC<sup>V</sup>282 and at the present time should be considered contemporaneous. Both fall into Milanich's (1971) Wilmington Phase. The Savannah wares appear to be later, however, postdating the Wilmington Phase and predating the Irene Phase (Caldwell and Waring 1939). Savannah Check-Stamped, Fine Cord-Marked and Burnished Plain pottery were all recovered in very low frequencies. They occurred in the same levels with the earlier Cape Fear and Wilmington sherds, evidencing extensive disturbance of the site both during and after its aboriginal occupation. Forty-seven per cent of the Savannah was recovered on the surface, while the remainder was found in level 1 of the midden. These sherds have a paste similar to earlier Cape Fear ceramics, although hardness and surface treatment readily distinguish the two wares.

One sherd of the Irene type was found on the surface, as were three presumed Colono-Indian sherds. The Irene sherd has an unidentified com-

	350R205 1	35OR210 1	350R215 1	35OR220 1	Fea. 1	Fea. 2 1	Surface	Totals
Cape Fear: plain		5	5	9			6	22-21%
cord-marked	2	I	4	9			10	23-22%
net-impressed							2	2-2%
Wilmington: plain	-	ю	2	4			2	12-11%
cord-marked	-	1	1	6	I	2	6	24-23%
Savannah: plain		-		7	-		9	10-10%
fine-cord	1							1-1%
check-stamped		4					2	6-6%
Irene: complicated stamped							-	1-1%
Colono-Indian: smoothed							3	3-3%
Totals	5	15	12	24	2	2	44	104

Figure 5. Pottery types recovered from SoCV282

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Pottery types from SoCV282; A. Wilmington Heavy Cord-marked (first and second from left), Cape Fear Cord-marked (first and second from right) B. Cape Fear Net-impressed C. Savannah Checkstamped D. Savannah Cord-marked (cross cords) E. Irene Complicated-stamp F. Colono-Indian smoothed plain. plicated stamp and typical gritty paste with interior smoothing (Caldwell and Waring 1939, Caldwell and McCann 1941). The Colono-Indian sherds have a burnished surface and fine paste, not generally associated with the type Irene Burnshed.

Worked shell. Six worked shell items were recovered, although it is possible that others were discarded unrecognized during the field sorting process. Found were cut and/or worn oyster shells, cut or altered clam shells and cut and smoothed whelk shells. A recovered whelk shell suggests extensive wear and smoothing, while the clam appears to have been incised with a small, sharp instrument, presumably a flake. One item found frequently at Early Woodland shell middens is the worked columnella of the whelk shell. One such artifact was found on the surface and may have served as an awl or pick.

South and Widner (1976) have presented evidence of clams being used as tools or as something other than subsistence items. The fracture pattern of clam shells noted from 38Ch275 is duplicated at numerous other shell middens, including Lighthouse Point Shell Ring, Spanish Mount,  $SoC^{V}282$  and  $SoC^{V}281$  (38Bu67). Further experiments need to be conducted on this breakage pattern utilizing green shells rather than archaeological specimens (South and Widner 1976:50). However, considerably more data must be collected before these clam shell fragments can be classified as either tools or by-products of shell tool manufacture.

Food Remains. Three general classes of food remains were found at SoCV282: animal bone, carbonized plant, and shell. The only food remains thus far identified from the ethnobotonical remains are charred hickory nutshell fragments found in 35OR220, level 2 with 0.2 foot removed. This, presumably, would date from the earliest occupation of the site. Animal bone is sparse, usually crushed, and no large bones, such as the humerus or femur, occur. The majority of the bone is from white-tailed deer, representing mainly metacarples, phalanges, small portions of long bones and teeth. No bones useful for age and sex estimation have been identified, although three molars have been recovered, all from individuals aged 21/2 years or younger. So little deer bone was recovered that it is not possible to offer any estimates on the minimum number of individuals represented. Fish bone, although present, is rare and extremely fragmented. The only identifiable remain is an otolith from a sea catfish. The other remains appear to be skull fragments, and no vertebrae have been recovered. While little bone was recovered, that found was in an excellent state of preservation, primarily because of the neutralizing affect of the shell on the soil's natural acidity.

The bulk of the food remains recovered are shellfish, in direct contrast with the earlier Thom's Creek Phase. While it was not feasible to count or weigh all the shell remains in the field, the southeastern quarter of 35OR210 was bagged and later sorted in the laboratory. This is not a reliable statistical sample, but it does give some indication of the shell content of the site as a whole. The sample, weighing 30 pounds, contained 138 whole oyster shells (61% under 2½ inches and 1% over 3½ inches), 2 sherds under ¼ inch, 2 worked oyster shells, 4 fish bones, 6 quahog shell fragments (2 under ¼ inch, 4 over ¼ inch but under ½ inch), 2 periwinkle shells, 3 mud dog whelk shells, 3 ribbed mussel shell fragments, and 28.5 pounds of crushed oyster shell fragments not passing through a ¼ inch mesh screen. Not found in this sample, but recovered elsewhere in the midden, were juvenile knobbed whelk shells.

## SPECULATIONS

Most archaeological reports conclude with a section entitled appropriately, "Conclusions" or perhaps "Summary." The work conducted at  $SoC^{V282}$ , however, represents a small, non-random sample. Less than one percent of the entire site and less than 10 percent of that portion to be impacted by highway construction was investigated. Consequently, it is not possible to make generalizations or predictive statements with any degree of confidence, although granting the large potential for bias it is possible to speculate and suggest avenues for further investigations.

The limited data thus far collected may provide very tentative suggestions concerning seasonality, diet and site occupation. As previously mentioned, the occurrence of charred hickory nutshell suggests a fall occupation. The site itself suggests intensive, but not prolonged, occupation. The shell is crushed, but there are no obvious strata indicating the buildup of humus during intermittent usage. Such strata, however, could have been destroyed during the plowing of the site, or may be lacking in the portion of the site excavated. The features and postholes suggest that the site was more than a short stopover for a small band. Thus, the available evidence points to occupation during the fall or winter by a small group which settled on the marsh edge.

Arguing against permanent occupation at the site, besides the lack of midden accumulation, is the midden content, as seen in this small sample. Over 98 per cent of the excavated midden food remains consists of the common oyster, and 61 per cent of these oysters were under 2.5 inches in length. Chestnut (1951) suggests that oysters this size can be collected in South Carolina waters after less than 8 months of growth. Mammals and fish would appear to account to a small percentage of the total diet, as would plants.

This dietary pattern appears to be in contrast to that of the earlier Thom's Creek Phase (Trinkley 1975, 1976a). Much heavier emphasis was placed on deer and fish, with shellfish playing a small part in the total subsistence pattern during the Early Woodland. Additionally, a large variety of shellfish were exploited and the oysters were generally larger, suggesting that while earlier there was little selectivity beyond some conservationist instinct, in the Middle Woodland oysters may have been exclusively collected, perhaps to the point that the juvenile speciments represented the bulk of the available population.

Calmes' excavations provide little comparative subsistence data from 38 Bu64, although he does note that the shell midden was predominately oyster, with small quantities of animal bone and other shellfish. The recent work by South and Widmer (1976) at Fort Johnson does provide some additional data. 38Ch275 is reported to have oysters, clams, and whelks in about the same proportions as 38Bu97, and the bulk of the animal bone found also came from deer. South and Widmer (1976:55) indicate, however, that 10% of the faunal assemblage represent fish, primarily jack, sea catfish and black drum. This represents a wider variety and greater quantity than was found in the Beaufort midden.

Of particular interest are the ethnobotanical remains found at Fort Johnson, representing at least seven species, including three nuts, one grass, and three herbaceous plant seeds. The herbaceous seeds are indicative of open, sunny habitats suggesting disturbed areas of occupation. South and Widmer (1976) associate considerable importance with the finding of arrow-arum seed(s), known to have been used historically in Virginia. This importance and the related discussion of specialized subsistence activity should be cautiously regarded, however.

There appear to be at least four categories of Cape Fear-Wilmington Phase sites: small, shallow shell middens such as  $SoC^{V}282$ ; large, thick shell middens such as  $SoC^{V}281$  (38 Bu67); sand burial mounds such as Moore's (1899) mounds on Callawassie Island, Hasell Point and Button Hill; and the non-shell midden sites found further inland, beyond the influence of tidal brackish water. The first two categories would appear, on surface examination, to differ only in quantity of shell debris, suggesting a difference in length of occupation, number of occupants, or frequency of return to the same vicinity. Both  $SoC^{V}282$  and  $SoC^{V}281$  show evidence of shell mounds about 30 feet in diameter and 2 to 3 feet in height, possibly indicative of individual house mounds.

These shell midden sites, like Irene sites investigated by Larson (1969), appear to be seasonal encampments by small bands of individuals, possibly during the winter of a single year, for the purpose of shellfish collection. It appears that in successive years the Indians may have returned to the same general location with each group occupying a previously undisturbed area, resulting in the extensive midden bordering the marsh edges.

The season of use is uncertain, but the hickory nuts and catfish otolith point to a fall-winter occupation, which might help to explain the sparsity of fish remains, as the channel reaches have a low fish density during that time of year. The small size of the shellfish also suggest that the site was occupied only in the winter. The oyster spawns around June, with oysters reaching a length of 2.5 inches eight months later.

The report of South and Widmer's (1976) work at Fort Johnson lends further support to this Fall-Winter occupation pattern. Although no data is supplied on the size of shellfish or age estimates of the recovered deer bone, the ethnobotanical and fish remains point to occupation during the cooler months. The hickory nuts, acorns and chinquapins become available in late Fall and plums or cherries are also available from August until late September. Bedstraw, a nonedible grass, seeds during the summer and may be an accidental inclusion in the midden.

Black drum frequents the coastal water from April through August in large schools, but occurs singly from September through November. This solitary occurrence may be reflected in the low frequency of their archaeological recovery. Likewise the jack occurs from May through October (Freeman and Walford 1976).

One further indication, at 38Ch275, of Fall-Winter occupation may possibly be derived from the disparity between the location of the oyster shell midden and the major area of occupation, north of the midden (South and Widmer 1976:58). If two assumptions are cautiously granted, that people live upwind of smelly garbage, and that the prevailing coastal wind directions have not changed greatly over the past 2000 years, then one can conclude that the site was occupied sometime between September and March. During the Fall and Winter the coastal winds would come from the north through southwest, blowing the smell either out into the marsh or parallel to the shore. In the hotter summer months, when the wind blows from the southwest through the southeast the Indian occupants would have been subjected to the smell of their own garbage.

This Fall-Winter occupation would be plausible if one assumes that the inland sites were oriented at least partially toward agricultural activities. Crops could be planted around the middle of April to be harvested by the end of October. Thus, from November through January or February there would be few agricultural demands, and at least a portion of the village population would be free to migrate to the coast to take advantage of the shellfish.

The posited specialized nature of these sites, if  $SoC^{v}282$  is assumed to be typical, may be demonstrated by the almost exclusive reliance on shellfish, while other readily available resources appear to have been less intensively exploited. This same feature has been pointed out by South and Widmer (1976) from work at Fort Johnson.

The third category of Middle Woodland coastal sites, sand burial mounds, were explored by Moore (1899) in the late 1800s. All of the mounds he investigated consisted of midden debris and sand covering a central deposit of human bone (frequently cremated) and shell. There were additional burials at the margins and within the fill of the mounds. Moore (1899:150) notes that at the Callawassie Island Mound, mixed with the cord-marked (Cape Fear and Wilmington?) sherds was a single "rude check stamp" sherd, probably a Savannah Check-Stamp.

All of the burial mounds investigated by Moore appear to have had shell middens associated with them. Thus, these mounds were probably on the edges of encampments, which may have been returned to frequently; and the occurrence of Wilmington burial mounds on the coast suggests that this form of burial was practiced whenever a sufficiently important individual died. Although all of the investigated burial mounds occur on the coast, there are circular sand mounds, believed to be burial mounds, in the Upper Coastal Plain (such as SoC° 261).

The last category of Middle Woodland sites, the non-shell midden, has been examined only superficially. The Palm Tree Site (Widmer 1976) was briefly investigated, as was the Cal Smoak Site, which both have a Middle Woodland component. The occurrence of such sites in Hampton, Bamberg and Allendale counties has been previously discussed. It need only be mentioned that these generally large sites, exhibiting a wider variety of artifactual remains, are strongly suggestive of permanent base villages.

Stoltman (1974) has noted a tendency for Wilmington (and Cape Fear) sites to cluster in the upland areas of the Savannah River at Groton Plantation. This is in contrast to both earlier Stallings and Thom's Creek sites and also the later Savannah and Irene sites. Stoltman suggests this may indicate early slash-and-burn agriculture was practiced by the Middle Woodland people at about A. D. 800. Later, during the Savannah Phase, agriculturists began moving into the richer alluvial soils of the floodplain. Although ethnobotanical evidence to support Stoltman is presently lacking, his suggestion is plausible and worthy of further consideration. From evidence collected by Yarnell and his students (Yarnell 1976, Crawford and Yarnell 1976) there is a good basis for believing that by A. D. 500 some domesticated plants could have spread into the Savannah area, and into central South Carolina.

Future work should concentrate on five areas. First, the transition from Thom's Creek to the Cape Fear lifestyle must be more fully documented and explained. Milanich (1971:13-16) contends that there was a gradual evolution from phase to phase, but that there was no migration of peoples (or presumably transfer of ideas) into the area during the post-Deptford phases. This is supported by sound culturological theorems (e.g. Sahlins and Service 1960, see Milanich 1971:13-16), but is also based on Milanich's view that there were no major subsistence changes from the Early to Middle Woodland. This assumption is perhaps incorrect. Second, the area of subsistence must continue to be explored and shellfish must be treated just as other food remains, rather than being discarded. Third, sites with the potential of offering stratigraphic information, such as SoC<sup>V</sup>281, should

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receive a high priority for investigation. Micro-attribute analysis may reveal significant temporal change in cord-marked pottery previously believed to be homogeneous. Additionally, radiocarbon samples should be collected to assist in resolving the question of Cape Fear-Wilmington relationships.

Fourth, work must be undertaken on inland Middle Woodland sites to document the suspected seasonal pattern. These inland sites may provide information on architectural features and may well provide a perspective on Middle Woodland life much different from that shown at the coastal sites. Finally, another emphasis for the future should be on opening large portions of archaeological sites in order to reveal intra-site patterns. These same large excavations would also provide the data necessary to insure that inter-site comparisons are valid, meaningful, and accurate.

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# A PRELIMINARY REPORT OF EXCAVATIONS AT SoC<sup>v</sup>281, BEAUFORT COUNTY, SOUTH CAROLINA

## Michael Trinkley

Prior to the relocation of the U.S. 278 bridge from Pinckney Island across Skull Creek to Jenkins Island in Beaufort County, the South Carolina Department of Highways and Public Transportation conducted archaeological excavations intended to salvage portions of an extensive shell midden which will be impacted by the proposed construction. The site (Figure 1), recorded by the Research Laboratories of Anthropology as SoC<sup>v</sup>281, was first surveyed by the Department in December 1977. Midden debris was identified from the southern tip of the island northward for several miles along the shoreline, and a quantity of Middle Woodland cord-marked ceramics were collected from the eroding shell. The bank profile indicated the site varied from 0.3 to 2.0 feet in depth. Consequently, the site was believed to be similar to other Middle Woodland shell middens in the Beaufort area, with the exception that it might contain stratigraphic information useful in revealing temporal change in Middle Woodland ceramics. Information on the season of site occupation, subsistence and settlement patterns was also believed to be intact at the site, although the area had a history of cultivation. This brief report contains a preliminary statement of the fieldwork.

Excavations at the site began on December 20, 1978 and continued until February 12, 1979, with a crew of 3 to 5 individuals, for a total of 1006 man hours. One thousand square feet of ground was opened, and over 1100 cubic feet of shell and sand were excavated and sifted through one quarter inch mesh. During this investigation 15 features were recorded, and an estimated 3000 specimens have been collected.

Stratigraphy over most of the site consists of a plowzone level from 0.3 to 0.5 foot in thickness overlying undisturbed shell midden remains about 0.2 foot in thickness (termed level 2) or occasionally an old humus level. Below the old humus, or if none was evident, the undisturbed midden, was a tan to yellow sand. At the marsh edge there is no evidence of plow disturbance and the shell forms a ridge, up to 2.0 feet thick. The deposit of shell, and the associated lack of cultivation has preserved humus and underlying stratigraphic deposits more clearly than the shallow inland portion. It is



Figure 1. Southern end of Pinckney Island, Beaufort County, showing location of SoC V 281.



Figure 2. North profile of 5-foot test square 250R820, and sherd counts for this square by level.

speculated that this shell ridge bordering the marsh may be the remnant of numerous small heaps of shell which gradually blended together to form a continuous heap. Plowing appears to have scattered shell inland for several hundred feet.

The site was originally believed to represent the remains of a "pure" Middle Woodland occupation or of several successive Middle Woodland occupations. The primary areas of excavation (280-290R800-810 and 360-370R800-810) revealed a midden consisting primarily of oyster shell. Artifactual remains included cord-marked or plain sherds with a sandy paste. termed the Cape Fear Series (South 1966), and an occasional sherd exhibiting sherd temper, classified as the Wilmington Series (Caldwell and Waring 1939). Animal bone is scarce, although the bone found is well preserved; few shell artifacts were identified. In each square a few sherds of Early Woodland Thom's Creek (Trinkley 1975) and/or Stallings (Griffin 1943) pottery were found. It was not until square 250R820, a 5-foot test pit located on the shell ridge, was excavated that the importance of the site was fully realized. That square provided a nearly complete stratigraphic sequence from Cape Fear to Stallings, paralleling and supporting Waring's (Williams 1968) chronology established for the South Carolina coast (Figure 2). While data from the other test pits on the shell ridge have yet to be closely examined, preliminary study would appear to further substantiate this cultural sequence.

Excavation in 280-290R 800-810 and 360-370R 800-810 revealed that the shell plowzone, level 2 and the old humus all relate to the Middle Woodland (Cape Fear and Wilmington) occupation. Likewise, the majority of the features and post holes originating at these levels appear to relate only to this period. The features are predominately large (2.0 to 3.0 feet in diameter) pits filled with homogeneous dark midden, evidencing few sherds, or animal bones, and no lensing. The features may have functioned as oyster steaming pits, which were filled in immediately after use. Under the old humus, into the yellow sand, a stratum of Early Woodland occupation about 0.3 to 0.4 foot in thickness was discovered. The only remains recovered were Thom's Creek and Stallings sherds. Several small pits, believed to be attributable to this period, were identified.

Cataloguing of the excavated material is almost completed and analysis of the data will be undertaken as part of the author's dissertation. The site would appear to be of particular importance because of the good subsurface feature preservation and intact stratigraphy. These excavations provide a good basis on which to base additional archaeological investigation.

S.C. Department of Highways and Public Transportation (Columbia)

# SoC<sup>v</sup>281

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