

V. TRENDS TOWARD SEDENTARY LIFE: MIDDLE AND LATE ARCHAIC PERIODS

INTRODUCTION

The Middle and Late Archaic periods in the Savannah River Valley saw the appearance of the first evidence for the emergence of sedentary life, or at least the extended occupation of specific locations in the general region (Figure 28). A marked change in archaeological assemblages occurred during this interval. During the Middle Archaic relatively uncomplicated assemblages were present in most environmental zones, suggesting a residentially mobile way of life. By the beginning of the Late Archaic, however, a range of site types had appeared, including dense occupational middens in the floodplain, suggesting extended settlements. During the Richard B. Russell investigations Middle and Late Archaic assemblages were found at large numbers of sites (Table 2, Figure 3). The Middle Archaic materials were for the most part from either minor or stratigraphically compressed assemblages. Dense, well defined Late Archaic assemblages, in contrast, were found at a number of locations. Three major preceramic Late Archaic occupations were examined, as well as several minor components dating to the later ceramic Late Archaic era. Surprisingly, given the history of research in the Savannah River Valley at early ceramic shell midden sites, no shellfish remains were found at these sites. The reservoir assemblages thus shed light on the precursors of the classic Stalling's Island adaptation, and offer a perspective on how this way of life evolved in the piedmont.

THE MIDDLE ARCHAIC PERIOD (ca. 8000 - 5000 B.P.)

Introduction

The Middle Archaic is traditionally viewed as a period of gradually increasing population and concomitant territorial circumscription by groups fully adapted to Holocene environmental conditions. The middle Holocene climatic interval or Hypsithermal occurs during the period, although the effect of this broad global warming trend on local adaptations remains unknown. Diagnostic artifacts include Stanly Stemmed, Morrow Mountain Type I and II, and Guilford Lanceolate projectile points (Coe 1964:37-44). Ranges of from ca. 8000 to 7500 B.P. for the Stanly Stemmed, 7500 to 6000 B.P. for the Morrow Mountain forms, and 6500 to 5500 B.P. for Guilford Lanceolates are inferred, based on stratigraphic and absolute dating (Coe 1964; Chapman 1976, 1985:146; Goodyear et al. 1979:106-111; Claggett 1982:25; Smith 1986:18-21; see Figure 2).

The kinds of diagnostics present at the end of this period, from ca. 6000 to 4500 B.P., are currently not well known, either locally or in the larger South

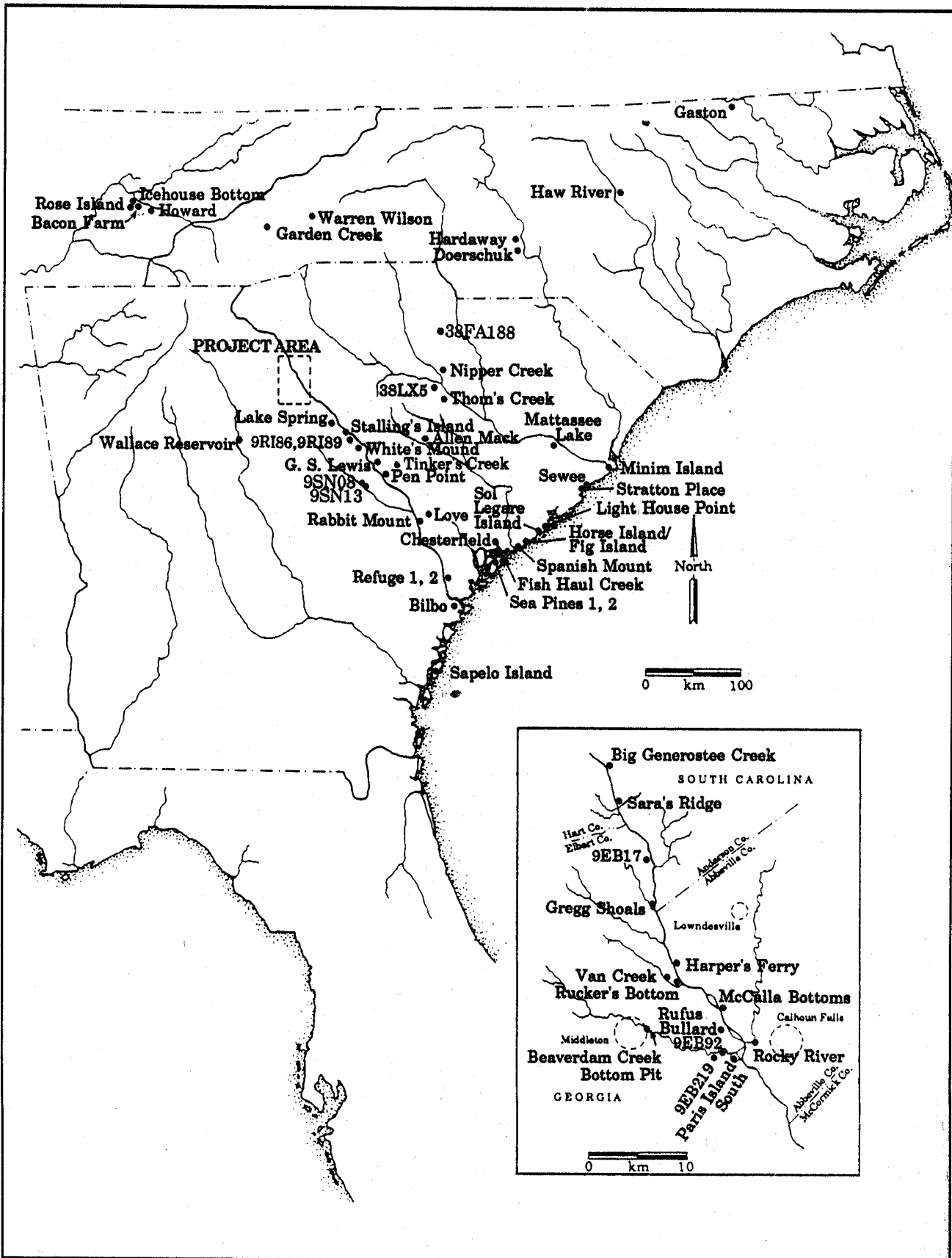


Figure 28. Middle and Late Archaic Sites, Richard B. Russell Reservoir and Vicinity.

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Appalachian area (Chapman 1985:148-149; Sassaman 1988). Possible diagnostics include stemmed forms similar to Coe's (1964) small Halifax and larger Savannah River Stemmed types, or local Sykes-White Springs-Benton variants such as the MALA (Sassaman 1985b, 1988). Evidence for the co-occurrence of small stemmed forms and larger Savannah River Stemmed-like points has been found in the reservoir area in the subsequent Late Archaic period, at sites like Gregg Shoals and Rucker's Bottom. Benton-like points, which have been found in the coastal plain portion of the drainage, do not appear to have been present, although this may be a recognition problem. Other general artifact categories that occur during this period locally include pitted and battered cobble tools, utilized flakes, fairly crude core/bifaces and, less commonly, chipped axes and ground stone adzes, celts, and atlatl weights; none of these, however, should be considered diagnostic of the period (Goodyear et al. 1979:106-111; Sassaman 1983).

Very little is currently known about Middle Archaic lifeways in the Georgia/South Carolina area. Virtually no evidence for elaborate toolkits, houses or other structures, planned communities, cemeteries or other formal burial practices, or long distance exchange or settlement mobility has been found. Small, residentially mobile foraging groups employing an expedient or situational technology are thought to have been present, with group territories and movement constrained to fairly small regions, possibly to within the piedmont itself (Claggett and Cable 1982; Sassaman 1983, 1985a; Blanton and Sassaman 1988).

Models of Middle Archaic Settlement

A number of scholars have argued that a trend toward sedentism, intensified procurement of local resources, and increasingly complex sociopolitical organization occurred over the course of the Middle Archaic and early Late Archaic, both over the general region (e.g., Stoltman 1972, 1974; Stoltman and Baerreis 1983; Ford 1974; Brose 1979; Brown and Vierra 1983; Smith 1986) and locally (e.g., Sassaman 1983, 1985a, 1988; Blanton and Sassaman 1988). In broad outline this trend is thought to reflect increasing regional population density and concomitant territorial circumscription, and the initial appearance and development of elite exchange networks. These changes are most evident in the interior river valleys of the mid-South, where dense midden and burial sites have been found and examined (e.g., Lewis and Lewis 1961; Brown and Vierra 1982; Marquardt and Watson 1983; Smith 1986). In the South Atlantic region these developments in the mid-continent do not appear to have had much of an impact until towards the very end of the period.

Two major models of later Archaic settlement in the South Atlantic piedmont have been advanced in recent years that can be examined with the Russell data. These include Sassaman's (1983, 1985a; Blanton and Sassaman 1988) "adaptive flexibility" model, a major premise of which is that little difference should be evident between upland and floodplain assemblages in this immediate region. House and Goodyear's "riverine-interriverine" Archaic settlement model, in

contrast, posits quite different behavior: major base camps are expected in the floodplain, with scattered smaller camps in the uplands (House and Ballenger 1976; House and Wogaman 1978; Goodyear et al. 1979). Comparatively few Middle Archaic sites from the riverine zone had been examined when these settlement models were first developed. The Russell Reservoir data, representing the first extensive floodplain assemblages from the central piedmont, are thus of critical importance to their evaluation.

The riverine-interriverine model for Archaic period settlement, developed during the mid-1970s prior to the collection of large survey and excavation samples from the region, assumes that:

habitation or base camp-like activities should tend to occur in the riverine zone, and extraction/procurement activities should be related to the upland, interriverine area (Goodyear et al. 1979:33).

The floodplain base camps are thought to have been occupied over much of the year, from winter through summer, with smaller fall deer hunting and nut-harvesting sites scattered throughout the interriverine zone, with concentrations on ridge tops and along major stream divides (House and Ballenger 1976:119-120). Specific archaeological correlates of these base camps and extraction stations have been presented (House and Wogaman 1978:10-11), and have been used to test the applicability of the model by several investigators working in the region (e.g., White 1982; Sassaman 1983; Anderson and Schuldenrein 1983a, 1985).

In the early 1980s an alternative model of piedmont Archaic settlement appeared directed specifically to the Middle Archaic period, and based on the greater amount of survey data that had been collected by that time (e.g., Sassaman 1983, 1985a, 1988; Blanton 1983; Blanton and Sassaman 1988). A residentially mobile foraging strategy was inferred, a pattern referred to as one of "adaptive flexibility". In this view, Middle Archaic sites:

tend to be small in size, low in artifact density and diversity, distributed abundantly and widely across the piedmont, and exhibit little interassemblage variation. ...[the settlement pattern entails] frequent relocation of residential bases, small co-resident group size, fluid group membership, relatively undifferentiated land use, and expedient technology (Sassaman 1988:5).

Piedmont Middle Archaic populations, it was argued, made opportunistic use of local resources, adjusting their movements to accommodate the appearance or availability of these resources. Fairly high population densities were inferred, precluding the need for periodic aggregation for mate and information exchange that appeared to characterize the preceding Early Archaic (Sassaman 1985a; 1988:5).

The riverine-interriverine settlement model has seen the most extensive evaluation. Ward (1983:67-68), in a general critique, has argued that the

environmental similarities between the piedmont floodplain and upland zones greatly outweigh the differences, particularly in the occurrence of mast-producing flora. Unless aquatic resources were important, group subsistence activities and hence assemblages should thus be quite similar in the two zones. Currently, the existence of a riverine/base camp, interriverine/extraction station settlement dichotomy in the piedmont is indicated only during the Late Archaic, when extensive presumed base camps are documented in the floodplains of major drainages (White 1982:226-227). Little evidence for such a settlement dichotomy has been noted within piedmont Early or Middle Archaic surface assemblages (Anderson and Schuldenrein 1983a:201-205; Sassaman 1983, 1985a). The data from excavated Middle Archaic sites is somewhat ambiguous but tends to argue against the riverine-interriverine model. Middle Archaic assemblages from the interriverine piedmont in South Carolina where the model was developed, at Windy Ridge (House and Wogaman 1978:132), at 38FA188 (Elliott 1987), and at a series of surface scatters in the Laurens-Anderson survey corridor (Goodyear et al. 1979:198-199) were, for the most part, extensive and diversified. Residential camps are indicated, suggesting a considerably greater use of the interriverine zone than predicted by the riverine/interriverine model, and more in line with the expectations of the "adaptive flexibility" model. This latter model, prior to the present study, has seen little examination in the piedmont, beyond that associated with its initial formulation.

EVIDENCE FOR MIDDLE ARCHAIC OCCUPATION IN THE RUSSELL RESERVOIR: MAJOR EXCAVATION ASSEMBLAGES

Introduction

Both initial Middle Archaic components, identified by the presence of bifurcate and Stanly points in the regional sequence, and terminal Middle Archaic components, characterized by Guilford Lanceolate and related forms, were somewhat uncommon in the Richard B. Russell assemblages (Table 2, Figure 3). Bifurcates and Stanly points were found at 12 sites, while Guilfords were more common, occurring at 44 locations. Later Middle Archaic components characterized by Morrow Mountain points, however, were much more widespread, with 135 separate components recognized. Morrow Mountain components were, in fact, the most common prehistoric occupations found in the reservoir area, occurring on large numbers of surface sites and in many excavations.

Most of the Middle Archaic assemblages found in the reservoir area, unfortunately, with the exception of the materials from Gregg Shoals and a few of the deeper test units opened at sites such as Rucker's Bottom, Big Generostee Creek, and McCalla Bottoms, were from disturbed context, or from fairly compressed or minor deposits. In spite of these shortcomings, the Middle Archaic data sample that was collected can be used to examine questions about settlement patterning and land use, particularly the nature of prehistoric occupation in the riverine zone, the focus of much of the excavation effort. The

available stratigraphic data, importantly, can also be used to resolve information on changing raw material use and assemblage composition during this period.

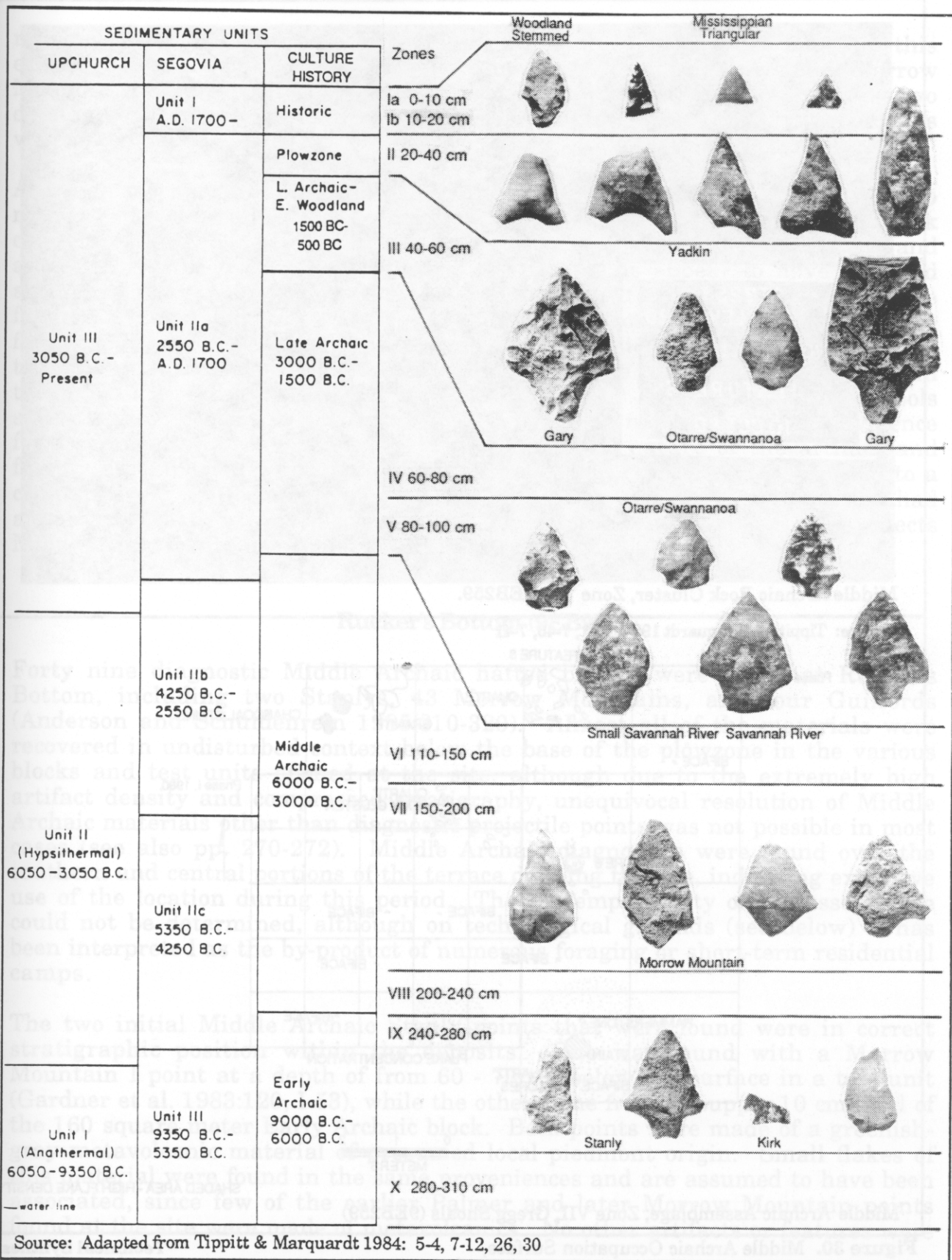
Gregg Shoals (9EB259)

Well defined Middle and Late Archaic assemblages were found in clear stratigraphic separation in the upper two meters of deposits at the Gregg Shoals site (Figure 29; Tippitt and Marquardt 1984). A replacement of assemblages characterized by terminal Early Archaic bifurcate and initial Middle Archaic Stanly forms by later Middle Archaic Morrow Mountain points occurred in the lower levels of this site. The Middle Archaic Morrow Mountain assemblages were in turn replaced by levels dominated by first small and then large and small stemmed Late Archaic points. In the upper levels these Late Archaic forms gave way to first larger and then smaller triangular points of the Woodland and Mississippian periods.

Middle Archaic deposits were found in Zones VI and VII in the large excavation block at depths from 1.1 m to 2.0 m below the surface, and a single Guilford Lanceolate point was found stratigraphically below a Savannah River-like point in Operation B, a test pit opened to the west of the block (Tippitt and Marquardt 1984:7-28 to 7-31, 7-37 to 7-41; see also Figure 24). In Zone VI, which occurred from 110 to 150 cm below the surface, the entire assemblage was made from either vein or crystal quartz, with most or all of the material obtained from nearby river cobbles (see Figure 27). A moderate amount of debitage and fire cracked rock, together with a few retouched flakes, cores, biface fragments, and hammerstones characterized the assemblage, and some stoneworking was indicated. No hafted bifaces or features were found, but a Middle Archaic occupation was inferred given the raw material signature and the stratigraphic position of the assemblage between zones with Middle and Late Archaic diagnostics.

In Zone VII, from 150 to 200 cm below the surface, four Morrow Mountain Type I projectile points were found in the 5 x 5 m excavation block, two of quartz and two of metavolcanic material. Since all of the debitage found in the zone was either vein or crystal quartz (Figure 27), while two of the points were metavolcanics, "tooling-up" behavior or "the discard of used tools and the manufacture of replacements from local materials" was indicated (Tippitt and Marquardt 1984:9-3). A well defined circular rock cluster containing some six kilograms (kg) of cracked quartz and granite was found on one side of the block, while some 5 m away a concentration of debitage was observed (Figure 30). Several flakes, bifaces, biface fragments, and cores were found near the hearth, while the four Morrow Mountain points were found scattered between these features.

To further examine the Middle Archaic deposits in Zone VII, overburden was removed to a depth of 1.70 m below the surface to the north and west of the 5 x 5 m excavation block using heavy equipment. An additional 40 square meters were excavated in this area, using 2 x 2 m units and 10 cm levels (Tippitt and Marquardt 1984:7-6). Two rock hearths, a dark stained area, and a quartz



Source: Adapted from Tippitt & Marquardt 1984: 5-4, 7-12, 26, 30

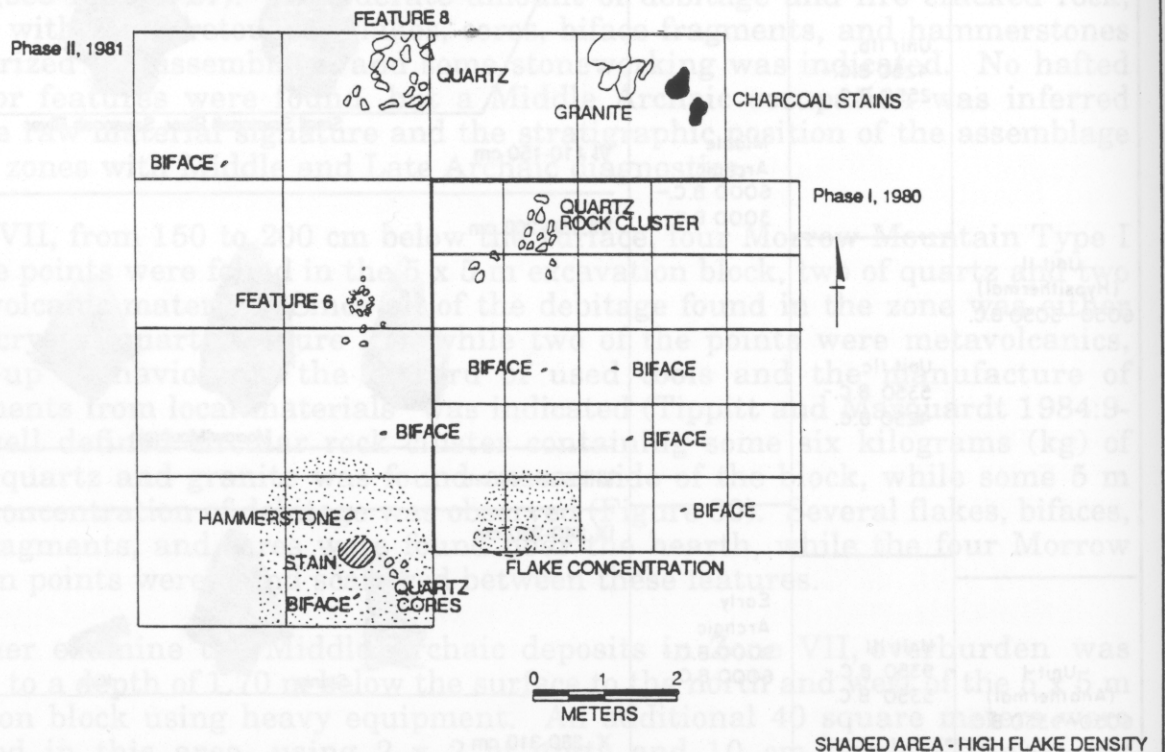
Figure 29. Early Archaic through Mississippian Assemblage Stratification, Gregg Shoals Site 9EB259.

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Middle Archaic Rock Cluster, Zone VII, 9EB259.

Source: Tippitt & Marquardt 1984: 7-31, 7-40, 7-41



Middle Archaic Assemblage, Zone VII, Gregg Shoals (9EB259)

Figure 30. Middle Archaic Occupation Surface, Gregg Shoals Site, 9EB259.

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reduction area with an associated Morrow Mountain point were found in this extension (Figure 30). In all, 65 square meters of the Middle Archaic, Morrow Mountain phase deposits were examined at the site, and three rock clusters, two debitage concentrations, and three charcoal stains from either pits or hearths were found.

Although more than a single occupation may be represented, it is interesting to note that the knapping areas were located several meters away from the rock clusters or probable hearth areas, while tools tended to occur both around and away from these features. A range of activities thus appear to have occurred around the hearths, while stoneworking was situated well away from these features. These patterns suggest that much or all of the occupational surface formed during a single period of site use. Charred hickory nut shell fragments, the only possible subsistence remains observed, were found in low incidence in the general level fill (Tippitt and Marquardt 1984:9-3). No plant processing tools such as pitted cobbles or grinding stones were found, nor was there any evidence for structures. Given the relatively uncomplicated nature of the artifact and feature assemblage, site use is thought to have been both brief and directed to a comparatively limited range of activities. Since the densest part of the site had apparently washed away, however, how accurately the surviving record reflects Middle Archaic site use remains unknown.

Rucker's Bottom (9EB91)

Forty nine diagnostic Middle Archaic hafted bifaces were found at Rucker's Bottom, including two Stanlys, 43 Morrow Mountains, and four Guilfords (Anderson and Schuldenrein 1985:310-320). Almost all of the materials were recovered in undisturbed context below the base of the plowzone in the various blocks and test units opened at the site, although due to the extremely high artifact density and compressed stratigraphy, unequivocal resolution of Middle Archaic materials other than diagnostic projectile points was not possible in most cases (see also pp. 270-272). Middle Archaic diagnostics were found over the southern and central portions of the terrace defining the site, indicating extensive use of the location during this period. The contemporaneity of the assemblage could not be determined, although on technological grounds (see below) it has been interpreted as the by-product of numerous foraging or short-term residential camps.

The two initial Middle Archaic Stanly points that were found were in correct stratigraphic position within the deposits. One was found with a Morrow Mountain I point at a depth of from 60 - 70 cm below the surface in a test unit (Gardner et al. 1983:120, I-53), while the other came from the upper 10 cm level of the 160 square meter Early Archaic block. Both points were made of a greenish-gray metavolcanic material of presumed local piedmont origin. Small flakes of this material were found in the same proveniences and are assumed to have been associated, since few of the earlier Palmer and later Morrow Mountain points found at the site were made of metavolcanics. No other artifacts or features were

found that could be associated with these points. A minor occupation, with tool maintenance a primary activity, was inferred.

In levels dominated by Morrow Mountain points in the Archaic blocks at Rucker's Bottom large numbers of crude and formal bifaces, expedient unifaces, and cobble tools were found, suggesting fairly extensive and extended occupations. The incidence and proportional occurrence of these tool categories, in fact, was much higher than in the succeeding Late Archaic levels. The stratigraphic evidence also indicated that the proportional use of quartz compared with other raw materials peaked in the Middle Archaic levels, and that a situational technology making extensive use of local materials was employed. Average quartz flake weight was also the greatest in these levels, suggesting that a wide range of reduction/manufacturing activities were occurring. The quantity of debitage and cracked rock was fairly constant over all the levels, however, suggesting that tool manufacturing and hearth construction activity may have been roughly comparable in intensity throughout the Middle and Late Archaic periods. The greater occurrence of non-hafted biface tool forms in the Middle Archaic levels suggests that greater tool use and discard, and hence more extended site occupation, took place at this time than during the Late Archaic period.

Few features could be unequivocally attributed to the Middle Archaic period at Rucker's Bottom. A number of rock clusters were found in the 256 square m block unit between 10 and 40 cm below the plowzone, but so many Middle and Late Archaic diagnostics were found in the same levels that associations could not be made with certainty. A stratigraphically isolated Middle Archaic component was found at a depth of 155 cm in a test unit opened at the north end of the terrace, underlying the Mississippian occupation. The occupation was characterized by a single Morrow Mountain point and a small quantity of quartz debitage. The only feature noted was a circular basin shaped charcoal stain ca. 50 cm in diameter and 10 cm deep with the Morrow Mountain point lying beside it. Unfortunately, the great depth of this occupation surface, coupled with its low artifact density and position under the dense Mississippian feature assemblage, precluded further examination. Other faint charcoal stains and irregular concentrations of cracked rock were noted in test units opened on the terrace that also probably represent Middle Archaic hearths and scattered hearth remnants.

Fairly extensive Middle Archaic use of the Rucker's Bottom terrace was indicated, although the size of the coresident groups and the duration of their visits remains unknown. When Morrow Mountain points were found, they tended to occur in groups of two or three points within a meter or so of each other, suggesting contemporaneous discard. Although the deposits were mixed, rendering interpretation difficult, considerable assemblage diversity was evident, suggesting a wide range of activities were taking place. Repeated, short term or longer occupation of an unusually favorable location appears indicated. Unlike the earlier Archaic assemblages at the site, which were interpreted as the remains of brief visits by geographically wide-ranging foragers, the greater use of local raw materials and the presence of large numbers of cobble and crude bifacial tools within the later Middle Archaic assemblages suggests a pattern of

intensive foraging within a comparatively restricted area.

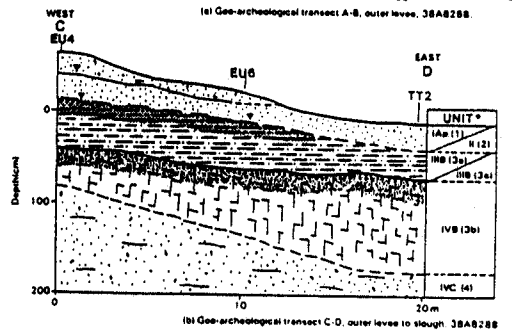
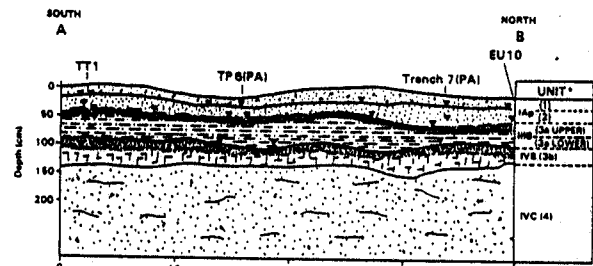
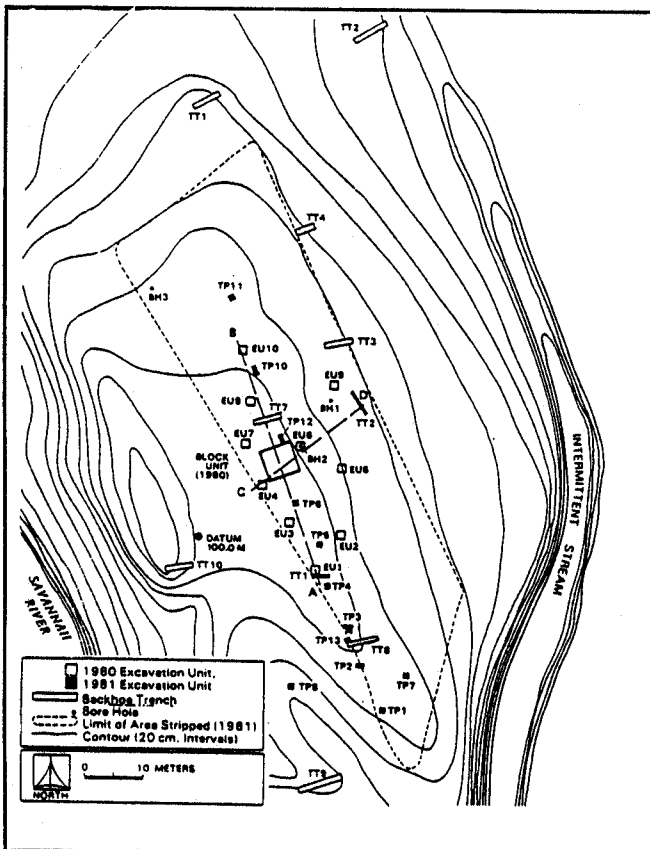
McCalla Bottoms (38AB288)

Over a meter of stratified Middle and Late Archaic deposits overlain by minor Woodland and Mississippian assemblages were found at the McCalla Bottoms site in Abbeville County, South Carolina (Goodyear et al. 1983:139-145; Glander et al. 1981; Schuldenrein et al. 1985:185-213). The site was located near the main channel of the Savannah on a levee opposite the southern end of McCalla Island. Pronounced shoals were present in the river immediately to the south of the site that may have attracted early occupants. A minor tributary flowed behind the levee defining the site and entered the Savannah immediately to the south; during high water this basin would have impounded water and been a broad marshy area. Well differentiated alluvial microenvironments thus occurred in the site area, with the shoals, main channel, and backswamp tributary settings all in close proximity to the occupations (see also Chapter III, page 61).

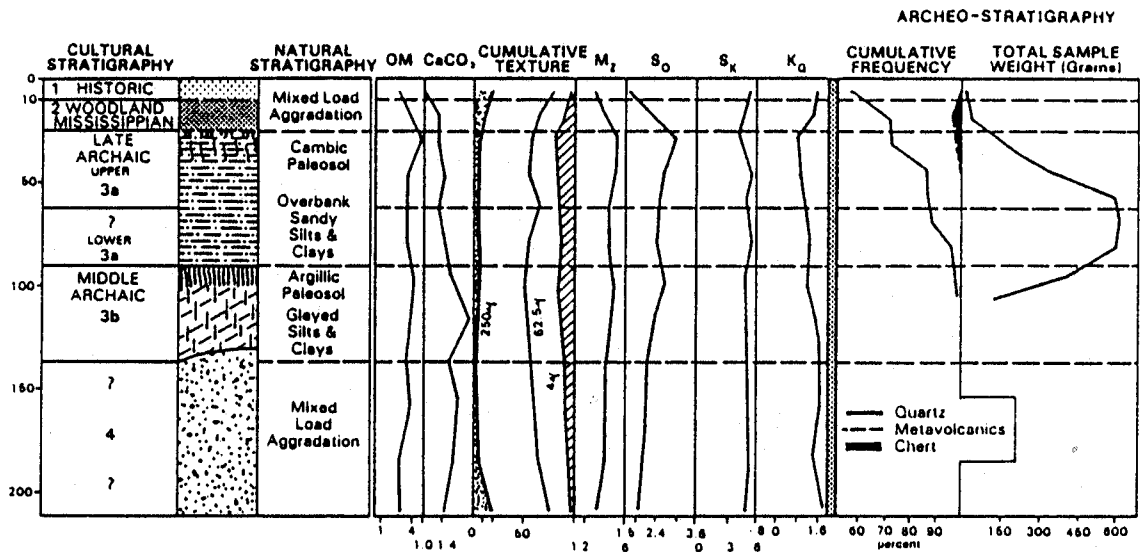
Initial fieldwork at the site included a general surface collection (Taylor and Smith 1978:411, 422) followed by a program of systematic auger testing and test pitting (Goodyear et al. 1983:139-145) (Figure 31). Sixteen 2.5 m deep auger tests were opened, producing large numbers of artifacts at depths of up to 2 m in all but two of the tests. Diagnostics recovered in the auger tests included two Morrow Mountain points at average depths of 90.5 and 118 cm, an Otarre Stemmed-like point at 85 cm, and a large Savannah River Stemmed at 109.5 cm, all from different units. The high artifact density and apparent stratification documented by the auger testing coupled with the recovery of four diagnostic points prompted further fieldwork and, parenthetically, illustrate the utility of the procedure (see Chapter II, page 43).

In 1979 six 1 x 1 m test units were opened to depths of up to 2 m; no diagnostics and only a few expedient flake tools were found in levels taken through the Middle Archaic deposits (Gardner et al. 1983:8-96). In 1980 major excavations were initiated (Glander et al. 1981), and an 8 x 7 m block, and eight 1 x 1 m and five 1 x 2 m test pits were opened, in 10 cm levels with fill passed through 1/4 inch mesh. In addition, 10 backhoe trenches and 44 auger tests were opened to further define the extent of the site. Three major periods of occupation were identified: (1) Woodland and Mississippian ceramic prehistoric components confined almost entirely to the plowzone; (2) ceramic and possibly preceramic Late Archaic components occurring from roughly 40 to 70 cm below the surface; and (3) one or more Middle Archaic components located at depths below 70 cm. The Middle Archaic assemblage found in 1980 included quartz debitage, expedient tools, Morrow Mountain projectile points, moderate quantities of cracked rock, and three features. The features included a rock cluster interpreted as a hearth, a concentration of quartz debitage, and a dark shallow stain; unfortunately no diagnostics were found associated with any of these features.

To further examine the stratification in the Middle and Late Archaic deposits, ten randomly disperse 2 x 2 m units were opened within the concentration in 1981.



- Artifacts
 - Alluvial Silts and Sands
 - Overbank Sandy Silts
 - Cambic Paleosol
 - Overbank and Pondered Silts and Clays
 - Argillic Paleosol
 - Gleyed Silts and Clays
 - Mixed Load Aggradation
- vertical exaggeration = x 5



Source: Schuldenrein et al. 1985: 178, 198, 205

Figure 31. Composite Archaeological Stratigraphy, McCalla Bottoms Site, 38AB288.

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All fill was removed in 10 cm levels and waterscreened through 1/8 inch mesh (Schuldenrein et al. 1985). Two backhoe trenches and a series of auger tests were also opened as part of a program of geoarchaeological research. To facilitate the excavations the upper 20 cm of historic plowzone/flood deposits were removed. Five of the units on the terrace crest were opened to depths of 60 cm or more below the plowzone, documenting the Middle and Late Archaic stratigraphy. Four features were found, including a Late Archaic rock cluster and three equivocal stains from possible pits.

Almost 40,000 pieces of debitage and other artifacts were found in the ten units opened in 1981, and their vertical and horizontal distributions were examined in detail, and linked to specific soil horizons and occupation surfaces (Figure 31) (Schuldenrein et al. 1985:195-202). Most of the site occupation dated to the Late Archaic period, in levels associated with a stable soil surface. A range of raw materials were found in these upper levels, with metavolcanics and chert an appreciable minority. The Middle Archaic levels below these, in contrast, were dominated by quartz, which accounted for over 80 percent of the debitage and all of the tools. Only a small number of tools were found, however, including two Morrow Mountain Type I projectile points, two bifaces, and a hammerstone. This was somewhat surprising, given the discovery of two Morrow Mountain points during the auger testing and, with the results of the 1979 and 1980 fieldwork, indicated less intensive Middle Archaic site use than was originally inferred.

Taken together, the low diversity and predominantly expedient nature of the tool assemblage found during the 1979 - 1981 fieldwork indicated that site use during the Middle Archaic was probably directed to a fairly narrow range of activities. Some but not an appreciable amount of quartz tool manufacture and maintenance was occurring, given the few finished artifacts left behind. Most tools made or used at the site appear to have been transported elsewhere, reinforcing the picture of comparatively brief occupations. The presence of rock clusters and possible pit features suggests somewhat more than ephemeral visitation, although the extent of the occupations, and the activities pursued, remain largely unknown.

EVIDENCE FOR MIDDLE ARCHAIC OCCUPATION IN THE RUSSELL RESERVOIR: MINOR EXCAVATION ASSEMBLAGES

Sara's Ridge (38AN29)

A minor sealed Middle Archaic component was found at a depth of from 1.3 to 1.8 m at Sara's Ridge (38AN29), in XU1 and Test Pit 2 (Wood et al. 1986:121, 123). The work at Sara's Ridge, which had a dense preceramic Late Archaic occupation, is discussed in detail later in this chapter. Small quantities of noncortical quartz retouch flakes and a single quartz Morrow Mountain point were found in the 13 square meters examined. Although possible midden staining was noted in Test Pit 2, no unambiguous features were found, and comparatively minimal Middle Archaic use of the levee area defining the site was indicated.

Big Generostee Creek (38AN126)

At 38AN126, the Big Generostee Creek site, a dense, deeply buried Middle Archaic assemblage was found, almost all of the material debitage from the primary reduction of quartz river cobbles (Wood et al. 1986:169-212). The site was located at the north end of the reservoir on a levee adjacent to the river, to the north of the confluence of Big Generostee Creek. Sixty seven post hole tests and five 2 x 2 m test pits were opened, with well preserved, stratified deposits found in two units, Test Pits 2 and 4. Below successive Mississippian, Woodland, and Late Archaic materials, a dense concentration of quartz debitage (> 1500 artifacts) and a small number of tools were found. A single, small basin shaped pit (35 x 17 x 12 cm) of unknown function was also found in these levels. Only minute charcoal flecks were present in the fill, and the stain may represent traces of a weathered hearth.

Twenty bifaces and biface fragments were found in these probable Middle Archaic levels, most tapering square stemmed ovate blades or simple ovate blades. These tools, particularly the simple ovate bifaces, resemble crude Morrow Mountain points, although they may date slightly later given the square stems observed on some of the specimens. Other tools present included two edge abraded cobbles, a quartzite hammerstone/chopper, and three cores. The tools and almost all of the debitage were quartz; traces of cherts and metavolcanics in these levels may represent intrusions from higher levels. The presence of cortex on a number of flakes suggested cobble procurement from the nearby river; these cobbles were apparently reduced into crude bifaces which were finished elsewhere (Wood et al. 1986:203, 209). Aside from the workshop activity, the occupations were minimal, and the quarrying may have occurred as part of normal group movement, rather than the result of a specific logistical foray.

Beaverdam Creek Borrow Pit (9EB19)

A minor Middle Archaic component was discovered at the Beaverdam Creek Borrow Pit site, located just to the north of Beaverdam Creek approximately 10 km upstream from its confluence with the Savannah (Wood et al: 245-254). Middle Archaic remains were found in Area B of XU1, a four square meter test opened to 60 cm below the base of the plowzone (Wood et al. 1986:251-254; see the following Late Archaic section for additional detail). Three flaked quartz tools, one a Morrow Mountain I point, and a probable hearth were found at a depth of 50 cm below the plowzone. The hearth measured 30 x 25 cm and contained approximately 2 kg of cracked quartz cobbles. A comparatively brief occupation was indicated.

Rufus Bullard (9EB76)

Evidence for a minor Middle Archaic component was found at the Rufus Bullard site, located on the west bank of the Savannah River opposite the northern end of Carter's Island (Anderson et al. 1985a:149-174). The site was surface collected

and auger tested during initial survey work (Hutto 1970:16; Taylor and Smith 1978:368), documenting Early Archaic through Mississippian components, and apparent stratified deposits. In 1979 the site area was again augered in several locations, and twelve 0.5 x 0.5 to 1 x 2 m test units were opened, further documenting the presence of later prehistoric Woodland and Mississippian components (Gardner et al. 1983:73-77). In 1980 the plowzone was removed from six 10 by 10 m squares in an effort to locate features, and several smaller units were opened to depths of up to 150 cm (Flint and Suggs 1980:30). No diagnostic pre-Late Archaic remains were found, although their existence was inferred by the presence of debitage in levels below those producing Late Archaic diagnostics.

To further clarify the stratigraphy at the site, ten 2 m units were opened the following year (Anderson et al. 1985a). It was during this final work that the first unambiguous evidence for Middle Archaic site use was found in excavation context. A dense rock cluster was found at a depth of 91 cm in EU1, one of the 2 m test units opened on the levee crest (Anderson et al. 1985a:160). No artifacts were found associated with this probable hearth, but a Guilford Lanceolate point was found in the level immediately above it, suggesting a late Middle Archaic age for the feature. Although the possibility of Middle Archaic deposits was indicated in several other units (i.e., by the presence of assemblages dominated by or consisting exclusively of quartz debitage in levels below those producing Late Archaic materials), the extent of these occupations at the site remains unknown.

38AB387

A minor initial Middle Archaic component, identified by the presence of two metavolcanic Stanly points, was found at 38AB387 (Jackson and Drucker 1985; Gresham and Wood 1986:67-68, 71). The site occupied about 0.5 ha and was located on a narrow ridge overlooking the confluence of two streams. These formed a larger tributary flowing into the Rocky River, which was some 3 km to the west. Eighty five 0.5 x 0.5 m units were opened over the ridgetop using a 10 m (E/W) by 5 m (N/S) grid (Figure 6), followed by the excavation of three 2.0 x 2.0 m units in areas of concentration. Deposits were shallow on the ridgetop, but thickened appreciably downslope due to sheetwash; movement of artifacts on the ridge crest was thought to have been minor. One of the Stanlys was extensively resharpened and resembled a drill, suggesting it may have been a later (Late Archaic?) point with basal damage; the other point was only minimally reworked and appeared much more characteristic of the type. Only small amounts of metavolcanic debitage were found around these points, suggesting fairly minor tool maintenance activities. Two quartz Morrow Mountain I points were also recovered at the site, as well as a moderate quantity of quartz debitage, crude bifaces, and flake tools, suggesting somewhat greater use during this part of the Middle Archaic. The presence of later Archaic, Woodland, and Mississippian remains in the same areas as the Morrow Mountain points, however, rendered interpretation difficult.

THE MIDDLE ARCHAIC IN THE UPPER SAVANNAH RIVER VALLEY IN LIGHT OF THE RUSSELL RESERVOIR INVESTIGATIONS

Chronological and Cultural Subdivisions within the Middle Archaic

Initial Middle Archaic (8000 - 7000 B.P.). As noted at the end of the last chapter, the nature of initial Middle Archaic settlement in the upper Savannah River area is currently poorly understood. Terminal Early Archaic bifurcate projectile points, as well as the seemingly related initial Middle Archaic Stanly type, are rare in the eastern Georgia/western South Carolina piedmont in the vicinity of the upper Savannah River, and only a few of these point types were found during the Russell investigations (Table 2, Figure 3). Of the 17 bifurcate/Stany points found in the project area nine were Stanlys; of these five were on metavolcanics, two were on local piedmont chert, and one each were made on quartz and ridge and valley chert. A pronounced selection for metavolcanics or cherts was evident. Most of the bifurcates, in contrast, were made on quartz. The differing raw material selection preferences evident over the bifurcate and Stanly forms suggests that differing cultural systems may have produced these types. No identifiable bifurcate components were found in excavation context during the reservoir investigations, however, rendering interpretation difficult.

The isolated Stanly points and debitage documented in the excavation units at Gregg Shoals, Rucker's Bottom, and 38AB387 suggest small, short duration hunting camps occupied by only one or a few people. The preference for local metavolcanics and cherts suggests at least some occupation or use of this part of the piedmont at this time. The low overall incidence of diagnostics or other remains, however, argues against high population densities. Localized depopulation or abandonment of the area, a continuation of earlier Kirk Corner Notched forms, or a failure to recognize relevant diagnostics have been variously advanced as explanations for this sparse distribution. Given the restricted regional distribution of bifurcate forms, primarily in the continental interior, and particularly in the Appalachian Mountain/inner piedmont zones (Chapman 1975:252; Justice 1987:86-92), their low incidence in the Russell area, which is at the edge of this distribution, is not unexpected. Rather than interpreting the low incidence of these points as a sign of localized population decline, a continuation of corner notched and stemmed forms, and occupations, is instead inferred. The bifurcates that do occur in the upper Savannah River, in this view, probably reflect limited visits, perhaps as part of unusually extended foraging activities, by members of groups located elsewhere.

Later Middle Archaic (ca. 7000 - 6000 B.P.). Later Middle Archaic components characterized by Morrow Mountain points were common in the Russell area (Table 2, Figure 3). These components ranged from minor assemblages characterized by isolated points, debitage, and cracked rock, to denser assemblages at sites such as McCalla Bottoms or Rucker's Bottom, where appreciable quantities of projectile points, crude and formal bifaces, cobble tools, expedient unifaces, and cracked rock were found. Extended occupation or

repeated short-term occupation of the floodplain was indicated.

Extensive use of locally available lithic raw materials, specifically quartz, characterized later Middle Archaic components in the project area. Over 96 percent of the Morrow Mountain points found in the reservoir were made of quartz, the highest selection for this raw material observed over any period, and an incidence not approached again until the Woodland and Mississippian periods (Table 2). Quartz is very common in the central piedmont, with outcrops occurring in the uplands and cobbles in floodplain drainage beds. Local Middle Archaic groups were thus taking advantage of the most common lithic resource at hand; raw material procurement appears to have been opportunistic and embedded in normal group movement (c.f., Binford 1979). Locally, it also appears to be a reflection of a highly situational technological organization, as evidenced by the low incidence of formal curated tool forms, other than hafted bifaces, in the reservoir assemblages. The almost complete absence of extralocal lithic materials, coupled with the expedient technological organization, argues for highly restricted movement and exchange. Foraging territories limited to small areas, probably entirely within the piedmont, have been inferred (Sassaman 1983, 1988; Sassaman et al. 1988; Anderson and Schuldenrein 1985:713-714).

The extensive use of quartz by Middle Archaic populations has been observed throughout the eastern Georgia and western South Carolina piedmont. This has been most commonly documented through the examination of raw material selection preferences within specific projectile point assemblages (Kelly 1972:Table 43; House and Ballenger 1976:130, Appendix D; Taylor and Smith 1978: Table 38; House and Wogaman 1978:95-97; Anderson 1979a:Table 18; Goodyear et al. 1979: Tables 21,28,29; Novick 1979:123-130; Gardner 1984; Sassaman 1983:83ff; Sassaman et al. 1988). Caldwell (1954:37-39, 1958:8-9), based on the stratigraphic occurrence of a pure quartz assemblage below a Savannah River level at the Lake Spring site (reported in Miller 1949), in fact, described the earlier Archaic occupations of the Georgia piedmont as the "Old Quartz" industry.

This increased use of local raw materials in the Middle Archaic, at least when compared with earlier periods, is a pattern observed throughout the eastern United States, and has been attributed to increasing regional populations and a corresponding decrease in group territorial ranges (Ford 1974:392-394; Brose 1979:5; Goodyear et al. 1979:111). The incidence of quartz is so pronounced locally (Table 2), however, that deliberate cultural selection for the material is indicated. Whether this reflected functional considerations (i.e., the durability of quartz as opposed to other locally available materials such as metavolcanics) or stylistic factors (i.e., selection for its white or clear appearance) is unknown. Both factors were probably at work.

Major later Middle Archaic Morrow Mountain assemblages in the Russell Reservoir, such as at Rucker's Bottom and McCalla Bottoms, appear to represent repeated short term to seasonal occupation of unusually favored areas, where a range of activities took place. Minor, less intensive and probably shorter duration occupations were also found, at sites such as at Gregg Shoals, Sara's Ridge, Big Generostee Creek, and Beaverdam Creek Borrow Pit. At these sites artifact

assemblages were less diversified, and were apparently directed to one or a few tasks, such as initial stone tool manufacture, hunting/butchering activities, or camping. Flaked stone tool assemblages at all of the reservoir sites, large or small, were dominated by crude bifaces, bifacial cores, and expedient unifaces; little evidence for formal curated tools other than the associated Morrow Mountain points themselves was found. Extensive use of battered and to a lesser extent pitted cobble tools also characterized local Middle Archaic assemblages; this may indicate an increased emphasis on plant foods in the diet. Some of the battered cobbles were undoubtedly hammerstones, however, used to produce the quartz tools that were ubiquitous during this period. The intensive use of local raw materials, coupled with the occurrence of a range of tool forms such as cobble tools, crude bifaces, expedient unifaces, and hafted bifaces on larger sites, suggests intensive foraging within a comparatively small area. The data from the Russell Reservoir survey and excavation program thus closely conform in many respects to the expectations of Sassaman's (1985a, 1988; Blanton and Sassaman 1988) 'adaptive flexibility' Middle Archaic settlement model.

Although areally extensive Middle Archaic assemblages were documented at several sites in the reservoir, the contemporaneity of these materials could not be determined. Most are thought to represent aggregations of numerous small, short term occupations. At the Windy Ridge site in the interriverine piedmont of South Carolina, House and Wogaman (1978:123-125) suggested that local Middle Archaic occupations were in the form of clusters that were:

10 to 20 (or more) meters in diameter and included 50 to 150 Morrow Mountain points and 5 to 15 kilograms of quartz debitage. There is little evidence that any other tool systems besides hafted bifaces, in this case Morrow Mountain points, are represented by these clusters of artifacts (House and Wogaman 1978:123-124).

Comparable Middle Archaic clusters were not observed within the Russell Reservoir, although given the absence of areally extensive excavations at most sites their detection would have been difficult.

If areally extensive assemblages could be shown to have formed during individual occupations, it would indicate a lower rate of residential relocation (i.e., mobility) or larger coresident group size than has been implied by the adaptive flexibility model. While the reservoir Middle Archaic assemblages indicate that small, presumably short duration occupations were the rule during this period, the possibility of more extensive occupations at favored locations was also suggested. These assemblages may reflect temporary aggregation loci, rather than or in addition to the remains of numerous small camps. Given the near absence of extralocal raw materials, however, any aggregation that may have occurred probably encompassed local populations.

Population increase, increasing group sedentism, and concomitant territorial constriction are traditionally inferred for the Middle Archaic in the Eastern Woodlands (Caldwell 1958; Ford 1974:392-394; Brown and Vierra 1983). These

observations, derived from sites located in the midcontinent, stand in direct contrast to the evidence for increased group residential mobility noted in the upper Savannah River basin and over the surrounding piedmont. The qualitative difference in Middle Archaic adaptations in the South Atlantic region from those in the midcontinent, where many of our views about this period were developed, must be acknowledged.

Terminal Middle Archaic (ca. 6000 - 5000 B.P.). Except for a fair number of Guilford Lanceolate projectile points found in surface collections and a small number in general excavation levels, little information about terminal Middle Archaic occupations was found in the Russell Reservoir. Many of the points found in excavation context, like the four found at Rucker's Bottom, came from mixed or highly compressed deposits, rendering interpretation difficult or impossible. A Guilford Lanceolate point was found stratigraphically below a Savannah River-like point at Gregg Shoals, and another was found near a hearth at Rufus Bullard. Little else was found with these points, however, and no other stratigraphically distinct terminal Middle Archaic assemblages were identified in the reservoir assemblages.

Quartz continued to dominate stone tool assemblages, and almost 90 percent of the Guilford Lanceolates found were made from this material (Table 2). By the third millenium B.C. or possibly slightly earlier the use of metavolcanics began to increase; several Guilford points were made from this material, and it also began to reappear in debitage assemblages (Figure 27). The material does not achieve widespread use, however, until the subsequent Late Archaic period.

Like in the piedmont North Carolina sequence (Coe 1964), a replacement of Morrow Mountain points by Guilford Lanceolates is indicated, although there appears to be considerable temporal and morphological intergradation between these point types (see below). Exactly what replaced these Morrow Mountain and Guilford forms locally is unclear. Large Savannah River points, most made from metavolcanics, are thought to appear sometime around 5500 B.P. in the general region (Coe 1964). No evidence for components with this point type present at such an early time level, however, were found in the Russell Reservoir. Large Savannah River Stemmed points, in fact, were comparatively unusual; similar, but smaller forms were more typically found.

Instead of a replacement by classic Savannah River Stemmed points, in the upper Savannah River region Morrow Mountain and Guilford Middle Archaic types instead appear to have been replaced by smaller, square to slightly expanding or contracting stemmed forms made predominantly from quartz or metavolcanics. By ca. 5000 B.P. or shortly after these smaller forms appear to dominate local assemblages (see below). This succession is most evident in Zones VII to III at the Gregg Shoals site (Figure 29). These later points resemble small Savannah River forms, and while they may be related, are different in all but size from Coe's (1964:108-109) Halifax Side Notched type, a point form occurring at this general time level in eastern North Carolina and Virginia.

Projectile Point Typologies

Morrow Mountain Type I and II projectile points were among the most common hafted biface types found in the reservoir area. These forms have been widely reported throughout the Georgia and South Carolina piedmont, in both the riverine and interriverine zones (Blanton 1983; Sassaman 1983). Initial Middle Archaic Stanly points were comparatively rare, however, as were (to a lesser extent) later Middle Archaic Guilford Lanceolates. No evidence was found for MALA points, a transitional Middle Archaic/initial Late Archaic type recognized in stratigraphic context from the Middle Savannah River (Sassaman 1985b). This type, an apparent variant of the Benton Stemmed (Kneberg 1956), is thought to represent an intrusion of some kind, possibly a population movement, into the middle Savannah River Valley from the mid-south, specifically from the middle Tennessee River Valley and its environs (Sassaman 1985b, 1988). The general absence of these forms in the Russell area, if not a recognition problem, suggests that this intrusion was restricted to the lower portions of the drainage, at and below the fall line. MALA's may be subsumed locally by the large Savannah River Stemmed point, although no evidence for the occurrence of this type was found in early Late Archaic context.

Most of the Morrow Mountain points found in the Russell Reservoir could be subsumed under Coe's (1964:37) Morrow Mountain Type I; a far lower incidence of the presumably later Morrow Mountain II points were found in the surface or excavation assemblages (Table 2, Figure 32). This distribution may be due to the predominance of quartz tools; the long stems characteristic of the Morrow Mountain Type II may have been difficult to fashion on this material (this same selection for quartz, parenthetically, may have also made the manufacture of bifurcate based forms difficult). Many of the Morrow Mountain points that were found in the reservoir area were fairly crude, almond shaped bifaces with comparatively minimal evidence for shoulders or formal hafting elements. The chronological importance of the stem length/blade length ratio, the primary criteria used to differentiate the Morrow Mountain I and II types, may be somewhat overdrawn since this ratio is directly related to the extent of resharpening and reworking a point has undergone (Goodyear et al. 1979:201; Cable 1982b:486-488). For those reasons these types were treated as a single combined category in the component analyses presented here (Figure 3).

Comparatively few Guilford Lanceolates were found in the reservoir collections (Table 2). While the type has been widely reported in the Georgia/South Carolina Piedmont, an inspection of the actual artifacts indicated few met Coe's (1964:43-44) formal typological criteria. Just as the differentiation of Morrow Mountain forms "can be at times a rather subjective affair" (Goodyear et al. 1979:201), comparable ambiguity pervades the separation of Morrow Mountain and Guilford points locally, and even the recognition of the Guilford type itself (DePratter 1975; Johnson 1984:70). A considerable intergradation between Morrow Mountain and Guilford forms was evident in the reservoir collections, prompting a conservative approach to the reclassification analyses (i.e., attempting to adhere to the original type descriptions; Table 2, Figure 3).

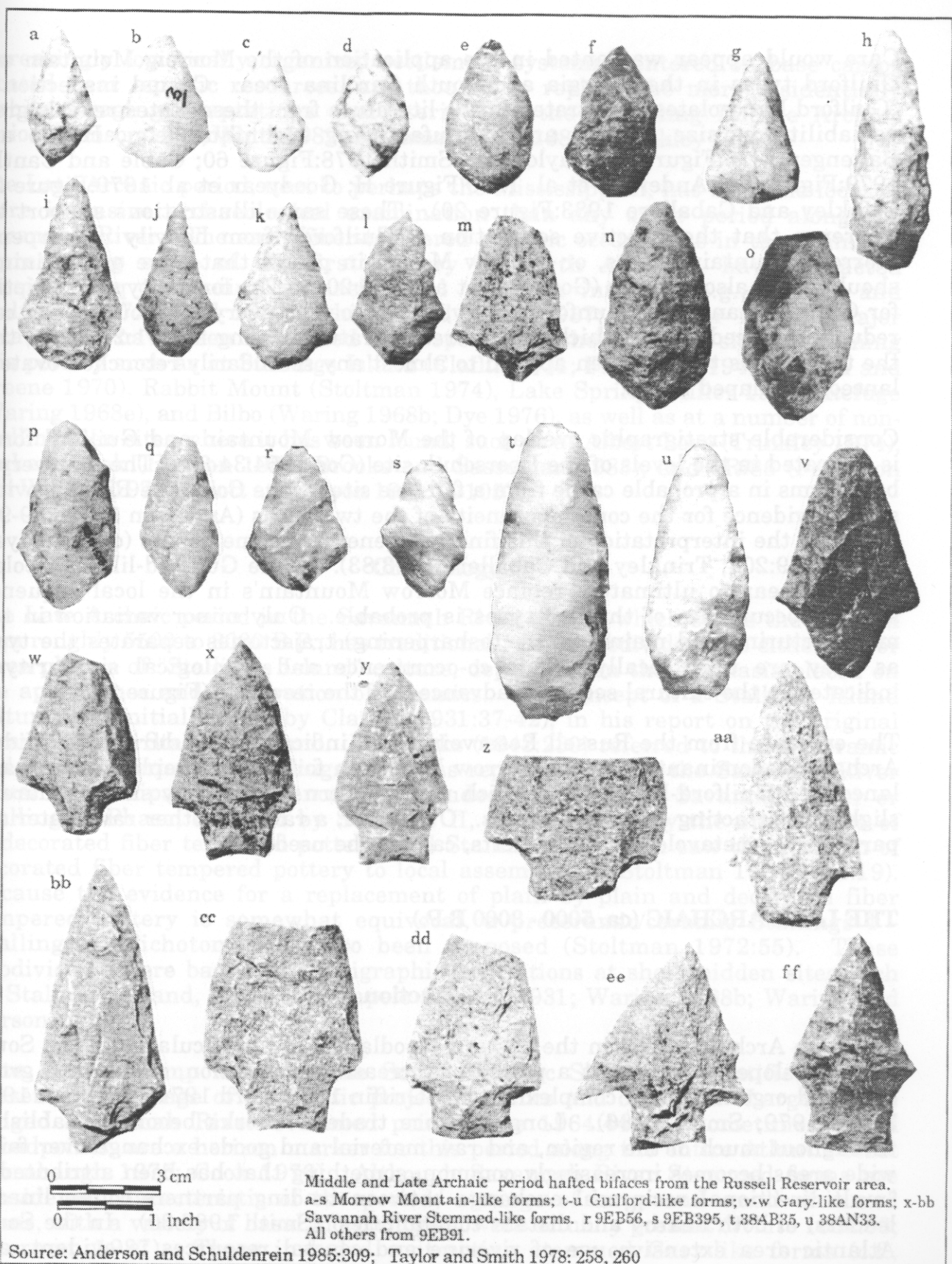


Figure 32. Middle and Late Archaic Projectile Points, Richard B. Russell Reservoir Area.

Care would appear warranted in the application of the Morrow Mountain and Guilford types in the Georgia and South Carolina area. Casual inspection of "Guilford Lanceolates" illustrated in the literature from these states reveals great variability in size, shape, and manufacturing technique (e.g., House and Ballenger 1976:Figure 11; Taylor and Smith 1978:Figure 60; Cable and Cantley 1979:Figure 24; Anderson et al. 1979:Figure H; Goodyear et al. 1979:Figure 23; Trinkley and Caballero 1983:Figure 20). These same illustrations support the inference that the effective separation of Guilfords from heavily resharpened Morrow Mountain points, or Morrow Mountain points that have only minimal shoulders, is also difficult (Goodyear et al. 1979:204). The formal type description for Guilford Lanceolates, unfortunately, is so broad in everything but formal core reduction procedure and thickness-to-breadth ratio (varying from 1:2 to 1:3), that the type seems to have been applied to almost any secondarily retouched ovate to lanceolate shaped biface.

Considerable stratigraphic overlap of the Morrow Mountain and Guilford forms is indicated in the levels of the Doerschuk site (Coe 1964:34-35). The discovery of both forms in a probable cache from a fall line site on the Congaree River provides strong evidence for the contemporaneity of the two forms (Anderson 1979a:89-95), although the interpretation of this find has generated some debate (c.f., Goodyear et al. 1979:204; Trinkley and Caballero 1983:83). While Guilford-like lanceolate forms appear to ultimately replace Morrow Mountain's in the local sequence, some co-occurrence of the two types is probable. Only minor variation in tool manufacturing and maintenance (resharpening) trajectories separates the types as they are used locally. This co-occurrence and typological similarity is indicated in the cultural sequence advanced for the reservoir (Figure 2).

The evidence from the Russell Reservoir, then, indicates that during the Middle Archaic predominantly quartz Morrow Mountain forms were replaced by quartz lanceolate Guilford-like points, which were in turn replaced by small square to slightly contracting stemmed bifaces. Over time, a range of other raw materials, particularly metavolcanics and cherts, came to be used.

THE LATE ARCHAIC (ca. 5000 - 3000 B.P.)

Introduction

The Late Archaic period in the eastern Woodlands and particularly on the South Atlantic slope is viewed as a period of increasing population, sedentism, group size, and organizational complexity (e.g., Griffin 1967; Ford 1974; Stoltman 1978; Brose 1979; Smith 1986). Long distance trade networks become established throughout much of the region, and raw material and goods exchange over fairly wide areas becomes increasingly common, something that has been attributed to "multidirectional reciprocal exchange between trading partners (often lineage leaders) of both nearby and distant communities" (Smith 1986:30). In the South Atlantic area extensive use of riverine and coastal resources is evident, and

increasingly logistically organized settlement systems, centered on base camps located near aquatic resources, are thought to replace the more residentially mobile foraging adaptations characteristic of the preceding Middle Archaic period (Hanson 1982; White 1982; Sassaman 1983, 1985a; Trinkley 1985).

The Late Archaic period, next to perhaps the Mississippian, has been the focus of more intensive archaeological examination than any other period along the Savannah River. The early fiber-tempered ceramic occupations in the drainage, representing some of the first pottery in North America, have attracted considerable continuing archaeological research interest (e.g., Bullen and Stoltman 1972; Reid 1984; Schiffer and Skibo 1987; Goodyear 1988). Major excavations have been conducted and reported at shell midden sites containing this pottery such as at Stallings Island (Claflin 1931; Fairbanks 1942; Bullen and Greene 1970), Rabbit Mount (Stoltman 1974), Lake Spring (Miller 1949), Refuge (Waring 1968e), and Bilbo (Waring 1968b; Dye 1976), as well as at a number of non-shell midden sites where it has been found, such as at Albert Love (Trinkley 1974), Tinker Creek (Hanson 1980; Brooks and Sassaman 1988), and 9Ri86 (Ferguson and Widmer 1976; Elliott and Doyon 1981:74-105).

Chronology

The Late Archaic period in the Savannah River region, which spans the interval from roughly 5500 to 3000 B.P., has traditionally been subdivided into either two or three phases of "Stalling's Island" culture, depending on the emphasis placed on the appearance and elaboration of ceramics. The concept of a Stallings Island culture was initially used by Claflin (1931:37-42), in his report on the original excavations at Stallings Island. Fairbanks (1942:230) referred to the preceramic and ceramic periods at Stallings Island as representative of the Savannah River focus. One tripartite sequence has included a preceramic Savannah River or Stallings I Phase, followed by Stallings II, characterized by the appearance of undecorated fiber tempered pottery, and Stallings III, which saw the addition of decorated fiber tempered pottery to local assemblages (Stoltman 1964/1974:19). Because the evidence for a replacement of plain by plain and decorated fiber tempered pottery is somewhat equivocal, a preceramic/ceramic Stallings I - Stallings II dichotomy has also been proposed (Stoltman 1972:55). These subdivisions were based on stratigraphic excavations at shell midden sites such as Stalling's Island, Bilbo, and Sapelo (Claflin 1931; Waring 1968b; Waring and Larson 1968).

Late Archaic components on the South Atlantic Slope are identified by the presence of a range of diagnostic projectile points and ceramics. Large square tanged Savannah River Stemmed points (Coe 1964:44-45), sometimes called Broadpoints, are a horizon marker for this period along the entire Atlantic coast (Turnbaugh 1975; Cook 1976). Although Savannah River Stemmed forms are considered characteristic of the period, a range of large and small stemmed forms, with a variety of basal morphologies, were actually present (White 1982:50; Alterman 1987). These included contracting stemmed Gary-like forms (c.f.,

Newell and Krieger 1949:164-165); the large Savannah River Stemmed type (Coe 1964); and smaller, predominantly square stemmed forms like the Otarre Stemmed (Keel 1976:194-196) and the Small Savannah River (Oliver 1981). A replacement of larger by smaller point forms over the course of the Late Archaic has been widely inferred, and is frequently used to differentiate possible earlier from later Late Archaic components (Bullen and Greene 1970; Goodyear et al. 1979; Oliver 1981, 1985).

Ceramics of the fiber tempered Stallings and sand tempered Thom's Creek series, repeatedly dated to between ca. 4500 - 3000 B.P. in the general region, are readily identifiable signatures of later Late Archaic occupations (e.g., Claflin 1931; Fairbanks 1942; Griffin 1943, 1945; Waddell 1963; Phelps 1968; Stoltman 1972, 1974; DePratter 1979; Trinkley 1980a, 1980b; Anderson 1982). Most vessels are typically simple hemispherical bowl-like forms, with larger straight-sided rounded to conoidal based jars sometimes observed within Thom's Creek assemblages. Plain, punctated, incised, and simple stamped finishes are typical over both series, with design complexity ranging from simple linear arrangements to complex geometric decorations. Stallings' ceramics, which have the earliest absolute and average radiocarbon dates, are assumed to be earlier, although a long period of co-occurrence for the two wares is evident.

In the central Savannah River, where the two wares have been found together, there is limited stratigraphic data to support a slightly earlier appearance for Stallings' ceramics at sites such as White's Mound and Rabbit Mount (Phelps 1968:29; Stoltman 1974:91). Some stylistic or decorative evolution within these wares is also evident. Within the fiber tempered series, for example, a replacement of plain by plain and decorated finishes is indicated at some sites, such as at the Bilbo and Sapelo shell middens on the Georgia coast (Waring 1968b; Waring and Larson 1968). Within the Thom's Creek series no evidence for a replacement of plain by decorated ceramics has been found, although along the coast finger pinching is the latest decorative treatment to appear (Awendaw Finger Pinched; Waddell 1965b, Trinkley 1980a, 1980b).

Other less securely dated artifacts that are sometimes used to infer the presence of Late Archaic components on the South Atlantic Slope include soapstone artifacts of any kind, but particularly perforated objects (i.e., "netsinkers") and bowls; full and three quarter grooved ground stone axes; baked clay objects; cruciform drills; winged, diamond, or butterfly-shaped atlatl weights; grinding basins; metavolcanic debitage; and appreciable quantities of fire cracked rock (Anderson et al. 1979:65-68; Goodyear et al. 1979:112-113; White 1982:70-80). Many of these categories have a broad temporal occurrence, so their presence must be interpreted with care.

Models of Late Archaic Settlement

White (1982) and Sassaman (1983) have each recently completed major settlement analyses of Middle/Late Archaic occupations in the South Atlantic piedmont. White's data set consisted of 367 sites yielding Late Archaic diagnostics from the

South Carolina and Georgia piedmont, while Sassaman's analysis was based on 275 Middle and Late Archaic sites from the piedmont of South Carolina. In both analyses, intensive settlement in the floodplains during the Late Archaic was inferred, coupled with reduced and more varied use of the uplands. The results were in line with the expectations of the riverine-interriverine Archaic settlement model advanced by House and Goodyear discussed previously, and it appears the model has some utility for the Late Archaic period. That is, the survey collections examined by Sassaman and White support the notion that base camps were present in the floodplains at this time, while upland sites tended to be more diversified, and directed to a range of specialized activities. The Russell Reservoir data are critical to the evaluation of these models, because they represent the first major floodplain sample collected from the region (White and Sassaman's syntheses were based primarily on upland site data, and made use of only limited data from the Russell Reservoir work).

Some refinement to these models has occurred in recent years. Both Alterman (1987:309) and Sassaman (1988) have argued that dense shell midden sites such as Stallings Island probably represent major aggregation loci, where populations living throughout all or major portions of the interior Savannah River Valley came together on a regular if temporary basis for a range of activities. These would include ceremonial and possibly burial rituals, kin-based social activities, and goods and information exchange. All of these would have helped to strengthen intra-group solidarity, and foster alliances, or at least reduce the possibility of aggressive behavior between groups. Discrete social entities have been inferred in differing parts of the valley (i.e., along the coast, in the interior coastal plain, and in the piedmont/blue ridge areas) based on ceramic and lithic raw material distributions, although this interpretation remains highly debatable (see below). Sassaman (1988), working with data from the inner coastal plain and fall line, has argued further that aggregation appears to have been taking place at two levels, both locally (i.e., within individual cultural systems, which presumably occupied different portions of the basin) and regionally (i.e., meetings between members of two or more of these local social groups, from differing portions of the basin and possibly beyond, at sites such as Stallings Island). Both local and regional aggregation loci, while utilized for important activities, were only occupied for comparatively brief periods. Dispersed settlement by smaller groups was more the norm, and would have placed less stress on local resources. Major or regional aggregation loci, in this view, were likely only in areas capable of supporting large numbers of people, at least on a temporary basis. Areas such as the fall line macroecotone, that were rich in shellfish, anadromous fish, or other food resources, would have facilitated such aggregation.

As noted, the areal extent or scale of adaptation of Late Archaic groups in the Savannah River area is the subject of some debate. Due to the low incidence of Stallings pottery in the piedmont, the existence of differing populations or cultures in the coastal plain and piedmont has been inferred by some investigators (e.g., Stoltman 1972; Anderson et al. 1979:94). Differential lithic raw material distributions within the drainage, measured on diagnostic projectile points, have also been used to infer the presence of discrete cultural systems

(Sassaman et al. 1988). In contrast to these views, Taylor and Smith (1978:323) have argued that the Stallings adaptation was riverine extensive, with tool kits and sites types varying according to the environment and resources under exploitation:

It should be known that while the Broadpoint Horizon has primarily an Atlantic slope focus, Late Archaic manifestations are known into the Appalachian Summit. ...there might be [in] the Savannah River region, an adaptation that is seasonally manifested in all of the physiographic zones from the Appalachian Summit to the coast. (Taylor and Smith 1978:88-89).

Thus, while most local researchers agree that local Late Archaic settlement systems were riverine in orientation, disagreements exist as to the size of group territories, the number and combination of resource zones that were exploited, and the degree of interaction that took place.

EVIDENCE FOR LATE ARCHAIC OCCUPATION IN THE RUSSELL RESERVOIR: MAJOR EXCAVATION ASSEMBLAGES

Introduction

Late Archaic components were fairly common in the Russell Reservoir, third in overall incidence behind the Middle Archaic and the Mississippian periods (Table 2, Figure 3). Late Archaic assemblages were found at 79 sites, as measured by the presence of diagnostic Savannah River Stemmed projectile points. Late Archaic sites with Stallings or Thom's Creek pottery present were much less common, however, occurring at only 11 locations. Over and above these sites with their unambiguous Late Archaic diagnostics, a large number of assemblages were present that were characterized by smaller Otarre and Swannanoa Stemmed-like points, that date to either the Late Archaic or the initial part of the Woodland period. Fairly appreciable use of the reservoir area was indicated, albeit by groups placing comparatively little emphasis on pottery.

Major preceramic Late Archaic assemblages dating to the mid to late third millennium B.C. were excavated at three sites, at Rocky River, Sara's Ridge, and Paris Island South. Although no major ceramic Late Archaic assemblages were found, a number of minor Late Archaic components with Stallings or Thom's Creek pottery present were examined, at Gregg Shoals, Rucker's Bottom, McCalla Bottoms, Rufus Bullard, 9EB17, and 9EB219. Taken together, the reservoir assemblages provide a good picture of Late Archaic floodplain and adjoining upland occupation in this portion of the piedmont.

The emergence of the Stallings Island adaptation in the Savannah River region is a topic of great interest to researchers throughout the Eastern Woodlands. The occurrence of Stallings pottery in the project area indicates that this adaptation, traditionally assumed to extend no further than just above the fall line, reached

deep into the piedmont. The Russell Reservoir data represent the first securely documented materials from the Savannah River region that portray events during the millennium immediately prior to the adoption of pottery. Previous research on the Late Archaic occupation of the Savannah River Valley has tended to emphasize shellfish exploitation and the appearance and use of fiber tempered pottery (Stoltman 1972:52). Perhaps one of the most important research contributions of the Russell Reservoir project is the documentation of major preceramic and non-shellfish using Late Archaic occupations within the upper part of the drainage.

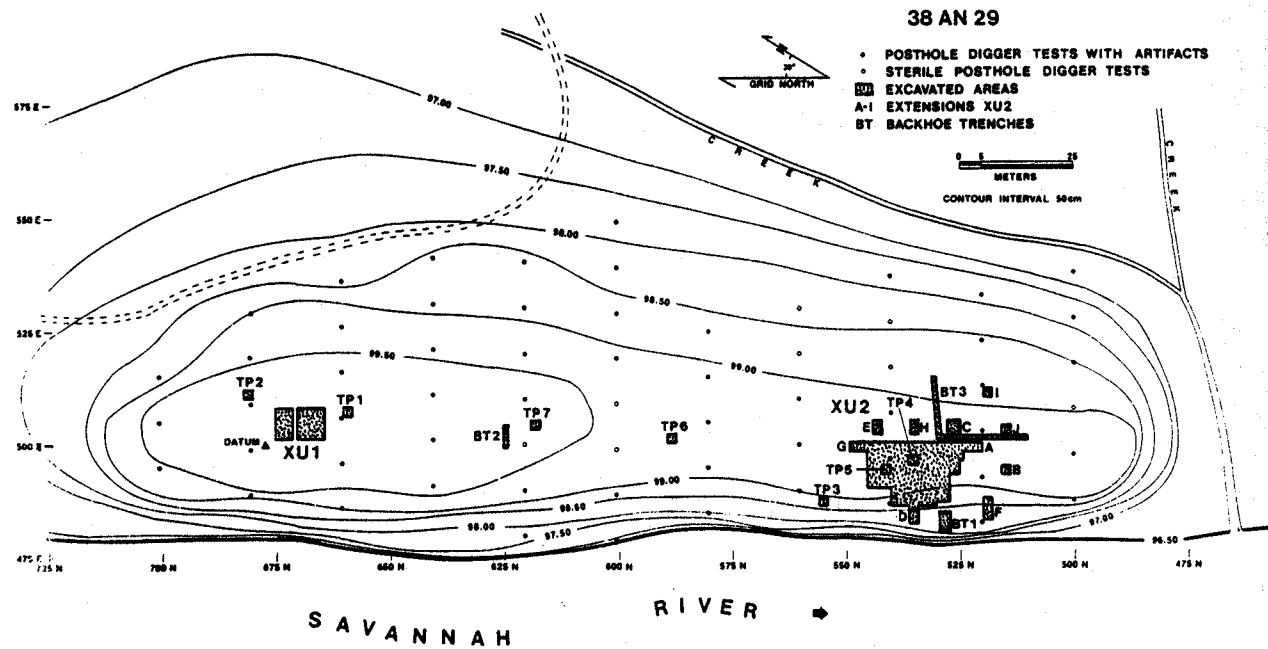
Sara's Ridge (38AN29)

A major Late Archaic occupation dating to the latter part of the third millennium B.C. was documented at Sara's Ridge (Wood et al. 1986:126-163). Two dense concentrations of artifacts were discovered at depths of from 50 to 90 cm, on a levee immediately adjacent to the Savannah River. Field investigations at the site included the excavation of 63 systematically dispersed posthole tests opened to 1.5 m, seven 2 m x 2 m test pits opened to a minimum of at least 1.0 m, five backhoe trenches, and two large block units (Wood et al. 1986:28-32) (Figure 33). The posthole testing program indicated the site occupied approximately 1.4 ha. (ca. 200 m N/S x 70 m E/W). Late Archaic materials were densest at the north and south ends of the levee; little material was found in the intervening central area (Wood et al. 1986:122).

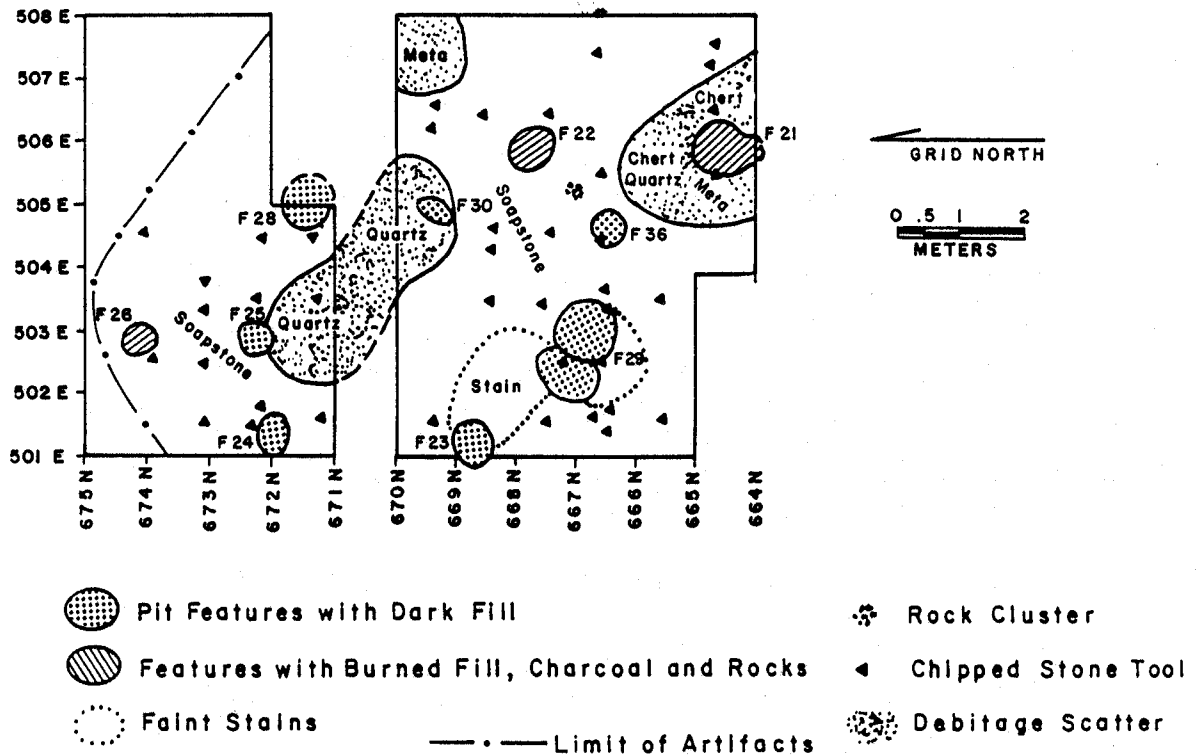
In all, 369 square meters of the Late Archaic deposits were excavated. In Excavation Unit 1 (XU1), a stepped block opened to a depth of 2.6 m at the north end of the site, Late Archaic materials were found from 50 to 80 cm below the surface. A 64 square meter area was excavated in these deposits, using 1 m squares opened in three 10 cm levels, with all fill passed through 1/4 inch mesh. Fair assemblage stratification was observed, with Swift Creek and Cartersville materials in the plowzone underlain by successive Dunlap, Late Archaic, and Middle Archaic assemblages (Wood et al. 1986:Table V-1). In Excavation Unit 2 (XU2) at the south end of the terrace, Woodland materials were found in the plowzone, with Late Archaic materials immediately below the plowzone. A total of 305 square meters of the Late Archaic midden were excavated in this area. Once again, 1 m squares were used, each opened in three 10 cm levels, with all fill screened through 1/4 inch mesh. In both blocks all stains were cored using a 2.5 cm auger, and all cultural features were excavated, with soil, carbon, and pollen samples routinely collected.

Late Archaic Materials in Excavation Unit 1 (XU1), 38AN29 Dense concentrations of features and artifacts were found in XU1, in a roughly oval-shaped pattern about 7 m long by 5.5 m wide (Figure 33). The excavation unit appears to have come down in a major activity area of some kind, although its full extent was not determined. Anthropogenic midden staining was minimal, with most materials occurring in tan/yellow sands. Four types of features were found in the block:

Sara's Ridge (38AN29)-All Excavation Units.



Composite Plan of Late Archaic Surface in XU1, 38AN29.



Source: Wood et al. 1986: 30, 138

Figure 33. All Excavation Units and Late Archaic Surface, XU1, Sara's Ridge Site, 38AN29.

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(1) Hearths (N=3). These were basin-shaped pits ca. half a meter to a meter in diameter and 15 to 22 cm deep and filled with large amounts of fire-cracked rock and wood charcoal (Features 21, 22, and 26). The rocks were predominantly quartzite and basalt cobbles from the river. No nut fragments or seeds were observed in the fill. Fragments of worked soapstone slab fragments were found in one feature, Feature 21, which was radiocarbon dated to 2000 B.C., uncorrected (BETA-2735, 3950±80 B.P.).

(2) Pits (N=5). These were circular to oval stains ca. half a meter to a meter in diameter and 10 to 23 cm deep with regular outlines and bases (Features 23-25, 28, 29). Very few artifacts or charred material occurred in the fill. Their function is unknown, although use in storage, skin boiling (hot rock cooking using skins stretched over pits for stew pot type containers), or other functions is possible. Feature 29, two overlapping pits, occurred near a faint orange stained area that may derive from intensive firing.

(3) Faint stains (N=1). Apparent feature staining was mapped when observed. In some cases very faint, apocryphal stains were observed that could not be readily interpreted. Given the time elapsed since site abandonment, it is evident that some features had leached appreciably, particularly those with minimal initial midden, artifactual, or charcoal fill.

(4) Rock Clusters (N=1). A small cluster of unmodified rocks was found in the southwest part of the block (Feature 23). In the absence of charcoal or staining, the rocks are thought to represent a cache for use in subsequent fires. Miscellaneous rock and cracked fragments, presumably debris from scattered hearths, or secondary refuse from cleaned hearths, were quite common in the general midden, although in XU1 (unlike the situation in XU2) this material was rarely found clustered (adapted from Wood et al. 1986:126-128).

A concentration of cracked rock near Feature 21 appears to represent refuse emptied from this hearth (Wood et al. 1986:137).

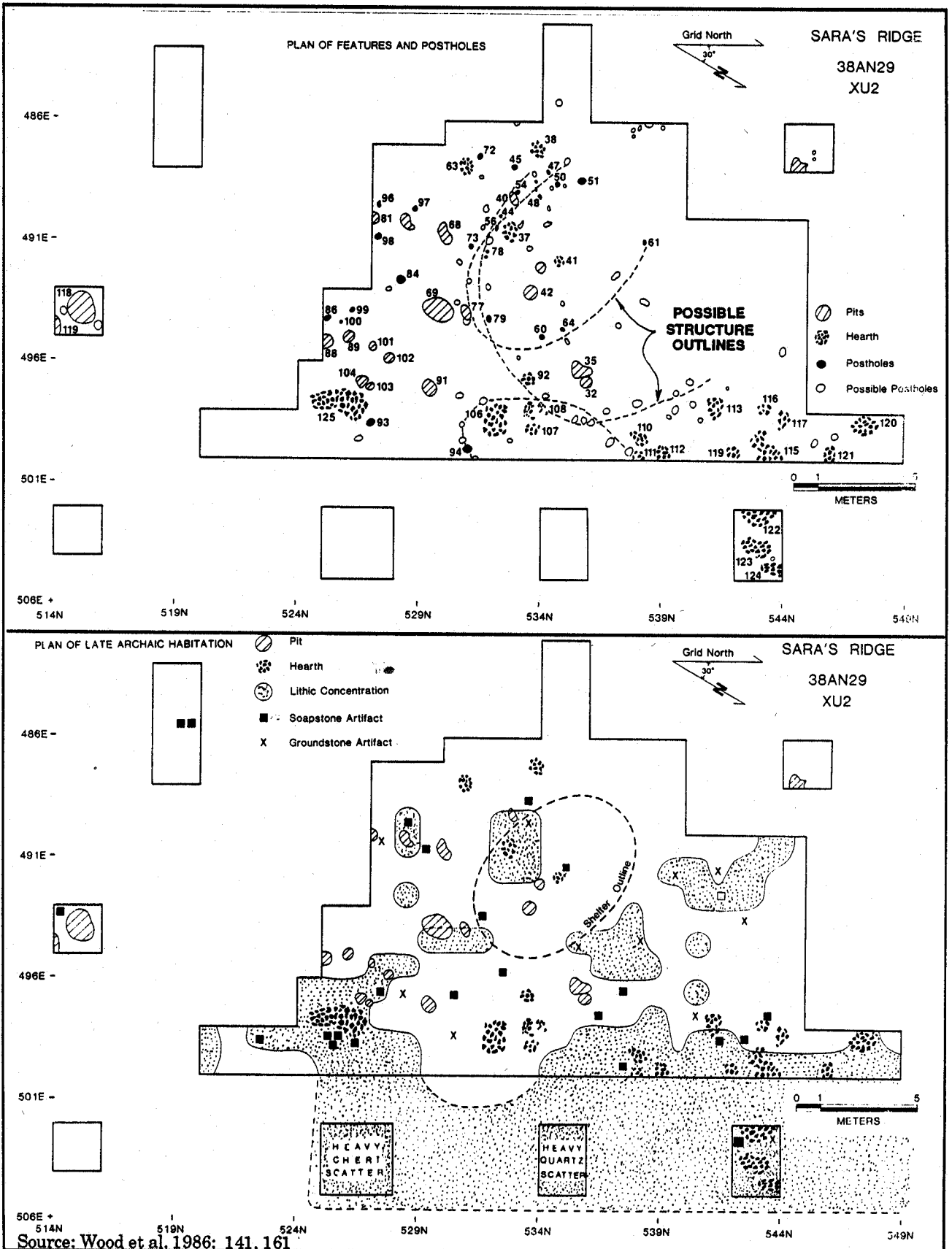
Artifacts in XU1 consisted primarily of chipped stone tools and debitage, together with a number of fragments from ovate perforated soapstone slabs. No fiber tempered pottery was found at the site, and the assemblages appear to represent preceramic, or at least aceramic Late Archaic occupations. Three categories of chipped stone tools were recognized, (1) formal projectile points with well defined hafting elements and broad, triangular blades; (2) other bifaces; and (3) lightly retouched expedient unifacial flake tools (Wood et al. 1986: 128, Tables V-2 to V-5). The vast majority of the tools recovered were projectile points and other bifaces, suggesting that these forms were used in a wide range of functions, or (if this was not the case) that site use in this area was highly specialized, requiring only a few tool forms. Roughly equal quantities of quartz and metavolcanic debitage were

found, with chert a distinct minority. Detailed analysis of a 15 percent sample of the debitage indicated that it derived from secondary thinning of bifaces (i.e., probable tool maintenance activities); virtually no cortical material was observed, and little initial manufacture was indicated (Wood et al. 1986:134). Although a few fragments of apparently worked gneiss, basalt, and schist were found, no ground stone tool forms were identified.

Late Archaic Materials in Excavation Unit 2 (XU2), 38AN29. The Late Archaic assemblage in XU2 at Sara's Ridge was within a dark well-defined midden stain at a depth of from 60 to 90 cm. An extensive artifact and feature assemblage was recovered in the 305 square meter excavation area that appears to represent a major preceramic Late Archaic habitation and activity loci, with associated structures, cooking areas, and lithic workshops (Figure 34; Wood et al. 1986:137-163). Artifacts recovered included 496 chipped stone tools, 27,165 pieces of debitage, 520 kg of cracked rock, and 25 perforated soapstone slabs and slab fragments. Features comparable to those found in XU1 were present, including numerous hearths, pits, and rock clusters. Significantly, a moderate number of postmolds (N=25 definite, 62 possible) were also found, a feature type that has previously been only rarely noted on Late Archaic sites in the general region (e.g., Waring 1968b:156; Stoltman 1972, 1974:51ff; Trinkley 1980b:170, 256; 1984:18-20; 1986:145-147, 336).

Four radiocarbon dates were obtained from XU2, securely dating the occupation to within the third millennium B.C., approximately coeval with the occupation in XU1 (Wood et al. 1986:159) (Appendix I). The corrected dates, all on wood charcoal, were 2190 ± 60 , 2940 ± 90 , 2980 ± 60 , and 4075 ± 280 B.C. Uncorrected, these dates are 1730 B.C., 2250 B.C., 2260 B.C., and 3250 B.C., respectively. The earliest and latest dates were from general midden fill from the southeast corner of the block near Feature 125, while the two relatively consistent 22nd century B.C. (uncorrected) dates were from two rock clusters in the southwest corner of the block, Features 37 and 63. Excluding the earliest determination, the average of the four remaining dates from the site (in both XU1 and XU2) is 2060 B.C., uncorrected.

Given the absence of Stallings fiber tempered pottery, which has been repeatedly dated between ca. 2500 and 1200 uncorrected radiocarbon years B. C. at fall line and coastal plain sites in and near the Savannah River basin, the site occupation may be aceramic. That is, Sara's Ridge may have been a location within a ceramic-using adaptation where ceramics were not used or discarded, for presumably functional or cultural reasons of some kind (i.e., the nature of the tasks performed may not have required pottery; pottery use was prohibited for some reason). This appears somewhat improbable. Given the size, density, and complexity of the site assemblage, it is likely that if ceramic technology was employed at all, it would have been represented in the assemblage, even if only in minor quantity. As we shall see, the combined data from the Russell Reservoir suggests that pottery use locally occurred somewhat later than in the coastal plain, after ca. 2200 - 2000 B.C. In this view, Sara's Ridge may illustrate Late Archaic settlement in the area immediately prior to the adoption of ceramics.



Source: Wood et al. 1986: 141, 161

Figure 34. Late Archaic Features and Occupation Surface, XU2, Sara's Ridge Site, 38AN29.

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Hearths at Sara's Ridge (N=22) were typically about 1 m in diameter, with from ca. 2 to 10 kg of rock in the fill, although one (Feature 125) was quite large, ca. 3.0 x 1.0 m (Wood et al. 1986:140). Large quantities of cracked rock assumed to be from scattered hearths were also found in the general midden. In one concentration, over 54 kg of cracked rock was found in and around four well defined hearths (Features 106-109), in a seven square meter area on the east side of the block. Given ready access to the cobble beds in the nearby river channel, scavenging materials from one hearth to another may have been unnecessary.

Pits were common (N=20); like those in XU1 they were typically shallow circular to oval basins ca. half a meter to a meter in diameter, with regular outlines and bases, and comparatively little in the fill. The function of these features remains unknown, although use in storage, skin boiling, food preparation, or other activities may be suggested. Interestingly, they did not tend to occur in immediate proximity to the hearths, but instead were somewhat removed, at distances of up to several meters (Figure 34). If used in skin boiling, these pits may have been placed at a sufficient distance from the fires to preclude ash or other debris from the hearth environment from being kicked or blown into the food. Wood et al. (1986:162) have suggested that these features may also or alternatively have been be food storage or curing pits, with skins or bark serving as a protective covering.

Eighty-seven probable postmolds were found in XU2, most in the central part of the block. Twenty five of these were well defined, while the remainder were comparatively faint and somewhat amorphous stains. Definite postmolds were up to ca. 30 cm in diameter with flat or tapered bases; they were fairly shallow, rarely exceeding 20 cm in depth (Wood et al. 1986:141). These undoubtedly served as supports for structures, and possibly for other facilities such as meat or fish drying racks, benches, partitions or dividers, storage cribs, or marker poles.

Although many of the posts were poorly defined, when the feature assemblage was examined collectively possible structural alignments were evident within the block. The alignment favored by Wood et al. (1986:142, 162) formed a 7 m (E/W) x 5 m (N/S) oval shelter in the west central part of the block, near the edge of the levee overlooking the river channel (Figure 34). The presence of an arc of multiple posts in the southwestern part of this alignment suggested one or more episodes of rebuilding. An entrance toward the west, facing the river, was inferred by an absence of posts in this area, with a second possible entrance to the east; it must be cautioned however, that these apparent openings may simply reflect poor feature preservation. Only a few posts were found along the northeast wall of the alignment, again reflecting either poor feature preservation or that the structure was open or comparatively flimsy in this area. A single rock cluster was found in the center of the alignment that may be a central hearth, and a second rock cluster was found near the south wall. Comparatively minor amounts of debitage and cracked rock were found within the alignment, which may reflect cleaning. Additional clusters of posts to the south and east may represent other structures or facilities.

An alternative alignment is a large, semicircular to rectangular structure approximately 12 meters in diameter (NE/SW) and open on the northwest and west sides (Figure 34). The posts in the center of this alignment, forming the flimsy north wall of Wood et al.'s inferred structure, may have been roof supports or dividers. This alignment, although similar in size to the midden area in the preceramic Late Archaic occupation zone at the Rocky River site (38AB91, see below), is considered improbable because the wall crosses a number of hearths (Wood et al. 1986:142).

A dense concentration of hearths, cracked rock, and lithic tools and debitage was found in a band of darkly stained soil ca. 25 m long by 8 m wide on the east side of the block, back away from the river and the inferred oval shelter (Wood et al. 1986:162). Eighteen hearths were found in this area, indicating cooking or food preparation on a large scale. A number of posts were also found that may be from unrecognized structures, although a preferred explanation is that they represent facilities associated with these hearths, such as drying frames or racks, or wind baffles. While this accumulation may represent the sum of a number of small behavioral episodes (i.e., numerous family cooking fires), the dark midden staining and the large numbers of chipped stone tools found in this zone, particularly projectile points, argues for activity by a fair number of people over a long period of time. The site may have seen extended (seasonal or longer?) occupation by a fairly small group, or it may have been a temporary aggregation loci for larger numbers of people. If the latter, it probably corresponded to Sassaman's (1988) local group aggregation site type; the assemblage, while extensive, did not have the quantity and diversity of tool forms, debris, and lithic raw materials indicative of aggregation on a regional scale.

The general absence of ground stone tools in the midden area and on the site in general argues against extensive plant processing activity, while the presence of large numbers of projectile points and other flake tools suggests animal (deer or fish) processing. Such an inference, of course, assumes that wooden mortars or other implements were not used to process plant foods. This may be incorrect, since the numerous expedient unifaces found on the site could have been used (among other functions) to produce wooden plant processing tools. Given the proximity of the river, anadromous fish procurement and drying could have easily occurred; alternatively, the riverine location may have just been highly favored for settlement, with deer and other upland animal species a primary source of meat. No faunal remains were found preserved in the acidic soils, so inferences about game procurement remain moot. Careful analysis of curated soil samples for fish otoliths (Casteel 1976), or of tool edges for distinctive wear patterns (Keeley 1980) might help to resolve this question.

Like XU1, artifacts in XU2 consisted primarily of chipped stone tools, debitage, and fragments from ovate perforated soapstone slabs. Evidence for ground stone tools was minimal, with seven quartz hammerstones the only pecked and battered objects found. Approximately equal numbers of projectile points, other bifaces, and flake tools were recovered; quartz was the predominant raw material, followed by metavolcanics and chert (Wood et al. 1986:128). The projectile point

assemblage was similar in shape to Coe's (1964:44-45) Savannah River Stemmed, but the points were appreciably smaller, on the average (Figure 35). In this regard the assemblage closely conformed to Oliver's (1981:181-183) Small Savannah River Stemmed and Keel's (1976:194-196) Otarre Stemmed types. These forms have been widely attributed to the late Savannah River phase in the regional literature (from ca. 2000 or 1500 B.C. to 1000 B.C.; Oliver 1981:183; Goodyear et al. 1979:114; but see Keel 1976:210). Their unambiguous, well-documented and dated mid-to-late third millennium B.C. association at Sara's Ridge and, as documented below, at the Paris Island South and Rocky River sites, however, indicates that the established Late Archaic projectile point sequence is in serious need of revision.

Other, unhafted and less formal bifaces found in XU2 encompassed a wide range of sizes and shapes, indicating use in a range of functions, a pattern similar to that noted in XU1. Also like XU1, a large number of expedient unifacial flake tools were recovered. Unlike XU1, many of the tools from XU2 made use of naturally-occurring cortex as a backing, something probably due to the greater incidence of cortical debris noted in this part of the site. Several concentrations of tools were observed in the block, all in the thick midden and debris zone on the eastern side, suggesting that both tool manufacture and use occurred in this area, away from the apparent structure. Tool forms tended to co-occur, suggesting minimal functional differentiation between the concentrations.

Dense concentrations of debitage, frequently over 300 flakes/square meter, were found in and around the hearths in the midden zone, which may suggest knapping during colder weather, or in conjunction with tasks (i.e., meat drying) requiring extensive use of fire (Wood et al. 1986:163). Quartz, metavolcanics, and local piedmont chert were all being worked, with quartz the most common, followed by the latter two materials in roughly equal amounts (52%, 25%, and 23% of all debitage, respectively; Wood et al. 1986:151). A detailed analysis of a random sample of debitage indicated that both tool manufacture and maintenance activities were occurring (Wood et al. 1986:151-153). Each of the three raw materials tended to concentrate in different areas of the midden, although what was represented by this separation remains unclear (Figure 34). Although debitage was also found in low incidence in and around the probable structure, it appears that knapping activities were conducted away from this area.

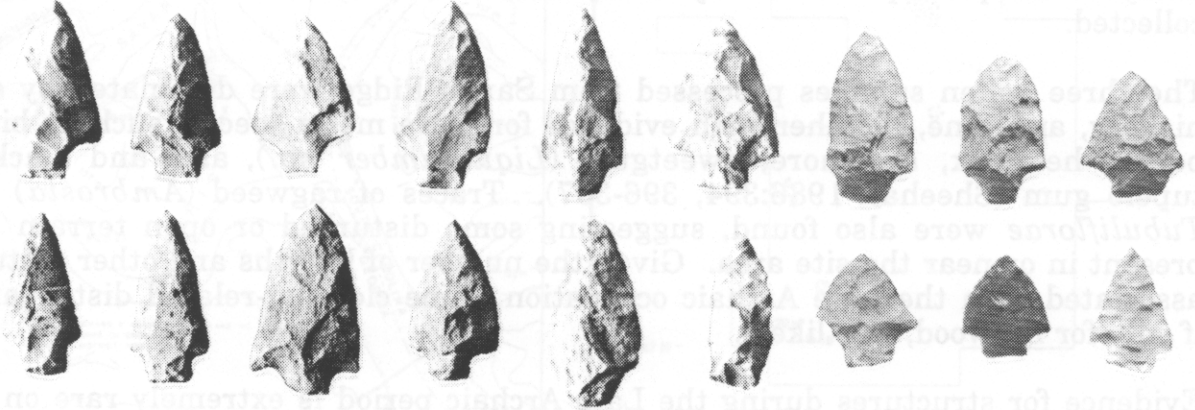
Ground stone implements were virtually non-existent at Sara' Ridge, suggesting minimal plant processing activity was occurring, at least activity based on the use of stone tools. Soapstone was comparatively common, although it appears to have been used exclusively in perforated slabs. Twenty-three fragmentary and two intact perforated soapstone slabs were found in XU2, almost all in close proximity to hearths (see Figure 38). While traditionally described as netsinkers, use in stone-boiling appears more probable (Dagenhardt 1972; Anderson et al. 1979:65-67; Wood et al. 1986:155).

Three pollen and one charcoal sample from the Late Archaic deposits at Sara's Ridge were subjected to intensive paleobotanical analysis. The carbonized plant remains came from fine screened (1/16th inch) general level fill from a one meter

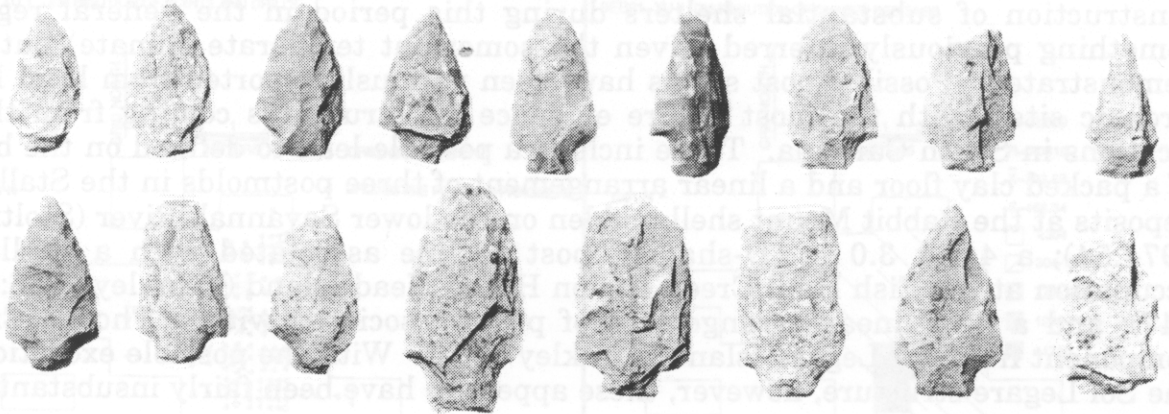
PARIS ISLAND SOUTH



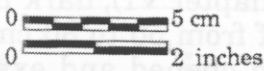
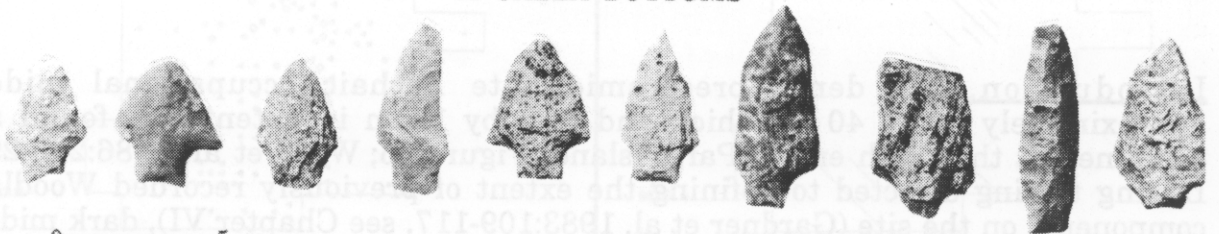
SARA'S RIDGE



ROCKY RIVER



M^cCALLA BOTTOMS



Source: Wood et al. 1986: 145-147, 262, 263; Anderson and Schuldenrein 1985: 187-188, 235

Figure 35. Preceramic Late Archaic Projectile Points, Sara's Ridge, Paris Island South, Rocky River and McCalla Bottoms Sites.

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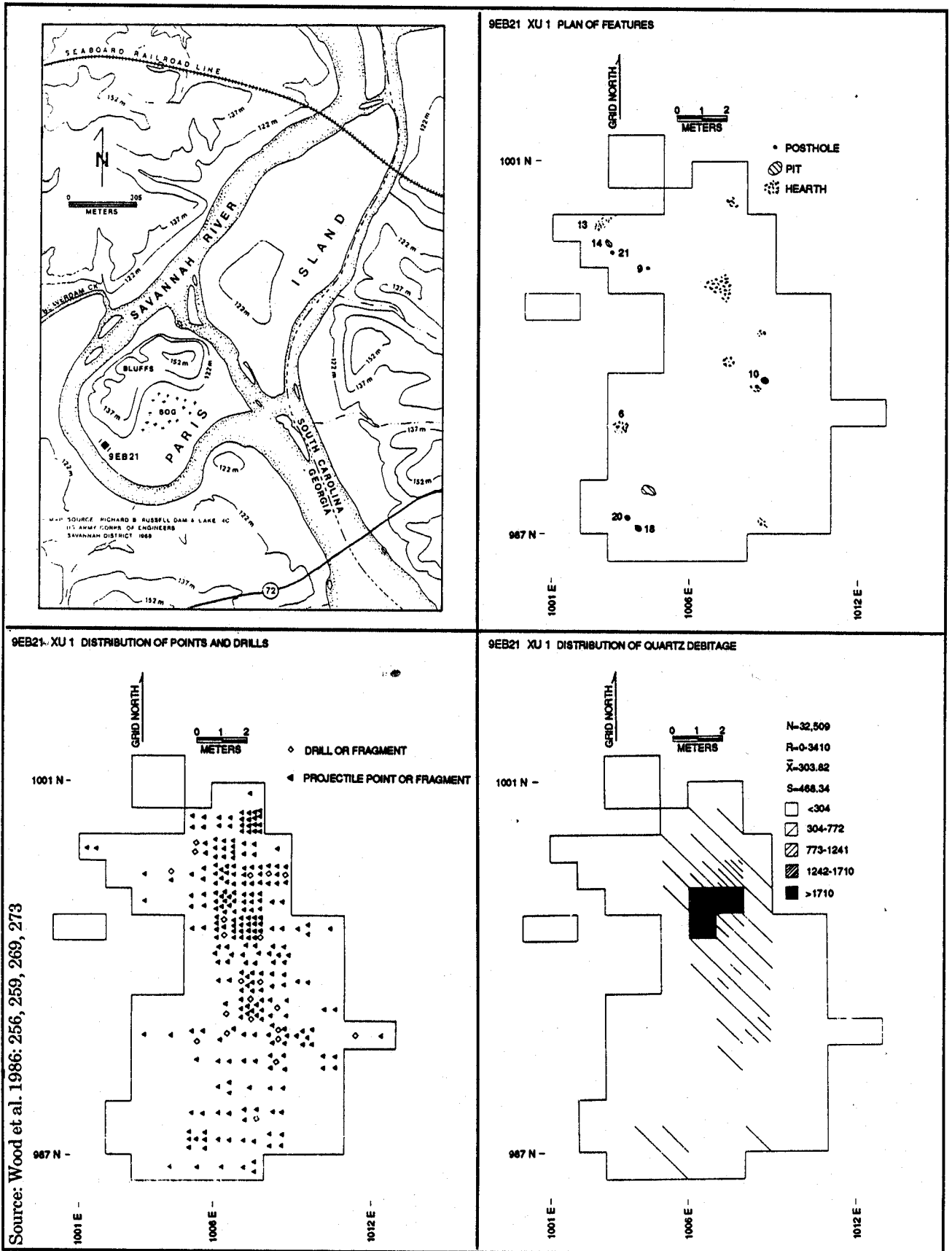
square in XU2. Food remains included hickory and walnut shell, the latter in trace amounts, and isolated maypops (*Passiflora incarnata*) and possible tupelo (*Nyssa sp.*) seeds (Gardner 1986a:389-390). The nutshell suggested fall occupation, while the seeds were from fruits that ripen in late summer. By weight, however, nut shell was uncommon; a 1:6 nutshell to wood ratio was observed over the sample, suggesting site occupation during seasons when nut consumption was comparatively minor (Gardner 1986a:390). Given the almost complete absence of pecked or ground stone plant processing tools in the site assemblage, this inference may be correct, although it must be cautioned that the analyzed sample represents only a tiny fraction of the ethnobotanical materials collected.

The three pollen samples processed from Sara's Ridge were dominated by oak, hickory, and pine, together with evidence for more mesic species such as birch, beech, hemlock, sycamore, sweetgum (*Liquidamber sp.*), ash, and black or tupelo gum (Sheehan 1986:394, 396-397). Traces of ragweed (*Ambrosia*) and *Tubuliflorae* were also found, suggesting some disturbed or open terrain was present in or near the site area. Given the number of hearths and other features associated with the Late Archaic occupation, some clearing-related disturbance, if only for firewood, was likely.

Evidence for structures during the Late Archaic period is extremely rare on the South Atlantic Slope, hence the importance of the Sara's Ridge feature assemblage. The site record provides some of the first evidence for the construction of substantial shelters during this period in the general region, something previously inferred (given the somewhat temperate climate) but not demonstrated. Possible post stains have been variously reported from local Late Archaic sites, with the most secure evidence for structures coming from three locations in South Carolina. These include a possible lean-to defined on the basis of a packed clay floor and a linear arrangement of three postmolds in the Stallings deposits at the Rabbit Mount shell midden on the lower Savannah River (Stoltman 1974:54); a 4.3 x 3.0 m "D-shaped" post outline associated with a Stallings occupation at the Fish Haul Creek site on Hilton Head Island (Trinkley 1986:145-147); and a 3 m linear arrangement of posts associated with a Thom's Creek component from Sol Legare Island (Trinkley 1984). With the possible exception of the Sol Legare structure, however, these appear to have been fairly insubstantial.

Paris Island South (9EB21)

Introduction. A dense preceramic Late Archaic occupational midden approximately 30 to 40 cm thick and 6 m by 15 m in extent was found and examined at the south end of Paris Island (Figure 36; Wood et al. 1986:255-291). During testing directed to defining the extent of previously recorded Woodland components on the site (Gardner et al. 1983:109-117, see Chapter VI), dark midden staining and Late Archaic artifacts were found at depths of from 50 to 80 cm. The area of the staining was tested and a block unit was then opened and expanded



Source: Wood et al. 1986: 256, 259, 269, 273

Figure 36. Late Archaic Features, Points, and Quartz Debitage Distributions, Paris Island South Site, 9EB21.

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until it encompassed the entire area of the stain. The block was excavated using 1 m squares and three 10 cm levels, with all fill dry screened through 1/4 inch mesh. A total of 109 square meters were examined.

Three uncorrected radiocarbon dates from the midden (2120±70, 2140±70, 2220±100 B.C.; Appendix I) average to 2160 B.C., and place the Paris Island South occupation roughly contemporaneous with the occupation at Sara's Ridge (Appendix A; Wood et al. 1986:286). Corrected, these dates range from ca. 2700 to 2900 B.C. A fourth uncorrected date of 1240±140 B.C. from the midden was dismissed as too recent. The Paris Island South assemblage differed from that at Sara's Ridge in four respects, however: (1) the midden was far denser; (2) only equivocal evidence for structures was found; (3) ground stone tools, all but absent at Sara's Ridge, were common; and (4) the lithic assemblage was dominated by quartz, as opposed to the more even proportional occurrence of quartz, metavolcanics, and chert noted at Sara's Ridge.

The Late Archaic midden at Paris Island South was located under 50 to 80 cm of sterile sand, about 30 m to the northeast and parallel to the modern river channel. The midden sloped away from the river at an angle of about 11 degrees, and was thought to represent an activity area and dump from a slightly larger occupation. The area on the levee crest to the west of the block between the midden and the river was examined and found to have been scoured; no evidence for *in situ* artifacts or features was found (Wood et al. 1980:290). It was in this area at Sara's Ridge that the probable structure had been located; if the two sites had a similar layout, then any structures present at Paris Island South have since been lost (Wood et al. 1986:255, 290).

Late Archaic Materials at Paris Island South. Because of the dense, darkly stained midden deposits, feature recognition was difficult at Paris Island South. Only two recognizable hearths could be identified with confidence, a ca. 33 kg rock cluster with no associated staining, and a ca. 11 kg cluster over a very dark stain (Features 6 and 13, respectively; Figure 36). Both features were located near the southwest (grid west) edge of the unit, where the midden staining diminished markedly approaching the river. Both charcoal and cracked rock were common throughout the midden, and six other dense concentrations were evident when distributions were plotted square by square (Wood et al. 1986:257).

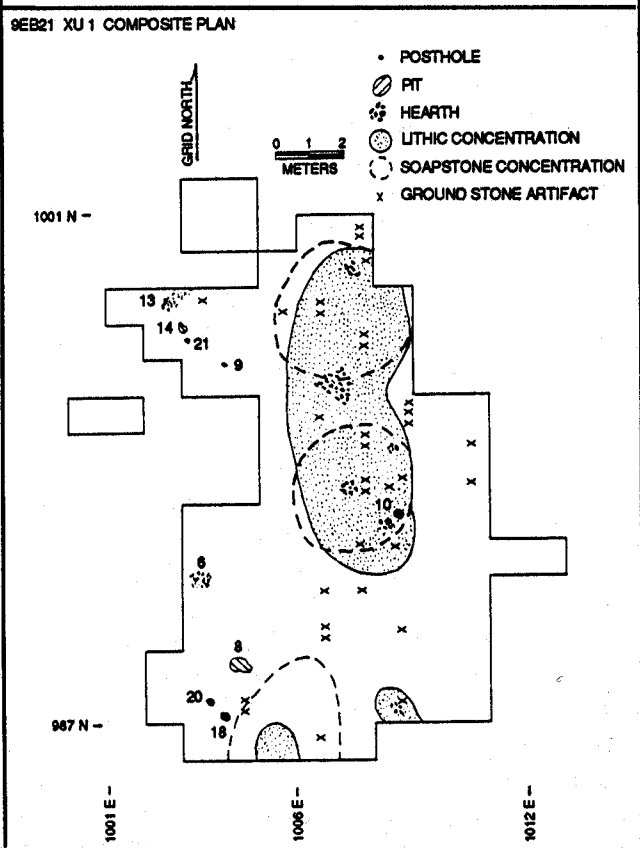
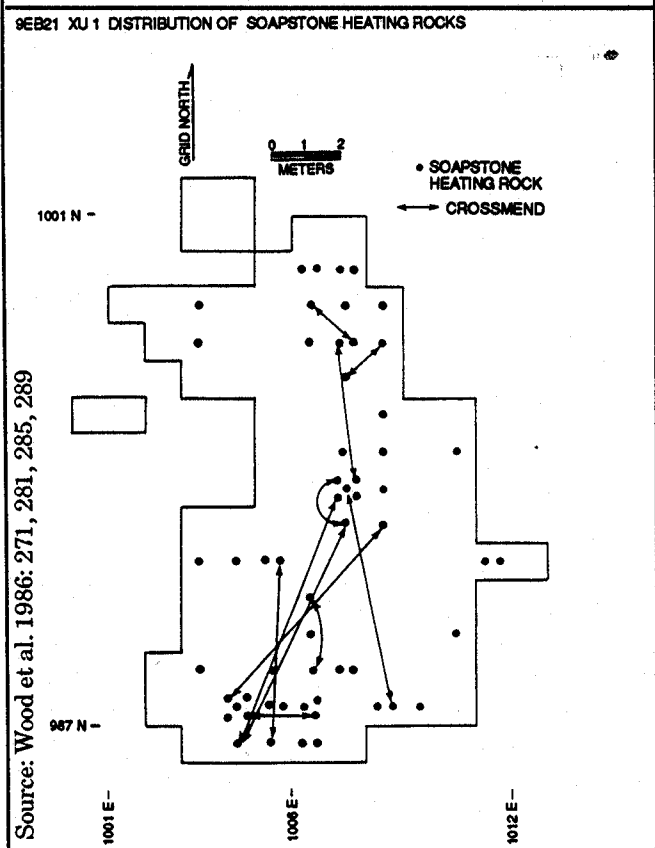
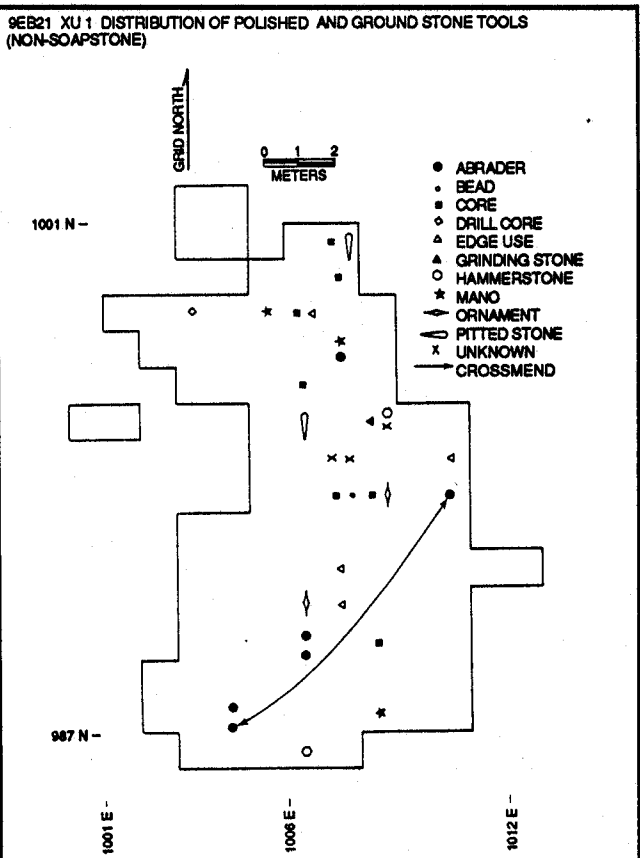
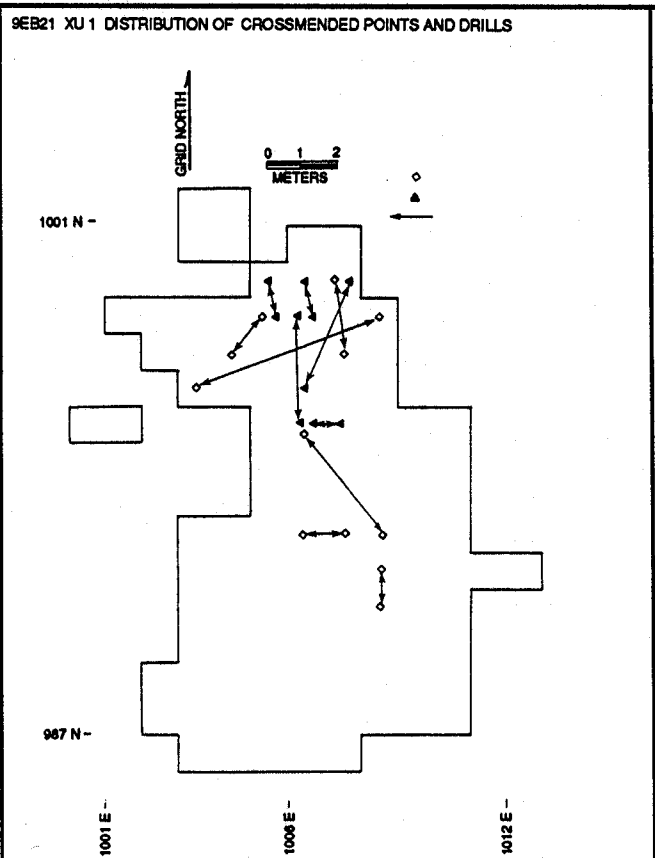
Only one shallow pit feature was recognized within the block, an incidence again probably due to the thickness and degree of the midden staining. This pit, Feature 8, was oval in shape, under 0.75 m in maximum extent, and had hickory nut shell and debitage in the fill, as well as ca. 2 kg of cracked rock (Wood et al. 1986:260). At least six small circular to oval stains were found at the base of the midden that may represent postmolds; all were ca. 25 cm in diameter and rarely exceeded 25 cm in depth. One of these, Feature 10, yielded almost 41 grams of carbonized hickory nut shell; a radiocarbon determination from a sample of this nutshell gave an uncorrected date of 2140±70 B.C. (Wood et al. 1986:260; Gardner 1986a:388). So few posts were found that it is difficult to infer the presence of structures; the posts that were found may be from drying racks or frames

associated with the numerous hearths in the area (Wood et al. 1986:290). While other, shallower postmolds may have been present, they could not be recognized within the midden staining. This suggests that, like at Sara's Ridge, excavation of deep pits or posts was not a characteristic of the Late Archaic occupation.

Artifacts recovered within the excavation block included 210 kg of rock, 36,238 pieces of debitage, 760 flaked stone tools, fragments from at least 46 perforated soapstone slabs, and a number of battered and ground stone artifacts, including three small polished bead or pendent fragments. Quartz and quartzite dominated the flaked stone assemblage, accounting for 83.0 percent of the tools and 89.7 percent of the debitage (Wood et al. 1986:261, 267). Only small amounts of cherts and metavolcanics were used (8.9% and 0.9% of all debitage, and 2.0% and 3.0% of all tools, respectively). The chert was a grainy, low quality metamorphized material observed in bluffs on the northwest face of the island and in cobbles in the riverbed. A probable local procurement of almost all of the lithic debris found on the site was indicated; only the metavolcanics appear to have come from some distance away, although even this material occurred within ca. 25 km (Alterman 1987:134-146, 300).

The incidence of metavolcanic material, under one percent of the debitage and ca. three percent of the tools, was surprisingly low considering this raw material is widely viewed as a signature for the Late Archaic period in this part of the South Atlantic piedmont (House and Ballenger 1976:74; Taylor and Smith 1978:32; Goodyear et al. 1979:207-212; White 1982:51, 70). This pattern may be more apparent than real, however, and reflect undue archaeological research attention toward large, broad-bladed metavolcanic Savannah River points at the expense of other artifacts also typical of the period. Goodyear, in a comparison of raw material selection over Savannah River and Otarre (Small Savannah River-like) forms in the interriverine zone to the east of the reservoir, for example, has noted that "there seems to be a trend away from the igneous /metamorphic rock [typical of Savannah Rivers] among the Otarres and an emphasis on quartz and siliceous materials with better flaking properties" (Goodyear et al. 1979:209). The investigations in the Russell Reservoir indicate that both quartz and metavolcanic raw materials were used in considerable quantity during the Late Archaic period.

A total of 281 projectile points were recovered in the excavation unit, making this the dominant tool form. The points, which resemble the Small Savannah River type (Oliver 1981), are similar to the points found at Sara's Ridge and Rocky River (Figure 35). Straight, expanding, and contracting stemmed forms were found, indicating the range of variation possible within a single assemblage of this period. The three forms were evenly distributed over the block and do not appear to reflect obvious functional or temporal differences; cross mends of point and other tool fragments from the upper and lower parts of the midden also tend to support one primary episode of midden formation (Figure 37; Wood et al. 1986:267). Other bifaces, many probable preforms or manufacturing rejects, were also common (N=53 artifacts), as were unidentifiable biface fragments (N=119 artifacts). Hafted drills, a comparatively rare tool form at the two other major preceramic Late Archaic sites excavated in the reservoir, occurred with some



Source: Wood et al. 1986: 271, 281, 285, 289

Figure 37. Crossmend Analysis and Late Archaic Occupation Surface, Paris Island South Site, 9EB21.

incidence (N=23 artifacts) and are thought to have been used to perforate soapstone slabs, among other tasks (Wood et al. 1986:282). Unifacial flake tools were also common within the midden (N=184 artifacts). Most were expedient forms with minimal intentional retouch that appear to have been selected from the manufacturing debris in the area, used, and then discarded. Most of the local meta-chert tools found on the site were expediently utilized unifaces.

An extensive quantity of debitage was found within the block, distributed in such a way as to suggest that most stoneworking occurred in one area. A workshop ca. 9 by 3 m in extent was indicated in the north central part of the block, where the vast majority of the debitage occurred, including over 8,600 flakes in four contiguous 1 m units (Figure 37). This concentration was centered around four possible hearths (dense concentrations of cracked rock in the general midden), and included large numbers of flake and ground stone tools and soapstone slabs. An analysis of a 1653 flake sample of the debitage indicated that both initial reduction and secondary maintenance activities were occurring. While extensive stoneworking was clearly documented, a range of other activities also appear to have taken place in this area.

A cross-mend analysis conducted over the points and drills found 11 mends, most from fragments in adjacent squares, and all from fragments within five meters of each other (Figure 37). This suggests fairly minimal movement of flaked stone tools upon breakage. A cross-mend analysis of soapstone slab fragments, in contrast, found a somewhat greater dispersion, suggesting intentional scattering of these artifacts upon breakage, possibly related to efforts to scavenge useable material (Figure 37; Wood et al. 1986:267, 288).

Four manos, two pitted cobbles, a grinding slab, four edge abraded cobbles, three hammerstones, and three abraders were found within the midden at Paris Island South (Wood et al. 1986:277, 280). The three abraders were made of sandstone or orthoquartzite, and may have been used to manufacture bone and antler objects, such as pins, awls, spear points, or fish hooks. These artifact types are fairly common in subsequent ceramic Late Archaic shell midden assemblages in the region, where better preservation occurs (e.g., Waring 1968b:165-172; Stoltman 1974:130-136). The manos and one of the pitted cobbles were of an unknown igneous material, while the other pitted cobble was made of soapstone. The remaining tools were on river cobbles of locally occurring quartz, quartzite, or metachert. The grinding slab exhibited extensive wear and use preparing soapstone slabs has been inferred (Wood et al. 1986:277). These tools were fairly widely scattered within the block, with the greatest numbers occurring among the probable lithic workshop debris.

Somewhat unusual artifacts recovered within the midden included an atlatl drill core (formed when a hollow cane was used to perforate an atlatl preform), a reddish-brown (catlinite?) bead fragment, and two small smoothed slabs, one of soapstone and the other of an unidentifiable material (Wood et al. 1986:280). The function of these latter two items is unknown, although they may have been bead or pendent preforms, or gaming pieces.

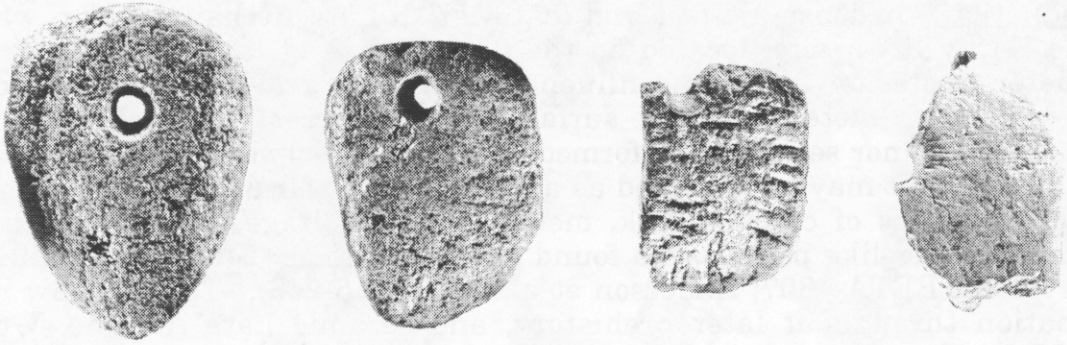
Soapstone was abundant at Paris Island South, with over 12 kg recovered within the block, mostly in the form of perforated slabs or slab fragments (Figure 38; Wood et al. 1980:280-285). Most of the slabs were rectangular or pentagonal, similar to the majority of the forms at Rocky River (Anderson et al. 1985b:242), and differing somewhat from the rounded or oval forms found at Sara's Ridge. It should be noted that both slab forms occurred at all three of these sites, although at each one form tended to dominate. The reasons for these shape differences between the assemblages are unknown. A temporal trend during the third millenium B.C. may be indicated, although both forms also apparently occurred in later, second millenium B.C. Stallings assemblages (Clafin 1931: Plate 52; Stoltman 1974:Plate 34). No evidence for the occurrence of soapstone bowls or notched soapstone objects, the latter an artifact type found at the Stalling Island (Clafin 1931:31-32; Plate 51) and Lake Spring (Miller 1949:40) sites, was found at the three preceramic Late Archaic sites examined within the reservoir.

All of the soapstone slabs found at Paris Island were broken, typically at the perforation. Most were plain, although a few exhibited incising or incompletely smoothed tooling marks. Through extensive cross-mend analysis, and using the presence of a perforation as the critical MNI element (minimum number of individual artifacts), the 424 slab fragments that were found could be attributed to at least 46 complete slabs (Wood et al. 1986:282). Three clusters of soapstone artifacts were observed, two associated with the lithic workshop and the third at the south end of the block. While some cross mends were made between these clusters, suggesting scavenging or reuse of the slabs, no re-perforated fragments were found. A soapstone outcrop was located just across the river in Elbert County, reducing the need for scavenging, re-perforating broken pieces, or other raw material conservation strategies. All three concentrations were found near dense concentrations of fire cracked rock, supporting the use of these slabs as heating stones, assuming discard occurred near fires. Only one pit where skin boiling might have occurred was found, however, in the south part of the block. A cooking area has been cautiously inferred here (Wood et al. 1986:290), although the general absence of these pits may indicate heating elsewhere, or in other types of containers (i.e., suspended skin bags?).

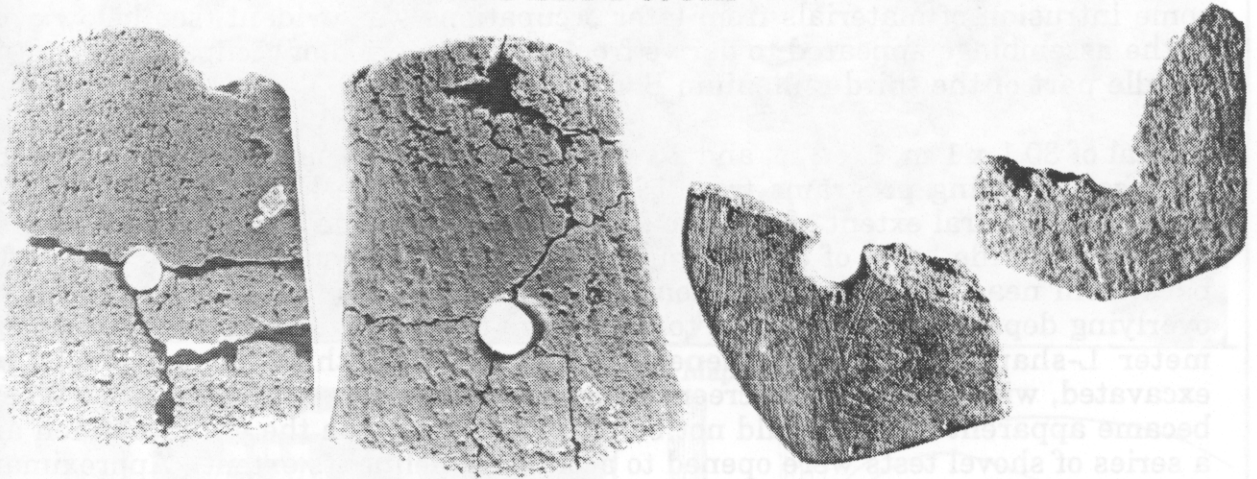
Ethnobotanical analysis was conducted on charcoal from a single 1 m square from the midden that was waterscreened through 1/4 and 1/16th inch mesh, and from the fill of Feature 10, a postmold (Gardner 1986a:387-390; Wood et al. 1986:287-288). Hickory and walnut shell were the only food remains found; no identifiable seeds were recovered. While hickory was comparatively common, walnut occurred in only trace quantities. By weight, the ratio of nutshell to wood charcoal was 1:4. The presence of the nuts coupled with the absence of seeds suggested a fall/winter occupation, although the examined sample size was very small and could not be considered representative. Plant processing was clearly indicated by the numerous ground stone tools found in the midden, a task that could have been directed to either stored or fresh foods, or both.

Aerial View of Rocky River Site, 39-10000 SARA'S RIDGE (Scale Unit is at Top)

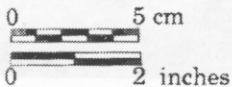
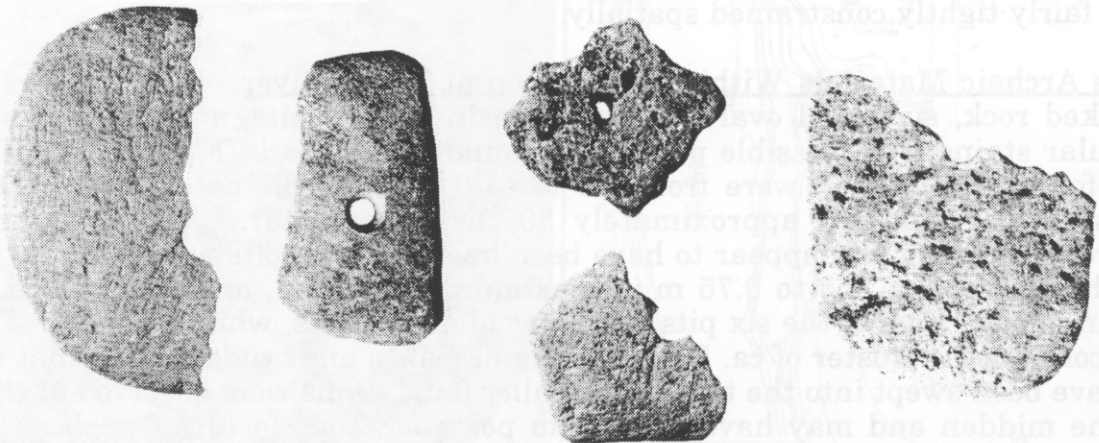
SARA'S RIDGE



PARIS ISLAND SOUTH



ROCKY RIVER



Source: Wood et al. 1986: 158, 283, 284; Anderson and Schuldenrein 1985: 242

Figure 38. Preceramic Late Archaic Perforated Soapstone Slabs, Sara's Ridge, Paris Island South, Rocky River Sites.

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Rocky River (38AB91)

Introduction. A dense artifact and feature-rich Late Archaic midden was found at the Rocky River site, located on the eastern side of the Rocky River about a kilometer upstream from its confluence with the Savannah. The midden was approximately a meter below the surface on a levee crest, overlooking and just to the east of a minor set of shoals formed by a resistant igneous dyke-like feature in the channel that may have served as a natural fish weir and crossing (Figure 39). Large quantities of cracked rock, metavolcanic debitage, soapstone, and Small Savannah River-like points were found and dated to ca. 2400 B.C. (2450±70 B.C. uncorrected, BETA-4307; Anderson et al. 1985b:215-249). The site saw repeated occupation throughout later prehistory, and ceramic Late Archaic, Woodland, and Mississippian assemblages overlay the preceramic Late Archaic midden (Glander et al. 1981:4-7; Gardner et al. 1983; Anderson et al. 1985b:218-223). While some intrusion of materials from later occupations was evident (see below), most of the assemblage appeared to derive from a single period of occupation during the middle part of the third millennium B.C.

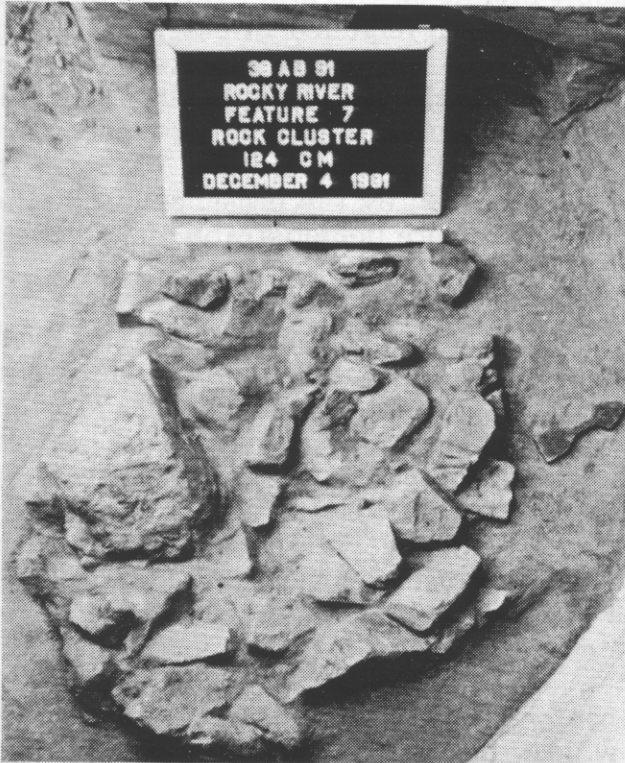
A total of 30 1 x 1 m, 1 x 2 m, and 2 x 2 m test units were opened at 38AB91 during successive testing programs from 1979 to 1981. These located and defined the depth and general extent of the late Archaic midden in the eastern part of the site. A 6 to 7 m wide band of dark organic staining was found extending about 20 m back from near the river bank along a north south axis. Using a D-6 bulldozer, overlying deposits were removed to just above the midden level, and an 88 square meter L-shaped block was opened in 1 m squares; three 10 cm levels were excavated, with all fill waterscreened through 1/8 inch mesh (Figure 39). When it became apparent that it would not be possible to examine the entire midden area, a series of shovel tests were opened to accurately define its extent. Approximately one-third of the midden area (ca. 56 square meters in the southern part of the block), the portion closest to the river, was excavated. The northern part of the block (ca. 32 square m) examined the area just beyond the midden, to see what might have been present; few features or artifacts were found, suggesting activity was fairly tightly constrained spatially.

Late Archaic Materials Within the Midden at Rocky River. Four clusters of fire cracked rock, six small oval to circular basin shaped pits, and 22 faint shallow circular stains from possible posts were found in the block (Figure 40). Three of the four rock clusters were from 0.5 to to 0.75 m in diameter; the fourth was considerably smaller, approximately 30 cm in diameter. All had associated charcoal staining and appear to have been hearths. The pits were circular to oval in shape, from ca. 0.5 to 0.75 m in maximum dimension, and shallow, ca. 10-25 cm in depth. Five of the six pits were devoid of artifacts, while the sixth (Feature 11) contained a cluster of ca. 20 metavolcanic flakes and crude bifaces that appear to have been swept into the top. The smaller faint stains were observed at the base of the midden and may have been from posts or other facilities such as drying racks.

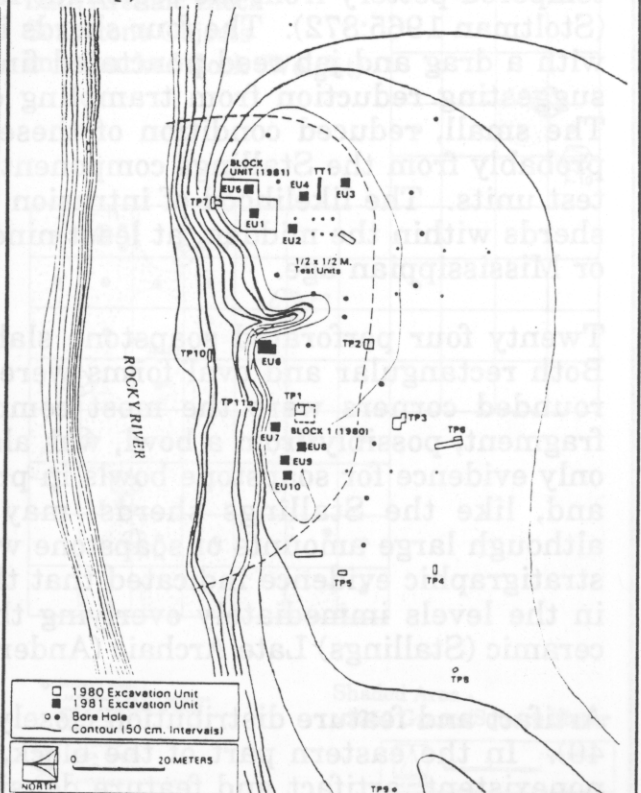
Aerial View of Rocky River Site, 38AB91, Looking East. 1982 Block Unit is at Top.



Feature 7, 38AB91.



Site Map, 38AB91.



Source: Anderson et al. 1985a: 216, 217

Figure 39. Site Location, Excavation Units, and Preceramic Late Archaic Feature, Rocky River Site, 38AB91.

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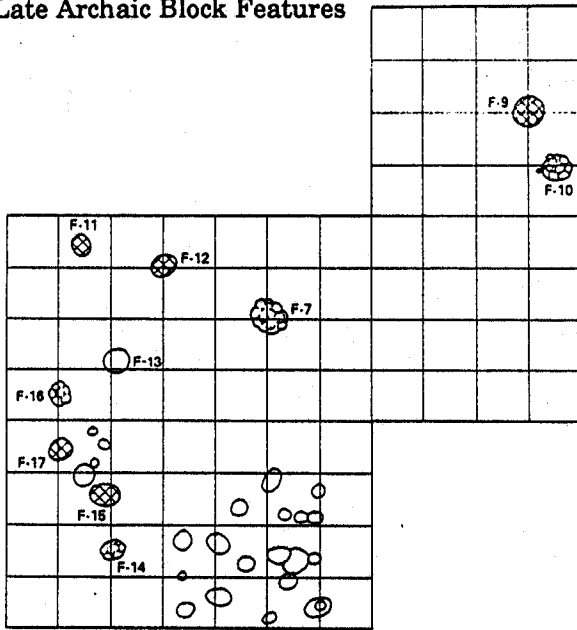
Artifacts recovered in the Late Archaic midden at Rocky River included 19,212 pieces of debitage, over 150 kg of rock and cracked rock, 30 projectile points, 47 formal bifaces or preforms, three hammerstones, three crude bifaces, four cores, and 25 pieces of worked soapstone. Metavolcanic materials accounted for the vast majority of the flaked stone assemblage at the site, accounting for over 80 percent of the debitage and 90 percent of the tools. Almost all of the remaining material was quartz, with chert present in only trace amounts. A major change from predominantly metavolcanics in the Late Archaic to predominantly quartz in the Woodland and Mississippian period was evident in the levels of the 30 test units opened at the site. Increased chert use was also evident in these latter periods. Four of the thirty projectile points found within the midden fit the Savannah River Stemmed type, while the remainder fell within the Small Savannah River/Otarre Stemmed categories (Figure 35). Twenty five of these, including the four Savannah River Stemmed, were metavolcanics, four were quartz, and one was a fine grained chert of probable piedmont origin.

Eight Stallings' fiber tempered sherds were found at the site, four from between 40 and 80 cm in depth in test units well to the west of the Late Archaic midden, and four within the midden itself (Anderson et al. 1985b:220, 232). The four Stallings sherds from the test units (three plain, one linear separate punctate) were stratigraphically below most of the site's Woodland materials, and above the Late Archaic midden. The sherds in the midden were intriguing since the assemblage appeared to be otherwise preceramic and, with an uncorrected date of 2450 ± 70 B.C., was only slightly later than the earliest known dates for fiber tempered pottery from the region, at Rabbit Mount on the lower Savannah River (Stoltman 1965:872). The four sherds in the midden included three plain and one with a drag and jab reed punctated finish; all were small and considerably worn, suggesting reduction from trampling or other mechanical weathering agencies. The small, reduced condition of these sherds argued for intrusion from above, probably from the Stallings component found at between ca. 50 and 70 cm in the test units. The likelihood of intrusion was reinforced by the presence of 16 other sherds within the midden, at least nine of which were demonstrably of Woodland or Mississippian age.

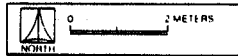
Twenty four perforated soapstone slab fragments were found within the block. Both rectangular and oval forms were present, although rectangular slabs with rounded corners were the most common (Figure 38). One curved soapstone fragment, possibly from a bowl, was also found within the midden. This was the only evidence for soapstone bowls in preceramic context found in the project area and, like the Stallings sherds, may represent an intrusion. Interestingly, although large amounts of soapstone were found in the Late Archaic midden, the stratigraphic evidence indicated that the greatest occurrence of the material was in the levels immediately overlying the block that have been attributed to the ceramic (Stallings) Late Archaic (Anderson et al. 1985b:233).

Artifact and feature distribution closely conformed to the midden staining (Figure 40). In the eastern part of the block, where the midden was poorly defined or nonexistent, artifact and feature density was low. Only one hearth and one pit

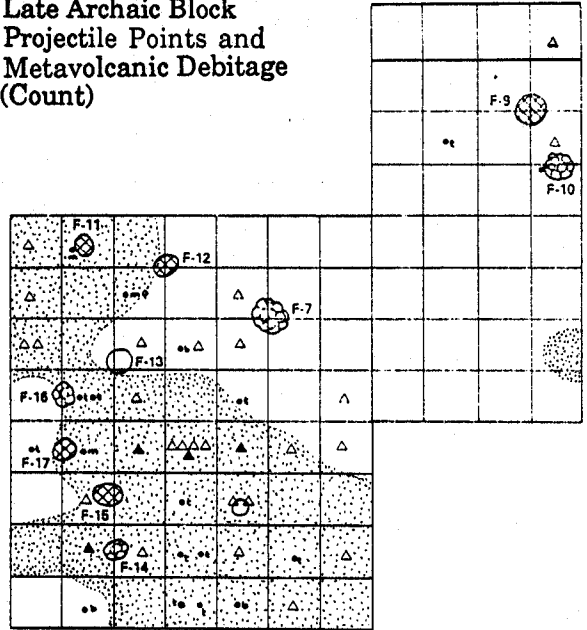
Late Archaic Block Features



FEATURES
 Rock Hearth
 Pit/Post Hole
 Undifferentiated Stain



Late Archaic Block Projectile Points and Metavolcanic Debitage (Count)



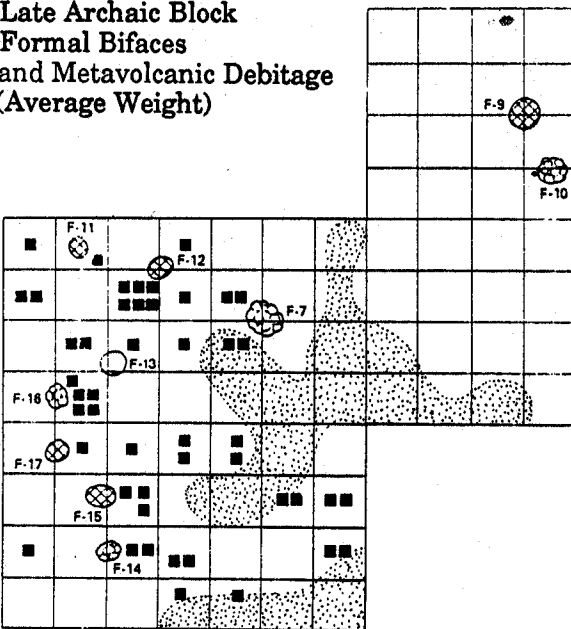
▲ Savannah River
 △ Olathe/Swanhooa
 ● Point intact unless coded as follows
 i Tip
 b Base
 m Midsection or Lateral Margin
 Raw material metavolcanic unless coded as follows
 0 Quartz

FEATURES
 Rock Hearth
 Pit/Post Hole
 Undifferentiated Stain

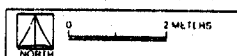
Shaded Area -
 >225 Flakes/Square Meter



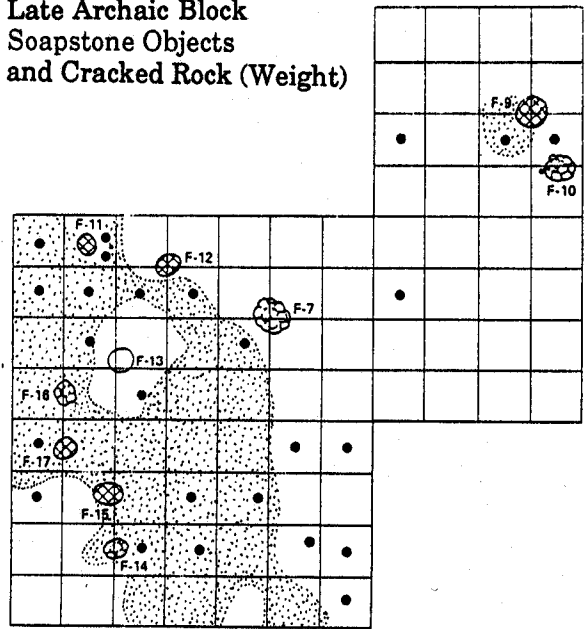
Late Archaic Block Formal Bifaces and Metavolcanic Debitage (Average Weight)



■ Formal Biface
 FEATURES
 Rock Hearth
 Pit/Post Hole
 Undifferentiated Stain



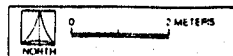
Late Archaic Block Soapstone Objects and Cracked Rock (Weight)



● Worked Soapstone
 All fragments are from perforated objects unless coded as follows
 a-Bow Fragment
 u-Underside

FEATURES
 Rock Hearth
 Pit/Post Hole
 Undifferentiated Stain

Shaded Area -
 >2250 Grams/Square Meter



Source: Anderson and Schuldenrein 1985: 236, 238, 241

Figure 40. Late Archaic Features, Points, Bifaces, and Perforated Slab Distributions, Rocky River Site, 38AB91.

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were found in this area, that may represent an isolated cooking location. A few tools, including a small stemmed point, a point tip, three perforated soapstone slab fragments, an expedient uniface, and three cores were found around these features, and were probably associated with their use. Throughout the block the distribution of hearth features and fire cracked rock closely corresponded to the occurrence of perforated soapstone slab fragments, supporting the inference that the slabs saw use in cooking activity.

The remaining tools and features were all in the western half of the block, together with dense concentrations of debitage and cracked rock. An examination of the debitage indicated that both initial and later stage manufacturing/tool maintenance activities occurred, with most of the activity directed to the production of bifaces. An analysis of average flake size distributions within the block showed that larger flakes were located near the edge of the midden (Figure 40). This suggests either the cleaning or sweeping of large flakes, or that initial production took place away from presumably more intensively occupied areas, after which knapping activity shifted to around the hearth and pit features.

The artifact and feature distributions indicated that a range of activities occurred in the vicinity of the Late Archaic midden at Rocky River, including food preparation, cooking, and flaked stone tool manufacture, use, and discard. In this regard the site assemblage was essentially identical to that in the midden areas at Sara's Ridge and Paris Island South. If the three sites were laid out the same way, then the midden at Rocky River probably served as an intensive activity area and dump, with any structures present probably located closer to the river. If that was the case they have since washed away. While the faint circular stains that clustered in the southeastern portion of the block may have been associated with a structure or structures, no wall lines could be resolved. Small quantities of fired clay were found in the midden that might have been daub fragments, but since they occurred almost invariably in or near hearths, they were probably not from structures. While it may be possible that the entire Late Archaic midden area at the Rocky River site represented the outline of one or more large multi-family structures, the data from Paris Island South and particularly Sara's Ridge suggest otherwise. At those sites the midden staining was either away from known structures or contained little evidence for their presence.

The only other evidence for structures found on the site appeared to be associated with the site's Woodland occupations (see Chapter VI, page 228). Some 20 m to the west of the Late Archaic midden a large oval fired area was found near the river in EU6. This feature was interpreted as either the partial remains of a burned structure or an intensively utilized living surface. Both Late Archaic and Woodland artifacts were found in the fill, and while it was assumed to be Woodland, its age and function were uncertain.

Although extensive paleosubsistence analyses were conducted with the Late Archaic midden deposits at the site, only limited, albeit somewhat tantalizing results were obtained. Several small, extremely weathered bone fragments were found, but unfortunately none could be identified. Soil chemistry analyses run on

samples from the midden produced high calcium and phosphorus signatures, however, suggesting that considerable degradation and concentration of bone minerals may have occurred in the area. Phosphate fractionations performed on the same samples also suggested the possibility of localized forest clearance (Anderson et al. 1985b:247-249). In spite of an extensive program of flotation sampling and ethnobotanical analysis (Moore 1985), little beyond charred hickory nutshell was found. While nutshell remains were common throughout the midden, suggesting a fall/winter occupation, the absence of ground stone tools, as at Sara's Ridge, made it appear unlikely that extensive plant processing occurred.

EVIDENCE FOR LATE ARCHAIC OCCUPATION IN THE RUSSELL RESERVOIR: MINOR EXCAVATION ASSEMBLAGES

McCalla Bottoms (38AB288)

An extensive Late Archaic assemblage was found at depths up to 60 cm below the base of the plowzone on the levee crest at the McCalla Bottoms site, underlain by the Middle Archaic deposits recounted previously (Schuldenrein et al. 1985:175-213). A detailed geoarchaeological research program undertaken at the site indicated that the Late Archaic occupation was located on a stable land surface characterized by a well defined soil horizon developed on overbank silts and clays. The stable surface, the nearby shoals in the river, and the presence of backswamp/marshy settings behind the levee area offered unusual microenvironmental diversity, and helps explain the presence of dense archaeological assemblages at this location. The Late Archaic assemblage included Stallings Plain and Punctated ceramics, soapstone bowl fragments, large quantities of debitage and cracked rock, and a number of small square stemmed projectile points resembling the Otarre, Swannanoa, Gary, Savannah River, and Stallings Island Type II forms (Figure 35; Alterman 1987:191). The Stallings fiber tempered assemblage is currently the northernmost concentration of this ware known along the Savannah; only minor quantities of the material were found further upstream, at sites like Gregg Shoals and Rucker's Bottom.

Late Archaic features were comparatively rare (N=5), and no midden staining or shellfish debris was observed. An uncorrected radiocarbon date of 1460±80 B.C. (BETA-2530; Glander et al. 1981:5-17) was obtained from a small pit in the 40 - 50 cm level. While no artifacts were present in the fill, the feature was assumed to be contemporaneous with the Stallings assemblage. A well defined rock cluster with associated Stallings Punctated sherds, a large soapstone bowl fragment, and minor amounts of debitage was also found, that probably represents a hearth remnant. The only other features were three equivocal stains (Schuldenrein et al. 1985:183-185). The fill from the rock cluster was floated and produced identifiable pine wood charcoal. The quantity of charcoal recovered was too small to allow successful dating at the time, although accelerator dating could now be used to date the feature and, by association, the Stallings assemblage. Given advances in dating procedures in recent years, many samples like this from the reservoir

warrant reexamination.

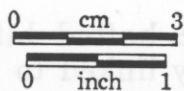
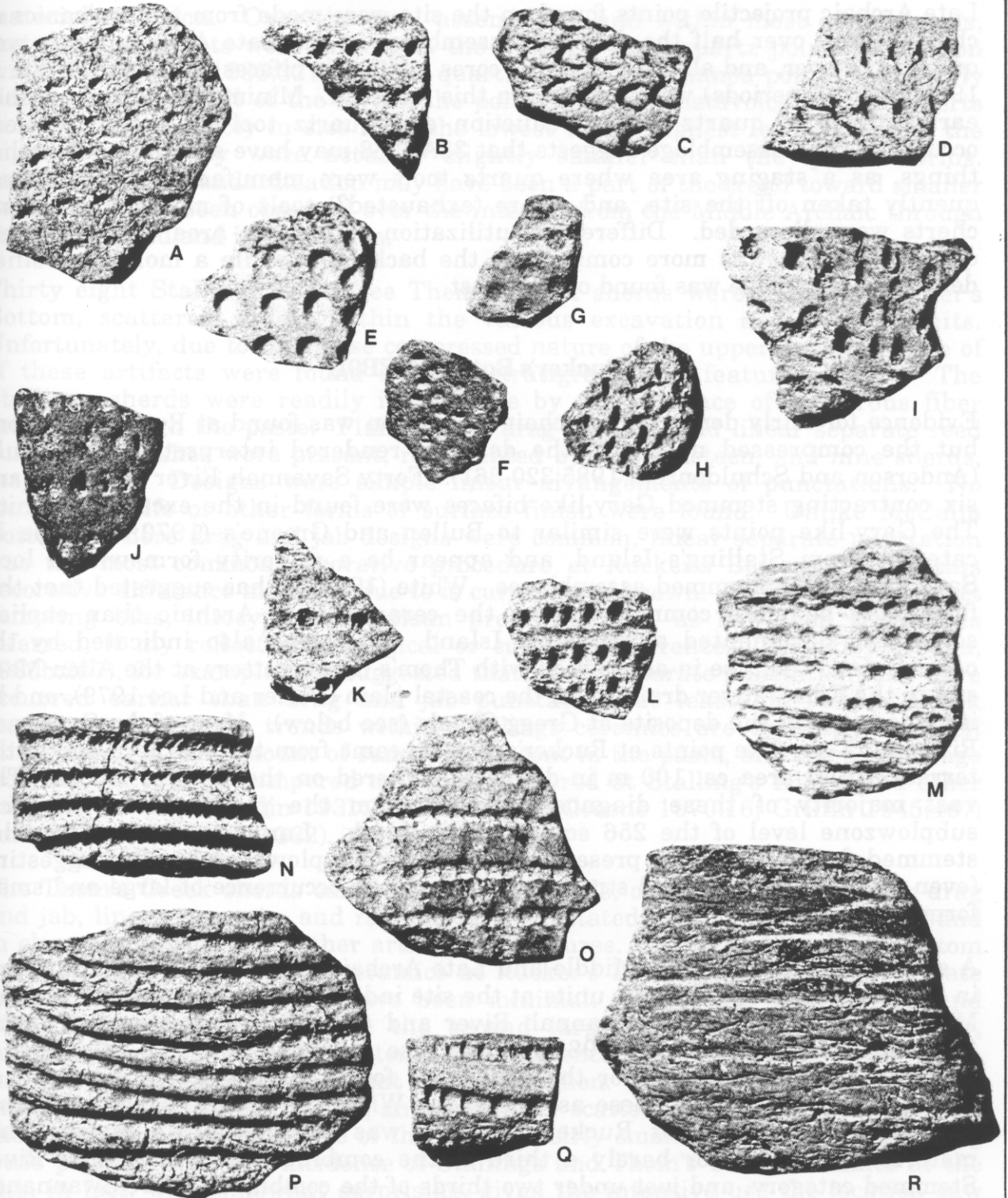
The Late Archaic projectile points that were recovered from the site exhibited appreciable variation in size and shape, although most fell within the range of variation of Keel's (1976:194-196) Otarre Stemmed type. A range of raw materials were employed; of 38 identifiable Late Archaic bifaces found in stratified context in 1981, the majority were made from metavolcanics (N=24; 63.2 percent), followed by chert (N=10; 26.3 percent) and quartz (N=4; 10.5 percent) (Schuldenrein et al. 1985:186). Most of the chert was a local piedmont material (Alterman 1987:292). The raw material diversity was comparable to that observed in the later levels at Stallings's Island, which have been dated roughly contemporaneous with the Stallings occupation at McCalla Bottoms. The increased raw material diversity observed during the Late Archaic locally has been linked to the increase in exchange, interaction, and social diversity observed over the general region during this period (e.g., Sassaman et al. 1988).

The site produced the largest sample of Stallings pottery, 139 sherds, found in the reservoir. The assemblage was dominated by punctated sherds (N=81; 58.3 percent), with decorative treatment restricted to simple linear arrangements of drag and jab or separate punctations (Figure 41). No geometric patterns or other elaborate decorative procedures, such as incising or zoned punctation, were present. Vessels were simple molded bowls with straight to incurving rims and rounded or flattened lips. Decoration was restricted to the rim area in some cases and bases tended to be plain. Assuming only one method of punctation was used on any given vessel, than at least 18 bowls were represented in the assemblage. Most of the sherds were characterized by linear drag-and-jab punctations formed with a cut stick or cane; linear separate crescent or circular punctations were a distinct minority. No Thom's Creek sand tempered ceramics were found at the site. The vertical distribution of Stallings plain, drag and jab, and linear separate punctate pottery in the levels at McCalla Bottoms was examined, but no trends were observed; most of the pottery was found from 40 to 50 cm in depth (Schuldenrein 1985:191).

Stoltman (1972:44-45) has suggested that plain fiber tempered pottery may have appeared earlier than decorated finishes in the Savannah River area, and that the incidence of decoration increased over time. If this observation is correct, then the McCalla Bottom's assemblage may date fairly late in the period of fiber tempered pottery manufacture. The ratio of plain to decorated ceramics at McCalla Bottoms (0.59/1.0) was between the ratios observed in the lower (0.94/1.0) and upper (0.46/1.0) portions of the midden at the Stallings's Island site (Stoltman 1972:45). The contemporaneity of the two sites is further supported by the 1460 ± 60 B.C. radiocarbon date from a Stallings level at 38AB288, and the date of 1780 ± 150 B.C. obtained from the base of the ceramic-bearing deposits at Stallings's Island (Williams 1968:331; Bullen and Greene 1970:12).

Examining the vertical distribution of debitage raw materials in the 1981 units, a major decline in the use of quartz was evident when compared with the preceding Middle Archaic period (Figure 31). Quartz remained a major component of the Late Archaic technology, which was interesting since almost 90 percent of the

Source: Anderson and Schuldenrein 1985: 194



Stallings Punctate Ceramics from the Upper Savannah River. a-j Stallings Punctate with linear separate punctations; k-n Stallings Punctate with drag and jab punctations. The punctations in sherds are shallow and uniform, creating a simple stamped effect. Sherds a, d, e, g, h, k, l are from 9EB91; sherd c is from 38AB91, sherd i is from 38AB22; all others are from 38AB288.

Figure 41. Stallings Fiber Tempered Ceramics, Richard B. Russell Reservoir Area.

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Late Archaic projectile points found on the site were made from metavolcanics or cherts. Well over half the debitage assemblage in the Late Archaic levels was quartz, however, and all but one of the cores and crude bifaces found on the site in 1981 (over all periods) were made from this material. Minimally, it appears that early stages of quartz cobble reduction and quartz tool manufacture were occurring. The assemblage suggests that 38AB288 may have served, among other things, as a staging area where quartz tools were manufactured and subsequently taken off the site, and where (exhausted?) tools of metavolcanics and cherts were discarded. Differential utilization of the site area was indicated; quartz debitage was more common on the backslope, while a more diversified debitage assemblage was found on the crest.

Rucker's Bottom (9EB91)

Evidence for fairly dense Late Archaic occupation was found at Rucker's Bottom, but the compressed nature of the deposits rendered interpretation difficult. (Anderson and Schuldenrein 1985:320-361). Forty Savannah River Stemmed and six contracting stemmed Gary-like bifaces were found in the excavation units. The Gary-like points were similar to Bullen and Greene's (1970:14) Type IV category from Stalling's Island, and appear to be a minority form within local Savannah River Stemmed assemblages. White (1982:51) has suggested that this form may be more common during the ceramic Late Archaic than earlier, something documented at Stallings Island. This was also indicated by the occurrence of the type in association with Thom's Creek pottery at the Allen Mack site in the Edisto River drainage in the coastal plain (Parler and Lee 1979), and by its placement in the deposits at Gregg Shoals (see below). Most of the Savannah River and Gary-like points at Rucker's Bottom came from the southern end of the terrace, in an area ca. 100 m in diameter centered on the Archaic blocks. The vast majority of these diagnostics came from the plowzone or the first subplowzone level of the 256 square meter block. Large numbers of smaller stemmed forms were also present in the upper subplowzone levels, suggesting (even given the compressed stratigraphy) that a co-occurrence of large and small forms was probable.

A seriation analysis of the Middle and Late Archaic and initial Woodland forms in the Archaic blocks and test units at the site indicated a replacement of Morrow Mountain points by both Savannah River and smaller square stemmed forms (Anderson and Schuldenrein 1985:329; see also Alterman 1987:248-249), with a considerable co-occurrence for the latter two forms. Raw material preferences varied dramatically over these assemblages. While the Middle Archaic Morrow Mountain assemblage at Rucker's Bottom was predominantly quartz, this material accounted for barely a third of the combined Gary/Savannah River Stemmed category, and just under two thirds of the combined Otarre/Swannanoa assemblage at the site (Anderson and Schuldenrein 1985:314).

Differences in size within the the Middle and Late Archaic hafted biface assemblage at Rucker's Bottom appeared to be at least partially linked to raw

material selection. Over the total assemblage, and within most of the levels, metavolcanic points were larger, on the average, than quartz points (Anderson and Schuldenrein 1985:327). While quartz Otarre/Swannanoa points were fairly similar in size in all of the levels, the points made of metavolcanics and cherts decreased appreciably in size from the lowest to the highest levels, until in the highest level they were actually slightly smaller than the quartz forms. Increasing size standardization may have been a part of the trend toward smaller points that has been observed over the interval from the Middle Archaic through the Early Woodland in the region.

Thirty eight Stallings and three Thom's Creek sherds were found at Rucker's Bottom, scattered widely within the various excavation and surface units. Unfortunately, due to the dense compressed nature of the upper deposits, none of these artifacts were found in good stratigraphic or feature context. The Stallings sherds were readily identifiable by the presence of numerous fiber vesicles through the paste. Plain, linear drag and jab, and linear separate reed punctated finishes were present, represented by ten, nineteen, and nine sherds, respectively. Designs were simple linear arrangements of punctations. No complex motifs or other forms of surface finish were found. Unlike McCalla Bottoms, where drag and jab designs were common, linear separate punctation was the most common decorative procedure at Rucker's Bottom. What this decorative difference might be due to is currently unknown. It may merely reflect sampling bias, idiosyncratic artisan preferences or, as has been sometimes inferred, it may reflect chronological or cultural differences. Trinkley (1980a, 1980b:287), for example, has suggested that linear separate punctation may have occurred earlier than drag and jab punctation, at least on Thom's Creek materials; decorative trends within Stallings ceramics are currently not well understood. A fair amount of sand was present in the paste, and the assemblage was similar to fiber tempered material recovered at Stallings's Island and other inland sites (e.g., Claflin 1931:14; Bullen and Greene 1970:16; Griffin 1945:467; Anderson et al. 1979:75, 132).

The Thom's Creek sherds came from three vessels, characterized by linear drag and jab, linear separate, and random reed punctated finishes. None were found in clear association with other artifacts or features. Use of the Rucker's Bottom area, or at least the use of ceramics at Rucker's Bottom during the later Late Archaic period, appears to have been minimal. While the 41 Stallings and Thom's Creek sherds formed the second largest sample in the reservoir, surpassed only by McCalla Bottoms, the incidence was actually quite low given the massive excavation effort that was undertaken. Few vessels were apparently broken or discarded at the site, and the widely scattered nature of the fragments that were found suggests use of the area by fairly small groups, or groups using little pottery. The low incidence of Stallings and Thom's Creek ceramics at the site, in fact, was somewhat surprising, given the intensive use the location saw throughout much of prehistory.

Gregg Shoals (9EB259)

Late Archaic artifacts and features were found in largely undisturbed, stratified context in zones III to V (40 to 110 cm) of the 8 x 8 m block opened at the Gregg Shoals site (Tippitt and Marquardt 1984:7-18 to 7-27). The lowest levels (Zone V, from 80 to 110 cm) were dominated by small, square stemmed quartz projectile points, debitage, and hammerstones, and perforated soapstone disk fragments (Figure 29). Above these levels, in Zone III, from 40 to 60 cm, the assemblage was characterized by Stallings Plain fiber tempered pottery, soapstone bowl fragments, hammerstones, and both large and small square and contracting stemmed projectile points. The only fiber tempered pottery found in the excavation block, eight sherds, came from the lower part of this zone, from 50 to 60 cm in depth. Metavolcanics increased markedly in Zone III, to some 16 percent of the total debitage assemblage, the highest incidence observed in any of the levels at the site (Figure 27). A small number of later, Woodland period ceramics and projectile points were also present in this zone, however, so a Late Archaic association for all the artifacts cannot be assumed.

A replacement of small stemmed points by both large and small stemmed forms was documented in the excavation levels. Projectile points in Zone III included two large contracting stemmed forms resembling Garys or Bullen and Greene's (1970:24) Type III at Stalling's Island, one Otarre Stemmed or Plott Short Stemmed, one Swannanoa Stemmed, and two Yadkin Large Triangulars (Figure 29; Tippitt and Marquardt 1984:7-18 to 7-20). The larger Gary and Otarre forms were made from metavolcanics, and were probably Late Archaic in age, while the other stemmed forms, of quartz, were either Late Archaic or Woodland age. No points were found in Zone IV. The projectile points in Zone V were small, square to slightly contracting stemmed forms similar to the points found in the preceramic Late Archaic middens at Paris Island South, Rocky River, and Sara's Ridge. Of the twelve points found in this zone, eight were quartz, three were metavolcanics, and one was coastal plain chert.

Four charcoal stains each approximately half a meter in diameter, three with associated fire cracked rock, were found in Zone III and probably represent Late Archaic hearth remnants. Several teeth from a domestic dog (*Canis familiaris*) estimated to weigh approximately 25 to 30 pounds were found in the same zone. A single mussel shell was recovered in one of the four features, in apparent association with three plain fiber tempered sherds (Tippitt and Marquardt 1984:7-24, 9-4). This isolated shell was the only evidence for Late Archaic period shellfish exploitation found in the reservoir. In Zone V two small basin shaped charcoal stains ca. 30 and 50 cm in diameter were found near a small cluster of fire cracked rock. Five small stemmed hafted bifaces were recovered in close proximity to these features, and activity about one or more hearths was suggested.

A large, presumably Late Archaic period hearth was found at a depth of from ca. 30 to 55 cm in Operation B, a 2 x 2 m unit opened to a depth of 1.30 m some 25 m west of the large excavation block (Figure 24; Tippitt and Marquardt 1984:7-37). The feature was a well defined cluster of rocks, including 25 intact and eight split quartz cobbles. The base of a large stemmed hafted biface of quartz, possibly a

Savannah River Stemmed, was found in the same level. Faint staining and small flecks of charcoal were observed around the rocks, and the feature may represent a hearth or a steaming area. Given the absence of evidence for fire cracking, it may alternatively represent a raw material cache. A well made quartz biface resembling a Guilford Lanceolate was found below this rock cluster at a depth of ca. 60 - 70 cm. Repeated minor Late Archaic period use of the Gregg Shoals area was indicated by the excavation assemblage, although it must be cautioned that much of the site had been lost prior to the start of fieldwork. The assemblage stratification that was documented, however, proved extremely important to the construction of the Late Archaic portion of the reservoir area cultural sequence (Figure 2). Particularly important to this effort was the data on the occurrence and relative positions of projectile point forms, fiber tempered pottery, and soapstone bowl and disk fragments.

Clyde Gulley (9EB387)

The Clyde Gulley site was located immediately to the south of the confluence of Pickens Creek with the Savannah River, on a low terrace in a narrow section of the river floodplain (see Chapter IV, pp. 127-129). An apparent preceramic Late Archaic component was discovered at a depth of from 60 to 80 cm in Backhoe Trench 4, one of 14 backhoe trenches that were opened and screened to determine the nature of the site deposits (Tippitt and Marquardt 1984:8-5 to 8-7). A small quartz square to slightly expanding stemmed point resembling a Plott Short Stemmed (Keel 1976:126-127) was found, together with a number of pieces of fire cracked rock and quartz and metavolcanic debitage. No pottery was observed, although ceramics were common in the upper 30 cm of the unit. The point, which resembled some of the smaller forms found in the Late Archaic middens at Sara's Ridge and Paris Island South, may date to the same general period.

9EB17 (Transect 21)

A minor Late Archaic component characterized by quartz and metavolcanic debitage, soapstone, and chipped stone tools was found in three of four 1 x 2 m test units opened at 9EB17, at depths ranging from ca. 40 to 70 cm (Wood et al. 1986:213-219). This was underlain by a predominantly quartz debitage and tool assemblage that included bifaces resembling the Guilford Lanceolate type. Debitage signatures from the test units documented a peak in the occurrence of metavolcanics in the Late Archaic levels, a pattern similar to that noted at Gregg Shoals (Figure 27).

Beaverdam Creek Borrow Pit (9EB19)

A minor Stallings ceramic Late Archaic assemblage was found in XU1 at 9EB19 (Wood et al. 1986:249-253). XU1 was a 52 square meter excavation opened in a single 10 cm level within a larger, 10 x 20 m area that was machine stripped and

examined for features. Two sherds of Stallings drag and jab fiber tempered pottery were found, one from general level fill and the other within a later Woodland feature; no identifiable Late Archaic features were found (Wood et al. 1986:249, 254). Other Late Archaic materials present in the general level fill from this unit included nine small square stemmed points resembling the Small Savannah River type (Oliver 1981:181-183), and five soapstone bowl fragments. The Late Archaic materials were recovered in mixed context within a much larger Woodland assemblage, and no other artifacts could be unambiguously attributed to this component. The apparent association of fiber tempered pottery and soapstone vessel fragments was also noted at other sites in the reservoir, notably at Gregg Shoals and McCalla Bottoms (Tippitt and Marquardt 1984:7-22; Schuldenrein et al. 1985:189).

Rufus Bullard (9EB76)

Minor Late Archaic components were found at the Rufus Bullard site, which was located on a levee opposite the northern end of Carter's Island, in Elbert County, Georgia (Flint and Suggs 1980; Anderson et al. 1985a:149-174; Alterman 1987:169-172). The field work conducted at this site was summarized in the preceding Middle Archaic section (pp. 146-147). A stone alignment from a possible prehistoric fish weir or historic mill dam connects the island with the mainland near the site (although the possibility that this was a historic weir must also be considered). Four sherds of Stallings fiber tempered pottery (three linear separate punctate and one plain), perforated soapstone disk fragments, and Savannah River Stemmed-like projectile points were found at depths from 50 to 70 cm below the surface. An uncorrected radiocarbon date of 2550 ± 135 B.C. (UGa-3612) was obtained from a rock cluster found at a depth of from 60 to 65 cm in one of the units opened on the levee crest. While no artifacts were directly associated with this feature, a Savannah River Stemmed point was found nearby at a depth of 60 cm, and the Stallings sherds and worked soapstone came from the same general level. The date is essentially equivalent to the two early dates obtained from Rabbit Mount (2505 ± 135 , 2515 ± 135 B.C.; Stoltman 1965:872) in the lower part of the drainage, and may be valid (the two dates from Rabbit Mount also came from general level fill). The absence of a direct association of artifacts with the hearth, the scattered nature of the units producing the diagnostics that were found, and the low artifact density in these units, however, render the date from Rufus Bullard suspect.

9EB92

A probable Late Archaic hearth with a Savannah River Stemmed point in the fill was found in Area D at 9EB92, a site located near the mouth of Beaverdam Creek in the southern part of the reservoir (Campbell and Weed 1984:65-66; see Chapter VII, pp. 308-310 for additional information about this site). The feature, found at the base of the plowzone during stripping operations, was a small rock cluster in a mottled stain. The feature was approximately 65 cm in diameter and 20 cm deep, and contained the point, a perforator, and a number of flakes and pieces of

fire cracked rock. Other Late Archaic projectile points were found on the surface at the site, but no other features were found that could be attributed to this occupation.

9EB219

One plain and four linear drag and jab reed punctated sherds of fiber tempered pottery were found in test units opened at 9EB219, a site along lower Beaverdam Creek, in subplowzone levels dominated by Dunlap Fabric Marked and Deptford (?) Simple Stamped pottery (Gardner et al. 1983:57; Campbell and Weed 1986:113, 126; see Chapter VII, p. 311 for additional information about this site). Small Savannah River-like points, a few soapstone vessel fragments, and a number of pieces of soapstone debris were also found in these levels that may be associated with the Stallings pottery. The deposits at the site were highly mixed, and little else can be determined about the Late Archaic occupation. The association of the Early Woodland fabric marked pottery with the Stallings material in the same levels was used to infer a continuation of Late Archaic settlement and subsistence patterns into the Early Woodland (Campbell and Weed 1980:130). It should be stressed, however, that no evidence for a direct continuity between Late Archaic and Early Woodland adaptations was found anywhere in the reservoir.

Harper's Ferry (38AB22)

A minor late Archaic component identified by the presence of several metavolcanic Savannah River and Otter/Swannanoa projectile points, worked soapstone fragments, and one sherd of Thom's Creek linear separate punctate pottery was found at the Harper's Ferry site (Cantley et al. 1985; Alterman 1987:182-185). The site, which was about 1.0 ha in extent, was located in the Savannah River floodplain just below the confluence of Allen Creek, on two levees adjacent to the main channel. The Late Archaic materials were found on the levee closest to the river, in undisturbed context just below the base of the plowzone. The site was originally found by Hemmings (1970:35-36) in 1970, when a few artifacts were found in four test units opened in the area of the confluence. Following limited testing by Thunderbird Research Corporation in 1979 (one 1.0 x 1.0 m unit; Gardner et al. 1983:142-149), thirteen 1.0 x 1.0 to 2.0 x 2.0 test units and two small blocks, one on each levee, were opened in 1980 (Glander et al. 1981) Mississippian through Late Archaic remains were found; most of the post-Late Archaic materials were interpreted as disturbed or in the plowzone. To further examine the undisturbed Archaic deposits near the river the plowzone was stripped from a ca. 15 x 100 m area, and block units were opened in two areas where concentrations of features were noted. The blocks, encompassing 30 and 50 square meters, were opened in three 10 cm levels, using 1.0 m units, with all fill waterscreened through 1/8 inch mesh.

Fourteen features were found, ten of which were rock clusters, the probable remains of hearths, together with four stains thought to be the remains of pits.

Given the low incidence of later, Woodland and Mississippian artifacts in the levels, most of these features were thought to date to the late Archaic. Most of the features contained only debitage or cracked rock, although Late Archaic diagnostics (one Savannah River Stemmed point and one worked soapstone fragment) were found in one rock cluster. The associated tool assemblage in the general level fill was small but fairly diversified, and included bifaces, drills, cores, spokeshaves, soapstone disk fragments, flake and cobble tools, and one full-grooved axe. Analyses of debitage size and spatial distributions indicated considerable core/biface reduction was occurring, typically in close proximity to hearth areas. Moderate use of the site area was indicated; the absence of midden or unusually dense artifactual debris such as that noted at sites like Rocky River, Paris Island South, or Sara's Ridge suggested camps or short duration residential sites were present (Cantley et al. 1985:89).

THE LATE ARCHAIC IN THE UPPER SAVANNAH RIVER VALLEY IN LIGHT OF THE RUSSELL RESERVOIR INVESTIGATIONS

Chronological and Cultural Subdivisions Within the Late Archaic

As a result of the work conducted within the Russell Reservoir, it is possible to recognize three distinct cultural and temporal subdivisions within the Late Archaic occupations in the upper Savannah River Valley. These divisions, as advanced by Wood and his colleagues (1986:331-334), and modified somewhat here, offer a more precise framework from which to view local Late Archaic developments than earlier temporal models advanced for the region (e.g., Stallings I-II, Stallings I-II-III).

Division I (ca. 3500 - 3000 B.C.). Sites of this period have traditionally been identified by the presence of large Savannah River Stemmed points, typically made on metavolcanic materials. The point type is a local variant of a major regional "Broadpoint" horizon along the Atlantic coast (Turnbaugh 1975), and has also been linked to the Benton horizon in the mid-South (Coe 1974:45; Wood et al. 1986:331; Sassaman 1988). Large "classic" Savannah River Stemmed points were uncommon in the reservoir, however, and when found tended to be in later context, either with ceramics, or in direct association with smaller stemmed forms, as in the middens at Paris Island South, Rocky River, and Sara's Ridge. This distribution suggested either fairly minimal occupation of the middle Savannah River area during the initial Late Archaic, or the use of other, unrecognized point forms. Stratigraphic evidence from reservoir sites such as Gregg Shoals and Rucker's Bottom indicated the latter alternative was the most likely. A replacement of Morrow Mountain and Guilford forms by small, square-to-slightly contracting stemmed points was evident at these sites. These terminal Middle Archaic, initial Late Archaic point forms occurred on the same time level as Coe's (1964) Halifax type, a roughly similar form in size and shape, but were characterized by squared rather than weakly side notched stems.

Quartz continues to dominate assemblages, although there is some evidence for an increase in the use of other materials, notably metavolcanics. While large Savannah River Stemmed points may first appear during this period, they are uncommon. No conclusive evidence for an association of these forms with soapstone slabs, soapstone vessels, or fiber tempered pottery was found.

Sassaman (1985b, 1988) has recently documented the appearance of Benton Stemmed-like points, locally described as MALA points, in stratigraphic context between Morrow Mountain and Savannah River Stemmed types at sites in the inner coastal plain portion of the Savannah River at this same time level. This has been interpreted as an intrusion of ideas or people from the mid-south, where Benton points date from ca. 4000 to 3000 B.C., and an overlap with the Savannah River Stemmed form locally has been inferred. At two sites in the inner coastal plain, G.S. Lewis and Pen Point, MALA points were found associated with perforated soapstone slabs, suggesting either an early occurrence for this technology locally, or a continuation of the MALA horizon into the third millennium B.C. No evidence for MALA points was found in the Russell Reservoir assemblages, although some similarity is evident with the later Archaic, Division II point forms found in the three sealed mid-to-late third millennium B.C. assemblages.

Division II (ca. 3000 - 2000 B.C.). Division II assemblages are characterized by moderate-sized stemmed points and perforated soapstone slabs. There is no conclusive evidence for soapstone or fiber tempered vessel use locally, although pottery may have appeared on sites in the coastal plain by the later half of the period. Equivocal associations of Stallings pottery from sites in this time range within the reservoir, at Rufus Bullard and Rocky River, may indicate ceramic technology was available, but only minimally (or seasonally?) employed. Tools were made almost exclusively from local lithic raw materials found within the piedmont. A change in raw material preference from quartz to quartz, metavolcanics, and other materials marks a major shift from the assemblages associated with earlier Morrow Mountain, Guilford, and the small square stemmed forms. Projectile points exhibit considerable variability in size and shape but typically were square to slightly expanding or contracting stemmed forms. They were made from a wide range of locally available raw materials, and most closely resemble the Small Savannah River and Otarre Stemmed types.

Three major, intensively occupied sites from this period were examined within the reservoir, at Sara's Ridge, Paris Island South, and Rocky River. Minor components were also documented, suggesting briefer, less complicated occupations, at sites such as Gregg Shoals and probably at Rucker's Bottom (where extensive reoccupation created an extensive assemblage). Semi-permanent or permanent occupations on floodplain levees in close proximity to the river are documented that appear to represent the year-round residences of small (family or extended family?) groups as well as shorter duration camps occupied by larger groups. Settlement appears to have alternated between seasonally occupied and shorter duration camps. The incidence and diversity of tool forms indicates a logistically-based technological organization, while the raw

material sources employed argue for limited group mobility. Spatially circumscribed territories, probably restricted to specific segments of the drainage, have been inferred. Social organization presumably remained relatively uncomplicated, as evidence for long distance exchange is minimal. Social solidarity within local territorial kin-based groupings is thought to have been reinforced through periodic aggregation, where mate and information exchange may have occurred. Such aggregation may have been facilitated by the presence of periodic resource abundances such as anadromous fish. All three of the major sites examined were in excellent locations for catching fish, and a natural weir was even present at Rocky River. The larger group sizes permitted by these resources, parenthetically, would have probably been necessary to successfully handle such an operation (i.e., building and maintaining the weir, netting, and other equipment; catching and processing the fish).

The larger (local group) aggregation sites, of which Sara's Ridge appears to be a prime example, thus may have been situated to take advantage of seasonally available resources such as anadromous fish. Structures and sleeping areas at these sites appear to have been located near levee crests, with major cooking and stoneworking activities relegated to the backslope areas. No evidence for the use of domesticates such as squash, gourd, or the starchy seeds of the Cheno-Am group was found. Likewise, no evidence for the use of shellfish was detected; shellfish do not appear to have been exploited to any great extent at any time during the Late Archaic appreciably to the north of the fall line in the drainage. The Stallings Island and Lake Springs cluster of shell midden sites apparently represent the northernmost extension of this activity in the drainage.

Division III (ca. 2000 - 1000 B.C.). Sites of this period are characterized by a continuation of the stemmed projectile points observed in Division II, together with some larger and smaller forms; soapstone vessels and perforated slabs; and, less commonly, by the presence of the fiber and sand tempered ceramics of the Stallings and Thom's Creek series. Point forms exhibit considerable variation in size and shape, with large Savannah River Stemmed and Gary-like forms occurring in association with smaller, Small Savannah River or Otarre/Swannanoa-like points. While local materials continue to dominate flaked stone assemblages, a distinct increase in the occurrence of extralocal raw materials is evident.

Although sites of this period were fairly common throughout the reservoir, most occupations were minor, characterized by only one or a few diagnostics, typically one to a few projectile points and associated tools and, if present at all, one to a few sherds of Stallings fiber tempered pottery. Fairly light occupation of this part of the piedmont may be indicated. No dense midden assemblages comparable to the three Division II sites were found, nor was evidence for shell fish utilization or plant domestication found. A single mussel from a minor Division III component in Zone III at Gregg Shoals, in fact, was the only evidence for Late Archaic shell fish exploitation found in the reservoir.

The only major ceramic Late Archaic assemblage excavated in the reservoir was at McCalla Bottoms (38AB288), where fiber tempered pottery, soapstone vessel

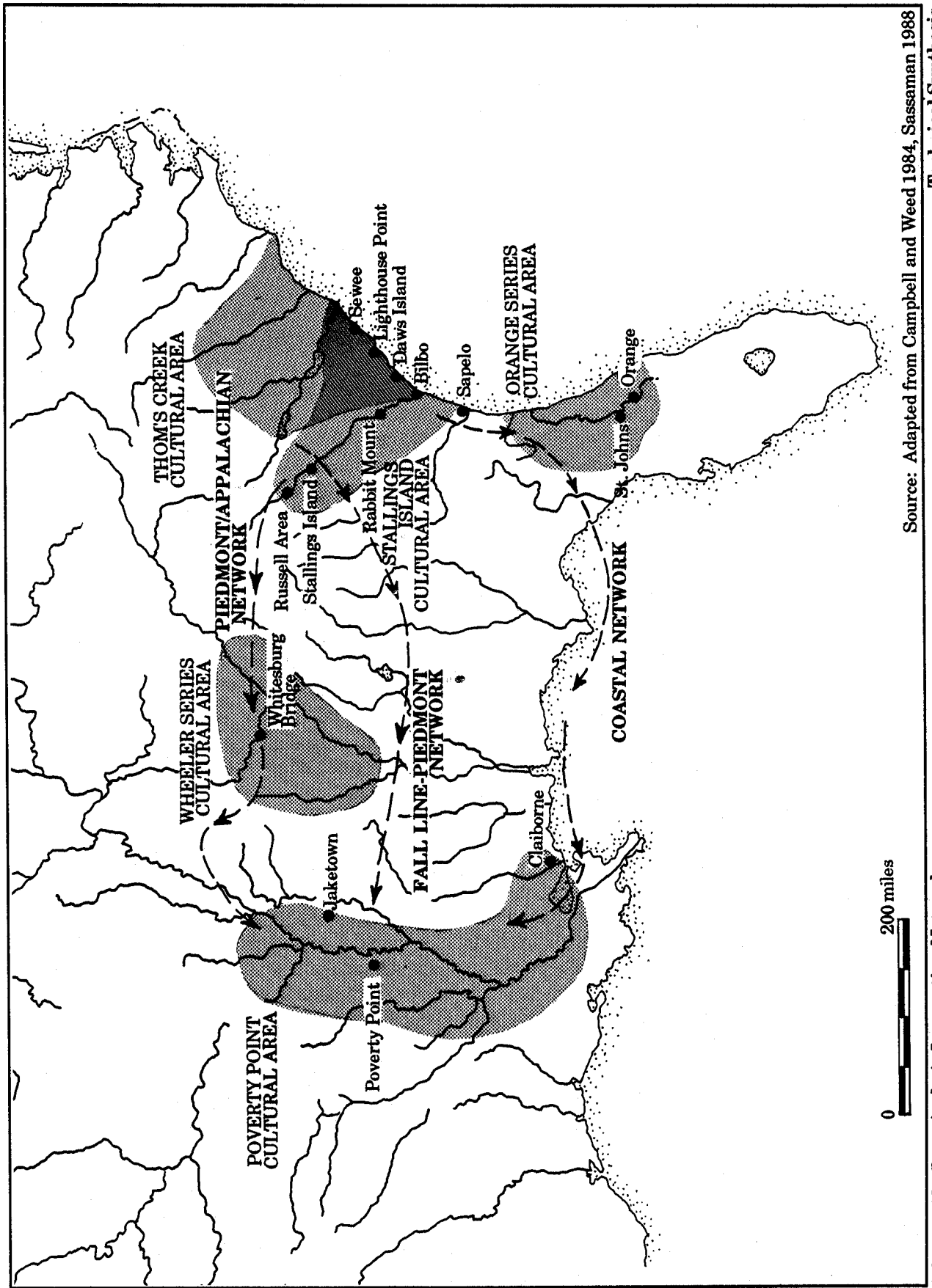
fragments, and small stemmed projectile points were found in close association and dated to ca. 1500 B.C. Evidence for hearths and for the differential use of levee crest and backslope areas in the reduction of lithic raw material was documented, although due to an absence of large area excavations little else can be said about internal site structure. Minor Division III Late Archaic components were recognized at several sites by the presence of soapstone or fiber tempered sherds. At Gregg Shoals evidence for a replacement of perforated disks by vessels was found over the soapstone assemblage, as well as possible evidence for the presence of a domesticated dog.

Late Archaic Ceramics

Stallings fiber tempered pottery was found at nine sites in the Russell Reservoir (Table 2). The Stallings assemblages at these sites, particularly at Rucker's Bottom and McCalla Bottoms, where the ware was found in some incidence, represents the northernmost occurrences of the material in the drainage. Stallings pottery most commonly occurs on sites on the coast and inland along the rivers of the coastal plain to the fall line in the Georgia-South Carolina area, with the Savannah River at or near the center of this distribution (Stoltman 1972; Anderson 1975). Its occurrence well into the piedmont along the Savannah River, as documented at several sites in the Russell Reservoir, suggests forays by groups living in the coastal plain, or alternatively the use of pottery by groups residing year-round in the piedmont. The absence of shell at the sites where it was found reinforces observations made over the past decade that Stallings pottery is not exclusively a shell midden ware (e.g., Anderson et al. 1979:93-94; Campbell et al. 1981:166-175).

The presence of Stallings ceramics well into the interior piedmont increases the plausibility that the fiber tempered manufacturing tradition could have entered the midcontinent and other parts of the southeast through this area (Figure 42). The origins of Wheeler series fiber tempered pottery in the Tennessee River Valley may thus derive from the piedmont via the upper Savannah or nearby drainages. Alternatively, the technology may have spread along the coast and lower coastal plain, or along the inner coastal plain and fall line. Sassaman (1988) has argued for the emergence of an interaction network based on down-the-line reciprocal exchange along the fall line/inner coastal plain throughout the lower southeast at this time level. Movement would have been least constrained in this area, given the nature of the topography, and it would have been facilitated by the abundant resources of the fall line macroecotone. The appearance of Benton-like assemblages resembling those found in the mid-south in the inner coastal plain of the Savannah River during the terminal Middle Archaic/initial Late Archaic was cited in support of this model.

Late Archaic ceramics found in the Russell Reservoir were identical in manufacturing technique and choice of design elements to materials found in the lower part of the drainage, specifically at sites such as Lake Spring (Miller 1949:Figure 22) and Stallings Island (Claflin 1931:Plates 12-18). Designs were



Source: Adapted from Campbell and Weed 1984, Sassaman 1988

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Figure 42. Late Archaic Interaction Networks in the Lower Southeastern United States.

invariably fairly simple linear arrangements of punctates or incised lines (Figure 41); complex designs such as those observed at Stallings Island (Claflin 1931:Plates 19-20), Rabbit Mount (Stoltman 1974: Plate 21), and Bilbo (Waring 1968b:Figure 58-59) were not observed. Given the low number of fiber tempered sherds found within the reservoir (207 sherds), this may reflect sampling bias. It may, however, also say something about the level of complexity of Late Archaic social interaction within the region. Complex designs typically occur at larger midden sites, where larger population aggregates have been inferred. The greater diversity in design elements may reflect the greater social diversity, and may signal concepts such as vessel ownership or group affiliation (Wobst 1977). The presence of comparatively simple decorative elements, like those noted on the sites within the Russell Reservoir and the inner piedmont in general, may indicate less emphasis on or need for such signalling behavior. Large aggregation loci comparable to those found in fall line and coastal areas may not have been present within the piedmont; whether this reflects an absence of resources promoting aggregation (i.e., shellfish, anadromous fish) or a lower local social complexity remains unknown. Alternatively, if aggregation sites were present, ceramics do not appear to have seen much use at them.

The variation in the amount of Late Archaic pottery observed on sites within the reservoir was itself interesting. The low incidence of Stallings and Thom's Creek ceramics at sites like Rucker's Bottom and Rocky River, where otherwise major Late Archaic components were found, stood in contrast to McCalla Bottoms, where both appreciable Late Archaic ceramic and lithic assemblages were recovered. Whether McCalla Bottoms represents a local group aggregation loci, or a seasonal camp by a coastal group "visiting" or ranging in the piedmont, remains unknown. Sites like Rucker's Bottom, in contrast, may represent short term to seasonal camps by groups employing little or no ceramics.

The fact that evidence for ceramic and soapstone vessel use was minimal at most Late Archaic sites in the reservoir suggests that containers of this kind were relatively unimportant to the effective use of the piedmont at this time. If the adoption of containers was indeed a reflection of subsistence intensification, to maximize caloric and nutrient return through liquifying and boiling food, as Goodyear (1988:321) has suggested, then the pressures producing this behavior may have been less intensive in the piedmont than in the coastal plain and fall line areas, where Late Archaic pottery is widespread.

Projectile Point Typologies

Considerable confusion currently surrounds the classification of Late Archaic projectile points in the Savannah River area. Traditional projectile point sequences from the general region (e.g., Coe 1964; Oliver 1981, 1985) have emphasized a decrease in the size of Late Archaic bifaces over time, from large square stemmed Savannah River forms early in the period to Small Savannah River or Otarré Stemmed-like forms late in the period. Support for such a trend, on an assemblage basis, has been demonstrated at sites such as Stallings Island

(Bullen and Green 1970) and Warren Wilson (Keel 1976; Oliver 1981). This has been widely used by local investigators to infer early occupations at sites with large Savannah River Stemmed type points, and later Late Archaic occupations at sites where small points Otarre or Small Savannah River points have been found (Keel 1976:196; Goodyear et al. 1979:112; White 1983:50; Oliver 1985). The discovery of Small Savannah River-like points in sealed context at three sites in the Russell Reservoir dating to between 2500 and 2000 B.C. (uncorrected) necessitates some modification of this perspective.

Summary metric data on the Late Archaic bifaces — variously described as Savannah River Stemmed, Otarres, Small Savannah Rivers, and "Paris Island Stemmed" (e.g., Whatley 1985) — that were found in sealed and dated third millennium B.C. contexts at 38AN29, 38AB91, and 9EB21, as well as from other Late Archaic sites in the upper Savannah basin, have been collected and examined in detail by Alterman (1987). His work clearly documents the wide range of variation occurring within local Late Archaic projectile point assemblages, even those found in tightly sealed contexts and presumably deposited over comparatively brief periods. Major conclusions of his study included: (1) a demonstration that the Savannah River Stemmed type was not exclusively preceramic, but occurred in both ceramic and preceramic Late Archaic contexts; and (2) that Savannah River Stemmed types were most typically found in direct association with smaller Otarre/Small Savannah River Stemmed points, traditionally assumed to date later in time (Alterman 1987:247-251). He concluded that:

the Savannah River Stemmed type, as it is now used, is not a reliable temporal diagnostic of the preceramic Late Archaic period in the upper Savannah River Valley. Likewise, Otarre and Stallings 3 types, also referred to as Small Savannah River Stemmed, do not seem to be diagnostic of Stallings ceramic-phase occupation (Alterman 1987:251).

Adoption of this perspective with regard to projectile point taxonomy is crucial for Late Archaic research locally, since many archaeologists have persisted in placing the larger stemmed points earlier and the smaller points later in time.

Late Archaic projectile point morphological variation was found to be more closely linked to intended tool function, raw material, and use life stage (Alterman 1987:299). Raw material was found to be a particularly critical variable, and was linked to differing flaking/manufacturing patterns, functional differences, breakage patterns, degree of use wear, degree of curation, and stem morphology (Alterman 1987:252-274). Quartz points exhibited greater transverse and longitudinal blade fractures, while metavolcanic points were commonly found intact or with only minor tip damage. Use of the quartz bifaces for cutting and sawing resistant materials and the metavolcanics for cutting softer materials was inferred (Alterman 1987:273). While considerable variation was evident, straight square stemmed forms tended to occur on metavolcanics, expanding stemmed forms on cherts, and corner notched point forms on quartz, contracting

stemmed forms occurred about equally over all of these materials (Alterman 1987:259).

Prior to the Russell Reservoir investigations, large, predominantly square stemmed projectile point forms were thought to dominate Late Archaic assemblages in the vicinity of the upper Savannah River. The presence of large, contracting stemmed Gary-like points, which are comparatively common within the coastal plain (Anderson et al. 1979:121-129; Charles 1981:30, 35-36; Novick 1982:161-162), had been reported or emphasized at only a few sites. Inspection of earlier reports indicates that substantial numbers of expanding and contracting stemmed and weakly corner notched "Savannah River Stemmed" points have, in fact, been reported from the piedmont, although this has received little emphasis (e.g., Taylor and Smith 1978:264-265; White 1983:55, 58).

As Alterman's (1987) research has shown, this has been a direct result of the classificatory procedures employed. In his study, employing a sample of 368 points from secure Late Archaic contexts in the Russell Reservoir, only a minority were square stemmed forms (N=103, 28.0%); most exhibited other shapes, such as contracting (N=111, 30.2%), corner notched (N=103; 28.0%), or expanding stems (N=51, 13.8%) (Alterman 1987:259). Most, furthermore, were considerably smaller than the minimum dimensions for the Savannah River Stemmed type advanced by Coe (Alterman 1987:257). Inspection of the local literature, however, indicated that few points from the Georgia/South Carolina piedmont classified as Savannah River Stemmed actually conform to Coe's (1964:44-45) size or shape range (e.g., Taylor and Smith 1978: Table 54; Goodyear et al. 1979: Table 31; White 1982: Tables 1, 3). Most of the points typed as "Savannah River Stemmed" are considerably smaller than the original type, and conform more closely to the Otarre or Small Savannah River types. Because considerable typological abuse has confounded local Late Archaic projectile point classification, chronological and hence cultural interpretation has remained difficult.

The Savannah River Stemmed type as defined by Coe (1964:44-45) has been dated to between 4900 and 3500 B.P. at sites in the interior piedmont and Blue Ridge provinces of the South Atlantic Slope, including at Gaston and Warren Wilson in North Carolina (3900±250, M-524, Coe 1964:118; 4865±280 B.P., GX-2274, 3515±140 B.P., GX-2275, Keel 1976:242). The point type has also been widely reported from shell midden sites along the Georgia/South Carolina coast and inland to the fall line along the Savannah River. Dates from levels or features within sites containing these point forms ranging from ca 4700 to 2900 B.P. have been obtained at Rabbit Mount, Whites Mound, and at Stallings Island along the interior Savannah, and from a large number of sites along the coast, including Bilbo, Sapelo, Daws Island, Spanish Mount, Lighthouse Point, and Sewee, to cite a few of the better known sites (Edwards 1965:25; Waring 1968b; Waring and Larson 1968; Bullen and Green 1970:11-12; Stoltman 1972, 1974; Michie 1973:6-8; Sutherland 1974:31-32; Dye 1976; Trinkley 1980a:204, 1980b:5). Given their long temporal occurrence, it is difficult to see how these point types can be attributed to the early part of the period. Instead of a fairly rapid replacement of large points by small ones, a long co-occurrence of both large and small forms is indicated.

This has been clearly demonstrated in the Russell Reservoir.

It has been suggested that the large Savannah River Stemmed may be the Atlantic Slope equivalent of the Benton point, a transitional Middle Late Archaic form dated to between 4000 and 3000 B.C. in the mid-south (Wood et al. 1986:322). A similar relationship between MALA points, a lanceolate form with corner-removed, stemmed or notched haft elements from the inner coastal plain portion of the drainage, and Benton points has been suggested by Sassaman (1985b, 1988). The Late Archaic occupation of the Savannah River Valley thus exhibits ties with both the Benton horizon from the midcontinent as well as the Atlantic coastal 'Broadpoint' horizon (Turnbaugh 1975; Cook 1976).

Current Late Archaic projectile point typologies have thus tended to ignore potential differences in point size and shape that are due to factors such as raw material, reuse, resharpening, or differing functions (Alterman 1983, 1987; Wood et al. 1986:320; Sassaman 1988). This perspective is rapidly changing. Stoltman (1972:46) once suggested that size differences between metavolcanic and quartz Savannah River points were due entirely to raw material differences. Alterman's (1987) research lends some credibility to this inference, although factors such as function, use life stage, and even possible stylistic differences must also be considered (see also Sassaman 1988).

Trends in raw material utilization have been documented over the course of the Late Archaic at a number of sites in the general region. A marked increase in the number of raw material types employed during the later, ceramic Late Archaic has been noted by several local researchers, and has been attributed to a number of factors, including: (1) an expansion of the procurement network, possibly coupled with an increase in the scale, or geographic range of local adaptations, permitting greater access to extralocal raw materials; (2) an increase in the logistical aspects of local adaptations, with an increase in curated tool forms, that may have necessitated the use of higher quality raw materials; and (3) the manufacturing requirements of certain tool forms, such as the Savannah River Stemmed, a large hafted biface that may have been more easily produced on metavolcanics and chert than on quartz (Taylor and Smith 1978:322-323; Goodyear et al. 1979:207-209; White 1982:194-198; Sassaman 1983:83, 155; 1988; Sassaman et al. 1988; Alterman 1987).

At two sites on the fall line on the Savannah River, at Stallings Island (Bullen and Green 1970:13-14) and 9Ri86 (Elliott and Doyon 1981:106), a change from predominantly metavolcanics to a range of raw materials for the manufacture of projectile points has been documented. This pattern was also seen in the Russell Reservoir, at Gregg Shoals and McCalla Bottoms. This has been linked to changing raw material preferences by local groups, the extent and duration of site use, and an increase in the intensity of social interaction over the region. Artifact use-life studies indicate that sites that were repeatedly occupied, or occupied for a long period of time, are likely to exhibit a greater range of point and tool forms and possibly raw materials (Schiffer 1975c; Shott n.d.). The wide range of point forms and raw materials found at Stallings Island, one of the largest Late

Archaic middens known from the interior Savannah River Valley, unquestionably reflects repeated and probable long term use of this location. Increased social interaction, with larger numbers of people interacting over greater distances, could also likely lead to a wide range of raw materials and artifact styles at a site (Sassaman et al. 1988). Stallings Island would have been an ideal aggregation loci for these people, given its location on the fall line (Wood et al. 1986:322; Alterman 1987:309; Sassaman 1988).

Soapstone Use in the Upper Savannah River

As part of the reservoir investigations a pilot trace element study was conducted on soapstone artifact and quarry samples from several locations along the upper Savannah River (Elliott 1986:305-317). Neutron activation analysis was employed, in an effort to develop diagnostic signatures for soapstone sources in the Savannah River region. Samples of soapstone from two quarry sites were examined, one from near the southern end of the reservoir in Elbert County, Georgia, and the other from Dixie Mountain in Columbia County, Georgia, near the fall line. Late Archaic artifacts, primarily perforated slab fragments, were examined from two sites in the reservoir, 38AN29 and 38AN126 (Wood et al. 1986), and from three sites near the fall line (9Ri86, 9Ri88, 9Ri89; Elliott and Doyon 1981). Cluster analysis of the sample trace element concentrations successfully grouped the samples from the two quarry sites, indicating the feasibility of the method. The same analysis indicated that the Late Archaic artifacts in all probability originated at a number of discrete outcrops; none of the artifacts could be unambiguously linked to one of the two sources that were sampled (Elliott 1986:312).

Soapstone exploitation and use within the Savannah River Valley is currently not well documented. Soapstone artifacts have been found at Late Archaic sites throughout the drainage, but in the absence of quantified analyses it is difficult to assess patterns of utilization. The greatest quantities of worked soapstone appear to occur on sites in close proximity to outcrops, such as at Stallings Island (Claflin 1931:31-33) and Paris Island South (Wood et al. 1986). Regular fall-off in the occurrence of the material with increasing distance from source areas, implying minimal long-distance trade of soapstone artifacts within the drainage, has been suggested (Wood et al. 1986:236). This argument receives some support from studies within the adjacent Oconee River drainage in central Georgia, where a detailed distributional analysis of soapstone has been conducted (Elliott 1981). A recent examination of the occurrence of soapstone within the coastal plain portion of the Savannah challenges this belief, however (Sassaman et al. 1988). Soapstone was found to be comparatively common on Late Archaic sites, with a particularly high incidence on sites in the central coastal plain. This was tentatively attributed to exchange, possibly part of alliance maintenance, between discrete groups occupying the coastal plain and piedmont portions of the drainage. Sites such as Stallings Island and Lake Spring, where soapstone artifacts were abundant, were interpreted as centers for this exchange.

One result of the work in the Russell Reservoir is a considerable refinement in our understanding of soapstone use over time in the upper Savannah. Perforated soapstone slabs (perforated soapstone objects, or "netsinkers"), for example, were common in the three sealed preceramic Late Archaic middens examined, and no clear evidence for soapstone vessel use prior to ca. 2000 B.C. was found. At the Gregg Shoals site, furthermore, perforated soapstone disks were stratigraphically below levels containing soapstone vessel fragments and fiber tempered pottery (Tippitt and Marquardt 1984).

While commonly reported as "netsinkers" in the literature, these objects were consistently found associated with hearths at the three preceramic Late Archaic sites excavated in the reservoir, lending further support to the interpretation that these objects were in actuality used for stone boiling (Dagenhardt 1972; Anderson et al. 1979:65-67; Wood et al. 1986:324). The numerous cross-mends made within the midden at the Paris Island South site led to the reconstruction of several complete specimens, indicating that breakage and discard occurred on the site (Wood et al. 1986:325). Either the use or the manufacture of perforated slabs on the site, or both, could have led to the kind of assemblage observed. Breakage from use as a netsinker, in contrast, would have undoubtedly resulted in portions of these objects being lost, and few reconstructable slabs returned to the site.

At the present, three soapstone quarries are currently known within the Russell Reservoir area, one near the south end of the reservoir, and the other two along Beaverdam Creek, one near the mouth and the other several miles upstream (Elliott 1985:305). All three of these saw use during the prehistoric era, with the greatest period of use apparently within the Late Archaic. The quarry near the mouth of Beaverdam Creek was close to both the Paris Island South and Rocky River sites, where extensive preceramic Late Archaic use of soapstone was documented. A soapstone workshop, where perforated slab blanks were prepared, was also found near this quarry (Wood et al. 1986:325).

The geographic distribution of soapstone slabs within the region is not well known, although they appear restricted primarily to Stallings/Savannah River and MALA sites on the South Atlantic Slope (Wood et al. 1986:324; Sassaman 1988). They are apparently unreported in the Middle Atlantic and Poverty Point regions, where soapstone vessel use has been well documented (Wood et al. 1986:324). Soapstone slabs are fairly common within the Savannah River Valley, particularly on sites near the fall line and in the piedmont, in close proximity to raw material sources (Stoltman 1972; Sassaman et al. 1988). While common in the interior, they are infrequent on coastal sites. In coastal areas, however, baked clay objects are common, and over the region an inverse relationship in the distribution of these artifact categories is indicated.

Notched soapstone objects, an artifact type thought used for stone boiling or as a netsinker, were not found within the reservoir Late Archaic assemblages. This was somewhat unusual, as the artifact type was common in the Stalling Island area (Jones 1871:337; Clafin 1931:31-32; Plate 51), and has also been reported at the Lake Spring site (Miller 1949:40, 46). Notched stones have been reported from

Late Archaic cooking features at the Iddens site in eastern Tennessee, where they were described as netsinkers (Chapman 1981:92; 125), prompting the comment that "the practice of burning one's fishing nets may be inferred" from such an interpretation (Wood et al. 1986:324)!

Indirect evidence for subsistence intensification appears and becomes progressively more elaborate during the Late Archaic on the South Atlantic Slope, first in the abundant occurrence of fire cracked rock and perforated and grooved soapstone objects on sites, and then with the appearance of first Stallings ceramics apparently designed for indirect stone boiling, and then Thom's Creek and subsequent Woodland wares employed directly over fires. This increasingly efficient trend in boiling techniques, from skin to container hot rock cooking, to open fire cooking, has been linked to increasing pressure on local subsistence resources, brought about by increasing population density and territorial circumscription, and the need to maximize caloric and nutritive extraction (Goodyear 1988). The Russell Reservoir assemblages help to document these trends, although the comparatively minimal use of Stallings pottery locally suggests that resource pressure may not have been as great, or may have been directed to other resources (not requiring ceramic container technology)

Preceramic Late Archaic Settlement

A model of Late Archaic settlement and sociopolitical organization has been developed by Wood and his colleagues, based on their work within the reservoir:

The Russell area represents a cultural fringe zone at the end of the Middle Archaic. A widely dispersed settlement of possibly low density is inferred at this time. This pattern begins to change at the end of the Middle Archaic Period. By 2700 B.C. a significant increase in settlement occurs; these settlements have an aquatic focus. Small semi-permanent camps develop as well as less intensively occupied extractive sites. ...the most compatible model of social grouping is a complex tribal organization with a high degree of territorialism. Individual residential groupings were variable in size from a single residence to small villages. Occupation on these sites was semi-permanent. Certain localities were seasonally exploited for specific resource extraction, while others were occupied year round (Wood et al. 1986:325,326).

Sara's Ridge and Rocky River were interpreted as seasonal extractive sites, possibly directed to the exploitation of aquatic resources such as anadromous fish, while Paris Island South was interpreted possible extended family habitation site within a preceramic Late Archaic settlement system encompassing the upper Savannah River during the third millenium B.C. (Wood et al. 1986:319, 326-331). Smaller sites, located in both the floodplain and uplands, were interpreted as campsites produced by populations dispersing from these more permanent settlements; population dispersal for at least part of the year was an inferred part of this settlement system.

A wide range of tool forms coupled with evidence for the intensive exploitation of local lithic resources was found at Paris Island. The occupation is thought to have been fairly small, with no more than one or two structures present, and more or less year round occupation has been inferred. The site may indicate the kind of residence, and residential unit, employed by local populations during this era. At Sara's Ridge and Rocky River, in contrast, ground stone tools were virtually nonexistent, and a much wider range of local and extralocal lithic resources were found. These latter two sites may have been aggregation locales where larger numbers of people met, taking advantage of seasonally available resources (anadromous fish?) to support comparatively large population concentrations (Wood et al. 1986:327).

At all three of these sites considerable projectile point manufacture and discard occurred, suggesting Late Archaic stemmed points saw use in a wide range of tasks. Drills and stemmed scrapers, common at Paris Island and thought to have been used to finish soapstone slabs, were absent at Sara's Ridge and infrequent at Rocky River (where three perforators were found in the midden). Evidence for shelters or other site facilities in the form of postmolds was found at all three sites. Overall site structure was generally similar, in that all three locations had dense midden areas characterized by dense concentrations of cracked rock (probably from hearth areas), chipped stone tools and manufacturing debris, and dark charcoal and organic staining. These middens were located in close proximity to the river, usually on a levee backslope, and appear to have been deliberately placed away from where shelters were located. At Sara's Ridge, where evidence for a structure was fairly conclusive, the area around this shelter was kept clear of debris. Hearths located in or near these structures may have been for comfort (warmth), for cooking, or both.

Only minimal evidence for interaction with populations in the coastal plain, ridge and valley, or Appalachian Summit areas was documented in the three primary preceramic Late Archaic occupations examined in the reservoir. This pattern appears to change in the subsequent, ceramic Late Archaic, with the appearance of Stallings pottery and a greater range of raw materials within projectile point assemblages, as documented at sites like McCalla Bottoms.

The assemblages from Sara's Ridge, Rocky River, and Paris Island South produced areally extensive preceramic artifact, feature, and midden levels, and defined a previously unrecognized mid-to-late third millennium B.C. Late Archaic horizon. As such, they are of critical importance to studies of Late Archaic development in the southeast. These assemblages, particularly the features delimiting the probable structure and associated activity areas at 38AN29 (Figure 34), represent some of the best data on site structure collected from this time level in the Eastern United States (see Smith 1986:26-27 for a discussion of this evidence). They certainly provide some of the best evidence for Late Archaic structures found to date on the South Atlantic Slope, since only limited evidence for structural remains has been found in the work to date elsewhere (Stoltman 1972, 1974; Trinkley 1980b, 1985, 1986; see p 168). Some of the few comparable middle/late Holocene assemblages from the eastern Woodlands include the

Carrier Mills, Labras Lake, and Go-Kart sites in Illinois, the Poplar and Walnut sites along the upper Tombigbee river, and the Bacon's Bend and Iddins site in the Tellico Reservoir (Smith 1986).

The evidence from the Russell Reservoir suggests that local preceramic Late Archaic adaptations were complex, and that the trend toward extended, sedentary occupations suggested by massive shell midden sites such as Stalling's Island had already begun. It has been suggested that

"the Stalling's Island Culture was not an entirely local development, but was influenced in its formative stages by cultures of the Tennessee Valley to the west. There, as exemplified by the Eva site, a way of life based upon the intensive exploitation of shellfish had begun by 5200 B.C. (Stoltman 1972:54).

The data from the Richard B. Russell Reservoir, which document the presence of dense local Late Archaic populations apparently exploiting riverine resources (even if not shellfish), indicate that the origins of this adaptation were highly complex.

Ceramic Late Archaic Settlement

Large, extensive settlements comparable to those found during the preceramic (Division II) Late Archaic were apparently not present during the subsequent ceramic (Division III) period, or at least have not been recognized. Fairly appreciable numbers of sites are inferred, however, given the numbers of Late Archaic projectile points found in the reservoir, although it must be cautioned that these cannot be placed within the earlier or later portions of this era. Most of these sites are thought to have been comparatively brief occupations, given the absence of evidence for midden staining or structures. No shell middens were found, even though these are common at this time level in the coastal plain and fall line areas of the drainage. Pottery use locally was minimal. Stallings fiber tempered ceramics were found at only nine sites in the Russell Reservoir, mostly in trace amounts. A total of 207 sherds (84 plain, 124 punctated) were recovered, most from McCalla Bottoms (N=139, 67.21%) and Rucker's Bottom (N=38, 18.4%). The next highest incidence of the ware were the eight sherds each found at Rocky River and Gregg Shoals; the remaining five assemblages had from one to five sherds each. Only five sherds of Thom's Creek pottery (all punctated) were found, at three separate locations; three of the Thom's Creek sherds came from Rucker's Bottom while the other two were isolated occurrences. In all, only 11 ceramic Late Archaic components were found, indicating use of this technology was fairly minimal (Table 2, Figure 3).

The presence of Late Archaic pottery in the reservoir area indicates some degree of interaction was occurring between the central piedmont and the fall line/coastal plain portions of the drainage. This inference is also suggested by the increased occurrence of extralocal lithic raw materials in assemblages dating to this period, at sites like Rucker's Bottom, McCalla Bottoms, and Gregg Shoals.

Greater social interaction throughout the region has been inferred, including large scale (drainage extensive?) aggregation at sites such as Stallings Island, for the purpose of alliance development and maintenance, resource and information exchange, and the maintenance of social solidarity through shared ritual. Population increase, territorial circumscription, and the emergence of discrete social entities in differing parts of the drainage have been inferred. Increasing pressure on subsistence resources has been suggested, and has been linked to the extensive use of shellfish and the adoption of pottery. Given the minimal evidence for large-scale occupation or aggregation sites dating to this period in the Russell Reservoir, and the only incidental occurrence of pottery, either relatively low population levels or populations experiencing fairly minimal subsistence stress may be inferred. Given the large number of potential Late Archaic components documented in the area, the latter interpretation is preferred.