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The Pumpkin Site: 38GR226, Archaeological Investigation of a Prehistoric Middle Woodland Village in Northern Greenville County, South Carolina

Tommy Charles

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The Pumpkin Site: 38GR226, Archaeological Investigation of a Prehistoric Middle Woodland Village in Northern Greenville County, South Carolina

Description
This report describes the events that led to an unanticipated archaeological investigation of the Pumpkin site, (38GR226) between November 1994 and December 1995. It details the problems incurred due to a sporadic work schedule, vandalism and ever-changing objectives. Ultimately, good fortune far out-weighed the bad because the data acquired at Pumpkin is among the best ever obtained from a prehistoric Middle Woodland site on the South Carolina Piedmont. During our periodic work episodes, plow disturbed soils were removed from approximately 25 percent of the site to reveal 504 pit and posthole features. Only 37 of the features were excavated, but they rewarded us with data sufficient to determine that a rather intense, but brief, occupation occurred at the site during the Connestee Phase (approximately A.D. 100 – A.D. 600), of the Middle Woodland period. Four remarkably similar radiocarbon dates confirmed the occupation span. In addition to the radiocarbon dates, ethnobotanical data was recovered, providing the earliest date yet obtained for plant domestication on the South Atlantic Slope.

Keywords
Excavations, Middle Woodland Sites, South Carolina Piedmont, Greenville County, South Carolina, Archeology

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THE PUMPKIN SITE: 38GR226

ARCHAEOLOGICAL INVESTIGATION OF A PREHISTORIC MIDDLE WOODLAND VILLAGE IN NORTHERN GREENVILLE COUNTY SOUTH CAROLINA

By
Tommy Charles
THE PUMPKIN SITE: 38GR226
ARCHAEOLOGICAL INVESTIGATION OF A
PREHISTORIC MIDDLE WOODLAND VILLAGE
IN NORTHERN GREENVILLE COUNTY
SOUTH CAROLINA

By
Tommy Charles

And including:

Ethnobotanical analysis by
Gary D. Crites

Radiocarbon calibration by
Donald K. Stephenson

Analysis of Carbonized Materials
By Dale. C. Wingeleth

South Carolina Institute of Archaeology and Anthropology
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Columbia

2001
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Prior to becoming involved with the Pumpkin site, the Woodland cultures were, to me, a "Black Hole" of archaeology. They had never competed for my interest and I had no intention of becoming engrossed in their study, but the best laid plans . . . .

Tommy Charles
ABSTRACT

This report describes the events that led to an unanticipated archaeological investigation of the Pumpkin site, (38GR226) between November 1994 and December 1995. It details the problems incurred due to a sporadic work schedule, vandalism and ever-changing objectives. Ultimately, good fortune far out-weighed the bad because the data acquired at Pumpkin is among the best ever obtained from a prehistoric Middle Woodland site on the South Carolina Piedmont.

During our periodic work episodes, plow disturbed soils were removed from approximately 25 percent of the site to reveal 504 pit and posthole features. Only 37 of the features were excavated, but they rewarded us with data sufficient to determine that a rather intense, but brief, occupation occurred at the site during the Connestee Phase (approximately A.D. 100 – A.D. 600), of the Middle Woodland period. Four remarkably similar radiocarbon dates confirmed the occupation span. In addition to the radiocarbon dates, ethnobotanical data was recovered, providing the earliest date yet obtained for plant domestication on the South Atlantic Slope.
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CHAPTER 1

INTRODUCTION

Citizens: An Archaeological Resource

When first employed by the South Carolina Institute of Archaeology and Anthropology, (SCIAA) I quickly learned that the citizens of South Carolina represented a treasure house of information that was potentially beneficial to our work. Many people have since shared their wisdom with me and now, more than twenty years later, the citizenry are still my council; their collective reservoir of interest, knowledge, skills, economic and political support is invaluable, and those archaeologists who accept them as research partners place themselves a step ahead in their quest for better understanding our heritage. After all, who knows the land better than those who live on it?

Since 1979, I have traveled the width and breadth of our state many times and visited with hundreds of people to record their archaeological discoveries and share in their knowledge. It was such a routine visit that led to the discovery of the Pumpkin site. In October of 1994, I traveled to northern Greenville County to visit with John and Patty Walker for the purpose of recording a collection of prehistoric Indian artifacts they had collected from their farm. During conversation I mentioned several excavations that SCIAA archaeologists were conducting in South Carolina's coastal plain and our use of a backhoe to search for deeply buried sites along river flood plains. Walker stated that he and his brothers, Herman and Doug Walker, owned property adjacent to the North Saluda River–much of it flood plain–and extended an invitation to conduct test excavations there. Walker also offered the use of his backhoe to accomplish this. I repeated Walker's offer to Antony Harper, a Greenville businessman and a vocational archaeologist who for many years has supported archaeology and lobbied for increased archaeological research in South Carolina's Piedmont region. Harper offered a monetary contribution toward this proposed testing project and suggested that we solicit matching funds from other interested persons. A few calls were made, pledges of financial assistance were received, and quickly we had funding to begin test excavations.

I returned to Greenville County in November of 1994 and with the assistance of several volunteers, prepared to begin test excavations on the Saluda River flood plain and, perhaps with some luck, to find relatively undisturbed Paleoindian, or at least, Early Archaic sites for future exploration. It was a stroke of good fortune, unrecognized as such at the time, which preempted our plans and, instead, led us to the Pumpkin site. We were actually in transit to the flood plain when John Walker mentioned that he had collected a considerable amount of prehistoric pottery from a field that we were passing. Walker then requested that we do a test excavation there before proceeding to the flood plain. A small excavation was done and the data obtained set in motion a sequence of events that would unveil one of the most rewarding Woodland sites thus far excavated on the South Carolina Piedmont.
Our ensuing research at archaeological site 38GR226 changed my opinion about Woodland archaeology from one of indifference to belated appreciation. Also dispelled was my long-standing skepticism about the value of upland Piedmont landforms for prehistoric archaeological excavations. It confirmed, to me at least, that not all Piedmont hilltop sites, in spite of suffering much historic abuse, could arbitrarily be written off as worthless for excavations.
CHAPTER 2

ENVIRONMENTAL SETTING

Location

Archaeological site 38GR226, the Pumpkin site, is located in north central Greenville County South Carolina, on the extreme northern edge of the Piedmont Plateau below its intersection with the Blue Ridge Mountains (Figure 1 and Figure 2a). The site is on a low knoll at the eastern edge of a narrow flood plain adjacent to the North Saluda River (Figure 1). The site has an elevation of approximately 990 feet above mean sea level and is approximately eight feet higher than the adjacent flood plain. It is bordered on the south and east by a small, unnamed creek and on the north by a hill that is approximately 40 feet higher than the site. Lands immediately surrounding the site, with the exception of the hill located northward, are cultivated annually.

Figure 1. Location of 38GR226 on Slater Quadrant of USGS Topographical map (7.5 minute).

Physiographic Province

Greenville County contains approximately 789 square miles. Landforms are highly diverse and are divided between two major geographical entities: the Piedmont Plateau and the Blue Ridge Mountains. About one-fourth, the northern part, is in the Blue Ridge Mountains, and the remaining three-fourths is on the upper Piedmont Plateau (Figure 2b).
The predominate direction of land slope is toward the southeast, which is also the general direction of the main drainage systems. In general, Piedmont landforms are gently sloping to moderately steep but in the mountains they are strongly sloping to very steep. Major streams are the North, Middle, and South Saluda Rivers, the South and Middle Tyger Rivers, and the Enoree and Reedy Rivers. Stream flow coincides generally with the slope of the land from northwest to southeast with the exception of a small area in the northeast part of the county, which drains northeast into the South Pacolet River. Major tributaries are Beaver Dam, Green, Grove, Horse Pen, Huff and Matthews Creeks. The total area of flood plains and stream terraces is relatively small.

![Diagram](image)

**Figure 2.** (a) Location of archaeological site 38GR226; (b) Major geographical zones of South Carolina.

The highest elevation in Greenville County is about 3,297 ft. above sea level on White Oak Mountain at the North Carolina line. The lowest elevation is approximately seven hundred feet near the Saluda River in the extreme southern part of the county near the Laurens County line. In the central part of the county, Roper and Paris Mountains rise as anomalies in the landscape and do not conform to the general pattern of relief (Camp 1975: 67).

**Geology**

The Piedmont Plateau and Blue Ridge Mountains share a common geologic history that began an estimated 1 to 1.3 billion years ago. Rock types of the two regions are primarily metamorphic schist, gneisses and slates, with some igneous granite where intrusive activity took place. They were formed when igneous and sedimentary rocks were subjected to tremendous heat and pressure associated with mountain formation. The area's topography of steep slopes and narrow stream valleys is attributed to the resistance of these rocks to the forces of erosion. The Piedmont Plateau is geologically separated from the Blue Ridge Mountains by the Brevard Zone, a narrow fault line that tends to run...
northeast to southwest. Geologically the two regions are much the same but
topographically they are quite different. The relatively low and gentle rolling hills of the
Piedmont are in stark contrast to the mountains of the Blue Ridge. Streams of the Blue
Ridge are as distinct from their counterparts of the Piedmont as are landforms. Mountain
streams are short, fast flowing, and characterized by clear water, numerous rapids,
waterfalls and few tributaries. By contrast, Piedmont rivers are long, have many
tributaries, flow more slowly with waters that are discolored by a heavy sediment load
that gives them their characteristic red/brown color. The elevations of Piedmont inter-
riverine areas do not vary greatly within local areas and their relief is much less than that
of the mountains (Kovacik and Winberry 1989: 16-17).

Soils

The soils of Greenville County are diverse and composed of both residual and
transported materials. Residual materials have weathered in place from the underling
bedrock and retain morphological, chemical and textural characteristics of the parent
rock. Appling, Ashe, Cataula, Cecil, Cleveland, Durham, Edneyville, Evard, Helena,
Hiwassee, Louisburg, Pacolet, and Porters are the dominant soils that formed in material
weathered from granite and gneiss rock. The schist rocks are micaceous and relatively
soft; the dominant soils that formed in material weathered from schist rocks are Appling,
Fannin, Hiwassee, Madison, Pacolet and Talladega.

The transported materials are alluvial, carried by water, and colluvial, carried by
gravity. These materials were laid down as deposits of sand, gravel, silt, fragments of
rock and clay. Alluvial soils are usually found on bottomlands along streams and are
unstable. Alluvial soils may receive deposits, or have them carried away, during floods.
Buncombe, Cartecay, Chewacla, Congaree, Toccoa, and Wehadkee soils are the dominant
soils that formed in alluvial deposits. Soils that formed in alluvial and colluvial deposits
are the Brevard and Haywood soils.

Soils of the Cecil-Hiwassee-Appling association; the Cecil-Pacolet association; and
Cecil-Urban Land-Hiwassee association, dominate Greenville County south of the Blue
Ridge mountains. The mountains, including Paris Mountain, which stands apart from the
Blue Ridge Mountains, are characterized by soils of the Brevard-Evard-Edneyville
association and Edneyville-Ashe-Cleveland association. (Camp 1975: Soil Map of
Greenville County).

Soils at archaeological site 38GR226 are classified as BrD, Brevard fine sandy loam,
with 10 to 15 percent slopes. The adjacent flood plain soils are classified as Cw,

Natural Vegetation

The Blue Ridge forest was originally classified as an oak-chestnut forest, and species
of these trees dominated. In the early twentieth century, the Oriental Chestnut blight
reached the United States and eradicated the native chestnut trees in the eastern part of
the country. As the chestnut trees disappeared, oaks, especially the chestnut oak and the tulip poplar, replaced it in the topmost canopy of the forests. Today, hardwood forests remain dominant in the Blue Ridge landscape and at higher elevations they are quite similar to the forests of more northern latitudes. Among those trees with northern associations are the beech, yellow birch, hemlock and white pine. An under story of flowering shrubs, native azalea, dogwood, laurel and rhododendron grows profusely. In some ravines and on some northern slopes rhododendron grows in thickets so dense that passage is almost impossible. The many microenvironments present in the mountains have allowed the development of extremely diverse plant populations. Xeric conditions created by rock outcrops allow cacti, yucca and other such water intolerant plants to thrive almost at the edge of consistently wet seepage areas where vegetation—more commonly found in lowland bogs—grows.

Traveling from the mountains to the lower elevations of the Piedmont a transition to oak, hickory and pine forests occurs. Along streams of the two regions grow trees common to both: alder, cottonwood, sycamore and water birch.

If prehistoric American Indians were able to see the region today, perhaps the forests of the mountains would look much more familiar than those of the Piedmont where European settlers have had a much greater impact on the natural vegetation. Descriptions of eighteenth century Piedmont forests by travelers and botanists tell of magnificent stands of hardwoods, short leaf pine and canebrakes. With the introduction of cotton cultivation during the nineteenth century, an irrevocable destruction of the natural environment began. As recently as 1945, over two million acres of the Piedmont were in cropland. Today the acreage cultivated has decreased greatly and many parts of the Piedmont are undergoing the slow return to a mature forest (Kovacik and Winberry 1989: 42-43). Present vegetation in the immediate area of the Pumpkin site is one of cultivated fields, pastures, and scrub growth on cut-over areas, interspersed by stands of Virginia pine, hardwoods and mixed pine and hardwoods.

**Climate and Rainfall**

Most of Greenville County has a temperate climate characterized by long, warm summers and mild winters. Because of the elevation the temperature seldom reaches 100°F. Normal average rainfall varies from about 47 to 51 inches over the lower two-thirds of the county. March and July are the wettest months, averaging more than five inches. In the Blue Ridge Mountain region the temperature is cooler and rainfall somewhat heavier. Caesars Head, at an elevation of 3,115 feet, averages about 75 inches precipitation and has an annual average temperature of approximately seven degrees colder than the city of Greenville. Snowfall in significant amounts occurs only once every two or three years. Prevailing winds are from the northeast during autumn and winter and from the southwest during spring and summer. The mountains, oriented in a northeast-southwest direction, provide some protection against masses of cold winter air that move in from the northwest (Camp 1975: 68-69).
ARCHAEOLOGICAL EVIDENCE FOR WOODLAND CULTURES

Beyond generalities, the Woodland cultures of the Piedmont and Mountain regions of South Carolina are poorly defined. Archaeological research of the period has been limited primarily to work conducted in the Russell Lake Reservoir prior to its construction on the Savannah River, and earlier excavations at several sites that now lie beneath Lakes Jocassee and Keowee. Despite the sterling credentials of the archaeologists that explored Russell and the meticulous work they did, the Woodland sites they discovered offered little data to enhance knowledge of the period. The following quote from the Russell Papers (Anderson and Joseph 1988: 245) surely sums up the disappointment of those who worked so diligently:

The nature of the Woodland cultural sequence along the upper Savannah, even after the Russell Reservoir investigations, remains the subject of considerable ambiguity and confusion.

What might have been learned from Woodland sites that were excavated at Lakes Jocassee and Keowee apparently will remain unknown because most of the reports were lost or were never completed (Beuschel 1976). Michael B. Trinkley presents an equally bleak summation of archaeological research of Woodland cultures on the South Carolina Piedmont in his publication, An Archaeological Overview of the South Carolina Woodland Period: It's the Same Old Riddle (Trinkley 1989: 84-85).

The extensive archeological research needed to better define the area's prehistory has not yet been done. Consequently, our understanding of the area's prehistory is based primarily on stone tool and pottery typology and technology, their chronologies and distribution patterns. Despite the scarcity of regional archaeological data it is still sufficient to determine that within the general area of archaeological site 38GR226 cultural evidence reflects not only substantial Woodland settlement, but also periodic human occupations spanning some eleven thousand, or perhaps more, years. This encompasses all of the recognized prehistoric cultural periods, Paleoindian (9500–7900 B.C.), Archaic (8000–1000 B.C.), Woodland (1000 B.C.–A.D. 800), and Mississippian (A.D. 800–1540).

Previous Research on the South Carolina Piedmont

Beginning in the mid 1950's and continuing today, numerous archaeological surveys of highway corridors, building sites, reservoirs and National Forestry lands have been conducted across the Piedmont and Mountain regions of South Carolina. These surveys have located and recorded numerous prehistoric sites. With few exceptions, these sites have been little studied beyond surface collecting, occasional subsurface testing and acquiring location data. Consequently, the region's prehistoric American Indian cultures remain virtually unexplored.

Clarks Hill Reservoir
In the middle of the twentieth century, construction of a series of reservoirs on the Savannah River north of Augusta, Georgia, preceded any significant attempt at archaeological research on the Piedmont plateau. Clarks Hill Reservoir, since renamed J. Strom Thurmond Lake, was the first to be constructed. A survey of the proposed lake area was conducted by J. R. Caldwell and Carl Miller from January through May 1948 (Miller 1974) as part of the Smithsonian Institution's River Basin Surveys Program. The survey located 128 sites. The survey report gives little information about individual sites. Subsequent work was done on Lake Springs (9Cb61) (Miller 1949, 1974), and Fort Charlotte (38MC11) (Caldwell 1974).

**Hartwell Lake Reservoir**

A second dam, Hartwell Lake Reservoir, was later constructed farther north on the Savannah River. The National Park Service conducted an archaeological survey between November 1952 and February 1953 of the area to be inundated. One person did the survey, and the large area to be impacted by the lake did not allow for complete coverage in the time allotted for survey. Consequently, only 70 archaeological sites were found where surely there must have been many hundreds. Six small sites were determined to be Woodland period sites. Four are mentioned as being in South Carolina and two were recommended for testing (Caldwell 1953). There is no record of further investigation of these sites.

**Keowee-Toxaway Reservoir**

From 1966 to 1968 SCIAA crews undertook a program of survey and excavation in the proposed flood pool of the Keowee-Toxaway Reservoir in Oconee and Pickens Counties. The few remaining notes from the project state that 33 archaeological sites were located and six were excavated (Beuschel 1976). Leslie L. Beuschel, a University of South Carolina grad student who attempted to reconstruct as much of the archaeological record as possible concerning the Keowee-Toxaway project was able to locate very limited records of only four of the six excavations. Beuschel's findings indicate that Woodland components were present at each of the excavated sites and that at least two, Wild Cherry (38PN22) and the Tree Nursery site (38PN23), contained Middle Woodland components.

**The Wild Cherry Site**

The Wild Cherry site (38PN22), located on the east bank of the Keowee River, was excavated by Roger T. Grange, Department of Anthropology, University of South Florida in 1967. Grange contracted to conduct the excavation under the direction of Dr. William Edwards, Director of the South Carolina Institute of Archaeology and Anthropology at that time. Scant information about recovered cultural materials remains, but indicates a major Connestee component existed at this site. At Wild Cherry, 82 possible postholes were recorded but no identifiable structures were defined. Nine pit features were excavated and over 3500 pottery sherds recovered; most were identified as Connestee.
From a single pit feature approximately 125 pounds of charred organic materials were recovered, approximately one-half consisted of acorns. Other than identifying the acorns, no attempt was made to recover other flora or fauna remains for analysis and no radiocarbon dates were obtained.

*The Tree Nursery site*

The Tree Nursery site (38PN23), a highly eroded site excavated by Joe Milligan and Paul Brockington, both of SCIAA, produced pottery predominately of the Middle Woodland Pigeon culture (Holden 1966: 64-67). A minor amount of Connestee pottery, believed to be from a single vessel, was recovered.

Based on her research of the fragmented records of these archaeological investigations, Beuschel proposed that a late prehistoric cultural sequence comparable to that noted in the Appalachian Summit area to the north was applicable to the Keowee-Toxaway survey area. That sequence was characterized by Swannanoa, Pigeon, Connestee, Pisgah, and later Lamar/Qualla assemblages (Beuschel 1976).

*Richard B. Russell Dam and Lake*

The Richard B. Russell Dam and Lake was constructed between J. Strom Thurmond Lake and Hartwell Lake. It is the most recently constructed dam on the Savannah River. At Russell, beginning in the late 1960's and continuing into the early 1980's, the most extensive archaeological research yet conducted on the Piedmont of South Carolina was carried out. Unfortunately, sites having large, well defined Middle Woodland components were lacking, but a number of sites having minor Middle Woodland components were discovered, several of which were on the South Carolina side of the reservoir.

*McCalla Bottoms (38AB288)*

At McCalla Bottoms (38AB288) in Abbeville County, Middle Woodland components were indicated by the presence of small quantities of plain, cord-marked, fabric-impressed, simple-stamped, and linear check-stamped finishes of the Dunlap, Deptford, and Cartersville series (Glander et al. 1981; Schuldenrein et al. 1985: 175-213).

*Rocky River (38AB91)*

At Rocky River (38AB91), also in Abbeville County, four probable Middle Woodland features were found in the 47 square meter area excavated in 1981. These features were a cluster of cracked rock from a probable hearth, an oval basin-shaped pit, a fairly large posthole, and a large burned area (Anderson et al. 1985). Plain, check-stamped, and simple-stamped pottery was found in the fill of three of the features. The ceramic assemblage at the Rocky River site was dominated by Cartersville tetrapodal jars (Glander et al. 1981; Gardner et al. 1983; Anderson et al. 1985).

*Big Generostee Creek (38AN126)*
At Big Generostee Creek (38AN126) in Anderson County, a small amount of Middle Woodland pottery represented by Connestee, Cartersville Bold, Simple and Check-Stamped types was recovered (Wood, Elliott et al. 1986).

38LU107

A site of interest well outside of the Russell Lake area was 38LU107, at the confluence of North and South Rabon Creeks in Laurens County, South Carolina. Dean Wood and Thomas Gresham tested the site in 1980 (Wood and Gresham 1982) prior to construction of Rabon Lake. A Middle Woodland component that produced Connestee pottery was identified. No radiocarbon dates were acquired nor were any ethnobotanical remains recovered. Wood and Gresham recommended extensive excavations for this promising site but they were not forthcoming. The site is now inundated by Rabon Lake.

Tomassee (380C186)

In 1984, limited excavations were conducted at the historic Cherokee town of Tomassee (380C186) in Oconee County (Smith et al. 1988). A well-defined Woodland component was identified at Tomassee and a controlled surface collection and subsequent test excavations produced one thousand, seven hundred, and twelve pottery sherds that were identified as Connestee. Connestee pottery was the predominant type recovered, and a radiocarbon date of A.D. 536 (620, 634, 636) 663 (calibrated), from Feature 7 is within the Connestee time frame.

Survey of Greenwood County

Perhaps the most productive research, in terms of locating Middle Woodland sites and Connestee in particular, was a survey of Greenwood County, South Carolina, conducted by Michael J. Rodeffer et al. (Rodeffer, Holschlag, and Cann, 1979). Eighty Middle Woodland sites were recorded and 53 of those were identified as containing Connestee pottery. Rodeffer's determination of pottery types as Connestee is probably accurate, but he realistically points out that the pottery was recovered from the surface and that most sherds were small and eroded and their identification based primarily on type and size of temper. Rodeffer also states that Greenwood County is well removed from the type area, the Appalachian Summit area, and that . . . "consequently, whether temporal, spatial and cultural attributes ascribed to the type locals are applicable to the Greenwood ceramics is unknown."

38SP295

After completion of excavations at the Pumpkin site (38GR226) a site with a well-defined Connestee component was discovered on the Pacolet River in adjacent Spartanburg County, South Carolina. Archaeologists conducting survey and testing prior to construction of a proposed dam and Lake for the Spartanburg Water Authority
discovered the site. The lake, Lake Blalock, may inundate the site. Additional information was not available to me at the writing of this report.

Perhaps there were other research projects, but overall the picture is one of very limited prehistoric research on the South Carolina Piedmont, particularly of Woodland cultures.
CHAPTER 4

38GR226. THE PUMPKIN SITE

Discovery

As previously mentioned, discovery of the Pumpkin site was fortuitous. Plans had been made to conduct test excavations in a flood plain located adjacent to the Middle Saluda River in northern Greenville County, with work to begin November 2, 1994 and continue periodically as time and weather permitted. It was at this point, actually while on our way to the floodplain, that the landowner requested that we first make a brief inspection of an upland site located adjacent to the flood plain. Typically, cultivated upland landforms on the Piedmont have suffered extensive erosion, leaving the red clay subsoil as the present-day ground surface. Cultural materials on such eroded sites are deflated to a common level at the ground surface, and without protective soil cover, any subsurface prehistoric cultural features that may have existed are at best rare and usually non-existent. Given this common knowledge about erosion damage in the Piedmont it was assumed that this land form would have little potential to yield archaeological data beyond that obtainable by surface collecting, and that it would be worthy of no more than a cursory inspection. I expected to open a small test excavation to confirm what I already knew, and then move on to the exploration for "real sites." The accumulation of a person's archaeological experiences often allows them to make fairly accurate visual assessments of an archaeological site's potential without putting a shovel in the ground—their over-confidence allows them to be mistaken. Being wrong, as I was in this instance, seldom proves to be fun or beneficial, but in this circumstance it was both.

The field to be inspected had been planted in pumpkins during the summer and their remains together with waist high weeds, completely covered the ground surface (Figure 3a). Because visual assessment of the site was impossible, a location near the central portion and highest elevation of the field was randomly selected for a test excavation. The backhoe removed the vegetation from an area 70 cm wide and 150 cm long in a north/south orientation (Figure 3b) and revealed was a dark, humic soil, instead of the expected red clay subsoil. The cleared area was then excavated to the clay subsoil to examine the soil profile and determine if cultural materials were present. Prehistoric pottery, fire-cracked rock, and a few lithic flakes from the manufacture or reworking of stone tools were recovered from the dark topsoil.

When troweled, the soil profile revealed that the dark humic plow zone extended to a depth of 18 cm where it interfaced with the clay subsoil. In the southern portion of the excavation a cultural feature was exposed in the east and south walls; the feature extended below the midden and into the subsoil to a depth of 35 cm below ground surface. The feature fill soil was visually indistinguishable from the above plow zone, but when troweled, textural differences were apparent. That portion of the feature below the plow zone appeared to be undisturbed and was more compact, an indication that the upper portions of the feature had suffered disturbance from cultivation.
While troweling the profile of the excavation, the bowl of a prehistoric "elbow" pipe made of steatite was revealed in the east wall at a depth of 20 cm and immediately below the plow zone (Figure 4a and 4b) When excavated, the pipe would show evidence that a plow had nicked the bowl.

It was late morning on Friday when the site was first tested, and now at mid-day, a decision had to be made to either fill the test excavation, leaving the pipe in situ and risk having it stolen by vandals, or to remove it immediately. A decision was made to excavate a portion of the feature sufficient to remove the pipe but no more. The decision for a partial excavation was based on two factors. First, the site is exposed to view from a nearby highway and easily accessible, and it was deemed unwise to risk loss of the pipe, a concern that was later justified. A second reason was time constraints. It was getting late in a short winter's day and we were concerned that if the feature was large and complex that we would be unable to complete excavation of the entire feature that day. At the time we were uncertain just when we could return to the site and we did not wish to leave the feature open. No matter which decision we made we faced the possibility of an incomplete excavation and so we opted to do the minimum needed to extract the pipe. To begin removal of the pipe, a rectangle was laid out, 50 cm X 35 cm, oriented in a north/south axis and adjacent to the east wall (Figure 6). The disturbed plow zone within the rectangle was then removed to define the horizontal portion of the feature to be excavated. A small number of prehistoric artifacts consisting of fire-cracked rock, a small chunk of steatite, a utilized quartz flake, Connestee Simple-Stamped pottery, and several small unidentified pottery fragments were recovered from the disturbed plow zone. Because of their location in the disturbed plow zone soil these artifacts were not included in the artifact analysis.

Figure 3: The first day of exploration at 38GR226: (a) View looking north across the North Saluda River flood plain from the Pumpkin Site. (b) Volunteers examine the first test excavation.
The feature was designated Feature 1, and because we were only excavating a portion of a feature whose total dimensions were yet unknown, the area selected for excavation was designated area "A" (Figure 6). Area "A" was then excavated to sterile subsoil, a depth 35 cm below ground surface at the deepest point and 17 cm below the base of the plow zone soil. Feature soils were a consistent dark brown/black throughout. Soil texture was medium course with some sand and enough clay to make it stick together when squeezed. Soils from the feature were sifted through 1/4-inch wire mesh to recover small artifacts inadvertently removed while excavating. Larger artifacts were left in situ until plotted. Feature 1, area "A," contained fire-cracked rock, Connestee Plain, Simple-Stamped, Cord-Impressed pottery sherds, and small fragments of unidentified pottery. A small amount of lithic debris from the manufacture, or reworking of stone tools was also recovered. Other cultural materials were two small sheets of unaltered mica, several small bits of charcoal and a large fist-sized chunk of unaltered steatite.

At this time no permanent datum marker had been established and the feature's location within the cultivated field was temporarily plotted by using two 100 m tapes to triangulate the location between two large trees that are adjacent to the site, one is located on the south end of the site and another east of the site. The measurements were taken from the base of each tree trunk facing the excavation. A wooden stake was then placed in the southwest corner of the test unit to assist in relocating the feature. The unit was then back filled. Admittedly, this is not the most sophisticated of mapping systems but when we returned to the site two months later it led us back to the feature on first attempt. The site was tentatively called the "Pumpkin" site because when first visited the ground was littered with decayed pumpkins left over from the autumn harvest; it was later recorded as archaeological site 38GR226.
Additional Testing

When the pipe recovered from Feature 1 was cleaned, a thin residue of carbonized materials was discovered in the bowl. Curious about the age of the pipe, a portion of the residue was removed in an attempt to obtain a radiocarbon date from the charred material. Prior to attempting to date the material removed from the pipe, arrangements were made to return to the Pumpkin site and excavate the remainder of Feature 1. The stimulus for additional excavation was that an assortment of Connestee pottery (Holden 1966; Keel 1976) was also found in the feature and we were optimistic of obtaining organic materials for additional radiocarbon dates that might confirm a cultural link between the pipe, the pottery, and the feature.

January 30, 1995 was selected as a starting date for renewed excavation, but several days of rain saturated the ground and the excavation of Feature 1 was postponed until drier conditions prevailed. The field had been cultivated and this allowed our first opportunity to observe the site other than in a fallow state and conditions were optimum for making a visual assessment. The extent of the dark midden, surrounded by red clay soils, was now easily defined within the plowed field. Narrow streaks of red clay were visible throughout the midden area, a result of subsoil being pulled up by plows and an indicator of how damaging deep plowing can be to an archaeological site. A visual survey of the cultivated field indicated that Woodland cultural materials were fairly evenly distributed over the midden but became numerically less near the midden perimeter and rarely extended onto the red clay beyond.

Testing for Midden Depths

While waiting for drier conditions to excavate Feature 1, a series of 50 X 50 cm shovel tests were excavated to determine midden depths over the site (Figure 5). A 100 m control line was placed across the midden at its widest diameter in a north/south direction and a second control line of 90 m was established at the widest point in an east/west direction. The north/south control line was designated the "A" line and the east/west line was designated the "B" line. Test excavations were placed at 10 m intervals along the two control lines. Other test excavations were placed at approximate 10 m intervals near the midden's perimeter. A total of 35 test units were excavated. Dark stains indicative of cultural features were observed in the subsurface clay in three of the test excavations.

Attempts to recover artifacts from the test excavations by screening proved futile because the soils were too wet and gummy to force through the 1/4-inch wire mesh. Excavated soils were then troweled in an attempt to recover artifacts but the small size of most cultural materials and the inability to easily distinguish small mud coated artifacts from natural stone pebbles made this impracticable as well. Unable to sift the excavated soils or to establish a feasible method for uniform control of artifact recovery, the attempt was abandoned and testing was concentrated on determining midden depths. Midden depths were highly variable but most were less than 10 cm in depth. The greatest uniform depth was 15–20 cm over a small area located approximately 50 m north along the "A" line and extending 20–30 m west of the line. As expected, the test excavations confirmed
that the entire midden was extremely mixed from numerous cultivations. The plow zone was rather uniform in depth, averaging approximately 18–20 cm, and its intrusion into the subsoil below the midden varied, depending on midden thickness. After the midden was removed it was apparent that occasional, much deeper, "chisel plowing" had raked the site, causing considerable damage to some features while leaving others undamaged.

![Diagram of 38GR226 Site](image)

**Figure 5. Locations of shovel tests to determine midden depths.**

*Excavation of the Remainder of Test Unit 1*

After completion of testing for midden depths another attempt was made to excavate the remaining portion of Feature 1. To accomplish this, a 2 X 2 m grid, large enough to capture the remaining portion of the feature as well as the previously tested area, was laid out (Figure 6).
The disturbed plow zone soil was discarded and the remainder of Feature 1 was easily defined against the red clay subsoil. The feature's fill was still very wet and could not be processed through the 1/4-inch wire mesh sifter and the excavation was again postponed. To facilitate drying, the unit was left open to take advantage of several days of predicted sunshine. After three days without rain, work was resumed on February 3, and the excavation of Feature 1 was completed at a depth of 35 cm below subsoil surface. The feature extended slightly beyond the grid boundaries in the southwest corner (Figure 6). A sample of charcoal sufficient for obtaining a radiocarbon date was recovered, fulfilling our objective and ending this phase of exploration. No additional features were observed at this time, but later, when a larger portion of the site was stripped of the plow zone and cleaned, three postholes were discovered within the test unit.

Figure 6. Test Unit 1: 2 X 2 M. The sequences of excavation of Feature 1.

Evolving Research

The carbon samples obtained from the pipe bowl and charcoal from the fill of Feature 1 were sent to Beta Analytic Radiocarbon Dating Laboratory in Miami for analysis. Dates of A.D. 560–645 and A.D. 540–650 (dates calibrated) were identified for the samples, confirming the contemporaneity of the pipe, the feature, and the Connestee pottery contained therein.
It was now the end of March and an evaluation of all the data so far acquired at the Pumpkin site produced the following:

1) A rare prehistoric cultural midden existed on a hilltop site in the Piedmont region of South Carolina. Somehow the site had largely escaped the erosive damage of historic land use.

2) Assessment of cultural materials revealed by cultivation of the site indicated that although culturally multi-component, the dominant occupation of the site occurred during the Connestee phase of the Middle Woodland period.

3) The initial test excavation that discovered Feature 1, and the subsequent finding of three possible features when testing for midden depths, indicated that relatively undisturbed, cultural features existed in the red clay subsoil beneath the plow zone soil.

4) Radiocarbon dates of A.D. 560–645 and A.D. 540–650 (calibrated) were obtained from the initial testing and subsequent excavation of Feature 1, supporting a Connestee presence (A.D. 200 to A.D. 600, Keel 1976: 219-239) at the site.

So little is known about the Woodland cultures on the Piedmont of South Carolina that an opportunity to, perhaps, gain greater insight into the period could not be lightly dismissed. Besides, the Pumpkin Site had captured the interest and imagination of the crew and it would have been difficult for us to abandon the site without an effort to learn a bit more. We had no long-range plans but thought it would be worthwhile to undertake a modest excavation and determine if posthole patterns indicative of a Middle Woodland structure might exist. Evidence for Woodland period structures on the Piedmont of South Carolina is sparse and to my knowledge no radiocarbon dates representative of such structures had been obtained at the time of our research at 38GR226. The preponderance of Connestee pottery observed on the site's surface, evidence of subsurface features, and the two supporting radiocarbon dates from Feature 1 gave reason to believe that this site might produce such evidence.

Search for a Connestee Structure

The search began April 5, 1995, by laying out an 18 X 20 m grid, divided into ninety 2 X 2 m units (Figures 7 and 17). The grid was located between 35 and 55 m along the north/south control line, "A," and it extended west for a distance of 18 m. Within the larger grid a 2 X 2 m unit, designated 2-C, was selected to begin excavations. The location selected for excavation was chosen because it was within a portion of the site that contained the deepest plow zone soils. It was hoped that the deeper plow zone soil would have afforded better protection to subsurface features than the thinner surrounding soils.
Figure 7. Test Units 1, 2, and 18 X 20 meter grid initially proposed for excavation.
Excavation of Test Unit 2

Removing the plow zone was a laborious time-consuming task because the midden/plow zone was now extremely dry, compact, and cemented tightly to everything contained therein. Attempts were first made to recover cultural materials by using a mechanical "power screen" (Figure 8). A small Briggs & Stratton gasoline engine supplies power to shake a hopper in which excavated soils are placed. The bottom of the hopper is fitted with 1/4-inch hardware cloth which, when the hopper is agitated, allows the soils to fall through while retaining any cultural materials larger than 1/4-inch in diameter (Michie 1970: 15-18). This method works wonderfully well with soils that are not overly adhesive but failed miserably with the Pumpkin site soils.

Figure 8. Volunteers excavating Test Unit 2 use a motor powered sifter to separate artifacts from the soil.

Where the sifting process previously met with failure because the soils were so wet and gummy, we were now defeated by soils that had dried brick hard. For all practical purposes, the soils could not be separated from cultural materials by action of the sifter or by hand without causing extensive damage to the artifacts. As an alternative to screening, the excavated soil was collected in large tubs and hauled to the nearby residence of the land owner where they were placed on 1/4-inch wire mesh and water screened with water from a high-pressure hose. When this failed to separate the artifacts from the soil, they were covered with water and allowed to soak overnight. The following day the soil was again placed on 1/4-inch wire screen and washed using the high-pressure water hose.
This time the artifacts were easily separated. This proved to be the best method of separating artifacts from the plow zone soils without damaging the artifacts.

When removal of the plow zone within Test Unit 2 was completed, subsoil raked by plow scars was visible. Three postholes were within the unit and another located at the east edge of the test unit extended beyond the unit perimeter. A large area in the southeast corner of the unit was badly disturbed, apparently by a "chisel" plow, which cuts deep into the clay to break it up (Figure 9). The south half of each posthole feature was excavated. The postholes were designated Features 2, 3, 4, and 5 (Attributes and data pertaining to individual features are discussed in a later section).

![Figure 9. Test Unit 2 showing posthole features 2, 3, 4, 5, plow scar through center, and plow damaged area in upper right corner. View looking east.](image)

Two days were required to remove the plow zone from Test Unit 2, and at this point our methodology was re-examined and determined unsatisfactory; neither time, funding, nor logistics allowed the slow pace of excavation and the luxury of carrying excavated plow zone soils to another location for water screening. To complete the objective of exposing an area appropriate to determine if a structure might exist, work had to proceed more rapidly. To expedite matters, a decision was made to remove the plow zone without attempting to recover cultural materials that it might contain. This decision was deemed appropriate because of several factors: repeated episodes of cultivation had co-mingled cultural materials within the plow zone rendering them unreliable for reconstructing
absolute relationships and hardly more valuable than data obtained from the surface collection.

It was also reasonable to assume that cultivation had destroyed most, and perhaps all, shallow features that were totally within the midden. If undisturbed features, or portions thereof, did exist in the midden they were visually indistinguishable from the surrounding dark soil and not likely to be found. These facts established, it was decided to remove the plow zone/midden without further attempts to recover cultural materials contained therein.

Removing the Plow Zone

A small farm tractor with a drag blade attachment was first used in an attempt to scrape away the plow zone. The small tractor quickly proved unworkable and was abandoned in favor of using a much larger farm tractor and blade attachment. The larger tractor also was no match for the plow zone soils–when dry they were too hard to cut, when wet they were too slippery to afford traction and this method was abandoned. Options were becoming limited when an offer was made for loan of a large "motor grader," a machine commonly used in highway construction to do the final "finish" grading prior to paving (Anderson and Schuldenrein, 1985: 226); (South 1959: 252-259).
The motor grader is far heavier than the farm tractors and the controls of this machine are such that they allow the removal of thin layers of soil over a broad area, making it ideal for our needs. The weight and power of the motor grader quickly solved our problem, easily rolling the plow zone soil aside from the area we wished to inspect (Figure 10). A bonus was that it accomplished the task so quickly that it allowed far more of the site to be exposed than originally planned. Instead of an excavation of 360 square meters the plow zone was removed from an area of approximately 2068 square meters (Figures 13, 14, 15, 16, and 17), greatly increasing the probability of finding structural postholes, as demonstrated at the Gaston Site [Hx\textsuperscript{7}] in North Carolina (Coe 1964: 91-92); at Santa Elena [38BU162] (South and DePratter 1996: 9); and at Charles Town Landing [38CH1] (South 1971: 202). Because numerous large pit features and possible hearths were also uncovered our plans were changed to include excavation of a number of these features.

Cleaning and Defining Features

After the motor grader had removed the plow zone, shovels and hoes were used to scrape away any remaining loose soils so that features were better defined (Figure 11a). Cleaning had to be done immediately after the grader exposed the subsoil or it quickly became brick hard and difficult to clean as it dried. With such a large area exposed, the crew was unable to clean as fast as the subsoil was exposed. To alleviate the problem, a large water tank mounted on a trailer and with a spray hose attachment was brought in to dampen the soils as needed.

![Figure 11. (a) After removing the midden the site was cleaned by hand to locate and define features. (b) Freshly cleaned features were outlined with string to maintain their identity until excavated.](image)

As the larger features were located they were outlined with string to maintain their identity after drying, a technique employed by South and DePratter at Santa Elena (South and DePratter 1996: 13). To define the features small nails were driven into the clay around their perimeters and string attached to each nail in a "connect the dots" manner.
Figure 11b). This method was used because as the soils dried, color contrasts that distinguished features from surrounding soils became less apparent. Without the string to identify the location, size and shape of each large feature, they would have required cleaning again in order to redefine them prior to mapping and excavation. Small features such as postholes were not outlined with string because it was not difficult to trowel the small area required to redefine them. A survey flag was placed in each feature to identify its location and when the site was mapped, a number was assigned to that particular feature and written on the flag for reference.

Mapping the Site

A permanent reference point (R.P. "A") was created by placing a 5/8-inch diameter steel rod, set in concrete, near the base of the large tree at the south end of the site. A similar reference point (R.P. "B") was placed 82m west of R.P. "A" at an angle of 143.5 degrees west of magnetic north. This reference point serves as a correction datum. Two temporary reference points, "C" and "D," were placed within the excavated area to facilitate mapping. Reference point "C" is located 75 m northwest of "A" and is located by placing the transit on reference point "A," back sighting to "B," and then turn an angle of 95 degrees clockwise. Reference point "D" is located 35m north of "C" and is located by placing the transit on reference point "C," back sighting to "A," and then turn an angle of 160 degrees clockwise. From the two temporary points, "C" and "D," all features were plotted using a surveyors transit (Figure 12). A total of 504 features were located and mapped. The coordinates of each feature were entered into a log and from these data a map was created that shows the extent of the excavated area and the location of each feature (Figures 13, 14, 15, 16, and 17).
Figure 13. 38GR226, area strip of plow zone showing exposed features.
Figure 15. 30GR226, section "B." Numbers indicate excavated features.
Figure 17 38GR226 area strata of slow zone showing location of 18 x 20 cm and test units 1 and 2
CHAPTER 5

THE FEATURES

With the site stripped of topsoil and cleaned, a visual assessment of the features exposed in the clay subsoil was possible. Our original objective was to find postholes indicative of a prehistoric structure and, hopefully, obtain evidence to establish a Connestee affiliation for them. Although numerous postholes were revealed, the abundance of both pit and posthole features made identification of distinct structures impossible and any chance of defining them awaited completion of the site map for further study. The site map was drawn by hand from notes taken in the field and because it was not completed until after the excavations had ended and the topsoil was placed over the site, it was unavailable to assist with identifying possible structural patterns during fieldwork.

Selecting Features for Excavation

Because we were unable to visually define individual structures, we turned our efforts toward excavating an assortment of the site's features. A sampling strategy was used to select features representing a broad spectrum of types, shapes, and sizes distributed over the entire stripped area. Ultimately, a total of 37 features were excavated (Table 1).

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<th>Feature</th>
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<td>110 X 90</td>
<td>35</td>
<td>19-A</td>
<td>PH</td>
<td>24 X 24</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>PH</td>
<td>16 X 16</td>
<td>40</td>
<td>78</td>
<td>PH</td>
<td>14 X 14</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>PH</td>
<td>14 X 14</td>
<td>38</td>
<td>82</td>
<td>PH</td>
<td>23 X 23</td>
<td>40</td>
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<td>4</td>
<td>PH</td>
<td>18 X ?</td>
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<td>90</td>
<td>PIT</td>
<td>128 X 118</td>
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<td>103</td>
<td>PH</td>
<td>17 X 17</td>
<td>21</td>
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<td>PH</td>
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<td>10</td>
<td>UNDET</td>
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<td>11</td>
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<td>PIT</td>
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<td>19</td>
</tr>
<tr>
<td>12</td>
<td>PH</td>
<td>24 X 24</td>
<td>6</td>
<td>143</td>
<td>PIT</td>
<td>165 X 136</td>
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</tr>
<tr>
<td>13</td>
<td>PH</td>
<td>24 X 26</td>
<td>15</td>
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<td>PIT</td>
<td>124 X 127</td>
<td>29</td>
</tr>
<tr>
<td>14</td>
<td>PH</td>
<td>23 X 24</td>
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</tr>
<tr>
<td>15</td>
<td>PH</td>
<td>20 X 21</td>
<td>7</td>
<td>150</td>
<td>PIT</td>
<td>68 X 67</td>
<td>17</td>
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<tr>
<td>16</td>
<td>PH</td>
<td>19 X 19</td>
<td>8</td>
<td>154</td>
<td>PIT</td>
<td>128 X 143</td>
<td>28</td>
</tr>
<tr>
<td>17</td>
<td>PIT</td>
<td>112 X 95</td>
<td>23</td>
<td>154-A</td>
<td>PIT</td>
<td>48 X 55</td>
<td>28</td>
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<td>18</td>
<td>PIT</td>
<td>135 X 210</td>
<td>22</td>
<td>157</td>
<td>PIT</td>
<td>88 X 104</td>
<td>23</td>
</tr>
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<td>18-B</td>
<td>PH</td>
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<td>21</td>
<td>158</td>
<td>UNDET</td>
<td>20 X 20</td>
<td>40</td>
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<tr>
<td>18-C</td>
<td>UNDET</td>
<td>36 X 38</td>
<td>16</td>
<td>356</td>
<td>PIT</td>
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<td>PIT</td>
<td>158 X 161</td>
<td>54</td>
<td></td>
<td></td>
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</tbody>
</table>
Several features, thought to be single features when we began their excavation, ultimately proved to be composites of two or more separate features that had intruded one into another. When such features were discovered, a separate feature designation was assigned to them by simply adding "A," "B," "C," etc. to the number of the feature that was currently being excavated. For example, Feature 19-A is a feature that intrudes into Feature 19, and obviously postdates Feature 19.

Methods of Feature Excavation

Our plans were to excavate one-half of each selected feature by dissecting it on an east/west axis and removing only the southern portion. Exceptions were Features 9 and 158, two small posthole-like features (Figure 22 a and b, and Figure 27). Each of these features contained a mass of broken pottery confined in a small area and a division of these features was not deemed appropriate. Measurements were made using the metric scale and all depth measurements were relative to the subsoil surface because the plow zone had been removed. Black and white photographs and color slides were taken of each excavated feature. Fill removed from features was more conducive to dry screening than the midden soil and we were able to sift most fill through 1/4-inch mesh wire screen for recovery of small artifacts. Large artifacts were left in situ until plotted. Recovered artifacts were taken to the South Carolina Institute of Archaeology and Anthropology for final cleaning and analysis.

Excavation

The research team consisted almost exclusively of volunteers. Professional and advocate archaeologists alike contributed their labor as schedules permitted, consequently the work force varied in number from day to day. Other obligations for myself and crew members did not allow work at Pumpkin to continue without interruption; consequently, the 28 total days of field work was spread over several short sessions between November 2, 1994 and December 13, 1995. These work delays were not without cost in productivity and damage to the site. One "shut down" period was between May 10 and June 12, 1995. During that absence a considerable growth of weeds covered the site and rains washed a thin layer of silt over many of the features, making it necessary to once again clean portions of the site prior to resumption of excavations.

Vandalism

The site was again shut down between June 16 and December 11, 1995, and this time our absence proved more costly. During that interim, vandals visited the site and did significant damage to seven large pit features where we had completed our excavations. Digging into the undisturbed northern half of each feature, apparently in search of artifacts, the vandals damaged Features 18, 19, 142, 143, 154, 157 and 356. The vandalized features dictated a change in priorities. Plans to excavate several additional features were abandoned in order to salvage the remaining undamaged portions of those that had been looted.
Salvaging the Vandalized Features

Vandalized features were first photographed to show the extent of damage (Figure 18) and then the disturbed soils were removed and sifted for recovery of any remaining cultural materials. Artifacts recovered from the vandals' spoil dirt consisted entirely of cracked rock and small pottery sherds. Artifacts observed in the looters spoil dirt were not used in this report because they were strewn about and it was impossible to determine if they were mixed with artifacts from other vandalized features or what artifacts may have been carried away by the looters.

After removing the disturbed soils, the remaining undisturbed portions of each feature was mapped to show the extent of damage, these features were then excavated in their entirety (Figure 19). Salvage excavations were completed December 13, 1995 and the site was prepared for backfilling (Figure 20). A bulldozer was used to push soil over the site. After uniformly covering the area with its original topsoil, the field was again cultivated and planted in the spring of 1996.

Figure 18. Feature 356: An example of damage done by vandals.
Figure 19. Feature 356 after salvage excavation.

Figure 20. Vandalized features are salvaged and site prepared for back filling.
DESCRIPTIONS OF EXCAVATED FEATURES

Following the description of each excavated feature are tables itemizing that feature's artifact contents. These tables include only cultural materials that have been deliberately produced, such as pottery or manufactured stone tools, and the by-products of stone tool manufacture or reworking; cores, flakes, and shatter. Also included are several pieces of natural stone that were utilized as expedient tools, which created flaked edges. Miscellaneous cultural materials; i.e., fire-cracked rock, daub, etc., are listed in separate tables at the end of the section.

Feature 1

Feature 1 was a pit roughly circular in shape, 110 X 90 cm in diameter, and tapering inward to a maximum depth of 35 cm below subsoil surface. Soils within the feature were dark ash-gray when dry and almost black when wet. The initial test excavation at the site in November of 1995 discovered this feature. At that time, the feature was partially excavated to remove a steatite elbow pipe; it was later excavated in its entirety. Cultural debris was distributed throughout the fill and, with the exception of the pipe, diagnostic artifacts were a Morrow Mountain type Ib biface of the Middle Archaic period (4000–5000 B.C., Coe 1964: Fig.116), and various Conestee pottery sherds (Holden 1966; Keel 1976). Small distal portions of two other bifaces were recovered, one of white quartz and another of rhyolite: neither was identifiable as to cultural period. A small number of lithic flakes representative of tool reworking or manufacture were recovered. Most of the flakes were of local origin with the exception of a single flake of black Ridge and Valley chert, typical of black cherts more common to northern Georgia, eastern Tennessee, and western North Carolina. The origin of four flakes of an unidentified chert, or chert-like stone tentatively identified as "Piedmont silicate," is unknown. The fifteen lithic flakes from this feature represent 26.79% of the total number of diagnostic flakes recovered from all feature excavations. Feature 1 also contained two small sheets of unaltered mica, a small amount of what appeared to be daub, and several small and extremely fragile bits of unidentified bone. A quantity (406 grams) of Conestee Simple-Stamped pottery was mended to form the basal portion of a vessel (Figure 21). A number of small pottery fragments were within the feature but because of their size and eroded surfaces they were classified as unidentifiable. Two radiocarbon dates were obtained, one from carbonized material removed from the bowl of the smoking pipe and another from charred material collected from feature fill soil. These radiocarbon dates clearly place use of this feature within the Conestee Phase. A tree taproot mold was located in the features' southeastern edge.
Table 2. Contents of Feature 1.

<table>
<thead>
<tr>
<th>Feature Type: Pit</th>
<th>No.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elbow pipe: steatite</td>
<td>1</td>
<td>126.40</td>
</tr>
<tr>
<td>Biface: Morrow Mt. I: quartz</td>
<td>1</td>
<td>5.20</td>
</tr>
<tr>
<td>Biface: unident. quartz</td>
<td>1</td>
<td>3.80</td>
</tr>
<tr>
<td>Biface: unident. metavolcanic</td>
<td>1</td>
<td>4.60</td>
</tr>
<tr>
<td>Flake: quartz</td>
<td>1</td>
<td>2.00</td>
</tr>
<tr>
<td>Flakes: crystal quartz</td>
<td>3</td>
<td>7.00</td>
</tr>
<tr>
<td>Flake: Ridge &amp; Valley Chert</td>
<td>1</td>
<td>0.60</td>
</tr>
<tr>
<td>Flakes: &quot;greenstone&quot;</td>
<td>3</td>
<td>7.00</td>
</tr>
<tr>
<td>Flakes: unident. metavolcanic</td>
<td>2</td>
<td>8.00</td>
</tr>
<tr>
<td>Flakes: unidentified chert</td>
<td>4</td>
<td>1.50</td>
</tr>
<tr>
<td>Flake: amethyst</td>
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<td>1.40</td>
</tr>
<tr>
<td>Shatter: crystal quartz</td>
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<td>21.50</td>
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<tr>
<td>Connestee pottery</td>
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<td></td>
</tr>
<tr>
<td>Plain</td>
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<td>166.00</td>
</tr>
<tr>
<td>Cord Impressed</td>
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<td>14.00</td>
</tr>
<tr>
<td>Simple-Stamped</td>
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<td>406.00</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>939.00</td>
</tr>
</tbody>
</table>

Figure 21. Basal portion of Connestee Simple-Stamped vessel from Feature 1
Feature 2

Feature 2 was a posthole in Test Unit 2. Round in plan view outline, the posthole was 16 cm in diameter and 40 cm deep with a slightly rounded bottom. Fill soil was light brown and contained flecks of charcoal. No cultural materials were recovered.

Feature 3

Feature 3 was a posthole in Test Unit 2. Round in shape, the posthole was 14 cm in diameter and 38 cm deep with an irregular bottom. Fill was light brown in color. No cultural materials were recovered.

Feature 4

Feature 4 was a posthole in Test Unit 2. It could not be determined with certainty whether this was a prehistoric posthole because of a large and deep plow scar that dissected it. The shape was somewhat irregular with dimensions of approximately 18 cm diameter east/west. The north/south dimensions were obliterated by the plow, and the damaged area extended to a depth of 51 cm below subsoil surface. One small eroded prehistoric pottery fragment and one flake of an undetermined type of metavolcanic stone were in the posthole fill but due to the highly disturbed nature of the feature, they were not used as data.

Feature 5

Feature 5 was a probable posthole of undetermined cultural affiliation. The feature was located at the extreme eastern edge of Test Unit 2 and it extended into the adjacent unit. The feature was round in shape, 22 X 20 cm across and 50 cm in depth with a slightly concave bottom. The fill soil of this feature set it apart from other features at the site, having a coarser, sandier texture and very light color as opposed to the typical darker, finer textured fill soils. The fill soil was visually absent of charcoal or other organic matter and had the appearance of clean sand that was poured into a hole. It was not determined if this was a historic or prehistoric posthole. Modern postholes do occur throughout the site but most that were visually identifiable as such were square in form. No cultural materials were present.

Feature 6

Feature 6 was an apparent pit feature. Our plans were to excavate this and several other features but the time was needed to salvage features damaged by vandals and it was not excavated. Because it was not excavated it was designated an "undetermined" type of feature. Surface dimensions were 42 X 48 cm in diameter. The feature's fill soil was dark brown at the subsoil surface. Numerous small pottery fragments that were exposed at the feature's surface while cleaning and mapping were recovered at that time to prevent them from being removed by vandals. A small amount of cracked rock was also exposed. Because these artifacts were part of the feature's content they were used in the present data analysis.
Table 3. Contents of Feature 6.

<table>
<thead>
<tr>
<th>Feature Type: Undetermined</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
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<td></td>
</tr>
<tr>
<td>Connestee pottery</td>
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<td></td>
</tr>
<tr>
<td>Plain</td>
<td>35</td>
<td>151.40</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>22</td>
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</tr>
<tr>
<td>Total grams</td>
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<td>337.30</td>
</tr>
</tbody>
</table>

Feature 7

Feature 7 was a moderate sized pit with irregular plan view dimensions of 65 X 42 cm. Data pertaining to the feature's depth is missing. At the feature's surface, the fill was black with red mottling and contained scattered charcoal flecks. Pottery sherds were the only diagnostic artifacts recovered from the feature. Two of the pottery sherds were Swannanoa Plain but all others were Connestee Plain. Small amounts of fire-cracked rock, daub and charcoal were also recovered.

Table 4. Contents of Feature 7.

<table>
<thead>
<tr>
<th>Feature Type: Undetermined</th>
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<th>Weight/Grams</th>
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<tbody>
<tr>
<td>Contents</td>
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<td></td>
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<tr>
<td>Connestee pottery</td>
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<tr>
<td>Plain</td>
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</tr>
<tr>
<td>Swannanoa pottery</td>
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<td></td>
</tr>
<tr>
<td>Plain</td>
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<td>100.20</td>
</tr>
<tr>
<td>Total artifacts</td>
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</tr>
<tr>
<td>Total grams</td>
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<td>272.00</td>
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Feature 9

Feature 9 was one of two unusual, but similar features excavated at 38GR226 (Figure 22 a); Feature 158 was the other (Figure 22 b and 27). When they were cleaned it became apparent that the two small features, which resembled postholes at the subsoil surface, each contained a number of pottery sherds. When the features were excavated, the pottery was determined to have been deliberately placed in the features rather than having found its way there by chance.

Given the dimensions and characteristics of these two features it was first thought that they were postholes that had small pots placed in them, but when further considered that possibility does not seem logical. If the features had contained posts, then to place pots into them would require deliberately removing the posts. If the posts were already absent as a result of burning, decay or whatever, and the holes had filled with dirt then they must be excavated in order to place the pots within. Neither of these scenarios seems plausible. It would seem more logical that the excavations were deliberately done to accommodate the vessels. Neither Feature 9 nor Feature 158 contained evidence of cremations or any other obvious reasons for interring these vessels and the purpose of these two features remains undetermined. Feature 9 was rather elongated in form with dimensions of 43 X 26 cm diameter, oriented in an east/west direction. The east portion of Feature 9 was 24 cm deep and the western portion was 20 cm deep. Feature walls were vertical in the eastern portion but tapered slightly inward in the western portion. It was thought when excavating the feature that a tree root might have grown into a posthole causing the feature's elongated shape but the absence of root laterals and a truncated bottom indicate that the western portion of the feature was also part of the original excavation. Pottery sherds were closely stacked vertically on the east side with charred wood and considerable charcoal inside and around the sherds. Some charcoal and a few small pottery sherds were in the western portion of the feature. A crystal quartz core fragment, two chunks of fire-cracked diorite and several random pottery sherds were found below the stacked pottery and a small chunk of unaltered schist was embedded in the east wall. Connestee Plain pottery accounted for 83.03% of the total grams of pottery recovered from the feature. A small amount of Connestee Cord-Impressed was the only other identifiable pottery recovered. All but two of the Connestee Plain pottery sherds were mended to reconstruct the basal portion of a conical vessel (Figure 23).
Figure 22. Features 9 (a) and 158 (b). Showing pottery in posthole-like features.
Figure 23. Basal portion of Connestee Plain vessel from Feature 9.

Table 5. Contents of Feature 9.

<table>
<thead>
<tr>
<th>Feature Type: Undetermined</th>
<th>N.</th>
<th>Weight/Grams</th>
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</thead>
<tbody>
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<td>Contents</td>
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<td></td>
</tr>
<tr>
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<td>Connestee pottery</td>
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<td></td>
</tr>
<tr>
<td>Plain</td>
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<td>198.50</td>
</tr>
<tr>
<td>Cord-Impressed</td>
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<td>0.50</td>
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<td>Total artifacts</td>
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<td></td>
</tr>
<tr>
<td>Total grams</td>
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<td>295.10</td>
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Feature 10

Feature 10 was basically round, 23 X 27 cm at the scraped surface and 6 cm deep, with a flat bottom. This feature was thought to be a posthole when first discovered, and it indeed may have been, but it is quite possible that it was the basal portion of a larger pit feature where the upper portion had been cut away either by cultivation and/or by the motor grader when removing the plow zone. With this uncertainty concerning its true form and size, the feature was classified as an undetermined type. Despite its relatively small size, the feature was one of the richest of all those excavated in terms of botanical remains and this may indicate some special, but yet undetermined, function for this feature (Crites, 1998). The fill soil was dark gray/black with heavy charcoal throughout. Due to the feature's small size, the entire fill was saved for a float sample. A small amount of cracked rock was recovered from the float sample but no other cultural materials were recovered.

Feature 11

Feature 11 was a posthole 23 cm in diameter and with a depth of 11 cm. The bottom was irregularly shaped. The fill soil was dark brown/black and contained considerable charcoal. A small amount of cracked rock was recovered from the float sample, but no other cultural materials were recovered.

Feature 12

Feature 12 was a posthole 24 cm in diameter with a depth of 6 cm. The posthole bottom was tapered. Fill soil was light brown with a small amount of charcoal. No cultural materials were recovered.

Feature 13

Feature 13 was a posthole with horizontal dimensions of 24 X 26 cm and a depth of 15 cm. The feature bottom was round and the fill soil was light brown with a small amount of charcoal present. No cultural materials were present.

Feature 14

Feature 14 was a posthole approximately 23 X 24 cm in diameter with a depth of 7 cm. The feature bottom was flat and the fill soil was black with abundant charcoal. No cultural materials were recovered.

Feature 15

Feature 15 was a posthole approximately 21 cm in diameter with a depth of 7 cm. The feature bottom was round and the fill was black with charcoal. No cultural materials were recovered.
Feature 16

Feature 16 was a posthole 19 cm in diameter with a depth of 8 cm. The feature bottom was round and the fill soil was light brown. No cultural materials were present.

Feature 17

Feature 17 was a pit feature with an irregular shape. Horizontal dimensions were 112 X 95 cm and the depth was 23 cm. Plow scars were apparent across the surface but had not cut deeply into the feature. When the feature was cleaned, numerous small fragments of sheet mica were observed on the surface but none was recovered from the feature's internal fill. It is possible that the mica was smeared over the feature surface by the motor grader and because the origin of the mica could not be determined it was not included in the feature analysis. Two dark stains indicated possible intrusive postholes within the feature and they were temporarily designated postholes "A" and "B." Posthole "A" measured 8 cm in diameter, and extended to a depth of 14 cm; it contained two pottery sherds. Posthole "B" was 7 cm in diameter with a depth of 4 cm: it contained no cultural materials. In defense of the interpretation that a feature as shallow as "posthole" "B" could be a posthole keep in mind that an undetermined portion of the feature above the subsoil was probably destroyed by cultivation and perhaps still more when removing the plow zone with the motor grader. The two possible postholes were not clearly defined as such and therefore no separate feature numbers were assigned them. The pottery sherds contained in the dark stain temporarily designated as "Posthole B" was included in the general fill analysis. Cultural materials were relatively sparse in this feature and were represented by small fragments of Connestee Plain and unidentified pottery, bits of daub, and charcoal. Fire-cracked rock was present in moderate amount at depths of 7–8 cm. Feature fill soil was dark brown on the east side and almost black on the west where charcoal was densest.

Table 6. Contents of Feature 17.

<table>
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<tr>
<th>Feature Type: Pit</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
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<tbody>
<tr>
<td>Contents</td>
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<tr>
<td>Connestee pottery</td>
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<td>13.90</td>
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<td>Unidentified pottery</td>
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</tr>
<tr>
<td>Total artifacts</td>
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<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>17.90</td>
</tr>
</tbody>
</table>
Feature 18

Feature 18 was an oval pit feature with dimensions of 135 X 210 cm and a depth of 22 cm. Because the feature was one of those vandalized the entire feature was excavated. The feature was oriented north/south and had a basin-shaped bottom. Feature fill was mottled brown with moderate charcoal in the center becoming lighter toward the outer edge. An abundance of fire-cracked rock and the amount of charcoal present may be indicative of use as a cooking pit. The feature contained more of what appeared to be daub, 717.3 grams, than any other feature excavated at 38GR226. A relatively large number of pottery sherds was also recovered, and a Guilford biface representative of the Middle Archaic period, with a suggested minimum date of 4000 B.C. (Coe 1964: 43-44), (Figure 35b), and made of unidentified metavolcanic stone, was intrusive into the feature. The looters spoil dirt produced a few cracked rock and several small pottery sherds.

Three anomalies in soil color and shape were defined within the south half of Feature 18 and during excavation they were temporary designated Loci "A," "B," and "C." Locus "A" was apparent soon after cleaning the surface but "B" and "C" were not discovered until several centimeters of feature fill had been removed. As the excavation progressed it was determined that Loci "B" and "C" were actually separate features and they were designated Features 18-B and 18-C. Locus "A," at first thought to be an intrusive posthole, was determined to be only a darker and somewhat localized fill sequence. Therefore the designation, Feature 18, Locus "A" was kept. Two apparently fire-cracked rocks and one small, highly eroded pottery sherd were recovered from locus "A." A soil sample from the locus produced Chenopodium seed that was submitted for AMS (Accelerator Mass Spectrometer) dating and it yielded a calibrated radiocarbon age of AD 575 to 650.

Table 7. Contents of Feature 18.

<table>
<thead>
<tr>
<th>Feature Type: Pit</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
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<td></td>
</tr>
<tr>
<td>Guilford biface: metavolcanic</td>
<td>1</td>
<td>11.20</td>
</tr>
<tr>
<td>Flake: quartz</td>
<td>2</td>
<td>1.20</td>
</tr>
<tr>
<td>Flake: &quot;greenstone&quot;</td>
<td>1</td>
<td>2.20</td>
</tr>
<tr>
<td>Shatter: quartz</td>
<td>9</td>
<td>21.00</td>
</tr>
<tr>
<td>Core fragment: quartz</td>
<td>1</td>
<td>13.60</td>
</tr>
<tr>
<td>Steatite fragment</td>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>100</td>
<td>541.40</td>
</tr>
<tr>
<td>Brushed</td>
<td>8</td>
<td>37.10</td>
</tr>
<tr>
<td>Simple-Stamped</td>
<td>1</td>
<td>11.00</td>
</tr>
<tr>
<td>Fabric-Impressed</td>
<td>2</td>
<td>5.70</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>15</td>
<td>60.00</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>141</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>705.40</td>
</tr>
</tbody>
</table>
**Feature 18-B**

Feature 18-B was a posthole that intruded into Feature 18. This posthole was 10 cm in diameter and 21 cm deep. Feature fill was uniform light brown. No cultural materials were recovered.

**Feature 18-C**

Feature 18-C was a dark circular stain within Feature 18 that could have resulted from a later fill sequence but it appeared to be a separate intrusive feature and was treated as such. The feature had dimensions of 20 X 20 cm and a depth of 16 cm. It was not determined if the feature was a posthole or small pit. Fire-cracked rock, a small amount of daub, quartz shatter and Connestee Plain pottery were recovered.

<table>
<thead>
<tr>
<th>Table 8. Contents of Feature 18-C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature Type: Undetermined N. Weight/Grams</td>
</tr>
<tr>
<td>Contents</td>
</tr>
<tr>
<td>Shatter: quartz</td>
</tr>
<tr>
<td>Connestee pottery</td>
</tr>
<tr>
<td>Plain</td>
</tr>
<tr>
<td>Total artifacts</td>
</tr>
<tr>
<td>Total grams</td>
</tr>
</tbody>
</table>

**Feature 19**

A large and complex basin-shaped pit, it contained a number of different soil coloration's, or "zones" and fill lenses. Feature dimensions were 158 X 161 cm with a depth of 54 cm. A particularly well defined and charcoal rich area located near the feature's center was determined to be an intrusive posthole and it was designated Feature 19-A. A number of charcoal rich stains were mapped but they appeared to result from burned roots. Feature 19 produced the largest amount of what appears to be fire-cracked rock recovered from any single feature, yet the pit showed no visible evidence of thermal use.

Feature 19 is one of the features damaged by vandals who destroyed approximately twenty five percent of the feature when they dug into the previously unexcavated northern half. What cultural materials might have been removed cannot be known but a substantial amount of fire-cracked rock and several small pottery sherds was recovered from the looters spoil. When the damaged portion was cleaned of disturbed soil the remainder of the feature was excavated and an area of darker soil was found beneath the looted area at 23 cm below ground surface. At first thought to be a separate feature, it proved to be a fill layer and it was designated Locus "B." Using the weight of cultural
materials recovered as a basis, Feature 19 was the richest of all the features excavated. Feature 19 produced 1495.8 grams of cultural materials that accounted for 18.47% of the total weight recovered from all excavated features (Tables 9-19-20). The feature produced two pecked and ground stone celts (Figure 24). A quartz chunk with two utilized edges was also found in the feature (Figure 36a). It represents one of only two expedient stone tools recovered (the other was in Feature 356) and no cultural affiliation could be determined for either of them.

Table 9. Contents of Feature 19.

<table>
<thead>
<tr>
<th>Feature Type: Pit</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td>98</td>
<td>98.00</td>
</tr>
<tr>
<td>Celt</td>
<td>2</td>
<td>431.00</td>
</tr>
<tr>
<td>Flake: quartz</td>
<td>6</td>
<td>2.60</td>
</tr>
<tr>
<td>Flake: crystal quartz</td>
<td>2</td>
<td>0.70</td>
</tr>
<tr>
<td>Flake: Ridge &amp; Valley chert</td>
<td>6</td>
<td>3.20</td>
</tr>
<tr>
<td>Flake: &quot;greenstone&quot;</td>
<td>4</td>
<td>11.30</td>
</tr>
<tr>
<td>Shatter: quartz</td>
<td>8</td>
<td>7.60</td>
</tr>
<tr>
<td>Chunk, utilized: quartz</td>
<td>1</td>
<td>16.00</td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>82</td>
<td>773.80</td>
</tr>
<tr>
<td>Brushed</td>
<td>7</td>
<td>63.10</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>1</td>
<td>6.20</td>
</tr>
<tr>
<td>Simple-Stamp</td>
<td>1</td>
<td>11.40</td>
</tr>
<tr>
<td>Swannanoa pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple-Stamp</td>
<td>1</td>
<td>90.00</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>27</td>
<td>78.90</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>1495.80</td>
</tr>
</tbody>
</table>
Feature 19-A

Feature 19-A was an apparent posthole, filled with charcoal, which intruded into Feature 19. The feature was circular in form with dimensions of 24 X 22 cm and a depth of 24 cm with a round bottom. The numerous small bits of charcoal contained within Feature 19-A may have been remains of a post that had burned. A soil sample was collected and the crew that did the flotation process labeled it "smudge pit," an indication of how sooty the fill was. Carbonized materials from the feature were submitted for radiocarbon dating and returned a date of A.D. 415–575 (calibrated). Some small miscellaneous rock was recovered but there were no identifiable cultural materials.

Feature 78

Feature 78 was a posthole 14 cm in diameter with a depth of 19 cm. The bottom was round. Feature fill was medium brown/red. No cultural materials were recovered from the feature.

Feature 82

Feature 82 was a posthole 23 cm diameter and 40 cm deep. Feature fill was dark brown/black with a few charcoal chunks. No cultural materials were recovered from the feature.
Feature 90

Feature 90 was an irregular shaped pit. The feature's dimensions were 128 X 118 cm at the scraped surface and 31 cm in depth with a flat bottom. Feature fill was very clayey in comparison with other features that were excavated. Fill soil was mottled red/brown/black with light charcoal flecks and some small chunks scattered throughout. Fire-cracked rock was also scattered throughout the feature. Two bifaces, a Morrow Mountain type II (Figure 35d), (Middle Archaic period, 4000–5000 B.C., Coe, 1964: 121, Figure 116) and a crude, unidentified biface, were recovered. A single, small, and highly eroded fragment of unidentified shell was in the feature fill and it represents the only shell recovered during our excavations. A number of small fragments of prehistoric pottery were contained in the feature. Two sherds with bold check surface decoration were of particular interest. They are visually similar to Deptford Bold Check-Stamped pottery but northern Greenville County appears to be out of the presently accepted distribution range for Deptford pottery. Ruth Wetmore and David G. Moore, Staff Archaeologist for the State Historic Preservation Office of North Carolina in Asheville, who both identified the pottery as Pigeon Check-Stamped, examined these sherds. No other Pigeon pottery was recovered from the site.

Table 10. Contents of Feature 90.

<table>
<thead>
<tr>
<th>Feature Type: Pit</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biface, Morrow Mt. II: quartz</td>
<td>1</td>
<td>4.80</td>
</tr>
<tr>
<td>Biface, broken, unid: quartz</td>
<td>1</td>
<td>1.30</td>
</tr>
<tr>
<td>Flake: quartz</td>
<td>1</td>
<td>1.50</td>
</tr>
<tr>
<td>Flake: crystal quartz</td>
<td>2</td>
<td>1.50</td>
</tr>
<tr>
<td>Flake: &quot;greenstone&quot;</td>
<td>2</td>
<td>1.70</td>
</tr>
<tr>
<td>Flake: coastal plain chert</td>
<td>1</td>
<td>1.10</td>
</tr>
<tr>
<td>Shatter: crystal quartz</td>
<td>5</td>
<td>8.30</td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>20</td>
<td>86.50</td>
</tr>
<tr>
<td>Brushed</td>
<td>4</td>
<td>41.40</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>1</td>
<td>6.00</td>
</tr>
<tr>
<td>Pigeon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check-Stamped</td>
<td>2</td>
<td>15.00</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>9</td>
<td>18.00</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>187.10</td>
</tr>
</tbody>
</table>
**Feature 103**

Feature 103 was a posthole 17 cm in diameter and 21 cm in depth. Feature fill was clayey, brown mottled with red to 10 cm below subsoil surface and homogeneous medium brown from that point to the feature's termination at 21 cm depth. Several large pieces of probable fire-cracked rock were at the surface. Small charcoal chunks, fire-cracked rock, Connestee pottery and small unidentified pottery fragments were scattered to 10 cm below subsoil surface and probably represent fortuitous filling or possibly trash disposal.

![Table 11. Contents of Feature 103.](image)

<table>
<thead>
<tr>
<th>Feature Type: Posthole</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>7</td>
<td>24.60</td>
</tr>
<tr>
<td>Fabric-Impressed</td>
<td>2</td>
<td>6.20</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>4</td>
<td>6.30</td>
</tr>
<tr>
<td><strong>Total artifacts</strong></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Total grams</strong></td>
<td></td>
<td>37.10</td>
</tr>
</tbody>
</table>

**Feature 104**

Feature 104 was a posthole with horizontal dimensions of 25 X 30 cm and a depth of 9 cm. Feature fill was light brown with bits of charcoal and a small amount of cracked rock.

**Feature 105**

Feature 105 was a posthole with horizontal dimensions of 14 X 12 cm in diameter and a depth of 8 cm. Feature fill was light brown with a few charcoal flecks. No cultural materials were recovered.

**Feature 106**

Feature 106 was a posthole 8 cm in diameter with a depth of 6 cm. Feature fill was homogeneous reddish clay. No cultural materials were recovered.

**Feature 142**

Feature 142 was a circular basin shaped pit with dimensions of 78 X 85 cm and a depth of 19 cm. The feature was badly damaged by cultivation and vandals. A large plow scar extended across the entire feature and into the subsoil below, completely bisecting
the feature. After we had completed excavation of the south half of the feature vandals destroyed most of the remaining undamaged northern portion. A thin layer of undisturbed feature fill remained beneath the vandalized area and near the feature's northern perimeter; we excavated this undisturbed portion. Fill soil was dark gray/black and contained traces of charcoal. Cultural materials were sparse, represented by a few pottery sherds. The looters spoil dirt contained approximately 40 baseball-sized fire-cracked rocks but no other cultural materials. The feature appears to have been a hearth, or perhaps, a roasting pit.

Table 12. Contents of Feature 142.

<table>
<thead>
<tr>
<th>Contents</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>2</td>
<td>16.00</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>2</td>
<td>7.50</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>23.50</td>
</tr>
</tbody>
</table>

Feature 143

Feature 143 was an oval pit with a flat bottom. Dimensions were 165 X 136 cm with a depth of 32 cm. Feature fill was orange/brown sandy clay with flecks of charcoal and small pockets of orange clay. A crude, unidentified quartz biface, probably Middle Archaic in origin and intrusive into the feature, was recovered (Figure 35c). Approximately 30 rocks, by appearance fire-cracked, were recovered, but there was no other obvious evidence of thermal use. Vandals damaged a portion of the previously unexcavated northern half of the feature and this portion was completely excavated. The looters spoil was sifted through one quarter inch wire screen but no cultural materials other than cracked rock were observed.

Table 13. Contents of Feature 143.
### Feature 144

Feature 144 was a round pit with an irregular perimeter and a basin-shaped bottom. Dimensions were 124 X 127 cm with a depth of 29 cm. Feature fill was dark brown with charcoal flecks throughout. A small darker area in the western portion contained burned clay but nothing to indicate that it was a separate feature. At the extreme western edge there was a tree root or possible posthole that tapered out at about 26 cm below subsoil surface. Artifacts from this pit are missing, but notes indicate they were located in the top 5–6 cm of the feature and consisted of a few small sherds of Connestee pottery, several lithic flakes and small bits of daub. Feature 144 intrudes into a smaller feature, Feature 145 that lies on the eastern edge of 144.

### Feature 145

Feature 145 is a small feature, apparently a posthole, located on the east side of, and partially intruded into, by Feature 144. Dimensions of the feature were 22 X 24 cm with a depth of 9 cm. Feature 145 was thought to be a part of Feature 144 when first cleaned and mapped but when excavated it became apparent the two were separate and that Feature 145 preceded 144. No artifacts were contained in Feature 145 but a moderate amount of charcoal was present near the bottom and the fill soil was dark with soot/charcoal.

### Feature 150

Feature 150 was a round basin-shaped pit. Dimensions were 68 X 67 cm with a depth of 17 cm. Feature fill was dark brown with a sandy clay texture and orange clayey mottling. This feature was not vandalized so only fifty percent of the feature, the south half, was excavated. The artifacts are missing but the records indicate that several small fragments of pottery, a fragment of mica, several cracked rocks, a quartzite cobble and an unidentified crude quartz biface were recovered.

<table>
<thead>
<tr>
<th>Feature Type: Pit</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biface, unidentified: quartz</td>
<td>1</td>
<td>3.80</td>
</tr>
<tr>
<td>Flakes: quartz</td>
<td>2</td>
<td>2.50</td>
</tr>
<tr>
<td>Flake: metavolcanic</td>
<td>1</td>
<td>0.50</td>
</tr>
<tr>
<td>Shatter: quartz</td>
<td>3</td>
<td>3.00</td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>31</td>
<td>148.00</td>
</tr>
<tr>
<td>Brushed</td>
<td>6</td>
<td>63.20</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>3</td>
<td>22.00</td>
</tr>
<tr>
<td>Fabric-Impressed</td>
<td>1</td>
<td>6.20</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>46</td>
<td>101.40</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>350.60</td>
</tr>
</tbody>
</table>
Feature 154

Feature 154 was an irregular shaped pit with dimensions of 128 X 143 cm and 28 cm depth. Prior to excavation it appeared that this was a single feature and when the south half was excavated there was no indication to the contrary. After vandals damaged the northern half, the remaining undamaged portion was excavated and a separate feature emerged in the extreme northern portion. Clearly defining the joint boundary of the two features was impossible because of the damage done by the vandals but it was determined that Feature 154 had intruded into another earlier feature. The newfound feature was designated Feature 154-A. A third visually different area was also located in the northwestern portion of Feature 154 and it was tentatively called Feature 154-B; but soil disturbance was such that it could not be definitively identified as a separate feature. Several fire-cracked rock were observed in the looters spoil.

In the south half of Feature 154, the fill soils consisted of irregular patches, different in color and texture. For purposes of control during excavation the different soils were designated zones "A," "B," "C," etc., until their relation to the greater feature could be established. Fill soil in Feature 154, "zone" A was dark gray with charcoal and when first observed was thought to be a posthole but it was determined to be a fill sequence. Zone "B" was gray, "C," reddish clay, "D," mottled dark gray that appeared burned, "E," reddish clay, and "F," dark gray with charcoal and mottled with burned clay. Due to the disturbance caused by vandalism to the northern half, soil differences there could not be clearly defined.

One of the more interesting artifacts recovered from our excavations at 38GR226 was found in this feature. The object is a round steatite nodule with a concave indentation on one side. The purpose of this artifact is uncertain but it would appear to be useful as a socket to hold the end of a bow-drill shaft that is held in the hand. This would allow the shaft to turn freely without damage to the hand (Figure 25). A natural stone, altered by abrasion on one side, was in the feature. The abrasion is very smooth, similar to the polish seen on pottery burnishing stones, but because of its relatively large size the function of this stone is problematic. No mortars or pestles were recovered by our excavations, nor were any observed on the surface after cultivation.

Feature 154-A

Feature 154-A was a pit feature measuring 48 X 55 cm with a depth of 28 cm. Feature fill was dark brown and somewhat homogeneous in color. Feature 154-A was discovered when the northern half of Feature 154 was excavated. A portion of the feature extended
Figure 25. Unidentified Pitted Steatite object from Feature 154.

Table 14. Contents of Feature 154.

<table>
<thead>
<tr>
<th>Contents</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abraded stone</td>
<td>1</td>
<td>666.00</td>
</tr>
<tr>
<td>Pitted steatite: drill socket?</td>
<td>1</td>
<td>138.00</td>
</tr>
<tr>
<td>Flake: &quot;greenstone&quot;</td>
<td>3</td>
<td>4.10</td>
</tr>
<tr>
<td>Flakes: metavolcanic</td>
<td>2</td>
<td>1.70</td>
</tr>
<tr>
<td>Core, bipolar: crystal quartz</td>
<td>1</td>
<td>2.70</td>
</tr>
<tr>
<td>Core frag: crystal quartz</td>
<td>1</td>
<td>3.40</td>
</tr>
<tr>
<td>Shatter: quartz</td>
<td>4</td>
<td>4.40</td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>46</td>
<td>143.40</td>
</tr>
<tr>
<td>Brushed</td>
<td>2</td>
<td>132.70</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>1</td>
<td>65.00</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>2</td>
<td>19.60</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>1181.00</td>
</tr>
</tbody>
</table>
under Feature 154 at a depth of 18 cm below subsoil surface indicating that Feature 154-A was the earlier of the two. A number of large Connestee Cord-Impressed pottery sherds (715.6 grams) representing a single vessel were recovered and refitted to form a portion of a moderate size vessel (Figure 26).

Table 15. Contents of Feature 154-A.

<table>
<thead>
<tr>
<th>Contents</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>29</td>
<td>353.30</td>
</tr>
<tr>
<td>Brushed</td>
<td>1</td>
<td>4.00</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>40</td>
<td>715.60</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>4</td>
<td>8.70</td>
</tr>
<tr>
<td>Total artifacts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td>74</td>
<td>1081.60</td>
</tr>
</tbody>
</table>

Figure 26. Reconstructed portion of Connestee Cord-Impressed vessel from Feature 154-A.
Feature 157

Feature 157 was an oval pit with a flat bottom. Feature dimensions were 88 X 104 cm and 23 cm depth. Feature fill soil was dark grayish brown mottled with reddish brown in the top 13 cm; it contained charcoal flecks throughout. Clayey deposits were in the bottom 10 cm. The south half of Feature 157 was first excavated but after the feature was looted, the remainder was cleaned of looters' spoil and excavated in its entirety. An occurrence similar to that, which happened when excavating Features 154 and 154-A, was repeated here. After cleaning away the looters' spoil and continuing the excavation, it was determined that the feature, or perhaps a separate feature, extended to the north. Until a determination could be made the area in question was designated "zone" A for temporary separation of data. The soils were darker in zone "A" and produced the majority of cultural materials, but given the extensive damage done by vandals it could not be determined if the darker area was a separate feature or simply a darker locus within Feature 157. The cultural data was combined with the rest of Feature 157. No cultural materials were in the looters spoil.

Table 16. Contents of Feature 157.

<table>
<thead>
<tr>
<th>Contents</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core fragment: crystal quartz</td>
<td>1</td>
<td>13.50</td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>6</td>
<td>32.30</td>
</tr>
<tr>
<td>Brushed</td>
<td>2</td>
<td>31.00</td>
</tr>
<tr>
<td>Simple-Stamped</td>
<td>4</td>
<td>39.70</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>4</td>
<td>184.40</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>287.40</td>
</tr>
</tbody>
</table>

Feature 158

Feature 158 is one of the two posthole-like features excavated that contained abnormal pottery concentrations relative to others excavated at 38GR226 (Figures 22b and 27); the other was previously discussed under Feature 9. Feature dimensions were 20 cm in diameter and 40 cm depth. At the surface the feature measured 20 cm diameter and at the bottom it had tapered to 13 cm; the bottom was flat. A plow had caused slight damage to the uppermost portion. Pottery was tightly packed into the feature and restricted to the top 12 cm except for a single sherd found near the bottom. In the area around the pottery the fill was black and charcoal filled. Loose brown fill was below the pottery. Black and yellow sherds were contained in the feature but both appear to be from a single Connestee Plain vessel. The sherds are fragile and highly fragmented; no attempt was made to mend them. Two rocks, possibly fire-cracked, were located near the feature bottom.
Table 17. Contents of Feature 158.

<table>
<thead>
<tr>
<th>Feature Type: Undetermined</th>
<th>N.</th>
<th>Weight/Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>120</td>
<td>544</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>544</td>
</tr>
</tbody>
</table>

Figure 27. Placement of pottery sherds in Feature 158.
Feature 356

Feature 356 was a somewhat irregularly shaped oval pit with a flat bottom. Dimensions were 150 X 160 cm with a depth of 25 cm. Feature fill was brownish red with a sandy clay texture and charcoal flecks were scattered throughout. Artifacts and fire-cracked rock were randomly distributed (Tables 18, 19 and 20). Culturally identifiable artifacts were Connestee pottery sherds and a single Guilford biface (Middle Archaic period, 4000–5000 B.C., (Coe 1964: 121, Figure 116) made of unidentified metavolcanic stone that was apparently intrusive into the feature (Figure 35a). This is one of the features that were vandalized and so the entire feature was excavated. Cultural materials were relatively diverse and abundant. Fire-cracked rock was in the looters spoil.

Table 18. Contents of Feature 356.

<table>
<thead>
<tr>
<th>Feature Type: Pit</th>
<th>N.</th>
<th>Weight/Grms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steatite bowl fragment</td>
<td>1</td>
<td>16.00</td>
</tr>
<tr>
<td>Biface, Guilford: metavolcanic</td>
<td>1</td>
<td>8.90</td>
</tr>
<tr>
<td>Biface, unidentified: quartz</td>
<td>1</td>
<td>5.40</td>
</tr>
<tr>
<td>Flakes: quartz</td>
<td>5</td>
<td>7.20</td>
</tr>
<tr>
<td>Flake: &quot;greenstone&quot;</td>
<td>1</td>
<td>5.40</td>
</tr>
<tr>
<td>Shatter: crystal quartz</td>
<td>6</td>
<td>7.50</td>
</tr>
<tr>
<td>Shatter: quartz</td>
<td>3</td>
<td>3.80</td>
</tr>
<tr>
<td>Chunk, utilized: quartz</td>
<td>1</td>
<td>17.00</td>
</tr>
<tr>
<td>Connestee pottery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>64</td>
<td>158.20</td>
</tr>
<tr>
<td>Brushed</td>
<td>4</td>
<td>29.40</td>
</tr>
<tr>
<td>Fabric-Impressed</td>
<td>1</td>
<td>3.00</td>
</tr>
<tr>
<td>Unidentified pottery</td>
<td>8</td>
<td>13.80</td>
</tr>
<tr>
<td>Total artifacts</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td></td>
<td>275.60</td>
</tr>
</tbody>
</table>
CHAPTER 6

ARTIFACT DATA

Classification of Excavated Materials

Cultural materials and natural stone recovered from the 37 features excavated at Pumpkin totaled 51299.3 grams. The materials were separated into three categories for tabulation.

1) Cultural Materials. These are artifacts that were intentionally manufactured; i.e., pottery, chipped or ground stone tools, etc. Their combined weight totaled 8100.6 grams (Tables 19 and 20).

2) Miscellaneous cultural materials. These are by-products of, or a result of incidental human activity, i.e. fire-cracked rock, daub, etc. Miscellaneous cultural materials totaled 42036.7 grams (Tables 20 and 32).

3) Miscellaneous natural stone. These are rocks that exhibit no evidence of human use, either intentional or incidental, and that appear to be intrusive into features. Miscellaneous natural stone totaled 1162 grams (Tables 33 and 34).

Table 19. Count and Weight of Artifacts Produced by Deliberate Manufacture or by Expedient Use of Natural Materials.

<table>
<thead>
<tr>
<th>Feature Number</th>
<th>N.</th>
<th>Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>168</td>
<td>939.00</td>
</tr>
<tr>
<td>6</td>
<td>123</td>
<td>337.30</td>
</tr>
<tr>
<td>7</td>
<td>36</td>
<td>272.00</td>
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<tr>
<td>9</td>
<td>45</td>
<td>295.10</td>
</tr>
<tr>
<td>17</td>
<td>9</td>
<td>17.90</td>
</tr>
<tr>
<td>18</td>
<td>141</td>
<td>705.40</td>
</tr>
<tr>
<td>18-C</td>
<td>11</td>
<td>70.20</td>
</tr>
<tr>
<td>19</td>
<td>148</td>
<td>1495.80</td>
</tr>
<tr>
<td>90</td>
<td>49</td>
<td>187.10</td>
</tr>
<tr>
<td>103</td>
<td>13</td>
<td>37.10</td>
</tr>
<tr>
<td>142</td>
<td>4</td>
<td>23.50</td>
</tr>
<tr>
<td>143</td>
<td>94</td>
<td>350.60</td>
</tr>
<tr>
<td>154</td>
<td>64</td>
<td>1181.00</td>
</tr>
<tr>
<td>154-A</td>
<td>74</td>
<td>1081.60</td>
</tr>
<tr>
<td>157</td>
<td>17</td>
<td>287.40</td>
</tr>
<tr>
<td>158</td>
<td>120</td>
<td>544.00</td>
</tr>
<tr>
<td>356</td>
<td>96</td>
<td>275.60</td>
</tr>
<tr>
<td>Totals</td>
<td>1212</td>
<td>8100.60</td>
</tr>
</tbody>
</table>
Table 20. Total Grams of all Materials Excavated at 38GR226.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Cultural</th>
<th>Misc. Cultural</th>
<th>Misc. Stone</th>
<th>Grams</th>
</tr>
</thead>
<tbody>
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<td>818.00</td>
<td>4135.40</td>
</tr>
<tr>
<td>6</td>
<td>337.30</td>
<td>18.60</td>
<td></td>
<td>355.90</td>
</tr>
<tr>
<td>7</td>
<td>272.00</td>
<td>44.20</td>
<td></td>
<td>316.20</td>
</tr>
<tr>
<td>9</td>
<td>295.10</td>
<td>743.30</td>
<td>48.00</td>
<td>1086.40</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>219.00</td>
<td></td>
<td>219.00</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>148.90</td>
<td></td>
<td>148.90</td>
</tr>
<tr>
<td>17</td>
<td>17.90</td>
<td>2592.00</td>
<td>10.00</td>
<td>2619.90</td>
</tr>
<tr>
<td>18</td>
<td>705.40</td>
<td>6064.70</td>
<td></td>
<td>6770.10</td>
</tr>
<tr>
<td>18-C</td>
<td>70.20</td>
<td>788.30</td>
<td></td>
<td>858.50</td>
</tr>
<tr>
<td>19</td>
<td>1495.80</td>
<td>10497.10</td>
<td>118.30</td>
<td>12111.20</td>
</tr>
<tr>
<td>90</td>
<td>187.10</td>
<td>5638.90</td>
<td></td>
<td>5826.00</td>
</tr>
<tr>
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<td>37.10</td>
<td>2111.70</td>
<td>19.20</td>
<td>2168.00</td>
</tr>
<tr>
<td>104</td>
<td></td>
<td>185.50</td>
<td></td>
<td>185.50</td>
</tr>
<tr>
<td>142</td>
<td>23.50</td>
<td>248.50</td>
<td></td>
<td>272.00</td>
</tr>
<tr>
<td>143</td>
<td>350.60</td>
<td>2681.00</td>
<td>111.10</td>
<td>3142.70</td>
</tr>
<tr>
<td>154</td>
<td>1181.00</td>
<td>1273.70</td>
<td></td>
<td>2454.70</td>
</tr>
<tr>
<td>154-A</td>
<td>1081.60</td>
<td>721.50</td>
<td></td>
<td>1803.10</td>
</tr>
<tr>
<td>157</td>
<td>287.40</td>
<td>13.10</td>
<td>10.50</td>
<td>311.00</td>
</tr>
<tr>
<td>158</td>
<td>544.00</td>
<td>235.00</td>
<td></td>
<td>779.00</td>
</tr>
<tr>
<td>356</td>
<td>275.60</td>
<td>5433.30</td>
<td>26.90</td>
<td>5735.80</td>
</tr>
<tr>
<td>Total grams</td>
<td>8100.60</td>
<td>42036.70</td>
<td>1162.00</td>
<td>51299.30</td>
</tr>
</tbody>
</table>

**POTTERY**

*Methods of Pottery Analysis*

Attributes of the majority of pottery recovered from 38GR226 closely approximate those of various types of Connestee pottery first described by Holden (1966) and later refined by Keel (1976: 247-255). Minor amounts of Swannanoa and Pigeon pottery (Holden 1966: 61-64, 64-67) were also present. These authors’ descriptions of the various pottery types were used as a guideline for sherd analysis. Inspection of pottery samples was visual using a hand lens for paste/temper analysis. No attempt was made to measure grain size of temper or the percentages of the pastes that it comprised. Sherds that could be identified with a reasonable degree of confidence, regardless of size, were assigned to the various typological categories. Measurements for sherd thickness were done for each type of pottery using a minimum of 50% of the sherds of each type collected from each feature. When type samples were few in number 100% of the sample was measured to obtain the average thickness.
POTTERY DESCRIPTIONS

Connestee Plain

Connestee Plain pottery, in terms of sherd count and total weight (Table 21), exceeds all other pottery types recovered by our excavations at 38GR226. Plain pottery was in 17 of the 37 features excavated. Four of these features (Features 18, 19, 158, and 356) accounted for approximately 50% of the type, numerically (Table 21). Features 18, 19, 154/A, and 158 accounted for slightly more than 61% of the total weight for plain pottery. Generally, the paste is very fine and compact, but some sherds have occasional inclusions of larger pieces of quartz grit. Minor amounts of very small mica flakes are present in a few sherds and may occur naturally in the clay. Sherd cores are usually black and the sherd surfaces most often have black interiors. Sherd exteriors may range from black to buff brown or reddish. The interior and exterior surfaces are smoothed but not burnished. The average thickness of body sherds is 5.06 mm. Connestee Plain rim sherds were uniformly thinner than body sherds, averaging 3.92 mm. Rim form was almost evenly divided between straight vertical and slightly flared types with eight rims being straight and nine flared. One rim was in-curved and had an incised groove parallel to the rim on the exterior surface. Four of the flared rims were notched (Figure 28) and five were undecorated. Plain pottery sherds with straight rims included one that was notched, two that were undecorated and five had small oblique incised marks on top of the rims. The five rims with the oblique incised marks were from a single vessel found in Feature 154-A. The rims of all plain sherds were rounded.

Figure 28. Connestee Plain pottery with notched rim.
Connestee Brushed

Connestee Brushed pottery (Figure 29) is represented by 34 sherds (Table 21). The paste is similar to the paste of plain pottery but some sherds contain a bit more, and larger, quartz grains than is typical for the plain. It was not determined if the vessel makers incorporated these larger quartz inclusions into the clay or if they occur naturally. Some sherds contain minor amounts of very small mica flakes that may be a natural part of the clay. Sherd interiors are smoothed but not burnished, the exterior may be black or buff/red in color or show fire clouds of red and black. Body sherds average 5.23 mm in thickness. The sample includes only two rim sherds and they average 4.2 mm in thickness. Rims were straight vertical, with rounded lips and no decoration. The brushed body decoration is parallel to the rims.
**Connestee Cord-Impressed**

Connestee Cord-Impressed pottery (Figure 30), (Table 21), is similar to Connestee Plain in terms of paste composition. Paste color is predominately black with an occasional buff colored core. Vessel interiors are smoothed but not burnished and most are black in color. The exterior surfaces are predominately buff/red with firing clouds occasionally present. Surface decoration was done with extremely small diameter cord and a casual glance might give the impression that some sherds were brushed rather than cord-impressed. Some over stamping occurred. Average thickness for body sherds is 6.09 mm and average rim sherd thickness is 3.63 mm. Fourteen rim sherds were recovered. Thirteen rims are straight and one is slightly flared. All rim edges are rounded. The cord stamping is perpendicular to the rim in each example. There were 90 sherds of this type.

![Figure 30. Connestee Cord-Impressed pottery.](image)

**Connestee Simple-Stamped**

There were 23 sherds of pottery considered to be Connestee Simple-Stamped (Figure 31), (Table 21). Simple-Stamped sherds are decorated with cord impressions quite similar to those found on Cord-Impressed pottery. Criterion for separating them into two categories was based on paste and temper differences and the size, manner of application, and spacing of the cord impressions. Simple-Stamped pottery was decorated with larger diameter cord than was used for decorating Cord-Impressed vessels. Body decorations were more random in placement and direction, with frequent undecorated spaces between markings. The paste is hard and compact and it has more and larger size quartz grains than Cord-Impressed pottery. The paste core is usually black but some are buff colored and in a few sherds, the paste is less compact than paste observed in other forms of Connestee pottery. Vessel interiors are smoothed but not burnished. Simple-stamped
pottery body sherd thickness averaged 6.8 mm. No rim sherds were recovered and the relation of the stamping to the rim could not be determined. The Simple-Stamp pottery sample was small, as were most of the sherds. Perhaps a larger sample of cord-decorated sherds might determine that my criterion for separating them into two categories represents no more than variations within a single type.

![Figure 31. Connestee Simple-Stamped pottery.](image)

*Connestee Fabric-Impressed*

Six small body sherds of fabric-impressed pottery (Figure 32, Table 21) were excavated and the sample was too small to determine much about the type, but the paste characteristics are similar to other Connestee types. The sherds have an average thickness of 5.43 mm.
Pigeon Check-Stamped

Two sherds of Pigeon Check-Stamped pottery were in Feature 90; they represent the total of the type recovered from 38GR226 (Figure 33, Table 21). The sherds' interior surfaces are smoothed but not burnished and they are gray/black in color. Exterior surfaces are reddish/black. The paste is compact and contains sand and grit temper that is larger than found in local Connestee pottery but smaller than temper in the two Swannanoa sherds that were excavated at the site. Median thickness for the Pigeon sherds is 6.25 mm.
Swannanoa Plain

Two body sherds of Swannanoa Plain pottery were recovered from Feature 7 (Table 21). The paste has more and larger sized quartz grains than typical for Connestee pottery. The paste core is black, the sherds exterior surfaces are buff/red and the interiors have black and red firing clouds. Sherd interiors are smoothed but not burnished. Average sherd thickness is 7.7 mm.

Swannanoa Simple-Stamped

Feature 19 produced a single large pottery sherd from a vessel with a flat base; it represents the only evidence for flat base vessels recovered at 38GR226 (Figure 34, Table 21). The sherd has portions of both the vessel base and body. The paste core is black, compact and hard with rather numerous large quartz grains. The sherd exterior and interior surfaces are buff tan. The interior surface is smooth but sandy to the touch. Over-stamping has occurred and because it is somewhat smeared it was undetermined if a cord wrapped paddle was used for stamping or some other material. The flat basal portion of the vessel is 11.9 mm thick and the body portion is 8.3 mm thick.
Unidentified Pottery

Two hundred and fifty five pottery sherds were placed in the unidentified category (Table 21). Most of these sherds were quite small and, or, eroded to do more than guess at their type.

Table 21. Pottery Count, Weight and Percentage by Type and Provenience.

<table>
<thead>
<tr>
<th>Fea.</th>
<th>Connestee</th>
<th>Pigeon</th>
<th>Swannanoa</th>
<th>Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plain</td>
<td>Brush</td>
<td>Cord</td>
<td>Simple</td>
</tr>
<tr>
<td>1</td>
<td>53</td>
<td>1</td>
<td>17</td>
<td>67</td>
</tr>
<tr>
<td>6</td>
<td>N.</td>
<td>35</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>N.</td>
<td>34</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>N.</td>
<td>26</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>N.</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>18</td>
<td>N.</td>
<td>100</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>18-C</td>
<td>N.</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>N.</td>
<td>82</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>90</td>
<td>N.</td>
<td>20</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>103</td>
<td>N.</td>
<td>7</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>142</td>
<td>N.</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>N.</td>
<td>31</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>154</td>
<td>N.</td>
<td>46</td>
<td>2</td>
<td>1</td>
</tr>
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<td>154-A</td>
<td>N.</td>
<td>29</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>157</td>
<td>N.</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>158</td>
<td>N.</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>356</td>
<td>N.</td>
<td>64</td>
<td>4</td>
<td>1</td>
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<tr>
<td>N. per feature</td>
<td>670</td>
<td>34</td>
<td>90</td>
<td>23</td>
</tr>
<tr>
<td>N. % per feature</td>
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<td>8.31</td>
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</tr>
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</tr>
<tr>
<td>% Gram/type</td>
<td>55.72</td>
<td>6.23</td>
<td>18.9</td>
<td>7.26</td>
</tr>
</tbody>
</table>
Pottery Thickness

A minimum of 50% of the sherds of each type collected from each feature was used to obtain a reliable average sherd thickness (Table 22). When type samples were few in number 100% of the sample was measured. When body sherds exhibited marked differences of thickness, measurements were taken on each edge and an average obtained for that sherd. Rim sherd measurements were made at the point where rim formation became distinctly different from the host body sherd; i.e., rounded, tapered, etc.

Table 22. Average Thickness of Pottery Types.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Connestee</th>
<th>Pigeon</th>
<th>Swannanoa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plain</td>
<td>Brushed</td>
<td>Check</td>
</tr>
<tr>
<td>Cord</td>
<td>Impressed</td>
<td>Stamp</td>
<td>Impressed</td>
</tr>
<tr>
<td>1</td>
<td>5.22</td>
<td>5.30</td>
<td>5.10</td>
</tr>
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<td>6</td>
<td>5.20</td>
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</tr>
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<td>4.00</td>
<td>5.30</td>
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</tr>
<tr>
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<td>5.26</td>
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<td></td>
<td>5.35</td>
</tr>
<tr>
<td>142</td>
<td>4.95</td>
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<td></td>
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<td>5.45</td>
<td>5.35</td>
<td>9.35</td>
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<td>158</td>
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<td></td>
</tr>
<tr>
<td>356</td>
<td>5.34</td>
<td>5.23</td>
<td>5.60</td>
</tr>
<tr>
<td>Average thickness</td>
<td>5.05</td>
<td>5.23</td>
<td>5.94</td>
</tr>
</tbody>
</table>

POTTERY SUMMATION

A total of 1083 pottery sherds were recovered from seventeen of the 37 features that were excavated. Numerically, Connestee Plain was the most numerous type of identifiable pottery, accounting for 61.88% of all sherds. Connestee Cord-Impressed was represented by 8.31%; Connestee Brushed 3.14%; Connestee Simple-Stamped, 2.12%; Connestee Fabric-Impressed, .55%; Swannanoa Plain, .18%; Swannanoa Simple-Stamped, .09%; Pigeon, .18%; unidentified pottery sherds accounted for 23.55% (Table 21).
Comparing pottery types in terms of weight, then Connestee Plain was the most abundant, accounting for 55.72% of all pottery from our excavations. Connestee Cord-Impressed was the second most common at 18.90%, followed by Connestee Simple-Stamped, 7.26%, and Connestee Brushed, 6.23%. Four small fragments of Connestee Fabric-Impressed pottery accounted for .33%. Five examples of pottery other than Connestee were recovered. Two sherds of Swannanoa Plain represent 1.56% of the total weight and one sherd of Swannanoa Simple-Stamped, 1.40%. Two sherds of Pigeon Check-Stamped pottery account for .23% and unidentified small fragments accounted for 8.37% of the total pottery weight (Table 21).

Collectively the sherds weighed 6446 grams. Twelve pit features (Features 1, 7, 17, 18, 19, 90, 142, 143, 154, 154-A, 157, 356) produced 80.18% of the total pottery by weight. Four features of undetermined type (Features 6, 9, 18-C, 158) produced 19.24%, and a posthole (Feature 103) produced .58% (Table 21).

The quantity of pottery recovered was less than desired but sufficient to establish a range of Connestee pottery types for the site and to reinforce the suspected Connestee cultural dominance. However, the occurrence of minor amounts of Swannanoa and Pigeon pottery suggests that greater evidence for these, or other, Woodland pottery types may exist in unexcavated areas of the site.

**COMPARING CONNESTEE POTTERY FROM 38GR226 AND THE APPALACHIAN SUMMIT AREA**

*The Sites Compared*

Connestee pottery from the Pumpkin site (38GR226) was compared with Connestee pottery from six sites in the Appalachian Summit Area of North Carolina, one from eastern Tennessee, and one from nearby Oconee County, in South Carolina. These sites were selected because they are good Connestee occupations that are spatially close to Pumpkin, they are well documented and the reports are readily available.

The North Carolina data was reported from Tuckasegee (31Jk12), Garden Creek (31Hw2), and Warren Wilson (31Ba29) (Keel 1976), from Ela (31Sw5) (Wetmore 1992), from Harshaw Bottom (31Ce41) (Robinson 1989), and Puett-Hunt (31Tv1) (Wetmore 1994: Robinson et al. 1994). The Tennessee data is from the Ice House Bottom site (40MR23) (Chapman 1971, Cridlebaugh 1977), and the South Carolina data is from the Tomassee site (38OC186) in nearby Oconee County (Smith et. al. 1988). Pottery other than Connestee was excluded from comparison because only five non-Connestee sherds were recovered from the Pumpkin site and the sample was considered too small for meaningful comparison. Therefore, the data tables for the North Carolina and Oconee County South Carolina sites will read somewhat differently than tables in the original reports for those sites because other pottery types and unidentified sherds were factored into their equations but are omitted here (Tables 23, 24, and 25).
At Tomassee, the great majority of simple-stamped and brushed pottery was lumped into a single combined category; an exception was four sherds the authors felt comfortable identifying as simple-stamped pottery. Because the majority of the two types were combined in the original report of excavations at Tomassee, they are combined here (Tables 24 and 25). Pottery data from Ice House Bottom is divided into two tables; those compiled by Chapman for his excavations conducted there in 1971 (Tables 23 and 25), and those of Criddlebaugh, who excavated there in 1977 (Tables 24 and 25). The pottery data is separated because Criddlebaugh, in her analysis, combined the majority of brushed and simple-stamped pottery into a single category, as was done at Tomassee, while Chapman maintained separate identities for the types. The two authors pottery distinctions are maintained here. Because data from Tomassee and Ice House Bottom as per Criddlebaugh were similarly compiled, but different from the other sites, they are tabled together for a more equitable comparison (Tables 24 and 25).

Table 23. Connestee Pottery Data from the Pumpkin (38GR226) Site
In South Carolina, and the Ela (31Sw5), Harshaw Bottom (31Ce41), Puett-Hunt (31Tv1), Warren Wilson (31Bn29), Tuckasegee (31Jk12), and Garden Creek (31Hw2), Sites in North Carolina, and Chapman's 1971 Excavations at the Ice House Bottom Site (40MR23) in Tennessee.

<table>
<thead>
<tr>
<th>Site Name &amp; Number</th>
<th>Pumpkin 38GR226</th>
<th>Ela 31Sw5</th>
<th>Harshaw Bottom 31Ce41</th>
<th>Puett-Hunt 31Tv1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connestee Pottery</td>
<td>count</td>
<td>%</td>
<td>count</td>
<td>%</td>
</tr>
<tr>
<td>Plain</td>
<td>670</td>
<td>81.41</td>
<td>1480</td>
<td>92.39</td>
</tr>
<tr>
<td>Fabric-Impressed</td>
<td>6</td>
<td>0.73</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>90</td>
<td>10.94</td>
<td>46</td>
<td>2.87</td>
</tr>
<tr>
<td>Brushed</td>
<td>34</td>
<td>4.13</td>
<td>47</td>
<td>2.93</td>
</tr>
<tr>
<td>Simple-Stamped</td>
<td>23</td>
<td>2.79</td>
<td>20</td>
<td>1.25</td>
</tr>
<tr>
<td>Check-Stamped</td>
<td>0</td>
<td>0.00</td>
<td>9</td>
<td>0.56</td>
</tr>
<tr>
<td>Complicated Stamp</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Count</td>
<td>823</td>
<td>100</td>
<td>1602</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Site Name &amp; Number</th>
<th>Warren Wilson 31Bn29</th>
<th>Icehouse Bottom 40MR23/1971</th>
<th>Tuckasegee 31Jk12</th>
<th>Garden Creek 31Hw2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connestee Pottery</td>
<td>count</td>
<td>%</td>
<td>count</td>
<td>%</td>
</tr>
<tr>
<td>Plain</td>
<td>138</td>
<td>41.19</td>
<td>975</td>
<td>32.37</td>
</tr>
<tr>
<td>Fabric-Impressed</td>
<td>2</td>
<td>0.60</td>
<td>15</td>
<td>0.50</td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>63</td>
<td>18.81</td>
<td>81</td>
<td>2.69</td>
</tr>
<tr>
<td>Brushed</td>
<td>49</td>
<td>14.63</td>
<td>1437</td>
<td>47.71</td>
</tr>
<tr>
<td>Simple-Stamped</td>
<td>41</td>
<td>12.24</td>
<td>478</td>
<td>15.87</td>
</tr>
<tr>
<td>Check-Stamped</td>
<td>42</td>
<td>12.54</td>
<td>26</td>
<td>0.86</td>
</tr>
<tr>
<td>Complicated Stamp</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Count</td>
<td>335</td>
<td>100</td>
<td>3012</td>
<td>100</td>
</tr>
</tbody>
</table>
The following table compares Connestee pottery data from Criddlebaugh’s Ice House Bottom excavations of 1977 with similarly compiled data from Tomassee.

Table 24. Connestee Pottery Data From Tomassee (38OC186) and Criddlebaugh's 1977 Excavations at the Ice House Bottom (40MR23) Site in Tennessee.

<table>
<thead>
<tr>
<th>Site Name &amp; Number</th>
<th>Tomassee 38OC186</th>
<th>Icehouse Bottom 40MR23/Cridlebaugh</th>
<th>Connestee Pottery</th>
<th>count</th>
<th>%</th>
<th>count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain</td>
<td>761 44.45</td>
<td>992 45.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fabric-Impressed</td>
<td>86 5.02</td>
<td>1 0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cord-Impressed</td>
<td>135 7.89</td>
<td>96 4.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brushed</td>
<td>0 0</td>
<td>1 0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple-Stamped</td>
<td>4 0.23</td>
<td>163 7.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check-Stamped</td>
<td>0 0</td>
<td>6 0.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple-Stamped/Brushed</td>
<td>726 42.41</td>
<td>929 42.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>1712 57.59</td>
<td>2188 100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 25. Relative Percentages of Connestee Pottery Types From the Compared Sites When Decorated Surfaces are Combined into a Common Category.

<table>
<thead>
<tr>
<th>Site Name &amp; Number</th>
<th>Brushed &amp; Simple-stamp</th>
<th>Brushed, Simple-stamp &amp; Cord-Impressed</th>
<th>All Surface Decorations</th>
<th>Plain</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumpkin (38GR226)</td>
<td>6.92</td>
<td>17.86</td>
<td>18.59</td>
<td>81.41</td>
<td>100</td>
</tr>
<tr>
<td>Ela (31Sw5)</td>
<td>4.18</td>
<td>7.05</td>
<td>7.61</td>
<td>92.39</td>
<td>100</td>
</tr>
<tr>
<td>Harshaw Bottom (31Ce41)</td>
<td>0.4</td>
<td>0.4</td>
<td>0.49</td>
<td>99.51</td>
<td>100</td>
</tr>
<tr>
<td>Puett-Hunt (31Tv1)</td>
<td>29.95</td>
<td>42.82</td>
<td>50.76</td>
<td>49.24</td>
<td>100</td>
</tr>
<tr>
<td>I.H.B. Criddlebaugh (40MR23)</td>
<td>42.46</td>
<td>54.35</td>
<td>54.67</td>
<td>45.34</td>
<td>100</td>
</tr>
<tr>
<td>Tomassee (38OC186)</td>
<td>42.64</td>
<td>50.53</td>
<td>55.55</td>
<td>44.45</td>
<td>100</td>
</tr>
<tr>
<td>Warren Wilson (31Bn29)</td>
<td>26.87</td>
<td>45.68</td>
<td>58.82</td>
<td>41.19</td>
<td>100</td>
</tr>
<tr>
<td>I. H. B. Chapman (40MR23)</td>
<td>63.58</td>
<td>66.27</td>
<td>67.63</td>
<td>32.37</td>
<td>100</td>
</tr>
<tr>
<td>Tuckasegee (31Jk12)</td>
<td>35.91</td>
<td>67.48</td>
<td>72.35</td>
<td>27.67</td>
<td>100</td>
</tr>
<tr>
<td>Garden Creek (31Hw2)</td>
<td>42.68</td>
<td>64.02</td>
<td>78.21</td>
<td>21.79</td>
<td>100</td>
</tr>
</tbody>
</table>

Comparison Results

The comparative data (Table 23, 24, and 25) indicates that the ratios of Connestee pottery types from Pumpkin (38GR226) is quite similar to data for the Ela (31Sw5) and Harshaw Bottom (31Ce41) sites but differs rather dramatically from data obtained at Garden Creek (31Hw2), Puett-Hunt (31Tv1), Tuckasegee (31Jk12), Warren Wilson
(31Ba29), Tomasee (38OC186), and the Ice House Bottom (40MR23) sites. Plain pottery vastly dominates at Pumpkin, Ela, and Harshaw Bottom but the percentage of plain to other Connestee pottery types declines significantly at each of the other sites with the lowest percentage being approximately 22% at Garden Creek.

What role human subjectivity may have played in sorting pottery into the various categories at each of the sites compared will probably remain unclear, but if brushed and simple-stamped pottery were combined at each of these sites then the over-all type percentages for Tuckasegee, Garden Creek, Puett-Hunt, and Warren Wilson would more closely approximate those data for Tomasee and Criddlebaugh’s excavation at Ice House Bottom, and surface decorated pottery would be dominate at six of the nine sites (Tables 24 and 25). The extreme dominance of Connestee Plain pottery at the Pumpkin, Ela, and Harshaw Bottom sites would remain unchanged. The cause for these radically different percentages is not readily apparent. A map of the area encompassing these sites shows no obvious geographic reason to which the cause might be attributed. The associated radiocarbon dates evidence no marked chronological differences between sites dominated by either decorated or plain pottery, yet, clearly significant differences exist and should present an interesting field for future study. A commonality for all of the compared sites is the scarcity of Connestee Fabric-Impressed, Check Stamped, and Complicated Stamped pottery.
CHAPTER 7

THE LITHIC INDUSTRY

Lithic Raw Materials

The following terms used to describe lithic raw materials used in the manufacture of flaked stone tools follow informal working categories employed by the author rather than precise scientific classifications based on petrologic analysis. At the present stage of research, designations that are more precise are hampered by the weathered, highly fragmentary condition of the rocks, plus the probability that some of the lithics may have very local occurrences. Without thin section studies, more precise classes cannot be defined. Thus, generic terms such as "Ridge and Valley chert," "Coastal Plain chert," "jasper" and "metavolcanic," to name a few, are used to describe various categories of stone used in the manufacture of tools. These lithic categories, while petrologically generalized, are frequently employed in the local archaeological literature.

An example of one commonly used raw material in the extreme northwest Piedmont of South Carolina, and which I use in this report, is what I have referred to as "greenstone." When conducting surveys of collections of prehistoric artifacts in the northwestern Piedmont region, I observed numerous chipped stone tools made of a stone that had a predominately pale greenish color. Unable to place this stone in any category that I was familiar with I simply called it "greenstone" for the purposes of record keeping. Frequently the color is not really green, being whiter in color than green; this stone may also have a rusty reddish color included, or combinations of all three. The material is fairly siliceous and knaps quite well. It can be found in local streams in cobble form. Although I use the term "greenstone" to classify some flaked stone tools, there is no scientific basis for the name other than the color it most often exhibits. The stone that I refer to as "greenstone" should not be confused with the metavolcanic greenstone often used in the manufacture of celts and axes. Other lithic materials, steatite, diabase and what appears to be a close-grained form of granite, were utilized to manufacture ground stone objects.

FLAKED STONE TOOLS

Hafted Bifaces

Flaked stone tools were remarkably scarce at 38GR226. Nine bifaces were recovered but only four were culturally identifiable. Four hafted projectile points were identified as Middle Archaic; they are single examples of Morrow Mountain types I and II, which have a chronological range of 5000 to 4500 B.C. (Coe 1964: Fig. 116-121: 122-123) and two Guilford’s, with a suggested minimum date of 4000 B.C. (Coe 1964: 43-44) (Figure 35). Another Guilford-like biface is intact but so crudely formed that cultural identity is speculative; it too, is probably Middle Archaic. Four bifaces are projectile point tips that,
based on their technology, are probably Middle Archaic. None of these nine bifaces are representative of the Woodland period. Six (66.66%) of the bifaces are made of white quartz. Three (33.33%) bifaces are made of various metavolcanic stone (Table 26). Two of the three are weathered to a degree as to be unidentifiable within the category, and one is made of rhyolite.

![Figure 35. Middle Archaic hafted bifaces from 38GR226 (a) Guilford, Feature 356; (b) Guilford, Feature 18; (c) Unidentified biface, Feature 143; (d) Morrow Mountain, Feature 90).](image)

<table>
<thead>
<tr>
<th>Feature</th>
<th>1</th>
<th>18</th>
<th>90</th>
<th>143</th>
<th>356</th>
<th>N.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biface type and material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morrow Mt. I: quartz</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morrow Mt. II: quartz</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Guilford: metavolcanic</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unidentified: quartz</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Broken, unidentified: rhyolite</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Broken, unidentified: quartz</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total bifaces</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Lithic materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Quartz</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>66.66</td>
</tr>
<tr>
<td>% Metavolcanic</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>33.33</td>
<td></td>
</tr>
</tbody>
</table>
Other Flaked Stone Tools

Our excavations and surface collecting at Pumpkin produced no unifacial flaked stone tools. Only two non-bifacial flaked stone tools were recovered; both were small, naturally shaped, chunks of quartz having utilized edges indicative of use as expedient tools (Figure 36). The utilized chunks were found in Features 19 and 356. No cultural association could be made for these artifacts.

Flaked Stone Debitage

The near absence of formal stone tools recovered from excavated features at 38GR226 is matched by the scarcity of flaked stone debitage. Only 56 lithic flakes were recovered. These come from seven of the 37 features that were excavated (Tables 27 and 28). Almost 60% of the lithic debitage was in Features 1 and 19. The predominant lithic materials represented by the flakes are white quartz, comprising approximately 30% of the total by count and 22% by weight and "greenstone," 25% by count and 42% by weight. Because Archaic bifaces were recovered from Connestee features and no identifiable Woodland bifaces, it is likely that most of this lithic debitage comes from non-Connestee uses of the site.
Table 27. Flaked Stone Debitage: Count and Percentages.

<table>
<thead>
<tr>
<th>Feature</th>
<th>18</th>
<th>19</th>
<th>90</th>
<th>143</th>
<th>154</th>
<th>356</th>
<th>N.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithic Material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>17</td>
<td>30.35</td>
</tr>
<tr>
<td>Crystal quartz</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td></td>
<td></td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>Amethyst</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.79</td>
<td></td>
</tr>
<tr>
<td>Ridge &amp; Valley chert</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>Coastal plain chert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1.79</td>
<td></td>
</tr>
<tr>
<td>&quot;Greenstone&quot;</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td>Unident. metavolcanic</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>8.93</td>
</tr>
<tr>
<td>Unidentified cherts</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>7.14</td>
</tr>
<tr>
<td>Flakes per feature</td>
<td>15</td>
<td>3</td>
<td>18</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>56</td>
</tr>
<tr>
<td>% Each feature</td>
<td>26.79</td>
<td>5.36</td>
<td>32.14</td>
<td>10.71</td>
<td>5.36</td>
<td>8.93</td>
<td>10.71</td>
<td>100</td>
</tr>
</tbody>
</table>

Lithic Cores

Four small lithic cores were recovered from three pit features and another from a feature of undetermined type (Figure 37, Table 29). Three of the cores were crystal quartz and one was white quartz. One of the crystal quartz cores exhibited bipolar flaking but all others exhibited random percussion flake removal. These cores were all 2–3 cm in length and indicate use of small flakes. The intended use of these small quartz flakes is unknown. Crystal quartz flakes that may have originated from such cores were found in Features 1, 19, and 90 (Tables 27, 28). It is interesting that crystal quartz cores and flakes did not occur in the same features.

Table 28. Flaked Stone Debitage: Weight & Percentages.

<table>
<thead>
<tr>
<th>Feature</th>
<th>1</th>
<th>18</th>
<th>19</th>
<th>90</th>
<th>143</th>
<th>154</th>
<th>356</th>
<th>grams</th>
<th>%</th>
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<td>11.96</td>
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<td></td>
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<td></td>
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</tr>
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<td>Ridge &amp; Valley chert</td>
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<td>3.2</td>
<td></td>
<td></td>
<td>3.8</td>
<td></td>
<td></td>
<td>4.94</td>
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<tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>1.43</td>
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<tr>
<td>&quot;Greenstone&quot;</td>
<td>7</td>
<td>2.2</td>
<td>12.3</td>
<td>1.7</td>
<td>4.1</td>
<td>5.4</td>
<td>32.7</td>
<td>42.52</td>
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<td>Unident. metavolcanic</td>
<td>8</td>
<td>0.5</td>
<td>1.7</td>
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<td></td>
<td>10.2</td>
<td></td>
<td>13.27</td>
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<tr>
<td>Unidentified cherts</td>
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<td>1.95</td>
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</tr>
<tr>
<td>Grams per feature</td>
<td>27.5</td>
<td>3.4</td>
<td>18.8</td>
<td>5.8</td>
<td>3</td>
<td>5.8</td>
<td>12.6</td>
<td>76.9</td>
<td></td>
</tr>
<tr>
<td>% flakes per feature</td>
<td>35.76</td>
<td>4.42</td>
<td>24.45</td>
<td>7.54</td>
<td>3.9</td>
<td>7.54</td>
<td>16.39</td>
<td>100</td>
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</tr>
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</table>
Figure 37. Lithic Cores. (a) Feature 157; (b) Feature 9; (c) Feature 154; bipolar core; (d) Feature 18.

Table 29. Lithic Cores.

<table>
<thead>
<tr>
<th>Feature</th>
<th>9</th>
<th>18</th>
<th>154</th>
<th>157</th>
<th>Count</th>
</tr>
</thead>
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<td>Cores</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bipolar core</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Crystal quartz</td>
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</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

Lithic Shatter

A small amount of lithic debris (77.1 grams) categorized as shatter was recovered (Table 30). Shatter differs from flakes in lacking observable striking platforms and other flake characteristics. Kimball concisely, but accurately, describes shatter in "The 1977 Archaeological Survey: An Overall Assessment of the Archeological Resources of Tellico Reservoir" (Kimball 1985: 47):

Angular fragment produced during nodule reduction but cannot be identified as to specific manufacturing process: usually does not exhibit an easily identified striking platform area.
Kimball further states that shatter is probably associated with all lithic reduction techniques and particularly with bipolar reduction since this technique results in a large proportion of irregular, unusable flakes.

The lithic shatter at Pumpkin is almost equally divided between white and crystal quartz. No other types of lithic materials were recovered in the form of shatter.

**Table 30. Lithic Shatter.**

<table>
<thead>
<tr>
<th>Feature</th>
<th>1</th>
<th>18</th>
<th>19</th>
<th>90</th>
<th>143</th>
<th>154</th>
<th>356</th>
<th>Grams</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shatter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White quartz</td>
<td>21.00</td>
<td>7.60</td>
<td>3.00</td>
<td>4.40</td>
<td>3.80</td>
<td>39.8</td>
<td>51.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crystal quartz</td>
<td>21.50</td>
<td>8.30</td>
<td>7.50</td>
<td>37.3</td>
<td>48.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total grams</td>
<td>21.50</td>
<td>21.00</td>
<td>7.60</td>
<td>8.30</td>
<td>3.00</td>
<td>4.40</td>
<td>11.30</td>
<td>77.1</td>
<td></td>
</tr>
</tbody>
</table>

**GROUND STONE IMPLEMENTS**

Seven ground stone implements were excavated from five pit features (Table 31). Four of these artifacts were made from steatite; the elbow pipe that produced a radiocarbon date, a small unidentified steatite fragment, possibly from a pipe, a small fragment of a steatite bowl sherd, and a round steatite nodule with a cup-shaped indentation in one side. This nodule fits comfortably in the hand and may have been used as a socket for holding the top end of a wood shaft when it was used with a bow drill, but this is conjecture. Two pecked and smoothed celtts were recovered from Feature 19; one is intact and one is broken. The unbroken celt is made of, what appears to be, a fine grain granite and the other appears to be diabase. A large natural diabase stone, highly worn and smoothed by use/wear on one surface, was found in Feature 154. No other stones were found that exhibited evidence of use as abraders, pestles, mortars, or pottery burnishing stones.

**Table 31. Ground Stone Provenience and Count.**

<table>
<thead>
<tr>
<th>Feature</th>
<th>1</th>
<th>18</th>
<th>19</th>
<th>154</th>
<th>356</th>
<th>N.</th>
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</thead>
<tbody>
<tr>
<td>Ground stone</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pestle/pottery burnishing stone?</td>
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<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elbow pipe: steatite</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Bowl frag: steatite</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worked frag: steatite</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Pitted stone: steatite</td>
<td></td>
<td></td>
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<td></td>
<td>1</td>
</tr>
<tr>
<td>Celt</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>
STONE TOOL SUMMERY

Stone artifacts were remarkably scarce at the Pumpkin site, and few could be positively associated with Woodland cultures. Those that could be firmly associated with Woodland cultures were several ground stone implements represented by the steatite elbow pipe (Feature 1), from which a radiocarbon date confirming the association was obtained, and two ground stone celts (Feature 19) typical for the period. The cultural placement of a functionally unidentified pitted chunk of steatite, an abraded stone pestle and two small fragments of worked steatite, being typologically unidentifiable and possibly intrusive in the features, remains uncertain.

Culturally identifiable flaked stone tools were represented by four biface knives/points belonging to the Middle Archaic period. Five others were recovered that are almost certainly Middle Archaic as well, but being badly fragmented, and in one instance so crudely formed, they were placed in the unidentified category. No flaked stone implements representative of the Woodland period were recovered. It is interesting those nine features produced all of the stone artifacts recovered from our excavations and that the other 28 excavated features produced no worked stone of any kind.

MISCELLANEOUS CULTURAL MATERIALS

With the exception of fire-cracked rock, other incidental cultural materials were remarkably scarce at 38GR226. Cracked rock was recovered from twenty features; thirteen of these features produced various other cultural materials but none in great abundance.

Cracked Rock

Cracked rock, apparently cracked as a result of heating, is the most abundant culturally altered material at 38GR226, occurring in more than half of the excavated features (Table 32). Within the features, the largest amount of cracked rock occurred within a few centimeters of the surface. Given their shallow deposition it is not surprising that numerous cracked rocks are scattered over the surface of the site, apparently as a result of plows pulling the rock from features during cultivation. Feature 19 produced the greatest amount of cracked rock, 10,400 grams, or 24.74% of the total recovered. There was no evidence for rock-lined pits. The rock is predominately diabase in composition.

Mica

Small sheets of mica were found in four features. The mica was in the form of very small sheets with highly fragmented edges; there was no evidence of deliberate alteration of the natural forms. Mica occurs naturally in the Piedmont, but there are no known sources in the immediate area of the site. Because the only mica recovered was from excavated features, and none was found on the rest of the site or in nearby cultivated
fields, it is assumed that prehistoric settlers brought it to the site from an unidentified source.

Shell

A small shell fragment was recovered from Feature 90, representing the lone occurrence of shell observed at 38GR226. The shell is very deteriorated and any possible evidence of alteration or use by human activity has been obliterated. We were unable to determine if the shell was a fresh-water mussel or an ocean variety.

Daub

Daub, or fired clay, although not abundant, was present in eleven features. Considering the amount of heat required to produce the cracked rock it is not inconceivable that some of this "daub" may have resulted from small chunks of natural clay being hardened by fires within the pits. None of the daub evidenced use as wattle-and-daub plaster and its use as such is problematic. One thousand two hundred and thirty nine grams of daub-like fired clay were recovered. Feature 18 produced 717.3 grams (Table 32), or 57.88% of the total.

Bone

Less than two grams of bone were recovered, represented by a number of very small and extremely fragile bits in four features. None of the bone has been identified.

Charcoal

Charcoal was found in seven pits and postholes. The amount collected, 44.2 grams, represents only that portion recovered by sifting of the excavated fill soils. Charcoal recovered by flotation of soil samples was included in botanical samples sent to Dr. Gary D. Crites for analysis. Dr. Crites findings are discussed in the appendices under; Plant Remains from the Pumpkin Site (38GR226): Middle Woodland Ethnobotany on the South Carolina Piedmont.
Table 32. Miscellaneous Cultural Materials.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Cracked Rock</th>
<th>Mica</th>
<th>Shell</th>
<th>Daub</th>
<th>Bone</th>
<th>Charcoal</th>
<th>Grams</th>
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<td></td>
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<td>6</td>
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<td>44.20</td>
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<tr>
<td>9</td>
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<td>0.20</td>
<td>25.10</td>
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<td></td>
<td>743.30</td>
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<tr>
<td>10</td>
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<td>219.00</td>
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</tr>
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<td>0.30</td>
<td>1239.20</td>
<td>1.30</td>
<td>44.20</td>
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</table>

**MISCELLANEOUS NATURAL STONE**

Natural stone that exhibited no evidence of alteration or use by humans was designated "miscellaneous stone" (Table 33 and 34). A number of unaltered stone chunks were found in several features and their presence appears to be fortuitous. Gravels smaller than the one-quarter inch diameter wire mesh screen used to sift feature fill were obviously not included.

Table 33. Miscellaneous Stone Count.

<table>
<thead>
<tr>
<th>Feature</th>
<th>1</th>
<th>9</th>
<th>17</th>
<th>19</th>
<th>103</th>
<th>143</th>
<th>157</th>
<th>356</th>
<th>N.</th>
</tr>
</thead>
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<td>4</td>
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<td>Count per feature</td>
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<td>1</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>19</td>
</tr>
</tbody>
</table>

Table 34. Miscellaneous Stone Weight.
SOIL SAMPLES

Twenty-five soil samples were collected from 22 features (Table 35). More than one soil sample was collected from several features that had well defined internal zones or layers. Soil sample volume was eight liters where possible. Soil quantities from internal zones of features and postholes were dictated by amounts available. The discrepancy of sample sizes obviously did not allow for equitable comparison of recovered data but they did provide a broad spectrum of ethnobotanical materials from across the site for analysis. The flotation of soil samples to recover light fractions for analysis was done under the supervision of Dr. Gail E. Wagner at the Department of Anthropology, University of South Carolina. The recovered data were submitted to Dr. Gary D. Crites at the Frank H. McClung Museum, University of Tennessee, for analysis. Results of his analysis are presented in Appendix A.

Table 35. Soil Samples.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Type</th>
<th>Soil samples</th>
<th>Feature</th>
<th>Type</th>
<th>Soil samples</th>
</tr>
</thead>
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<td>1</td>
<td>19</td>
<td>Pit</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Undet</td>
<td>1</td>
<td>19-A</td>
<td>PH</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Undet</td>
<td>1</td>
<td>90</td>
<td>Pit</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>PH</td>
<td>1</td>
<td>103</td>
<td>PH</td>
<td>1</td>
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<td>12</td>
<td>PH</td>
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<td>104</td>
<td>PH</td>
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</tr>
<tr>
<td>13</td>
<td>PH</td>
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<td>PH</td>
<td>1</td>
<td>143</td>
<td>Pit</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>PH</td>
<td>1</td>
<td>154-A</td>
<td>Pit</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>PH</td>
<td>1</td>
<td>157</td>
<td>Pit</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Pit</td>
<td>1</td>
<td>158</td>
<td>Undet</td>
<td>1</td>
</tr>
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<td>18</td>
<td>Pit</td>
<td>1</td>
<td>356</td>
<td>Pit</td>
<td>1</td>
</tr>
</tbody>
</table>

CHAPTER 8
**RADIOCARBON DATA**

*Connestee Radiocarbon Dates for South Carolina*

A number of radiocarbon dates have been obtained for various Middle Woodland cultures throughout the Southeastern United States, but relatively few are unequivocally associated with the Connestee cultural phase. In South Carolina, only five Connestee affiliated dates have been recorded; four of these dates are from our excavations at archaeological site 38GR226 (Table 36). Two of these dates are from the initial test excavation of Feature 1, the other two are from materials recovered by flotation of soil samples from pit feature 18, and a posthole, Feature 19-A. Three of the four dates, those obtained from pit features, are quite close (A.D. 540 to 650; A.D. 560 to 645 and A.D. 575 to 650), but each of the calibrated dates overlap and it is presumed they all originate with Connestee occupation.

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Site Context</th>
<th>C-14 Age</th>
<th>Calibrated Age</th>
<th>Cultural Affiliation</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-117540</td>
<td>Feature 18</td>
<td>A.D. 490</td>
<td>AD 575 to 650</td>
<td>Connestee</td>
<td>Charles 1999</td>
</tr>
<tr>
<td>Beta-80840</td>
<td>Feature 1</td>
<td>A.D. 480</td>
<td>AD 560 to 645</td>
<td>Connestee</td>
<td>Charles 1999</td>
</tr>
<tr>
<td>Beta-80841</td>
<td>Feature 1</td>
<td>A.D. 470</td>
<td>AD 540 to 650</td>
<td>Connestee</td>
<td>Charles 1999</td>
</tr>
<tr>
<td>Beta-119359</td>
<td>Feature 19-A</td>
<td>A.D. 370</td>
<td>AD 415 to 575</td>
<td>Connestee</td>
<td>Charles 1999</td>
</tr>
</tbody>
</table>

The fifth Connestee compatible radiocarbon date from a South Carolina site was obtained from Tomasee (380C186) in Oconee County (Table 37). A well-defined Woodland component was identified at Tomasee with some 2,349 pottery sherds recovered from a controlled surface collection. Excavation of four Woodland features contributed another 135 sherds. Connestee was the predominant pottery type recovered. A radiocarbon date of A.D. 536 (620, 634, 636) 663, was obtained from Feature 7 (Smith et al. 1988). Pottery from the feature was predominately simple-stamped but examples of plain, fabric-impressed, cord-impressed, and indeterminate stamped were also recovered. Other cultural materials were fire-cracked rock, mica, a small celt, two nutting stones, and a piece of what appeared to be graphite. This Tomasee date is consistent with the Pumpkin site dates for the Connestee Phase.

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Site Context</th>
<th>C-14 Age</th>
<th>Calibrated Age</th>
<th>Cultural Affiliation</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-80840</td>
<td>Feature 1</td>
<td>A.D. 480</td>
<td>AD 560 to 645</td>
<td>Connestee</td>
<td>Charles 1999</td>
</tr>
<tr>
<td>Beta-80841</td>
<td>Feature 1</td>
<td>A.D. 470</td>
<td>AD 540 to 650</td>
<td>Connestee</td>
<td>Charles 1999</td>
</tr>
<tr>
<td>Beta-119359</td>
<td>Feature 19-A</td>
<td>A.D. 370</td>
<td>AD 415 to 575</td>
<td>Connestee</td>
<td>Charles 1999</td>
</tr>
</tbody>
</table>

**Table 37. Radiocarbon Data from 38OC186.**
These five radiocarbon dates are at the high end, and a bit beyond, the A.D. 100–200 to 600 (uncorrected) range that Keel thought was the core of the Connestee cultural phase (Keel 1976: 219-225-239), but this may, in part, be due to the calibration of C14 determination from more recent excavations.

Regional Connestee Radiocarbon Dates

Eastman (1994) lists 18 Connestee affiliated radiocarbon dates for the Appalachian Mountain region of North Carolina, eastern Tennessee, and southwestern Virginia (Table 38.) Eight of the dates are within the A.D. 100–200 to A.D. 600 time frame postulated by Keel (1976: 219-239) but the others range between A.D. 599 and A.D. 1031. Eastman states that these later dates might indicate a continuance of the Connestee cultural phase for a period longer than previously thought (Eastman 1994: 32-34).

Other Piedmont South Carolina Radiocarbon Dates

Assuming that the Connestee cultural phase may have continued until approximately A.D. 1000, then several other radiocarbon dates within that range have been reported from the Piedmont region of South Carolina. Other South Carolina Piedmont sites that have yielded radiocarbon dates that are between A.D. 600–1000 are Chauga (38OC47), I. C. Few (38PN2), Simpson’s Field (38AN8), and Spratt's bottom (38YK3). Cultural associations at these sites were identified as either Late Woodland, or no cultural affiliation was established.

<table>
<thead>
<tr>
<th>Lab Number</th>
<th>Site Context</th>
<th>Age A.D. Uncorrected</th>
<th>Age Calibrated</th>
<th>Cultural Affiliation</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>UGA 5352</td>
<td>Feature 7</td>
<td>A.D. 500 +/- 90</td>
<td>A.D. 536(620, 634,636) 663</td>
<td>Connestee</td>
<td>Smith et. al. 1988</td>
</tr>
</tbody>
</table>

Table 38. Eastman's Connestee Radiocarbon Dates for
North Carolina, Tennessee, and Virginia.

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Site Name</th>
<th>Phase</th>
<th>Calibrated</th>
<th>1-Sigma</th>
<th>Lab. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>Buncombe Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31Bn335</td>
<td>Bent Creek</td>
<td>Connestee</td>
<td>AD 1005</td>
<td>AD 896-1031</td>
<td>Beta-38063</td>
</tr>
<tr>
<td></td>
<td>Bent Creek</td>
<td>Connestee</td>
<td>AD 746,711,755</td>
<td>AD 665-789</td>
<td>Beta-38065</td>
</tr>
<tr>
<td>TN</td>
<td>Cherokee Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31Ce41</td>
<td>Harshaw Bottom</td>
<td>Connestee</td>
<td>AD 654</td>
<td>AD 600-686</td>
<td>Beta-69797</td>
</tr>
<tr>
<td></td>
<td>Harshaw Bottom</td>
<td>Connestee</td>
<td>AD 641</td>
<td>AD 599-663</td>
<td>Beta-69798</td>
</tr>
<tr>
<td>VA</td>
<td>Haywood Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31Hw2</td>
<td>Garden Creek</td>
<td>Connestee</td>
<td>AD 892</td>
<td>AD 784-1002</td>
<td>GX-730</td>
</tr>
<tr>
<td>NC</td>
<td>McDowell Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31Mc139</td>
<td>Tyler-Loughridge</td>
<td>Connestee</td>
<td>AD 253, 304, 314</td>
<td>AD 137-402</td>
<td>Beta-32925</td>
</tr>
<tr>
<td></td>
<td>Tyler-Loughridge</td>
<td>Connestee</td>
<td>AD 347, 360, 374</td>
<td>AD 249-419</td>
<td>Beta-32926</td>
</tr>
<tr>
<td></td>
<td>Tyler-Loughridge</td>
<td>Connestee</td>
<td>AD 821, 840, 860</td>
<td>AD 727-891</td>
<td>Beta-69799</td>
</tr>
<tr>
<td></td>
<td>Tyler-Loughridge</td>
<td>Connestee</td>
<td>AD 888</td>
<td>AD 782-984</td>
<td>Beta-69800</td>
</tr>
<tr>
<td>TN</td>
<td>Swain Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31Sw5</td>
<td>Ela</td>
<td>Connestee</td>
<td>AD 544</td>
<td>AD 438-606</td>
<td>Beta-69802</td>
</tr>
<tr>
<td>TN</td>
<td>Transylvania Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31Tv1</td>
<td>Puette-Hunt</td>
<td>Connestee</td>
<td>AD 641</td>
<td>AD 599-663</td>
<td>Beta-66768</td>
</tr>
<tr>
<td>VA</td>
<td>Russell Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44Ru44</td>
<td>Fox-Meadows Apts.</td>
<td>Connestee</td>
<td>AD 544</td>
<td>AD 424-625</td>
<td>UGa-4789</td>
</tr>
</tbody>
</table>

Woodland Radiocarbon Dates From Richard B. Russell Reservoir in Georgia

The preceding data takes into account the single radiocarbon date (Simpson’s Field, 38AN8) that falls within the A.D. 200–1000 year span that was acquired from the Russell Reservoir and Dam project on the South Carolina side of the Savannah River. Four additional radiocarbon dates within the A.D. 324–1018 range were returned from the Georgia side (Table 39), (Anderson and Schuldenrein 1885: 8). Three of the dates are from a single site, Ruckers Bottom (9EB91). Two of the dates are associated with Late Cartersville pottery and one with Early Cartersville. An uncalibrated date of A.D. 960 and A.D. 860–880 for one of the Late Cartersville dates was said to be "doubtful/late."
Another date of A.D. 400 (Uncalibrated) was obtained from a pre-mound midden at Beaverdam Creek (9EB85) and said to be "poor/early" (Rudolph and Hally 1986: 463).

Table 39. Woodland Radiocarbon Dates from the Russell Reservoir in Georgia.

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Site Name</th>
<th>Phase</th>
<th>Uncorrected Age</th>
<th>Calibrated 1 sigma</th>
<th>Lab. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Georgia Elbert Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9EB91</td>
<td>Rucker's Bottom Early Cartersville</td>
<td>1610 +/- 85</td>
<td>A.D. 324 (428) 557</td>
<td>DIC-2294</td>
<td></td>
</tr>
<tr>
<td>9EB91</td>
<td>Rucker's Bottom Late Cartersville</td>
<td>1580 +/- 50</td>
<td>A.D. 414 (437, 454 457, 522, 527) 557</td>
<td>DIC-2298</td>
<td></td>
</tr>
<tr>
<td>9EB91</td>
<td>Rucker's Bottom Late Cartersville</td>
<td>1140 +/- 110</td>
<td>A.D. 724 (894, 925 935) 1018</td>
<td>DIC-2299</td>
<td></td>
</tr>
</tbody>
</table>

Other Regional Woodland Radiocarbon Dates

Keel compiled a list of Woodland radiocarbon dates for the region (and beyond) that include a number of dates compatible with his estimate of the Connestee Cultural Phase; his list is included here for reference (Table 40), (Keel 1976: 236-237). Keel's list shows a wider range of dates than those he considered being the core of the Connestee phase and nearly two thirds (18 of the 27 radiocarbon dates) attributed to the period postdate A.D. 600. The dates from Alabama and Ohio are rather far from the area of our research and those from the McDonald site (Schroedl 1973:4, 1973:4, 1973:4, 1973:5, 1973:5, 1973:6) and the Alford site, (Faulkner 1967:22) in Tennessee, have been reiterated as spanning the Late Woodland and Mississippian periods.

I am sure that other, more current, Middle Woodland radiocarbon dates have been obtained for the Piedmont and mountain regions of the southeastern United States of which I am unaware. As more dates become available, perhaps a more accurate temporal placement of the various Middle Woodland cultural phases can be determined.
Table 40. Keel's List of Regional Radiocarbon Dates Relative to the Connestee/Woodland Period.

<table>
<thead>
<tr>
<th>Date</th>
<th>Laboratory No</th>
<th>Site</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.D. 605 +/- 90</td>
<td>GX2487</td>
<td>Icehouse Bottom Tenn.</td>
<td>Chapman 1972</td>
</tr>
<tr>
<td>A.D. 585 +/- 90</td>
<td>GX2154</td>
<td>Icehouse Bottom, Tenn.</td>
<td>Gleeson 1970:132</td>
</tr>
<tr>
<td>A.D. 530 +/- 150</td>
<td>M-1043</td>
<td>Mandeville, Ga.</td>
<td>Kellar, Kelly, and</td>
</tr>
<tr>
<td>A.D. 490 +/- 150</td>
<td>M-1045</td>
<td>Mandeville, Ga.</td>
<td>Kellar, Kelly, and</td>
</tr>
<tr>
<td>A.D. 481 +/- 65</td>
<td>OWU 61</td>
<td>McGraw, Ohio</td>
<td>Prufer 1965:104</td>
</tr>
<tr>
<td>A.D. 450 +/- 175</td>
<td>?</td>
<td>Russell Cave, Ala.</td>
<td>Faulkner &amp; Graham</td>
</tr>
<tr>
<td>A.D. 440 +/- 80</td>
<td>UCLA 679c</td>
<td>McGraw, Ohio</td>
<td>Prufer 1965:104</td>
</tr>
<tr>
<td>A.D. 435 +/- 166</td>
<td>OWU62</td>
<td>McGraw, Ohio</td>
<td>Prufer 1965:104</td>
</tr>
<tr>
<td>A.D. 1335 +/- 100</td>
<td>GX2599</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:4</td>
</tr>
<tr>
<td>A.D. 1220 +/- 95</td>
<td>GX2598</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:4</td>
</tr>
<tr>
<td>A.D. 1155 +/- 100</td>
<td>GX2601</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:5</td>
</tr>
<tr>
<td>A.D. 1145 +/- 95</td>
<td>GX2600</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:5</td>
</tr>
<tr>
<td>A.D. 1100 +/- 100</td>
<td>GX2597</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:4</td>
</tr>
<tr>
<td>A.D. 1095 +/- 95</td>
<td>GX2606</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:6</td>
</tr>
<tr>
<td>A.D. 1020 +/- 150</td>
<td>M-730</td>
<td>Alford, Tenn.</td>
<td>Faulkner 1967:22</td>
</tr>
<tr>
<td>A.D. 920 +/- 95</td>
<td>GX2602</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:5</td>
</tr>
<tr>
<td>A.D. 890 +/- 90</td>
<td>GXO777</td>
<td>Mason, Tenn.</td>
<td>Faulkner 1967:21</td>
</tr>
<tr>
<td>A.D. 815 +/- 100</td>
<td>GX2596</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:4</td>
</tr>
<tr>
<td>A.D. 805 +/- 120</td>
<td>GX2605</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:6</td>
</tr>
<tr>
<td>A.D. 805 +/- 85</td>
<td>GXO593</td>
<td>Garden Creek, N. C.</td>
<td>Dickens 1970:21</td>
</tr>
<tr>
<td>A.D. 800 +/- 130</td>
<td>GX2603</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:5</td>
</tr>
<tr>
<td>A.D. 770 +/- 85</td>
<td>GX0778</td>
<td>Mason, Tenn.</td>
<td>Faulkner 1967:21</td>
</tr>
<tr>
<td>A.D. 740 +/- 100</td>
<td>I-826</td>
<td>Russell Cave, Ala.</td>
<td>Faulkner &amp; Graham</td>
</tr>
<tr>
<td>A.D. 675 +/- 105</td>
<td>GX2604</td>
<td>McDonald, Tenn.</td>
<td>Schroedl 1973:5</td>
</tr>
<tr>
<td>A.D. 625 +/- 105</td>
<td>GX0573</td>
<td>Westmoreland Barber, Tennessee</td>
<td>Faulkner &amp; Graham</td>
</tr>
</tbody>
</table>
SUMMARY

Archaeology conducted at the Pumpkin site is best described as a preliminary investigation. Our initial objective was singular and simple; obtain a radiocarbon date for a pipe removed from the initial test excavation. This was accomplished, as well as obtaining a second radiocarbon date from the feature in which the pipe was found. Our objectives were then expanded to include a search for a Connestee structure, and in this, we met with partial success. After striping the site of approximately 25% of its plow zone soils, a large number of probable cultural features (504) were revealed. Although we were unable to visually define patterns indicative of individual structures at the time, they most certainly exist, and study of the site map that was made after our excavations were completed shows a number of possibilities.

Of the 504 probable features, twenty-eight were considered to be pits or hearths and 476 were considered postholes. Pit and posthole features were selected and excavated over the course of a year; the final number excavated, 37, was dictated by availability of time and crew size. The artifact and radiocarbon data gleaned from the features confirmed the suspected Connestee dominance at the site. The sum of artifacts recovered from excavated features that were identifiable as other than Connestee numbered only 14 of 1212; or, 1.16% of the total. The non-Connestee artifacts were nine stone tools representative of the Middle Archaic period, and five pottery sherds representative of the Middle Woodland Pigeon and Swannanoa cultural phases—all older than Connestee and clearly chance inclusions in the features. No feature produced artifacts later than Connestee, indicating a high probability that most, and perhaps all, of the site’s features resulted from occupation of the site by that single culture.

The cultural evidence that places the Pumpkin site within the Connestee Phase of the Middle Woodland period is based on pottery and radiocarbon dates obtained from the excavated features. The pottery conforms to the criteria for the Connestee series as described by Holden (1966) and Keel (1976: 247-255). The Pumpkin site radiocarbon dates (AD 575 to 650, AD 560 to 645, AD 540 to 650, and AD 415 to 575) are well within the Connestee range as defined at a number of other Connestee sites within the region.

The percentages of the various types of Connestee pottery found at Pumpkin were compared to those from Connestee sites throughout the region. The percentages found in the Pumpkin collection closely parallel those for the Ela (31Sw5) and Harshaw Bottom (31Ce41) sites in North Carolina, but are considerably different from collections from Garden Creek (31Hw2), Puett-Hunt (31Tv1), Tuckasegee (31Jk12), and Warren Wilson (31Bn29) sites in North Carolina, the Icehouse Bottom (40MR23/1971) site in Tennessee, and Tomasee (38OC186) in South Carolina. The compared sites’ geographic placement and their proximity to each other offer no obvious explanation for this distributional difference. Likewise, comparison of available radiocarbon data indicated no relationship between the radiocarbon dates and pottery type percentages for the
compared sites. Closer scrutiny of the geographical attributes and radiocarbon data for Connestee sites might provide an explanation for the pottery percentage differences that occur among them, but such a study was beyond the scope of our investigation at Pumpkin.

Twenty-five soil samples were collected from 22 features and subjected to a flotation process to remove any plant remains. The seed quantity recovered exceeds the combined total of seeds previously recovered from flotation samples representing all time periods/geographic locations in South Carolina (Wagner 1995). Charcoals representing 11 genera of wood, plus cane, were identified, providing the first floated Middle woodland assemblage recovered from the Piedmont (Wagner 1995:3). Analysis of these seed and other plant remains gave evidence of the earliest domestication of plants on the South Atlantic Slope and indicates that the Pumpkin site was probably utilized on a multi seasonal/year-round basis.

The Pumpkin site is remarkable for what is missing as well as what it contains. There were no chipped stone tools associated with Woodland cultures in the excavated features. Several probable Woodland points have been collected from the surface, but none are identifiable as Connestee. No stone mortars, bone tools, gorgets, worked shell or mica were recovered from the features or observed on the surface after cultivation. Nothing was found to suggest contact with, or influence by Hopewelian cultures, as is occasionally found at other Connestee and Middle Woodland sites in the region. Identifiable historic intrusion into the site appears limited to plow scars and an occasional small, square or rectangular posthole identified as being made by a type of post used in recent staking of plants.

The Pumpkin site contains a prehistoric Connestee cultural component that is about as “pure” as can reasonably be expected. As such, the Pumpkin site is an exceptional representative of a phase of Piedmont South Carolina’s prehistory that has been little investigated and is little understood. With adequate time and funding the Pumpkin site could play an important role in better understanding relationships between the Connestee villages located in the North Carolina and Tennessee mountain regions and the “lower” Connestee villages of South Carolina and Georgia. Given the rapid development of the Piedmont and Mountain regions of our state, I would think it wise not to postpone indefinitely the archaeological research that must be done if we are to advance our knowledge of South Carolina’s prehistoric citizens.
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APPENDIX A

PLANT REMAINS FROM
THE PUMPKIN SITE (38GR226):
MIDDLE WOODLAND ETHNOBOTANY
ON THE SOUTH CAROLINA PIEDMONT

Gary D. Crites, Ph.D.
Frank H. McClung Museum
University of Tennessee
LABORATORY METHODS

Water-floated botanical remains from 10 pit features, 9 postholes and 3 features of undetermined type were submitted to the ethnobotany facility at the Frank H. McClung Museum, University of Tennessee, for analysis. A total of 253.9 liters of floated fill matrix yielded 812.95 grams of charred plant remains. Pit features accounted for 75.92% of flotation volume and 27.04% of sample charcoal weight. Postholes accounted for 14.58% of flotation volume and yielded 67.55% of sample charcoals by weight. The three features of undetermined type accounted for 9.5% of flotation volume and 5.42% of sample charcoals by weight. Some heavy fractions were composed almost entirely of inorganic material (e.g., sand/silt, quartzite, etc.). Examination of these samples under a 10x table lamp lens revealed only rare occurrences of tiny wood charcoal flecks. No nutshell or “seeds/fruit rind” were observed. Rather than perform a perfunctory size-grading of these materials using standard geologic sieves, these heavy fractions were repackaged after being scanned with the table lens. Other heavy fractions and light fraction from each sample were sorted for analysis.

Each sample provenance light fraction (13 from 10 pit features, nine from postholes, and one from each of the three features of undetermined type) was placed in a nested series of standard geologic sieves with mesh opening diameters of 2 mm, 1 mm, and 500 microns, respectively. These sieves were underlain by a catch basin. After being placed in the top (2 mm diameter mesh) sieve of the stack, each sample was gently shaken, thus segregating materials into three size categories to facilitate sorting (>2 mm, 2 mm-1 mm, <1 mm). Charred plant materials retained in the 2 mm mesh diameter sieve were sorted into constituent sample components (e.g., nutshells/meats, wood charcoal, “seeds”). Nut remains were identified to genus, counted, and weighed. One exception was material identifiable only as representing the family Juglandaceae. Juglandaceae shell fragments represent those of either hickory (Carya spp.) or walnut (Juglans spp.). The size, fracture pattern, and/or preservation of Juglandaceae fragments precluded confident genus-level identification (Table 1). Seeds retained in the >2 mm size class were counted by taxon (Rhus spp. - sumac, Gleditsia triacanthos - honey locust, Vitis - grape) and were included in Table 2 along with seeds from the <2 mm size class.

Carbonized plant remains retained in the 1 mm and 500 micron mesh diameter sieves, and catch basin, were scanned. Seeds and fruit rind remains were removed, counted, and weighed by taxon. Nutshell and wood charcoal fragments in the <2 mm size class were noted as present on laboratory data forms but were not counted or weighed by taxon. Material remaining in the <2 mm sieves and catch basin after sorting were weighed as a single sample constituent–residue. Virtually all sample residue consisted of very small nut fragments, wood charcoal fragments, and charcoal “dust.” Some modern rootlet/rhizome fragments and sand/gravel were also present. Any evidence of modern seed rain was also noted on laboratory data sheets. With the exceptions of Features 11 and 90, from which a 50% sub sample was obtained via a riffle sorter, one hundred percent of the light fraction from each provenance was sorted.
All but two provenance samples contained >2 mm wood charcoals. Wood charcoals were sub sampled to obtain 30 >2 mm specimens for identification from each individual field sample. Since feature provenances were represented by varying numbers of individual field samples, the numbers of identified fragments varied (Table 3). In some samples wood charcoals were too small or too poorly preserved to present anatomical landmarks necessary for confidence in taxonomic determination. Wood charcoal sub sampling was accomplished by spreading >2 mm fragments in a serpentine pattern over the bottom of a box marked off in a 1 cm^2 grid pattern. Fragments were selected from alternate vertical and horizontal squares until 30 fragments were identified to at least the genus level, or until all fragments were viewed.

Identification of plant remains were confirmed primarily through comparisons with modern and prehistoric comparative collections housed at the Frank H. McClung Museum, University of Tennessee. Secondary sources included various standard plant part identification manuals (e.g., Core et al. 1979; Hoadley 1980; Martin and Barkley 1961; Panshin and de Zeeuw 1970; U.S.D.A. 1974).

**Approaching the Data**

Efforts to infer culturally-patterned structure of trends in prehistoric human-plant interrelations requires an appreciation of the multiplicity of cultural and non-cultural factors impacting the archaeologically obtained plant assemblage. Patterning begins with the influence peoples’ beliefs have on their interaction with plants (Ford 1979:320-323). As a result, assemblages will vary in concert with prescribed patterning of plant collecting, processing, storage, and disposal (see Hillman 1984; Jones 1984). Other factors directly influencing interpretation of prehistoric botanical assemblages include “preservability” of various plant parts, carbonization environment, post-depositional biogeochemical processes, and sample recovery and processing (Butzer 1982:114-117; Hally 1981; Hammond and Miksicek 1981; Lopinot 1984; Miksicek 1987; Munson et al. 1971; Wagner 1988).

Counts, weights, and percentages are presented in Tables 1-3. Because of the impact of the factors/processes mentioned above on sample composition, an effort to standardize the data was included. Ubiquity figures and density and comparison ratios were used here.

Ubiquity measures represent an attempt to accommodate interpretive problems resulting from differential preservation by determining the number of samples in which a plant part type or taxon occurs within a group of samples. Ubiquity scores are comparative and determination of absolute importance should not be considered an appropriate function of the technique (Hubbard 1980:53). Ubiquity scores are appropriate for inferring relative importance (see Crites 1987: 734-735). The primary underlying assumption that all samples in a group are independent is justified if sampling is “adequate.” This is problematic for the Pumpkin site data. Nevertheless, ubiquity figures are employed here as a baseline for future work in the region.
Ratios were appropriate for the Pumpkin site data because of inconsistent sample size and the presence of different plant remain categories that were considered generally equivalent ecologically and/or in terms of deposition and preservation characteristics. Density ratios yield values that allow comparisons of count or weight of a specific plant category per volume of floated matrix. Such ratios facilitate evaluation of assumptions concerning uniformity of deposition, preservation, and recovery rates.

Comparison ratios can be used to assess different use or preservation/recovery contexts. For sites where recovered wood charcoals are considered the by-product of domestic fuel use rather than “special” burning episodes, using wood charcoal weight as the denominator in a seed: wood charcoal ratio is a way to accommodate differential use or preservation (Miller 1988:75).
RESULTS

The 253.9 liters of processed fill from 38GR226 yielded 812.95 grams of charred plant material, resulting in a charcoal density of 3.2 grams/liter. Nut remains accounted for 7.8% of total charcoal weight. Three genera were discernible: *Carya* spp. (hickory), *Quercus* spp. (acorns), and *Corylus* spp. (hazelnut). Some nutshell fragments were identifiable only to the family level (Juglandaceae - either hickory or walnut). Other assemblage categories included wood charcoal (52.3%), sample residue (39.5%), “seeds” (0.25%), conifer “cone scales” (0.04%), and *Cucurbita* rind (<0.01%).

A total of 6,148 nut fragments (including 10 acorn cotyledon fragments) was recovered from the >2 mm size fraction. Acorn remains dominated the count, accounting for 96.9% of all nut fragments. Hickory accounted for 2.1%, Juglandaceae fragments 1.0%. The single hazelnut fragment from Feature 19/A is virtually undiscernible statistically. Two depositional/recovery contexts, Feature 10 and Feature 18, locus A, accounted for 98.9% of all acorn remains (32.1% and 66.8%, respectively). Both contexts were basin-shaped pits with no evidence of in situ burning. The relatively low amount of hickory shell is consistent with results from the limited number (seven) of South Carolina Middle Woodland plant assemblages recovered by flotation as summarized by Wagner (1995).

Seeds

Seed recovery from flotation samples taken during this initial effort at the Pumpkin site has yielded results unique in the South Carolina Paleo ethnobotanical record. As summarized by Wagner (1995: Tables 4,5,7,8,9), the total number of identified “seeds” recovered from Early Archaic-Mississippian flotation samples from South Carolina is less than 300 (n=289). The total reported for Middle Woodland sites (n=7) was 15. Flotation volume is known for four of those seven sites and totals 1,037.5 liters. The 253.9 liters of floated fill from the Pumpkin site processed to date has yielded 1,716 seeds representing five genera that include three discernible species (Table 2). Seeds of three identified taxa (*Rhus* spp. - sumac, *Gleditsia triacanthos* - honey locust, and *Vitis* spp. - grape) indicate the presence of open Woodland/Woodland edge, “meadow,” and/or river bank habitat (Elias 1980:648; Radford et al. 1968:578-579, 678, 695-696). The remaining two taxa identified in the Pumpkin site sample (*Chenopodium berlandieri* - goosefoot and *Phalaris caroliniana* Walt. - maygrass) are open habitat, “weedy” successional taxa commonly associated with Middle Woodland food production in eastern North America (Crites 1987; Fritz 1990; Smith 1987).

Maygrass recovered from 38GR226 represents both the earliest occurrence and greatest concentration of this starchy grain in the region. The 176 grains recovered from five pit features and one posthole at the Pumpkin site is more than has been reported from other flotation samples in the state combined. Wagner (1995) has pointed out that since maygrass is native to the Coastal Plain of South Carolina, the low numbers of grains recovered in that region might not indicate cultivation. However, the location of the
Pumpkin site at the juncture of the upper Piedmont and Blue Ridge Mountains, and the uncommon distribution of *Phalaris caroliniana* north of the Fall Line (Cowan 1978; Crites and Terry 1984; Radford et al 1976:122), strengthen the suggestion that grains from the Pumpkin site indicate cultivation of the taxon.

By far, the most numerous seed type recovered from the Pumpkin site sample was *Chenopodium*. The presence of an alveolate-reticulate seed coat indicates the seeds represent the subsection Cellulata. Selected seed diameter measurements of 1.0-1.4 mm and the presentation of a “distinct beak” identified the seeds as representatives of the species *C. berlandieri*. During sorting and microscopic examination of external seed morphology, it was observed that the testa, or seed coats, of some specimens exhibited margins that were “somewhat flattened,” or clearly truncated. This suite of seed characteristics—the size range, reticulate seed coat, and truncated margin—suggested the presence of domesticated *Chenopodium (C. berlandieri ssp. jonesianum)*. Confirmation requires the additional step of measuring testa thickness. A limited number of “candidates” subjected to scanning electron microscopy (SEM) revealed some with testa thickness below the 21 micron threshold established for domesticated *Chenopodium* (Smith 1985a, 1985b; Smith and Funk 1985). *Chenopodium* seeds selected for this initial evaluation were taken from Feature 18, locus A. *Chenopodium* from this context was submitted for AMS dating and yielded an uncorrected radiocarbon age of 1460 Â 50 B.P: A.D. 490 (Beta 117540). This is the first direct date for a domesticated native taxon in South Carolina and puts South Carolina more in line with the record from the interior of the Southeast (see Crites 1987, 1991; Fritz 1990; Gardner 1987; Gremillion 1993a, 1993b, 1996; Smith 1987; Yarnell and Black 1985).

*Cucurbita*

Thirteen *Cucurbita* rind fragments were also recovered. Twelve of the fragments were retrieved from Feature 18, locus A, the same provenance to yield domesticated *Chenopodium*. The fragments are thin, ranging from .7 mm to 1.1 mm thick, and present a smooth epidermis. These are the first *Cucurbita* rind fragments reported from the South Carolina Piedmont and the oldest known in the state’s Paleoethnobotanical record. These fragments are too thin to represent domesticated *Cucurbita* and are considered indicative of a wild *Cucurbita* gourd.

*Wood Charcoals*

Eleven arboreal genera, plus cane, were identified in the Pumpkin site sample (Table 3). This is the first floated Middle Woodland wood charcoal assemblage recovered from the Piedmont (see Wagner 1995:3). The most commonly occurring and frequent genera were *Pinus* spp., *Carya* spp., and *Quercus* spp. (red and white groups). Combined, these three genera accounted for 73.9% of identified wood fragments. *Pinus* alone accounted for 51.2%.

The taxonomic inventory derived from the Pumpkin site wood charcoals is indicative of the regional ecotonal area and diverse environmental gradients presented by the
Southern Appalachians section of the Oak-Chestnut Forest region and the Atlantic Slope section of the Oak-Pine Forest region (see Braun 1950). Ascertaining the extent of anthropogenic impact on forest community structure in the vicinity of the Pumpkin site is problematic. First, on-the-ground survey of the interrelations of identified taxa and local environmental gradients is needed to establish baseline distribution data. Second, Early Woodland and Archaic period flotation records are needed in order to establish a comparative record predating food production behaviors in the area. Third, some “important” taxonomic indicators of landscape disturbance and secondary succession (e.g., *Pinus* spp., *Liriodendron tulipifera* - tulip poplar, and *Arundinaria* spp. - cane) are also constituents of established or pre-climax forest in the region, or are “natural” occurrences along streams (especially cane). At this point, the prudent course seems to be to use the Pumpkin site wood charcoal data as a comparative base for future analyses of assemblages from the region.

**DISCUSSION**

The botanical assemblage from 38GR226 presents some similarities to other assemblages from South Carolina, but is also, at this point, quite unique. As is the case in other assemblages from the state, wood charcoals are the most common material. And, as is the case in other assemblages, pine, hickory, and oak are the predominant represented tree types (accounting for 73.9% of identified wood charcoal fragments from Pumpkin).

Seven other South Carolina Middle Woodland plant assemblages present low amounts of hickory shell; three have yielded acorn, one hazelnut, and one yielded black walnut. At Pumpkin the representation of hickory shell is not particularly impressive. Fragments from feature and posthole contexts presented a density (by count) of only .46 and 1.71, respectively (Table 4). The density ratio for acorn is, however, impressive (24.6/liter). This figure is even more impressive when one considers that the acorn shell count for Feature 18, which represents 66.8% of all acorn shell recovered, was obtained from a 12.5% sub sample of the context’s heavy fraction and 100% of the light fraction. Feature 18 also yielded 58.4% of all seeds recovered from pit features, including 94.9% of all *Chenopodium* in the site sample. It is apparent that Feature 18 was the receptacle for the accidents of food preparation/consumption. It is also probable that the Connestee occupants of Pumpkin utilized the site on a multi seasonal/year-round basis. Considering the number of postholes observed and the presence of a spring-maturing grass (maygrass) in pits and postholes along with several summer-to-fall-maturing seeds and nuts, it is apparent that food plant resources were being stored.

The quantity of seeds recovered from the Pumpkin site is six times greater than the combined total of seeds from flotation samples representing all time periods/geographic locations in South Carolina as summarized by Wagner (1995). While that is impressive, the greater significance of the assemblage is the proportional dominance of the seed assemblage by *Chenopodium berlandieri* and *Phalaris caroliniana*, two of the starchy grains known to have been extensively cultivated during the Middle Woodland period in the Southeast west of the Blue Ridge. It is also noteworthy that 70.4% of all seeds recovered, and 88% of all *Chenopodium* came from the same two contexts (Features 10
and 18, locus A) that yielded 99% of all acorn remains from the site. When these proportional numbers are considered with the density and comparison ratios in Tables 4 and 5, it is very tempting to infer that Features 10 and 18 had special functions at the site.

The domesticated *Chenopodium* recovered from 38GR226 is the first reported for South Carolina and is also the first reported for the Piedmont and Coastal Plain of the Southeast. The number of confirmed examples of *Chenopodium berlandieri* ssp. jonesianum from the Pumpkin site is quite low and there are thick-testa (non-domesticated) forms in the sample. The number of specimens examined with electron microscopy should, and will, be increased. The important point is that, in the upper Piedmont, the relationship between people and *Chenopodium berlandieri* had, by the fifth century A.D., become obligatory enough to produce genetic changes in the *Chenopodium* that we can see in the morphology of its fruits.

It should come as no surprise to anyone with more than passing exposure to the Paleo ethnobotanical record of eastern North America that the record presents a general taxonomic redundancy, but also (and this is most important) expresses regional diversity within cultural/temporal contexts. People used specific, local resource inventories that varied along distribution gradients and in accordance with perceived requirements. It should not, therefore, be surprising to find that the first substantial, well-controlled ethnobotanical database from a Middle Woodland site on the Piedmont/Blue Ridge juncture differs substantially from extant Coastal Plain Middle Woodland records. As more data are obtained from the Piedmont (and, hopefully, from the Blue Ridge), we may discover that, north of the Fall Line, South Carolina has more in common with the interior Southeast than has been discernible to this point.
Table 4: Density Ratios Per Liter of Fill and Ubiquity
Pumpkin Site, 36GR226

<table>
<thead>
<tr>
<th>Features</th>
<th>Materials</th>
<th>Raw Data</th>
<th>Density (Per Liter)</th>
<th>Ubiquity</th>
</tr>
</thead>
<tbody>
<tr>
<td>(241.65L)</td>
<td></td>
<td>no.</td>
<td>wt.</td>
<td>no.</td>
</tr>
<tr>
<td></td>
<td>Hickory shell</td>
<td>111</td>
<td>2.16</td>
<td>.46</td>
</tr>
<tr>
<td></td>
<td>Acorn shell</td>
<td>5,934</td>
<td>59.50</td>
<td>24.60</td>
</tr>
<tr>
<td></td>
<td>Acorn meat</td>
<td>10</td>
<td>0.95</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Hazelnut shell</td>
<td>1</td>
<td>0.02</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Seeds</td>
<td>1,706</td>
<td>2.05</td>
<td>7.06</td>
</tr>
<tr>
<td></td>
<td>Cucurbita</td>
<td>13</td>
<td>0.02</td>
<td>.054</td>
</tr>
<tr>
<td></td>
<td>Wood charcoal</td>
<td>25,398</td>
<td>424.51</td>
<td>105.102</td>
</tr>
</tbody>
</table>

| Post Holes     |                  |          |                     |          |
| (12.25L)       |                  |          |                     |          |
|                | Hickory shell    | 21       | .46                 | 1.71     | .37      | 50.0     |
|                | Acorn            | 8        | 0.04                | .65      | .003     | 50.0     |
|                | Seeds            | 10       | 0.01                | .82      | .001     | 50.0     |
|                | Wood charcoal    | 168      | .96                 | 13.71    | .078     | 100.0    |
## Table 5: Comparison Ratios
*(Seed Count: Wood Charcoal Weight)*
**Pumpkin Site, 36GR226**

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Seed: Wood Charcoal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fea. 9</strong></td>
<td></td>
</tr>
<tr>
<td><em>Chenopodium</em></td>
<td>21.1</td>
</tr>
<tr>
<td><em>Phalaris caroliniana</em></td>
<td>5.4</td>
</tr>
<tr>
<td><em>Rhus</em> spp.</td>
<td>.7</td>
</tr>
<tr>
<td><em>Gleditsia triacanthos</em></td>
<td>1.4</td>
</tr>
<tr>
<td><em>Vitis</em> spp.</td>
<td>-</td>
</tr>
<tr>
<td><strong>Fea. 10</strong></td>
<td></td>
</tr>
<tr>
<td><em>Chenopodium</em></td>
<td>69.2</td>
</tr>
<tr>
<td><em>Phalaris caroliniana</em></td>
<td>2.5</td>
</tr>
<tr>
<td><em>Rhus</em> spp.</td>
<td>.7</td>
</tr>
<tr>
<td><strong>Fea. 17</strong></td>
<td></td>
</tr>
<tr>
<td><em>Vitis</em> spp.</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>Fea. 18</strong></td>
<td></td>
</tr>
<tr>
<td><em>Chenopodium</em></td>
<td>45.3</td>
</tr>
<tr>
<td><em>Phalaris caroliniana</em></td>
<td>1.3</td>
</tr>
<tr>
<td><em>Rhus</em> spp.</td>
<td>1.1</td>
</tr>
<tr>
<td><em>Gleditsia triacanthos</em></td>
<td>.05</td>
</tr>
<tr>
<td><em>Vitis</em> spp.</td>
<td>.05</td>
</tr>
<tr>
<td><strong>Fea. 19</strong></td>
<td></td>
</tr>
<tr>
<td><em>Chenopodium</em></td>
<td>.03</td>
</tr>
<tr>
<td><em>Phalaris caroliniana</em></td>
<td>.04</td>
</tr>
<tr>
<td><strong>Fea. 154/A</strong></td>
<td></td>
</tr>
<tr>
<td><em>Chenopodium</em></td>
<td>3.8</td>
</tr>
<tr>
<td><em>Phalaris caroliniana</em></td>
<td>4.1</td>
</tr>
<tr>
<td><em>Rhus</em> spp.</td>
<td>.1</td>
</tr>
<tr>
<td><strong>PH 103</strong></td>
<td></td>
</tr>
<tr>
<td><em>Chenopodium</em></td>
<td>15.6</td>
</tr>
<tr>
<td><em>Phalaris caroliniana</em></td>
<td>15.6</td>
</tr>
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</table>
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Wagner, Gail E.

Yarnell, Richard A. and M. Jean Black
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APPENDIX B

ANALYSIS OF CARBONIZED MATERIAL RECOVERED FROM STEATITE PIPE BOWL EXCAVATED IN FEATURE 1.

Dale C. Wingeleth, Ph.D.
ChemaTox Laboratory, Inc.

As discussed earlier in this report, a carbon sample was taken from the interior of a steatite pipe bowl excavated in Feature 1 and sent to Beta Analytic for radiocarbon dating. A second sample was later sent to Dr. Dale C. Wingeleth, ChemaTox Laboratory, Inc., in hopes that he could identify the substance(s) that were used for smoking. A small area of the pipe bowl exterior was scraped to obtain a sample of any organic materials that may have adhered to the pipe exterior for comparison with the carbon removed from the pipe bowl. Dr. Wingeleth reported that the two samples were similar and presently unidentifiable. He then requested soil samples from the vicinity where the pipe was excavated, hoping that these might present helpful data. To obtain the samples the plow zone was removed to expose feature 1 and several other nearby features. Three soil samples, consisting of only a few grams each, were then collected from the bottom of the plow zone where it interfaced with the exposed features. Dr. Wingeleth’s report follows:

Steatite Pipe
I. D. 38GR226
ChemaTox D4312
Analyzed 02/25/02

Container # 1, pipe bowl interior, and container #3, pipe bowl exterior, from December 13, 2000 shipment were analyzed by gas chromatography/mass spectrometry (GC/MS). No significant difference is noted in the chromatograms and mass spectra obtained on these two samples.

Soil samples FEA-1,3,4 from the February 1, 2001 shipment were analyzed under the same conditions and all three gave similar data. When the background from the soil samples is subtracted from the spectra obtained on containers #1 and #3, there remains C25 to C31 hydrocarbons and an unidentified compound of molecular weight 369 that are unique to the pipe contents.

Both May-grass (Nelson 3332) and tobacco when burned produce C25 to C31 hydrocarbons in the residue and therefore, these compounds are not unique to the substance smoked. Also, both May-grass and tobacco produce unique and different compounds when burned. None of these were detected in the pipe residue and none match the MW 369 compound
Identifying the MW 369 compound may help identify the material smoked.

The May-grass referred to by Dr. Wingeleth are samples sent to him by Dr. John B. Nelson, Department of Biological Sciences, University of South Carolina. Dr. Nelson supplied samples of certain plants to Dr. Wingeleth to assist with identification of the pipe residue.

Ultimately, Dr. Wingeleth was able to identify the MW 369 compound but his findings were not what we had hoped for. His report of finding are as follows:

<table>
<thead>
<tr>
<th>Steatite Pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. D. 38GR226</td>
</tr>
<tr>
<td>ChemaTox D4312</td>
</tr>
<tr>
<td>Analyzed 02/25/01</td>
</tr>
</tbody>
</table>

Unidentified compound from pipe residue identified as:

2, 2′-Methylenebis[6-(1, 1-dimethyl)-4-ethylphenol
CAS# 88-24-4

This compound is an antioxidant commonly used in plastics. The other hydrocarbons detected are common to charred plant material and not unique enough to provide information on substances smoked.

In a personal communication, Dr. Wingeleth noted that leaching may have removed all identifiable plant cellular material from the pipe bowl, and that the compound MW 369, may be a result of contamination caused by use of chemicals in agriculture.