ARCHAEOLOGICAL INVESTIGATIONS AT KELLYTOWN (40WM10): A FORTIFIED LATE MISSISSIPPIAN VILLAGE IN MIDDLE TENNESSEE'S HARPETH RIVER DRAINAGE, DAVIDSON AND WILLIAMSON COUNTIES, TENNESSEE

by

Gary Barker
and
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with contributions by

Andrea Shea Bishop

TENNESSEE DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION

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UNDER:

TDOT Project No. 19045122704

by

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ENVIRONMENTAL DIVISION
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2013

Dedicated to the Fond Memory of:

Mrs. Elizabeth Douglass Levine Kelly

(February 9, 1915- March 18, 1999)

Wife of

Thomas Alexander Kelly

(November 6, 1912-February 13, 1995)

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Many individuals contributed to the successful completion of the study. Mr. George "Nick" Fielder (Director, Tennessee Division of Archaeology [TDOA]) provided personnel, mapping equipment and use of the TDOA photographic facilities, as well as, legal and administrative expertise. His assistance is greatly appreciated. Mr. Jerry Hatcher (TDOT Bureau of Operations, Construction Division) coordinated all activities between TDOT and project construction contractors. The importance of such coordination cannot be understated. Mr. Toye E. Heape (Director, Tennessee Commission of Indian Affairs [TCIA]) represented Native American interests relating to the archaeological treatment of human burials during the project. His sincere concern for the preservation of aboriginal culture, and religious practice is admirable. The authors would like to thank LoJac Incorporated, particularly Mr. Kirby West (Grading General Superintendent), who cooperated with the State of Tennessee to insure legal compliance and also provided heavy equipment, trucks and other machinery necessary to complete the study.

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INTRODUCTION AND PROJECT OVERVIEW

In 1997 the Tennessee Department of Transportation (TDOT) proposed to add turn-lanes to alleviate traffic congestion at the intersection of Hillsboro Road (SR106/US431) and Old Hickory Boulevard (SR254) in the Forest Hills area of suburban south Nashville, Davidson County, Tennessee (Figure 1). Pursuant to regulations set forth in T.C.A. 4-11-111 (Acts 1988, Chapter 699-1) and T.C.A. Title 11 (Chapter 6) TDOT archaeologists conducted an archaeological assessment of the Area of Potential Effect (APE) of the project prior to construction. The assessment included a records check at the Tennessee Division of Archaeology (TDOA), Nashville and field investigations.

The TDOA records check revealed one prehistoric archaeological site, 40WM10, in the southeast quadrant of the project intersection. It was recorded in 1972 by Mr. John T. Dowd and was indicated to have a Mississippian Period archaeological component. According to the survey form, Mr. Dowd learned about the site from a Mr. Robert Ferguson who reportedly found a "few sherds and flint pieces" in a garden there. Prehistoric human graves were also purportedly present. No boundaries were given on the survey form. The site was merely indicated by an "X" on a hand-sketched contour map (Figure 2).

Based on the 40WM10 site record and the floodplain and terrace topographic setting, shovel tests were excavated to determine if intact archaeological deposits extended into the APE in the southeast quadrant of the intersection. The other three intersection quadrants were not shovel tested because they were either archaeologically assessed with negative findings by a previous TDOT road construction project (Anderson et al. 1996) and/or were disturbed by commercial or residential development.

Twenty shovel tests were excavated across floodplain and terrace in the southeastern intersection quadrant. Shovel tests across the floodplain proved negative but prehistoric cultural material was identified in nearly all of the tests across the terrace. The mean artifact count per positive test was 10.6 (n=149) with a maximum count of 45. Recovered prehistoric cultural material included Mississippian Period pottery, particles of daub, burned clay, flecks of charred wood and chipped chert debitage from tool production. Wall profiles of positive shovel tests indicated two artifact bearing strata; a roughly 20 centimeter thick plowzone and an underlying 15 centimeter thick undisturbed soil above sterile subsoil. As a result of these findings Phase II archaeological testing was recommended (Barker 1998).

Phase II testing involved mechanical and hand excavations. A minimum of three Mississippian Period structures, one with an intact floor, a stone box grave, several pit features and evidence of Archaic and Woodland Period use of the area were identified. In consultation with the Tennessee State Historic Preservation Office (TNSHPO) and the Tennessee Division of Archaeology (TDOA), it was determined that archaeological deposits in the APE were significant and that they warranted data recovery prior to project construction.

Between February and July of 1999 data recovery fieldwork was carried out in project right-of-way (ROW) and construction easement across the site by TDOT Archaeology Section personnel,

Figure 1. South-central Davidson County highway map indicating the project intersection.

aided by part time volunteers from the TDOA and the Middle Cumberland Archaeological Society. The study involved grade-all stripping and arbitrary excavations, hand excavation of non-mortuary features, and mapping and documentation. Seven additional Mississippian structures, two palisades with bastions, pit features and five additional child burials were identified.

Because of legal opposition raised in 1999 to TDOT's court petition to relocate the human remains, the Tennessee State Archaeologist and individuals representing Native American interests requested the graves be covered with dirt and heavy rubber blasting mats for their protection until legal issues were resolved. Resolving the legal issues halted all archaeological fieldwork until the spring of 2002.

In April of 2002, the TDOT Archaeology Section exposed the top of each human burial to determine if vertical design changes could be made that would allow them to remain *in situ*. Also at that time a backhoe was used to uncover one of two palisade sections identified in 1999, and several other documented structures.

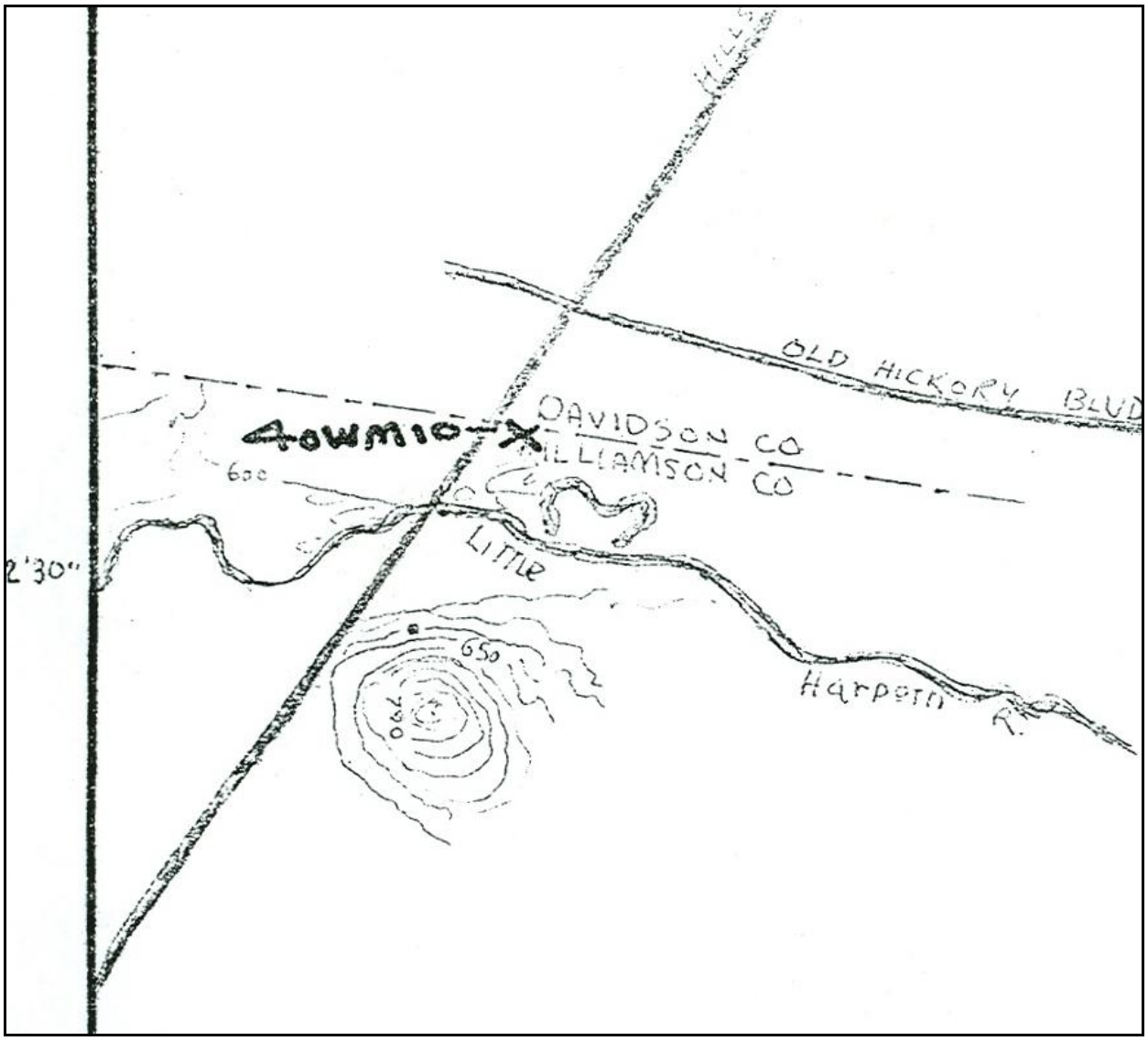


Figure 2. Sketch map (Dowd 1972) indicating the location of Kellytown (40WM10).

TDOT archaeologists performed additional data recovery in July of 2002 when the project construction contractor had to remove several two-meter wide narrow strips of earth parallel to, and abutting, Hillsboro Road. These strips were not excavated in 1999 because of their proximity to the human burials and the risks of working adjacent to a still in-use highway. Although safety issues required the areas be refilled to grade almost immediately after they were stripped, two additional structures and another burial were identified.

In July of 2002, after lengthy court proceedings, the human remains were left in situ and given protective covers. Wooden forms 16 feet square and reinforced with rebar were framed over each of them (Figure 3). These were then partially filled with crushed limestone and topped to a depth of eight inches with concrete (Figure 4).

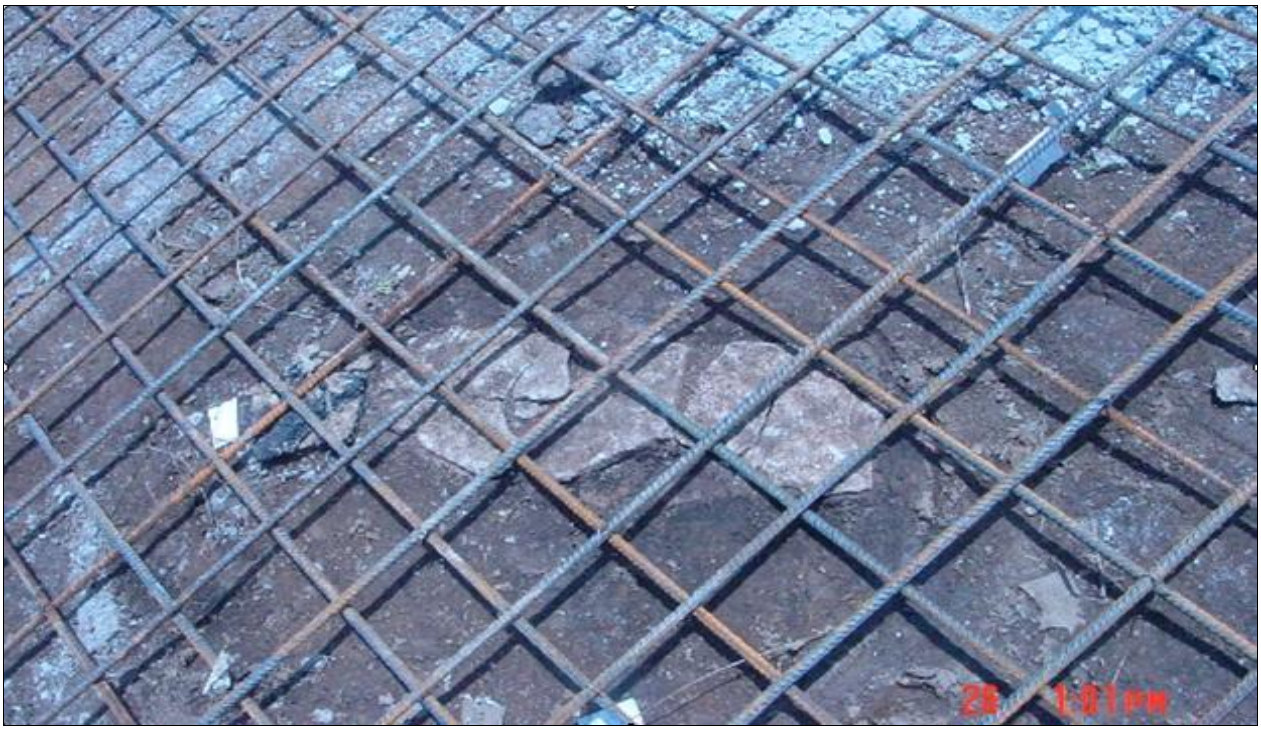


Figure 3. Rebar reinforcement in wooden form placed over a child stone box grave at Kellytown.


Figure 4. Concrete being poured into a rebar reinforced form covering a burial at Kellytown.

All told, the TDOT archaeological fieldwork at 40WM10 uncovered the architectural remains of a minimum of 12 structures, sections of two palisade lines with bastions, seven human graves and domestic cultural deposits associated with a Mississippian Period village now locally known as "Kellytown." The locations of the palisades also provide a way to estimate the possible size of Kellytown. As is evident on an aerial image and topographic map (Figures 5 and 6, respectively) modern encroachment has destroyed much of the village. More importantly, it's also clear that a large part of the village remains. Based on the TDOT investigations, Kellytown is still capable of yielding important information about Mississippian adaptations in the Central Basin.

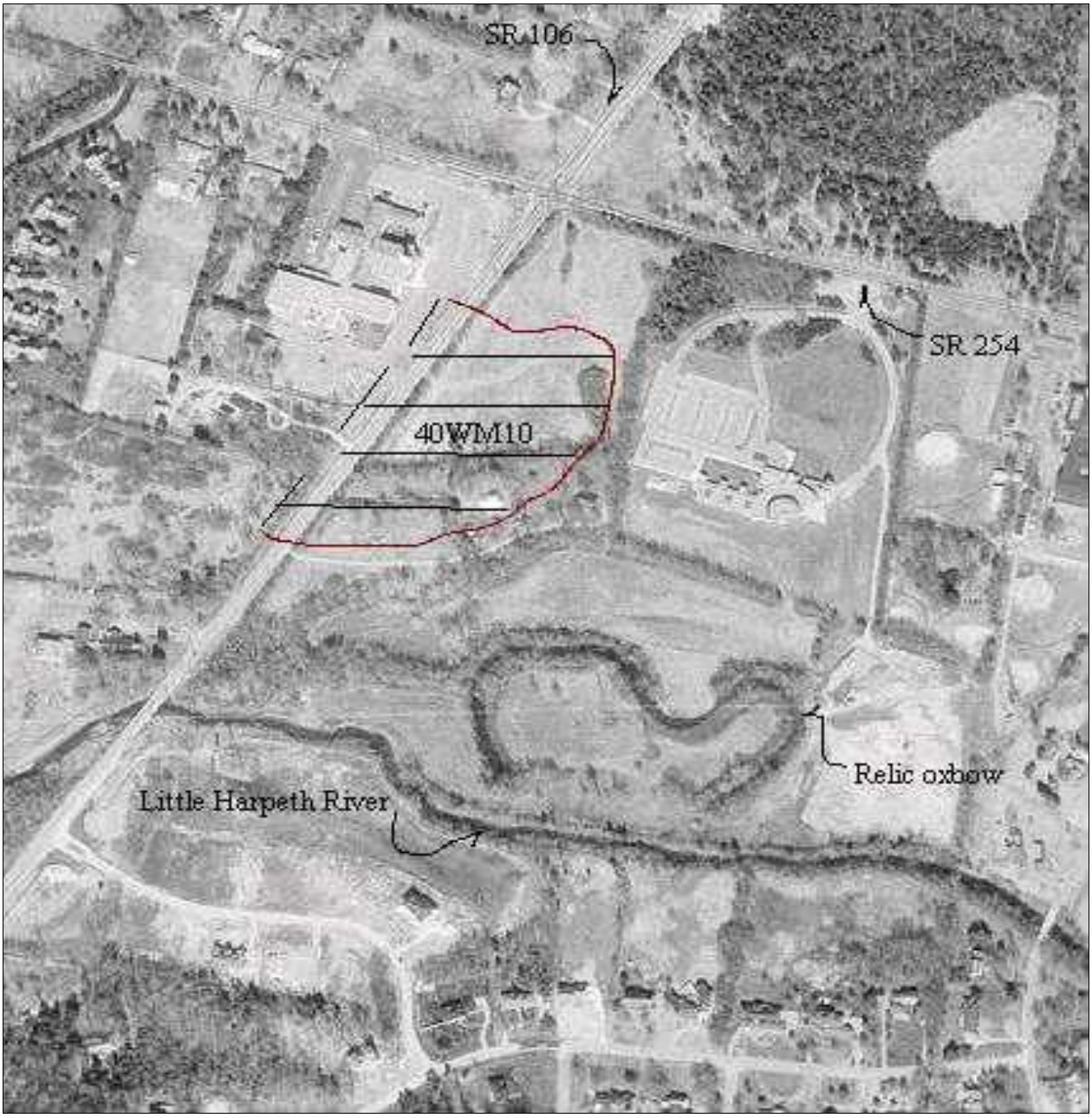


Figure 5. Aerial image showing the extent of Kellytown and modern encroachments.

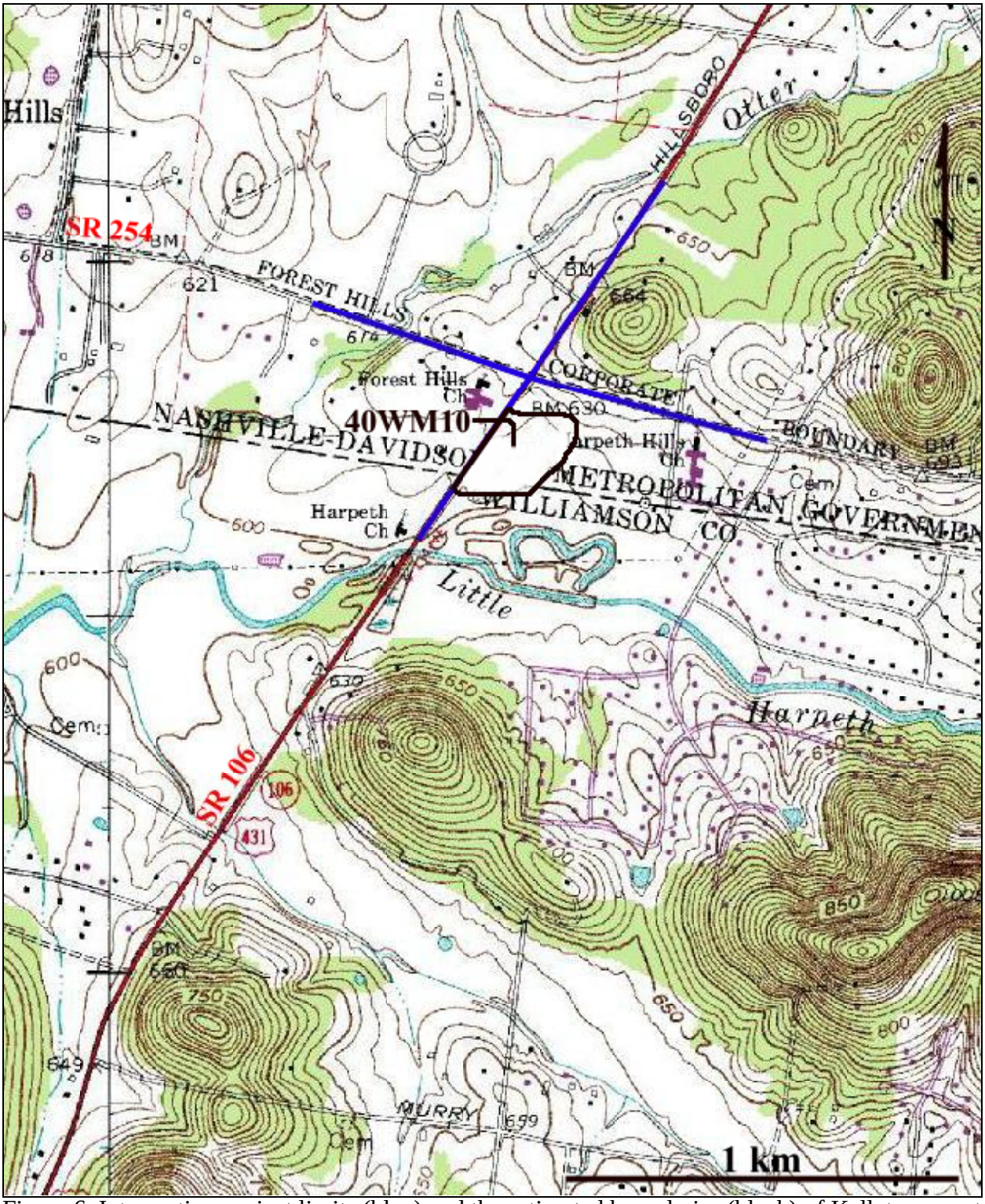


Figure 6. Intersection project limits (blue) and the estimated boundaries (black) of Kellytown east of Hillsboro Road (SR 106) and south of Old Hickory Boulevard (SR 254) shown on USGS 7.5 minute series topographic quadrangle 308 SE (*Oak Hill, TN*).

ENVIRONMENTAL SETTING

Kellytown Regional Physiography

Tennessee can be subdivided into nine geomorphic provinces based on topography, lithology and structural geology (Miller 1974:11). From east to west these provinces are the Unaka Uplands, Valley and Ridge, Sequatchie Valley, Cumberland Plateau, Highland Rim, Central Basin, Western Valley, Coastal Plain, and Mississippi Valley. Kellytown lies near the division between the Highland Rim and Central Basin. Consequently, these geomorphic provinces are discussed below.

Highland Rim:

The Highland Rim encircles the Central Basin and is bordered on the west by the Western Valley of the Tennessee River and on the east by the Cumberland Plateau. The Highland Rim is commonly subdivided into eastern and western sections. The Eastern Highland Rim includes a roughly 25 mile wide area of land that extends in a southwest to northeast direction from northeast Alabama into southern Kentucky. It is set apart from the Central Basin by a west facing dissected escarpment that averages 980' AMSL (Miller 1974:5). Steep walled valleys separate the Eastern Highland Rim from the Cumberland Plateau. These valleys have resulted primarily from solution and erosion of soft limestone bedrock (Fenneman 1938:14). The major drainage of the north half of the Eastern Highland Rim is the Caney Fork River, which feeds the westward flowing Cumberland River. The Elk and Duck Rivers drain the south half of the region. The topography of the Eastern Highland Rim is characteristically undulated to level. Some nearly flat land occurs in its south-central portion where swamps are numerous. Because the Eastern Highland Rim is underlain entirely by chert bearing Mississippian age limestone it exhibits mature karst topography, as evidenced by the presence of numerous caves, sinkholes, and active springs (Barr 1961, Matthews 1971).

The Western Highland Rim is bordered on the east by the Central Basin and on the west by the Western Valley of the Tennessee River. It extends north to the Dripping Springs Escarpment of Kentucky and south into northern Alabama, the southern periphery of the Interior Low Plateau (Figure 7). Elevations in the region range between 660' and 980' AMSL. The Western Highland Rim is drained entirely by the Cumberland and Tennessee rivers both of which are tributaries of the Ohio River. The major drainages of the Cumberland are the Caney Fork, Stones, Harpeth and Red rivers while the Duck and Elk are the larger regional tributaries of the Tennessee River.

The Western Highland Rim can be characterized as a rolling to hilly upland that is dissected by sharply incised valleys with numerous streams (Fenneman 1938:416). Bedrock of the Western Highland Rim is primarily chert bearing Mississippian age limestone. As with the Eastern Highland Rim the topography exhibits karst features. During one brief study of the Red River drainage alone Heltsley (1965) reported 24 caves of significant size.

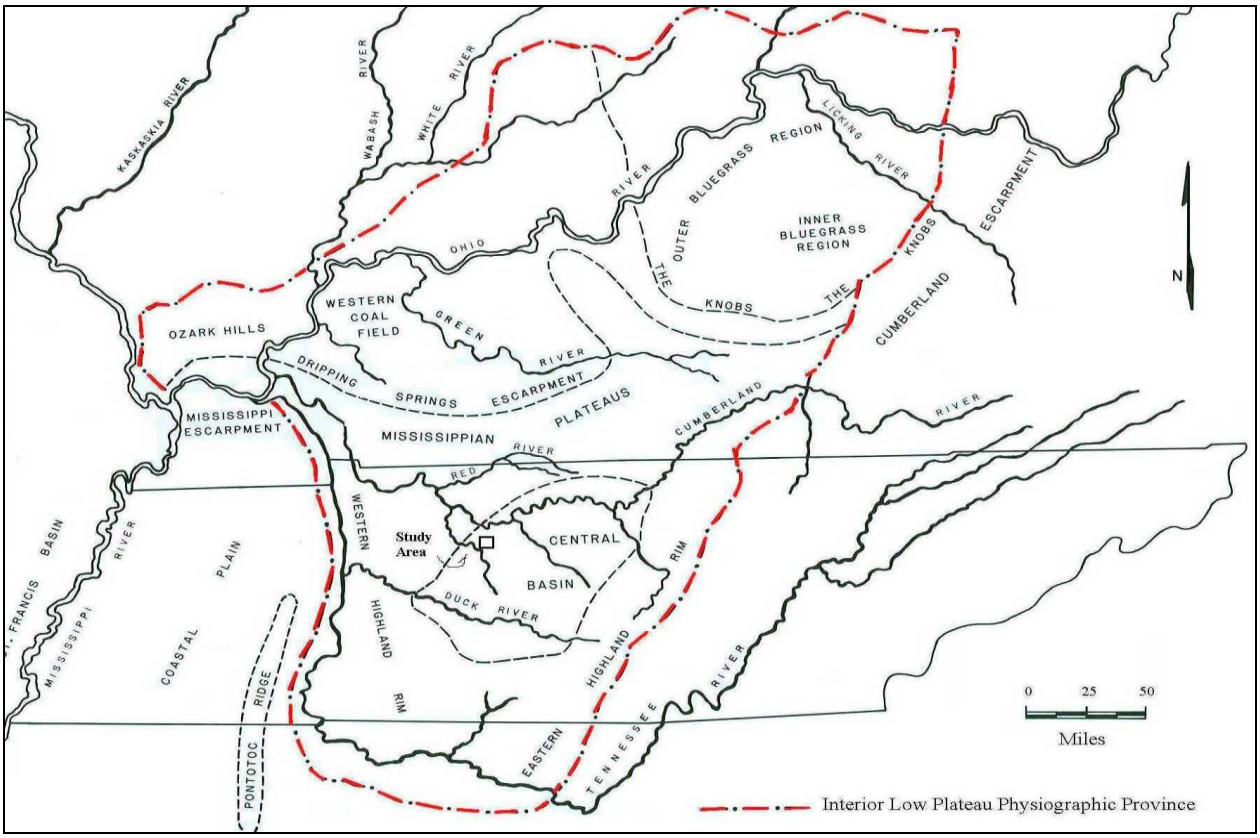


Figure 7. The location of Kellytown in the Interior Low Plateaus Physiographic Province.

Central Basin:

The Central Basin is an elliptically shaped depression surrounded by the Highland Rim that extends for approximately 125 miles N-S and 60 miles E-W. It formed during late Paleozoic times when the underlying sedimentary rock was pushed upward by forces deep in the earth creating a structure now called the Nashville Dome (Wilson 1935:464-467). The uppermost Silurian and Devonian deposits cracked and fissured when uplifted, exposing underlying soluble limestone deposits. As the lower limestone dissolved, the Nashville dome collapsed, forming a basin that today averages some 490' below the surrounding Highland Rim (Fenneman 1938, Luther 1977).

The northern half of the Central Basin is drained to the northwest by the Cumberland River. Two of its major tributaries are the Harpeth and Stones rivers. Its southern half is drained by the northwest and southwest flowing Duck and Elk rivers, respectively. Typically, these and other streams in the region are low-gradient, meandering and follow cracks in underlying bedrock (Miller 1974:5).

The Basin can be subdivided into inner and outer sections based on variation in topography. The average elevation of the Outer Basin, where Kellytown occurs, is about 750' AMSL while that of the Inner Basin averages 590' (Miller 1974:5). The Inner Basin topography is gently rolling to level with extensive flat areas that lack good surface drainage. In contrast, the Outer Basin is

more dissected with some hills reaching elevations in excess of 1300' AMSL. Bedrock of the Central Basin is primarily Ordovician age limestone, dolomite, and shale. Because the substrate is largely calcareous the Central Basin also exhibits karst topography and abundant chert deposits.

Kellytown Area Setting

Kellytown is situated on terrace and slope along the north side of Little Harpeth River, a major tributary of Harpeth River (Figure 8). Little Harpeth River is a generally westward flowing stream that has a narrow valley floor with terraces and floodplains developed in a matrix of Quaternary alluvial deposits and colluvium from surrounding uplands. Underlying the terraces and floodplains is Ordovician age shale, mudstone and argillaceous limestone. North of the site area are a number of hills and knobs. These are capped by chert bearing limestone deposits of the Ft. Payne Formation. South of the site area is a low floodplain along Little Harpeth River.

Kellytown Area Soils

On the terrace, which constitutes the primary area of Kellytown, Armour Silt Loam (ArB2) is the predominant soil class. This is a deep well-drained loam developed in phosphatic alluvium. It has a surface layer of acidic dark-brown friable silt that is underlain by yellow-brown to orange-brown clay loam hardpan. The hardpan is generally encountered above a meter in depth below surface (USDA 1981).

The floodplain south of the site area is comprised of soils that are classed as Lanton Silt Loam (La) (USDA 1981). This moderately to poorly drained alluvium is up to two meters thick and exhibits a granular structured, acidic, black, friable silt surface layer to around 30 centimeters below surface (cmbs). Underlying it is acidic black silty clay loam soil with some concretions that extends to a depth of about 0.75 meter.

Two soil classes are represented in the uplands of the immediate project area. These are Maury Silt Loam (MaB) 2-7 percent slopes, and Mimosa Silt Loam (MmC) 2-12 percent slopes. Both of these soils are formed in residuum from the same parent limestone. They occur in the north half of the southwest project intersection quadrant and across both north project intersection quadrants. Typically, the surface layer of Maury soil is a dark-brown silt loam that extends to about 18 centimeters below surface (cmbs) where acidic medium brown to reddish-brown friable silty clay loam is encountered. Mimosa soil exhibits relatively the same surface layer and overlies subsoil of medium to strongly acidic brown silty clay (USDA 1981).

Kellytown Area Flora and Fauna

The Little Harpeth River drainage is within the Western Mesophytic Forest Region (DeSalm 1976, Braun 1950). Prior to Euro-American colonization, mixed deciduous forests of cottonwood, maple, sycamore and willow covered the bottomlands of the study area. Wetland vegetation, possibly including extensive cane breaks, occupied low areas along the Little Harpeth River. Uplands in the site locale supported beech, chestnut, hickory, oak, and tulip tree while

Figure 8. Three-dimensional topographic map of the Kellytown locale (DeLorme 1999®).

elm, hackberry, and hickory were probably more abundant on slopes and flats. Local valley walls and ridges with shallow soils supported barren vegetation of grasses, small oaks, elms, red cedar, and shrubs (Quarterman 1950).

The Little Harpeth River drainage is within the Carolinian Biotic Province (Dice 1943) and was once home to an abundant and diverse population of animals. Some of the more important mammalian species during prehistoric times were the white-tailed deer, elk, black bear, grey wolf, mountain lion, bobcat, fox, raccoon, opossum, otter, mink, muskrat, beaver, rabbit and squirrel. Avifauna, including eagle, hawk, heron, owl, goose, mallard, loon, cormorant, grebe, turkey, quail, teal, and the now extinct passenger pigeon also thrived in the area. Reptiles and amphibians such as snake, turtle, frog and toad were also abundant, while alligator gar, drum, buffalo, catfish, bass, sunfish, sucker, chub, pickerel and varieties of mollusks and snails could be found in the Little Harpeth River.

MISSISSIPPIAN CULTURE IN THE STUDY REGION

The term Mississippian was coined by William Henry Holmes (1903) to describe a late prehistoric ceramic tradition evident across much of the Mississippi Valley. Since that time the term has been used to describe many of the late prehistoric agrarian societies in southeastern North America. Mississippian culture is characterized by the wide spread development of horticulture, which occurred in the southeast about A.D. 750. The primary crops grown were beans (*Phaseolus*), maize (*Zea mays*) and squash (*Cucurbita sp.*). The ability to cultivate and surplus these staples led to the development of numerous communities along the fertile valleys of the Mississippi River and its tributaries. Many of these social units apparently shared the same religious, ceremonial and technological practices. Over a period of several hundred years these populations expanded and large-scale spheres of trade and influence were formed. These spheres of power emerged into complex socio-political systems or chiefdoms with impressive public works, common hierarchical organization, religion and art. The spatial extent of these spheres of influence is reflected throughout most of the Southeast by a shared iconography that has become known as the "Southeastern Ceremonial Complex" (Waring and Holder 1945, Brown 1981). The motifs associated with the complex include engravings of ceremonial warriors and religious personages, hand-eye symbols, maces, bi-lobed arrows, circled crosses, rattlesnakes, water spiders, woodpeckers and birds of prey. These expressions have been documented across Middle Tennessee and at numerous mound centers in other parts of the Mississippi Valley, including the Cahokia site in Illinois, the Etowah site in Georgia, the Moundville site in Alabama and the Spiro site in Oklahoma.

Mississippian culture thrived in Middle Tennessee from approximately A.D. 950 to 1450 and is well represented along the Cumberland River and its Central Basin tributaries. The abundant mound complexes documented along these streams suggest many of the late prehistoric peoples of Middle Tennessee shared the same form of socio-political organization and religious beliefs as their counterparts in other areas of the Southeast. Some of the major Mississippian centers in Middle Tennessee include the Pack site (40CH1), the Mound Bottom site (40CH8), the East Nashville site (40DV4), the Sulfur Dell site (40DV5), the Gordontown site (40DV6), the Brick Church Mound site (40DV39), the Rutherford Kizer site (40SU15), the Fewkes site (40WM1), the Old Town site (40WM2) and the DeGraffenreid site (40WM4). All of these Mississippian centers exhibited one or more platform mounds with plazas. Archaeological data suggest high ranking individuals resided at these and other mound sites while the general population was dispersed among outlying villages and small farmsteads (hamlets) according to family lineage (Smith 1992).

The Mississippian culture represented in the Central Basin is commonly referred to as the "Middle Cumberland Culture" (Ferguson 1972) and can be distinguished from other areas of Mississippian influence by a predominant mortuary practice in which rectangular-shaped coffins were constructed of tabular limestone slabs. Current evidence demonstrates that the Cumberland River drainage, and in particular the Central Basin, was the center of this mortuary practice. Although similar stone graves have been documented in other parts of the Southeast and the Midwest, there is sufficient variation in their construction and use to be considered different phenomena from the stone box graves of the Middle Cumberland area (Smith (1992:230-246).

Stone box graves occur at mound centers, but also at many of the smaller village and hamlet sites in the region. Adult graves are found in formal cemeteries, both in low burial mounds and unassociated with mounds. They are also found scattered in residential areas. On the other hand, infants and children were usually buried inside their homes. A variety of artifacts such as axes, celts, discoidals, effigies, gorgets, swords, and a myriad of other ornamental items were interred with the deceased. These are thought to be items of personal property as well as items believed to reflect an individual's status or rank in society. The practice of including such items with the dead has heavily contributed to the destruction of many Middle Cumberland cemeteries by looters seeking artifacts for their personal collections or to sell on the black market.

Smith (1992) has produced the most comprehensive study of late prehistoric culture in the Middle Cumberland area. He tentatively formulated the Middle Cumberland Culture into two phases based upon differences in ceramic types (Smith 1992:63). Since then, additional data has allowed for further refinement of the local Mississippian chronology. Four phases are now tentatively postulated (Smith and Trubitt 1998:129-132).

Spencer Phase (ca. A.D. 950-1050)

This phase marks the beginning of Mississippian adaptation and social organization in the Cumberland Valley and presumably developed from Woodland antecedents. It was tentatively defined based upon investigations at the Spencer site (Moore et al. 1993) and at Mound Bottom (Kuttruff n.d, Obrien 1977). The Spencer site was characterized by the presence of circular structures more common in the Woodland Period, as well as square, single-post structures which are a Mississippian architectural type. The Spencer Phase spans the Woodland-Mississippian transition and is marked by a settlement shift thought to represent mobile Woodland groups becoming sedentary, starting to live in more permanent settlements and in larger groups – an early nucleated Mississippian settlement pattern. Smith and Trubitt (1998) suggest that the Spencer Phase coincides with the introduction of 8-10 row flint corn varieties from the northern and western Mississippi Valley. These hardy varieties of maize are thought to have been rapidly introduced into the region just after A.D. 800 (Buikstra et al. 1988). Their introduction is believed to have contributed to population expansion and settlement nucleation during the late Woodland Period and ultimately to the development of centralized chiefdom level socio-political organizations.

Ceramic vessel forms representative of the Spencer Phase include globular and sub-globular jars, hooded bottles, cylindrical-necked bottles and fabric-impressed pans. Handles are rare and generally consist of lugs and to a lesser extent loops. Bowls, plates, beakers and effigy forms are lacking. The ceramic paste is tempered with coarse shell and varying amounts of grit and clay and the predominant surface treatment is plain, undecorated. At Spencer, Bell Plain varieties smoothed over cord-marked types and fabric-impressed pans are represented but combined accounted for less than 10% of the sample (Moore et al. 1993).

Dowd Phase (ca. A.D. 1050-1250)

The Dowd Phase is named in honor of John T. Dowd, a dedicated vocational archaeologist that has identified a number of Mississippian archaeological sites in the Middle Cumberland area, including Kellytown, which he recorded in the TDOA site survey files. The Dowd Phase is marked by rapid population expansion and establishment of small autonomous and semi-autonomous polities along the Cumberland River and its major tributaries. A central settlement theme is postulated in which small villages, each with single platform mounds and plaza areas grew in size and socio-political and economic complexity. At their peaks these central mound centers are believed to have exerted great influence and authority over a widespread and growing population of dispersed farmsteads and hamlets occupied by single and extended family units. Also during the Dowd Phase, the practice of interring the dead in stone box coffins became the primary form of burial.

The end of the Dowd Phase is marked by the sociopolitical and economic collapse of the central mound centers. Apparently the regions populations expanded through the Dowd Phase to the point that the available resources were insufficient to maintain them. Competition over critical subsistence resources ultimately led to organized conflict over their control. These and other factors (e.g. drought) contributed to the downfall of centralized authority and with it a shift in settlement strategy as decentralized, nucleated and fortified villages sprang up across the Nashville region.

To date, few Dowd Phase ceramic samples have been obtained using modern archaeological methods. Salvage excavations conducted in 1992 by the TDOA at the Brandywine Point site provided the initial characterization of the ceramic assemblage for this phase (Moore and Smith 1993). Since then, additional Dowd Phase ceramic samples have been obtained from the French Lick site (Walling et al. 2000) and the multi-component Mississippian Period Brick Church Mound site (Barker and Kuttruff 2001), allowing for further refinement of the ceramic typological and morphological patterns indicative of the phase.

Several ceramic types, all of which are shell tempered, distinguish the Dowd Phase. The more common types are Mississippi Plain, Bell Plain and Kimmswick Fabric-Impressed. Typical of other regions of the southeast, the primary vessel forms are jars, bottles, bowls and pans. During the early years of the phase, jars were the predominant vessel form accompanied by cylindrical-necked bottles and bowls with outward slanting rims. Carafe-necked bottles generally occur later in the phase. Diagnostic of Dowd Phase ceramic assemblage are flattened-loop handles, riveted-loop handles and to a lesser extent semi-lunette and double rim lugs. Ceramic effigies are lacking in the phase (Smith 1992, Smith and Trubitt 1998:129).

Thruston Phase (ca. A.D. 1250-1450)

The Thruston Phase is named after Gates P. Thruston (1835-1912), a distinguished veteran of the Civil War who excavated numerous stone box cemeteries in the Middle Cumberland region during the late 19th century. During the Thruston Phase, regional Mississippian mound centers with far-reaching influence had declined. As conflict over critical resources increased locally,

hamlets and farmsteads were abandoned and the population aggregated into autonomous or semi-autonomous towns and villages fortified by extensive palisade lines with bastions (Moore and Smith 2001:222). Kellytown is a good example of such a village. Smith (personal communication 2001) suggests that mound construction ceased by the beginning of the Thruston Phase as those centers lost control over neighboring populations. During the Thruston Phase many of the platform mounds previously resided upon by political and/or religious elites, or used for ritual purposes, were converted to cemeteries.

Thruston Phase ceramic vessels continued to be made of pastes tempered with shell, however there are some stark differences in the types of handles and decorations. For example, loop-handles are rare while broad strap-handles or double rim lugs are common. There is an increase in effigy forms including rim-riders and hooded bottles. Bowls with appliqué notched-rim strips are diagnostic of the Phase. Decorative types include Matthews-Incised (Phillips 1970:127-128) and Nashville Negative-Painted (Phillips 1970:139-141) and there is a decrease in the use of fabric-impressed wares, as the majority of pans have plain surfaces. Some professionally investigated archaeological sites in the Middle Cumberland region with substantial Thruston Phase ceramic assemblages have added to the local literature in recent years. These include Old Town (Smith 1993), Averbuch (Reed 1984), Gordontown (Trubitt 1998), the Nashville Mounds (Walling et al. 2000), Rutherford-Kizer (Moore and Smith 2001), Kelly's Battery (Jones 2001) and the Brentwood Library site (Moore and Smith 2005).

Protohistoric Phase (ca. A.D. 1450-?)

After A.D. 1450 the Middle Cumberland region is believed to have been almost entirely, and mysteriously, abandoned by Native American populations. The reason for the abandonment remains a subject of considerable debate. Various theories include disease, population pressure and warfare. There is a general consensus, however, that this is a time of population dispersal when family and extended family groups lived in small farmsteads. It is also during this time that Natives displaced from the Ohio Valley migrated to the region (Moore and Smith 2001:222). For example, the Shawnee are known to have made settlements along the Cumberland River by the 17th century, but with the help of the Cherokee and Chickasaw they were expelled by the British around 1714. Native Americans remaining in the area in the 1800s were forcibly removed westward across the Mississippi River under the orders of President Andrew Jackson. This forced expulsion has become known as the "Trail of Tears".

Mississippian Period Archaeological Investigations in the Study Region

Euro-American interest in the prehistory of the Middle Cumberland Region began during settlement of the area in the late eighteenth century. Such interest developed, in part, due to the discovery of numerous earthen mounds believed then to have been constructed by an ancient race of European or Asian "mound builders" (Trigger 1989). Agricultural practice, which was tied to the economic prosperity of the early white settlers, also greatly attributed to the interest in local prehistory as artifacts were commonly discovered "behind the plow". The exposure of Native American human remains and artifacts continued throughout the nineteenth century as more and more land once occupied by Native Americans was settled, cleared and farmed.

One of the first scholars to recognize the prehistoric significance of the Middle Cumberland area was Dr. Rush Nutt of Virginia. In 1805, he visited several mound and/or cemetery sites along the West Harpeth River. Nutt's descriptions of the sites he investigated and his observations of the burial practices of the "stone box race" were published in 12 separate volumes (Nutt 1805). In 1823, John Haywood (1722-1826) a lawyer and judge, published a volume entitled *The Natural and Aboriginal History of Tennessee up to the First Settlements Therein by the White People in the Year 1768*. Although Haywood documented some useful information concerning the local geology and archaeology of the Central Basin, including the Harpeth River drainage, his writings were prone to exaggeration and were generally perceived by scholars of the day to be more story than fact.

The first to use scientific principles in the study of the prehistory of the Middle Cumberland Region was Joseph Jones (1837-1896). In his capacity as a medical doctor he served as Health Officer for Nashville during 1868-1869. While stationed in Nashville, Jones tested a number of Mississippian Period villages and burial areas on the Big Harpeth and West Harpeth rivers. His investigations yielded data on Mississippian Period burial practices and skeletal measurements. He also described the mounds, fortifications, earthworks, and relics he discovered (Jones 1876). Two significant local sites along the Harpeth documented by Jones are in Williamson County and not far from Kellytown. These include Old Town (Smith 1993:27-45) and the M. F. De Graffenreid mounds (Smith 1994:91-115).

Jones was at least partially responsible for stimulating further scientific inquiry into the prehistory of the Central Basin and its Harpeth River drainage, as he provided articles and photos describing his studies to Frederick Ward Putnam (1839-1915). Putnam, who became curator of the Peabody Museum in 1876 conducted additional excavations and toured important ceremonial centers in 1877. His findings, published in 1878 in a volume titled *Archaeological Explorations of Tennessee*, spurred Tennessean William Edward Myer (1862-1923) to conduct further investigations.

Myer moved to Carthage, Tennessee from Barren County, Kentucky when he was six years old. At the age of 20 he graduated from Vanderbilt University. It was at Vanderbilt that he developed his interest in the local archaeology. His first major excavations were at Castilian Springs in Sumner County. During his investigation of this large palisaded mound village, he excavated a number of stone box graves. One contained the famous "Myer gorget" an engraved shell that depicts a warrior or deity holding a mace in one hand and a decapitated head in the other. This icon suggests Middle Tennessee was within the sphere of influence of the "Southeastern Ceremonial Complex", as similar engravings are known from the Etowah site in Georgia and the Spiro Mounds site in Oklahoma.

During the first decade of the 20th century, Myer examined Mississippian mound centers throughout Middle Tennessee. Two that received more extensive excavation are within 15 kilometers of Kellytown. These are the Fewkes site (40WM1) and the Gordontown site. Fewkes is located up the Little Harpeth River from Kellytown, in the city of Brentwood. Myer reported that the "Fewkes Group" consisted of five mounds, four on the corners of a town square and one on the riverbank. Around the outskirts of the town square Myer also uncovered a number of

"house circles" and a "remnant of what was once a considerable stone slab cemetery" (Myer 1928:559). Based upon excavation of a number of graves at the site, Myer postulated that at least "two different peoples" had occupied the area. The first group was evidenced by flexed burials interred in circular or hexagonal stone slab graves and the later occupants were believed to have buried in the more common Middle Cumberland style, extended burials in rectangular stone slab boxes. Cursory examination of the ceramic sample recovered by Myer indicates an initial occupation of the site during the Dowd Phase as evidenced by the recovery of loop-handled vessels, fabric-impressed pans, semi-lunette lug-handles and the virtual lack of applique notched-rim bowls. However the discovery of a number of effigy vessels and strap-handle jars at the site suggest Fewkes continued to be inhabited during the later Thruston Phase. Recent excavations were conducted at the Fewkes site in conjunction with a TDOT road widening project that went through its center. The excavation area skirted the principal platform mound and a low burial mound. Dwellings, burials, and a short length of palisade were documented and large samples of ceramics, floral and faunal remains were recovered (Merrill Dicks: personal communication).

Gordontown, also located in Brentwood, Tennessee, consisted of a large village with two mounds and a plaza that covered 4.5 hectares (11.1 acres) and was surrounded by an earthen embankment with a palisade wall and bastions. Myer determined that the village originally contained about 125 buildings of which 87 were visible by "very faint earth circles with shallow saucer shaped interiors" (Myer 1928:495). Myer thoroughly explored two-thirds of the larger mound (A) and also excavated in the smaller one (Mound B). Based upon differences in construction Myer determined the two mounds served different purposes. He was unable to determine what those uses were however, because no structures or burials were encountered in either mound. Only seven of the 87 house circles were investigated. These were said to be primarily circular in design with central "fire bowls". Burials were encountered both inside and outside of the house circles. All of the graves Myer dug were rectangular stone boxes with extended burials suggesting to Myer that Gordontown was occupied during the later occupation of the Fewkes site. The later temporal affiliation of Gordontown was confirmed by testing conducted by the TDOA in 1985 and 1986. The results of the testing firmly placed the occupation of Gordontown during the Thruston Phase (Moore 1998a: 37).

At the time of this writing over 60 sites with Mississippian cultural components are recorded in the Harpeth River drainage. In Smith's site classification model (1992:326-350) these are differentiated into four groups based on function and complexity: platform mound village complexes, nucleated villages with low burial mounds but no platform mounds, hamlets and/or farmsteads with cemeteries, and isolated finds (Figure 9). As evident, the archaeological study of Mississippian sites in the Harpeth River drainage has been largely confined to examination of the more complex of these sites (mound village complexes), and stone box cemeteries. In recent times the excavation of Middle Cumberland sites has largely involved privately funded development projects. Unfortunately most of this work has focused on the removal of burials in accordance with State burial laws and only cursory examination, if any, of their archaeological contexts.

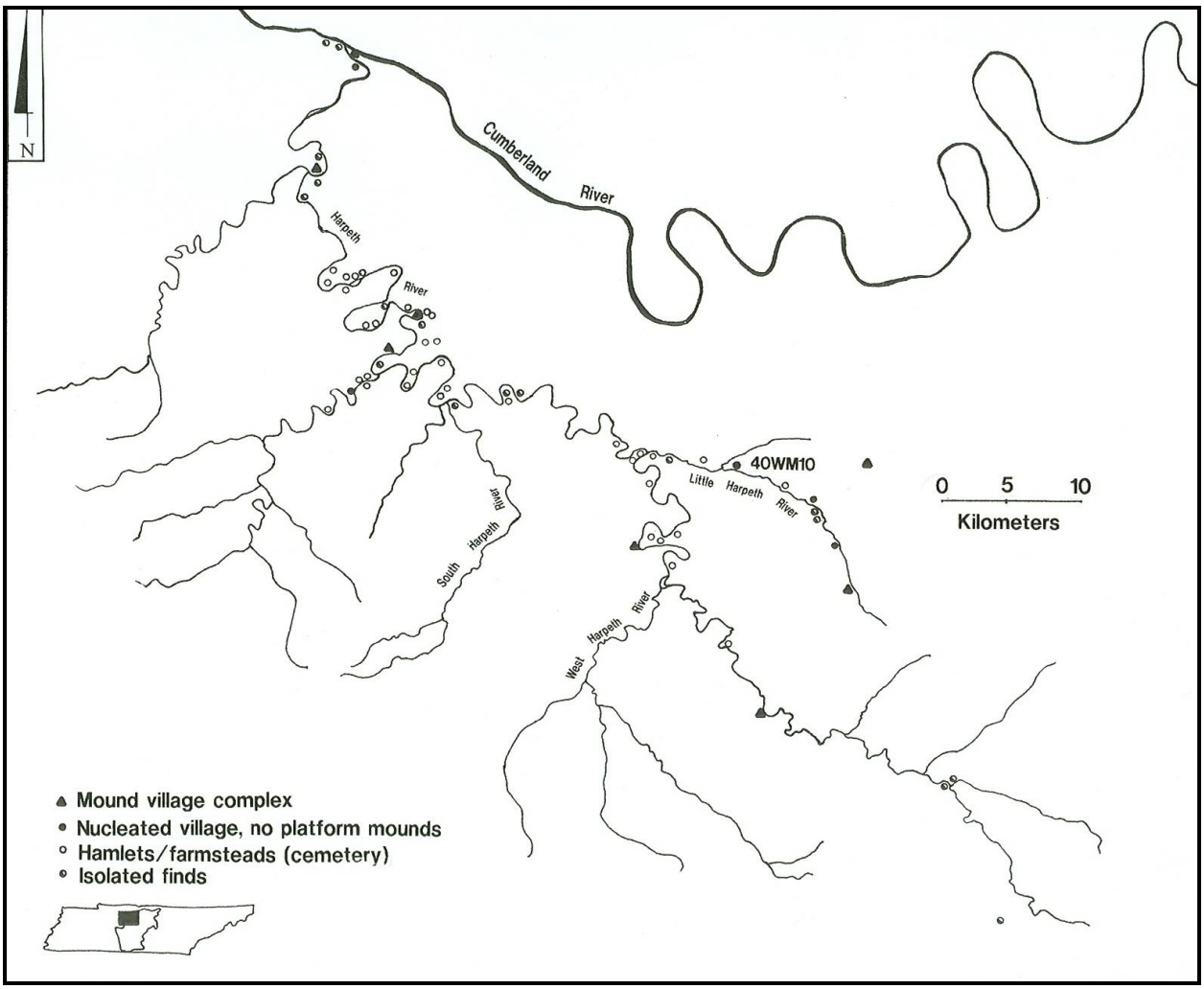


Figure 9. The Harpeth River drainage distribution of Mississippian Period archaeological sites by type.

PHASE II and III EXCAVATIONS AT KELLYTOWN

The Phase II Testing

After the Mississippian Period archaeological deposits within the APE were determined potentially significant Phase II testing was carried out to determine their importance. The APE along Hillsboro Road was approximately 500 meters long and a maximum of 11 meters wide, crossing from south to north, floodplain, terrace and gently rising slope. Surface conditions included grass, trees, thick undergrowth, and pasture or lawn (Figures 10 and 11). Once the APE was staked, the trees and undergrowth were cleared and a survey datum tied to referenced ROW stations was established. For safety reasons some trees directly adjacent to Hillsboro Road were left as a buffer between the area to be tested and in-use traffic lanes.

Mechanical trenching was determined the best method of defining the distribution of archaeological deposits and contexts in the APE. Using a backhoe with a roughly one meter wide smooth bucket, nine trenches (A-I) were placed parallel to Hillsboro Road across the floodplain, terrace and slope. The trenches varied between 10 and 25 meters in length and were the width of the back-hoe bucket. The longest (Trench A) was excavated across the floodplain. It revealed dark-brown silt loam to an average of a meter in depth where the soil became grey-brown, plastic and sticky. This trench was terminated at subsoil or when contact was made with underlying limestone bedrock. No cultural strata or features were identified in Trench "A". Consequently, no additional testing was carried out in the floodplain.

Trenches B, C and D were placed across the terrace. These revealed an upper soil stratum (Zone A) of dark-brown silt loam underlain by yellow to orange-brown clay loam subsoil (Zone B). The terrace trench profiles corresponded well with the ArB2 classification described by the USGS for the locality (1981). Trench B indicated Zone A had a maximum depth of 65 centimeters below surface (cmbs) at the south end of the terrace, nearest the floodplain. Trench D, located at the north end of the terrace, where the elevation increases, revealed Zone A decreased in depth as one moves away from the floodplain. The shallowest depth of Zone A (25 cmbs) was observed at the north end of Trench D. Zone A contained an artifact layer that extended from the surface to a depth of 30 to 35 cmbs. Mississippian Period pottery, particles of daub, burned clay, flecks of charred wood and chipped stone debitage occurred in this soil zone.

Removal of Zone A in the trenches across the terrace also revealed post molds and pit features at contact with the underlying subsoil. (Zone B). The vertical origin of the features was difficult to determine due to the dark nature of the upper soil zone. As a result, horizontal dimensions of encountered features were generally recorded at contact with subsoil. When features were identified, defined and documented, samples of fill of various volume dependent upon feature size were taken to the TDOT Archaeology laboratory for processing and analysis.

In addition to the prehistoric features identified in subsoil across the terrace in Trenches B-D an intact daub rubble layer was identified in Trench C. It originated at roughly 24 cmbs in soil Zone A, suggesting the presence of a burned Mississippian structure. To determine the spatial limits of the daub rubble layer, the plowzone (Level 1) was mechanically removed from above it in a six

Figure 10. View north of surface conditions across terrace and slope in the north half of the project area.

Figure 11. View north of surface conditions across floodplain in the south half of the project area.

by four meter horizontal block. The daub rubble was further uncovered by shovel skimming and troweling. The daub rubble continued eastward beyond the east wall of Trench C. When the daub rubble was mapped and photographed in plan view it was hand removed as a discrete level (Level 2) and then sifted through quarter-inch mesh. All chunks of daub larger than a quarter in diameter were bagged and transported to the TDOT archaeology laboratory for analysis. Found within and below the daub rubble were seven complete or partial shell-tempered ceramic vessels, a pottery trowel, an adze and a wealth of charred floral material. These items and others were piece plotted within and under the rubble. Under and in contact with the daub was a dark, compact, thin soil layer. These data were the remnants of a burned Mississippian house, designated as Structure 1. Removal of the daub layer (Level 2) in Trench C also revealed a puddled clay hearth completely filled with daub, burned wood, cane and ashy soil. The rim of the hearth extended above the compact dark layer/stain and was evident in the Trench C east wall profile. As hearths are generally situated at the centers of Mississippian houses in the Middle Cumberland region, its location suggested roughly half of the structure remained unexcavated (Figure 12). Given the level of investigation the unexcavated portion (east ½) of Structure 1 was left in situ until a data recovery plan could be devised.

Five of the nine remaining Phase II trenches (E, F, G, H and I) were excavated across the northern slope of the APE, between the terrace and Old Hickory Boulevard. The presence of scattered postmolds and pits demonstrated that the Mississippian deposits were not confined solely to the terrace.

The stratigraphy in the nine trenches revealed a plowzone averaging 20 centimeters in thickness across the entire area. While it was not evidenced by a clearly visible color or texture change in Zone A across the terrace, it was distinguished by the presence of small pieces of daub in the upper 20 centimeters above Structure 1, and by the presence of small ceramic sherdlets (<1 cm in diameter) and other displaced artifacts lying just below the surface in the other trenches across the terrace. Trenches across the slope (Trenches E-I) between the terrace and Old Hickory Boulevard to the north revealed the plowzone extended to contact with the subsoil (Zone B) which was encountered 15-20 cmbs (Figure 13).

The trenching also exposed sheet midden and other cultural features across the terrace. Three $1m^2$ units were randomly placed in the terrace area to determine the density and composition of artifacts in the midden. The units were excavated using arbitrary 10-centimeter levels and were terminated at subsoil (Figures 14 and 15). During excavation of Level 2 in Unit 1 a rectangular stone box grave was encountered. The capstones were missing, suggesting they were plowed away or the grave had been looted (Figure 16). The vertical walls of the grave within the unit were drawn mapped and photographed. Once complete, a small amount of fill was removed from within the box to determine if human remains were present. Immediately upon encountering bone, the excavated fill was placed back into the stone box and it was covered with plywood and soil to protect it. The proper authorities were then contacted as prescribed by State law. Based solely on its size the stone box was presumably constructed for the burial of a sub-adult individual.

Figure 12. View southeast showing Structure 1 hearth and house rubble in profile.

Figure 13. View north of Trench E showing the shallow depth of subsoil in the northhalf of the project ROW.

Figure 14. View south of 1 x 1 meter hand excavated contiguous Units 2 and 3.

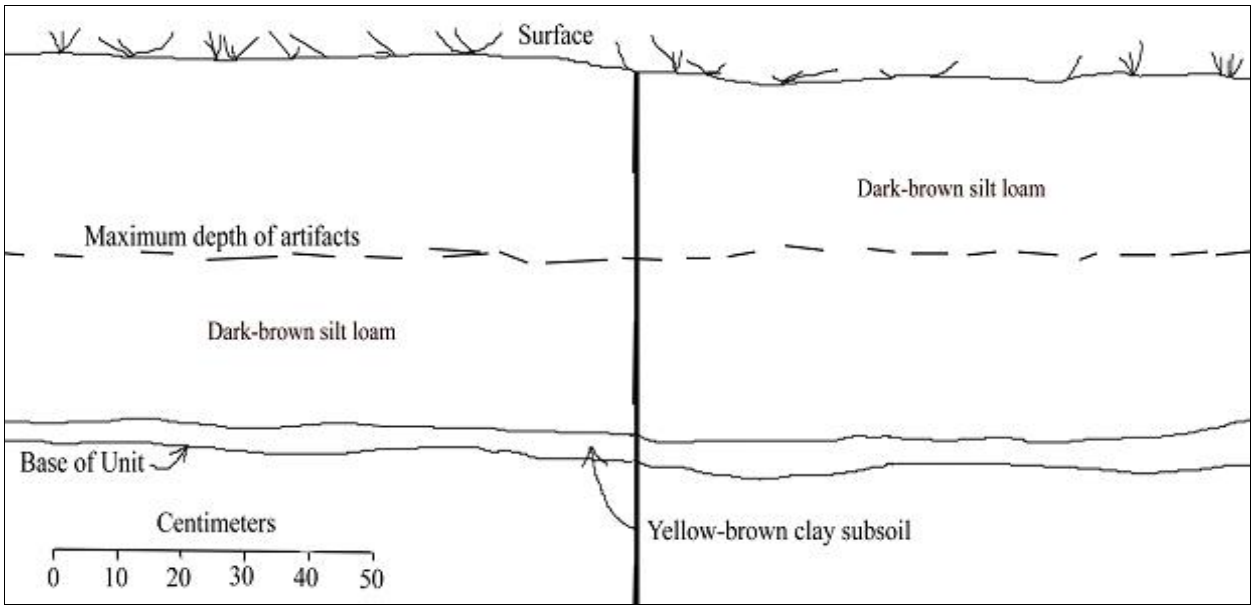


Figure 15. South wall profile of hand excavated Units 2 (left) and 3 (right) showing soil zones and maximum depth of cultural material across the site terrace.

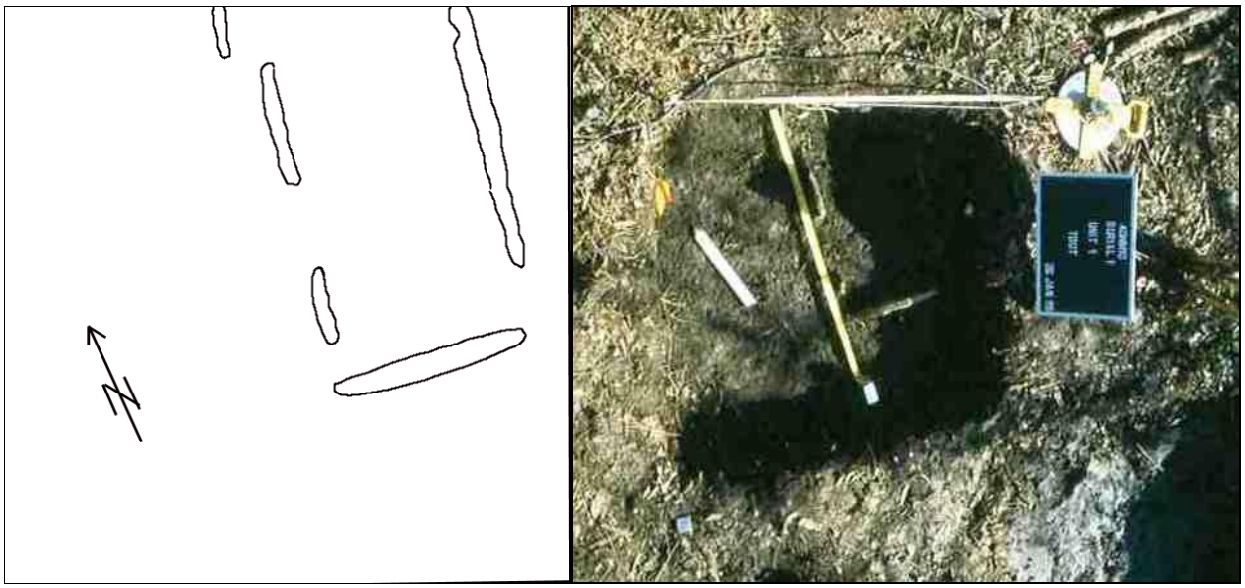


Figure 16. One meter square Unit 1 with Burial 1 in plan view and image. No capstones were present on the stone box of Burial 1.

Phase II testing revealed archaeological deposits associated with Kellytown primarily occur on the terrace. The trenches excavated across the higher elevation slopes also revealed Mississippian period activity but to a lesser extent. Most importantly, however, the testing demonstrated that the archaeological deposits at Kellytown still hold considerable potential to address a number of current research topics concerning late Mississippian cultural development in the Middle Cumberland area.

Data Recovery Research Questions

A list of current research topics concerning Mississippian studies in the Middle Cumberland region was compiled to provide context and direction for data recovery excavations at Kellytown. Sources reviewed included Study Unit 32 (Mississippian-Central Basin) by the TDOA (1987), recent reports dealing with similar sites in the Central Basin and Highland Rim (e.g. Klippel and Bass 1984, Moore and Breitburg 1998, Walling et al. 2000, Jones 2001, Moore and Smith 2001, McNutt Jr. et al. 2002) and the lengthy discussion of regional research topics provided by Smith (1992). Based on the Phase II testing information and literature review, it was hoped that the following specific research topics/questions could be at least partially addressed by data recovery excavations at Kellytown.

1) *Chronology*: How old is the Mississippian occupation(s) at Kellytown and how does it relate to the phases proposed by Smith and Trubitt (1998) for the Middle Cumberland region? How long was the site occupied and when and why was it abandoned? What do the ceramics from the site add to our knowledge of the culture chronology of the Middle Cumberland area? Do radio-chronometric assays from the site support current interpretations? How do the ceramics correspond or differ from those found at temporally similar sites in the Middle Cumberland region and other areas of the Southeast?

2) *Social Interaction and Trade*: Is there evidence the Kellytown inhabitants were part of a broader sphere of cultural influence, such as the Southeastern Ceremonial Complex? Did the inhabitants interact with regional and/or inter-regional groups as reflected by non-local trade items, similarities in settlement types and architecture, or other material evidence of pan-regional social interaction?

3) *Settlement Patterns*: Is there patterning in the use of space within structures? How many structures were present in the construction impact zone and how were they built? Were all of the structures used for residences? Did the structures indicate social stratification or hierarchy? How did the structures compare with those from regional sites with similar temporal and spatial parameters? What other Mississippian architectural patterns could be gleaned from the site deposits?

4) *Technology*: What types of late-prehistoric features were present at Kellytown and what could archaeological material from them reveal about local Mississippian tool technology and ceramic production.

5) *Mortuary Practice*: Was the stone box burial practice the only mode of burial represented at Kellytown? How many graves were there in the project APE? What was the spatial distribution of the burials and what might they tell us about demography, life expectancy and nutrition?

6) *Structure 1 Use*: What kinds of activities were evidenced within burned Structure 1. How and when did it burn? Were there other burned houses present within the proposed ROW, and if so, were they all destroyed at the same time? What do the archaeobotanical remains on the floor of the house indicate about the environment and subsistence strategies? Were the ceramic vessels found on the house floor used solely for domestic purposes or do they indicate social or religious activities? If so, how do these activities compare with those suggested for similar sites in the region?

The Data Recovery

The first step of the data recovery fieldwork involved additional sampling of midden across the terrace. Three 1m2 units (4-6) were randomly placed. These were hand excavated according to levels defined during the Phase II study. In all of the units, Level 1, the plowzone, averaged 20 cm thick. Level 2 comprised what had been interpreted during the Phase II study as intact sheet midden. This level averaged 10 centimeters in thickness and extended from the base of plowzone to roughly 30 cmbs. The density of cultural material decreased markedly at that depth though the interface with subsoil had not been reached. Because of the decrease in cultural material at 30 cmbs, the remainder of the sub-plowzone midden was excavated as a single level, Level 3. Level 3 terminated at contact with subsoil. All fill was screened through ¼ inch mesh at excavation, notes were taken concerning soil and cultural zones, and photographs and drawings were made of unit profiles.

After the stratigraphy was defined, a grade-all with a 1.22 meter wide smooth bucket was used to remove the overburden to expose cultural features. The plowzone and overburden were stripped

in roughly 10-centimeter thick swipes that were carefully monitored, shovel skimmed and troweled to identify artifacts and cultural features. Anomalies interpreted as potentially cultural were flagged and given alphabetical or numerical designations based upon their horizontal characteristics; size, shape and content. These were then mapped and tied to survey datum established during the Phase II investigations. As areas of the APE were mapped, emphasis was placed on delineating the individual features. An exception to the process above occurred in the area of Trench C where Structure 1 was identified during the Phase II study. This area was cordoned off for hand excavation.

Once exposed, all non-mortuary features were excavated using conventional archaeological methods. Feature plans were photographed and drawn. Pits and hearths were cross-sectioned and profiles were recorded. Fill samples were taken for laboratory processing from all excavated pits and hearths etc. Remaining fill was screened through ¼ inch mesh at excavation. Artifacts were bagged according to provenience and identified archaeobotanical remains were catalogued and bagged in plastic to prevent contamination.

While mapping, postmolds were given alphabetical designations and their dimensions in plan view were measured (Appendix I). Many of the postmolds were probed from subsoil to determine their depths. Post clusters clearly representing the remains of structures or other architecture were given feature numbers. Due to a lack of field personnel and a tight project construction schedule all identified posts were not excavated.

During data recovery the remainder of Structure 1 was hand excavated maintaining the same level designations used during the Phase II study. In order to provide vertical control, a 50cm wide balk was left across the floor of the structure. The west wall of the balk constituted the east wall of Trench C. Four $2m^2$ excavation units were hand excavated over the area perceived to be the eastern half of the structure. All artifacts and ecofact clusters on the floor were piece plotted. Once complete the balk was hand removed using the same designations as the units; i.e. Unit 7 south-balk etc. The structure floor was skimmed to expose the house post pattern and a sample of the posts was removed and profiled.

LABORATORY PROCESSING

Cultural material from 40WM10 was documented according to provenience on site and transported to the TDOT archaeology laboratory in Nashville at the end of each excavation day. Analysis commenced concurrently with the excavations. Feature and post fill samples were screened through ¼" wire mesh and processed by flotation. Artifacts were washed, and placed in clean bags labeled with relevant provenience information. The collection was then sorted into three groups; a) ceramics, daub and burned clay, b) floral and faunal remains, and c) lithics and stone. For curation purposes the three groups were assigned TDOA accession numbers (99-15⇒99-17, respectively). Standard forms were used to catalogue artifact provenience and other necessary information. Analysis was then carried out as described below for the classes of cultural material recovered.

Ceramics, Daub and Burned Clay

A total of 960 ceramics was recovered from features and arbitrary excavation of midden (trenches, unit excavations and general surface) at Kellytown. The sample was divided into two functional groups, containers and non-container items. The container category includes pottery sherds and vessels. Sherds from general midden were first size-graded through ½ inch wire screen. Those that passed through the screen were classed as sherdlets and not further analyzed. Sherds larger than ½ inch in diameter were examined for surface treatment and gently washed in water with a soft bristle toothbrush to remove soil from possibly adjoin-able breaks. After the sherds were individually provenienced on their inside surfaces with India ink they were checked for cross-mending. Old and new breaks were re-adjoined where possible using Duco Cement®. Sherds were then categorized according to paste characteristics and surface treatment. Once categorized, they were further identified as to location on a vessel (i.e., rim sherds, shoulder sherds, base sherds and appendages) and special surface treatment or decoration.

During the excavation of Structure 1, sixteen pottery sherd concentrations were assigned vessel numbers. Sherds in these pottery concentrations were mended where possible with Duco Cement®. Laboratory analysis determined 13 of them to comprise broken individual vessels (or portions thereof) that were associated with the structure floor. Rim and appendage types, decorations and form characteristics were noted for the reconstructed or partially reconstructed vessels (n=12) and then compared with those of similar ceramic assemblages reported in local and regional literature.

Three other ceramic items were found on the floor of Structure 1. The count includes a pottery trowel, an earplug and a duck head rim-rider. These were measured and compared with similar artifacts documented in regional literature.

Abundant daub/wall plaster covered the floor of Structure 1. A small amount of additional burned daub was associated with other structures and features. Samples larger than the diameter of a quarter were collected, weighed and tabulated according to provenience. Where possible cross-sections of the material were measured and additional analysis was conducted to determine the manufacture and use of the material.

Burned clay from the excavations was sorted through ½" inch wire screen. Pieces retained in the screen were weighed and tabulated according to provenience (Appendix II) then discarded.

Stone

Two thousand, two hundred and eighty (2,280) stone items exhibiting evidence of human modification were recovered. These artifacts were cleaned in water with a soft bristle tooth brush. Initial analysis involved determining what raw materials are represented in the sample. This was accomplished by comparing the artifacts with raw material descriptions in local archaeological literature, with stone cobble samples collected from gravel bars along Little Harpeth River and with raw material specimens from the study region housed at the TDOT Archaeology laboratory.

The stone artifacts were divided for analysis according to five provincial groups. These are *Structure 1* (n=707), *other structure areas* (n=365), *pit features* (n=87), *artifact clusters* (n=128) and *arbitrary samples of midden and plowzone* (n=993). All of the artifacts were then placed into three broad categories, *debitage, tools* and *fire-cracked rock/blocky debris*. Debitage was further divided into six categories according to standard lithic reduction sequence. Tools were assigned to specific implement classes based on morphology and use-wear attributes. Projectile points/knives (PP/K's) were identified with reference to traditional types as defined in the archaeological literature.

Archaeobotanical Remains

Excavations at 40WM10 recovered abundant charred botanical remains. The sample includes a variety of wood, cane and other plant material, corn, fruit, nutshell, and seeds. Seventy-seven percent (1,076 grams-dry weight) was hand excavated from the floor of Structure 1 (Appendix III). The additional material (319.9 grams) was obtained from the flotation and screening of other structure post and pit fill from the site (Appendix IV). Once processed, the material was transferred to Andrea Shea Bishop for analysis. Charred archaeobotanical material sufficient for conventional C-14 dating was extracted from nine samples. Those specimens were catalogued according to type and weight and submitted to Beta Analytic Inc., Miami, Florida for age determinations.

Archaeofaunal Remains

While a significant amount of charred botanical material was found at Kellytown, very little bone and shell was encountered. Twenty-nine animal bone samples were bagged separately from features and arbitrary midden provenience (Appendix V). Fifty-five percent (n=16) of the specimens were from the floor of Structure 1. All bone was weighed and tabulated according to provenience and then forwarded to the University of Tennessee, Knoxville where it was analyzed by Dr. Judith Sichler, The shell collection from the site consisted of half a bivalve from the floor level of Structure 6.

KELLYTOWN EXCAVATION RESULTS

Features

Between January of 1999 and July of 2002, forty-three (43) anomalies were assigned numeric feature designations and subsequently investigated at Kellytown (Appendix VI). Forty-two (42) were determined to be cultural (Figures 17 and 18). All but two of the cultural features (Features 15 and 26) are associated with the Mississippian Period occupation of the site. Based on morphology, evidence indicative of use and content, six types of features are represented: structures (n=12), fortifications (n=2), pits (n=18), isolated hearths (n=1), artifact clusters (n=2), and human graves (n=7).

Structures and fortifications were interpreted primarily from definable patterns of postmolds and wall trenches. These were evidenced as dark circular or elongated stains, respectively. Seven hundred and six (706) postmolds and nine trenches were identified. Sixty-seven percent (n=473) of the postmolds and all of the trenches are attributed to structures. Of the remaining 233 postmolds, 43% (n=100) are attributed to fortifications and the rest (n=133) are not in conclusively definable patterns, or were isolated. Investigations conducted at the site in November of 2002 (Barker 2002) identified an additional 226 postmolds associated with Feature 20.

Structures (n=12)

Two types of structures were identified at Kellytown: "single-post" (n=10) and "wall trench" (n=2). Single-post structures were built by setting posts in prepared holes spaced at roughly even intervals to form an enclosure. The post intervals ranged from touching to nearly a meter apart with most being spaced around a half meter. Wall trench structures had four walls set at right angles encompassing square to rectangular areas. The walls were anchored in linear trenches. Removal of fill from three of these revealed no evidence of vertical posts in subsoil. This may suggest the walls were built by lashing vertical posts to horizontal ones forming "prefabricated panels" that were then set in the trenches. Burned daub (plaster) found over the floors of two houses at Kellytown, and in other features, indicates the walls of both single-post and wall trench structures were plastered with wattle and daub. Ethnohistoric accounts reveal that Native populations continued to use the wattle and daub construction method after European contact (Adair 1775, Bartrum 1853, Swanton 1946).

Based on interpreted function, three categories of structures are represented at Kellytown: *family houses* (n=10), *public buildings* (n=1), and *storage facilities* (n=1). Basic structure data (dimensions, area, orientations, construction methods etc.) are presented in Table 1.

Family Houses (n=10)

Excavation data and analyses indicate eight of the single-post structures and the two wall trench buildings were houses. While the single-post houses were all square with rounded corners, one of the wall trench houses was square and the other was rectangular. Seven of the eight single-post

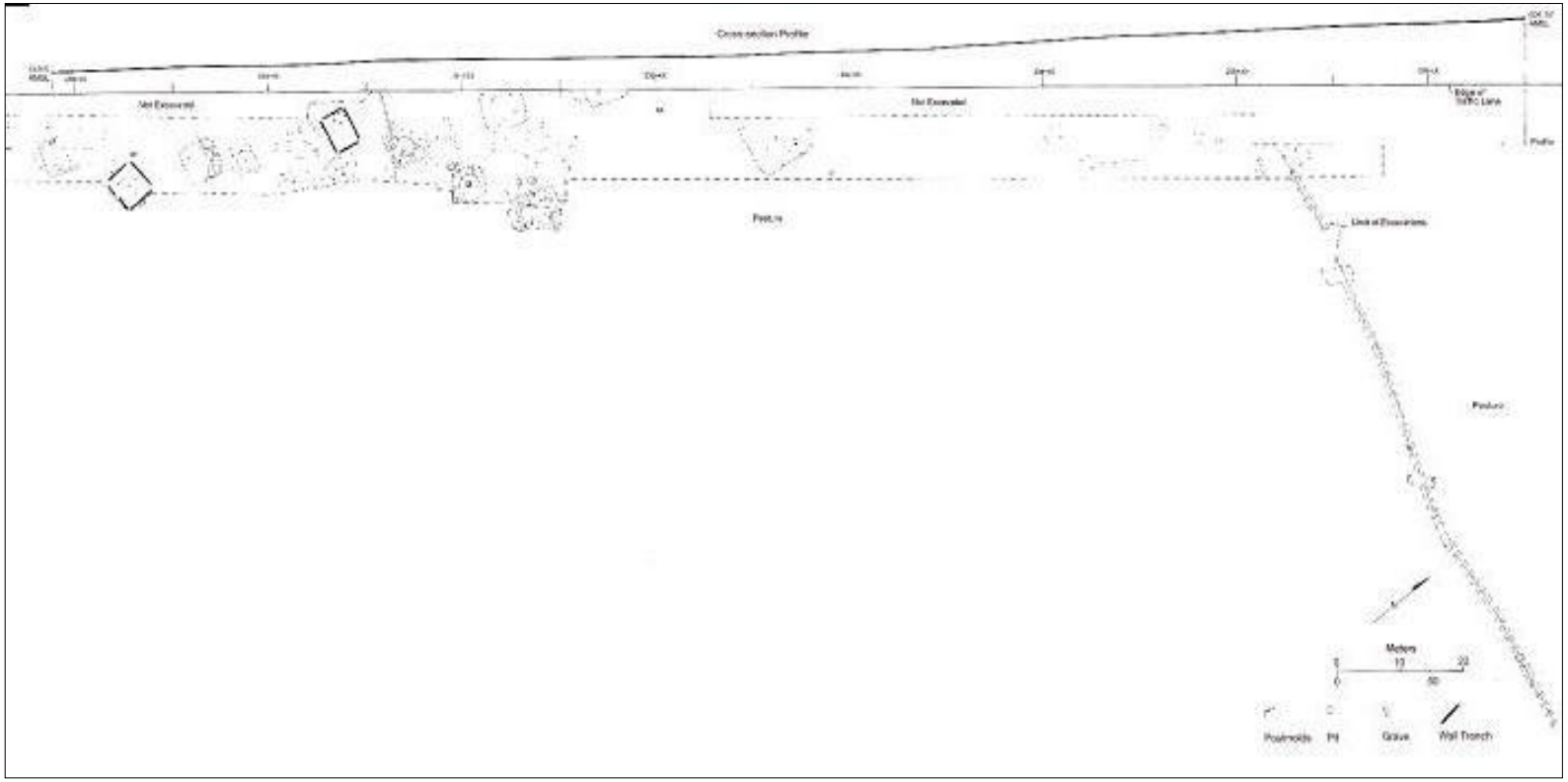


Figure 17. Plan map of the Kellytown excavation.

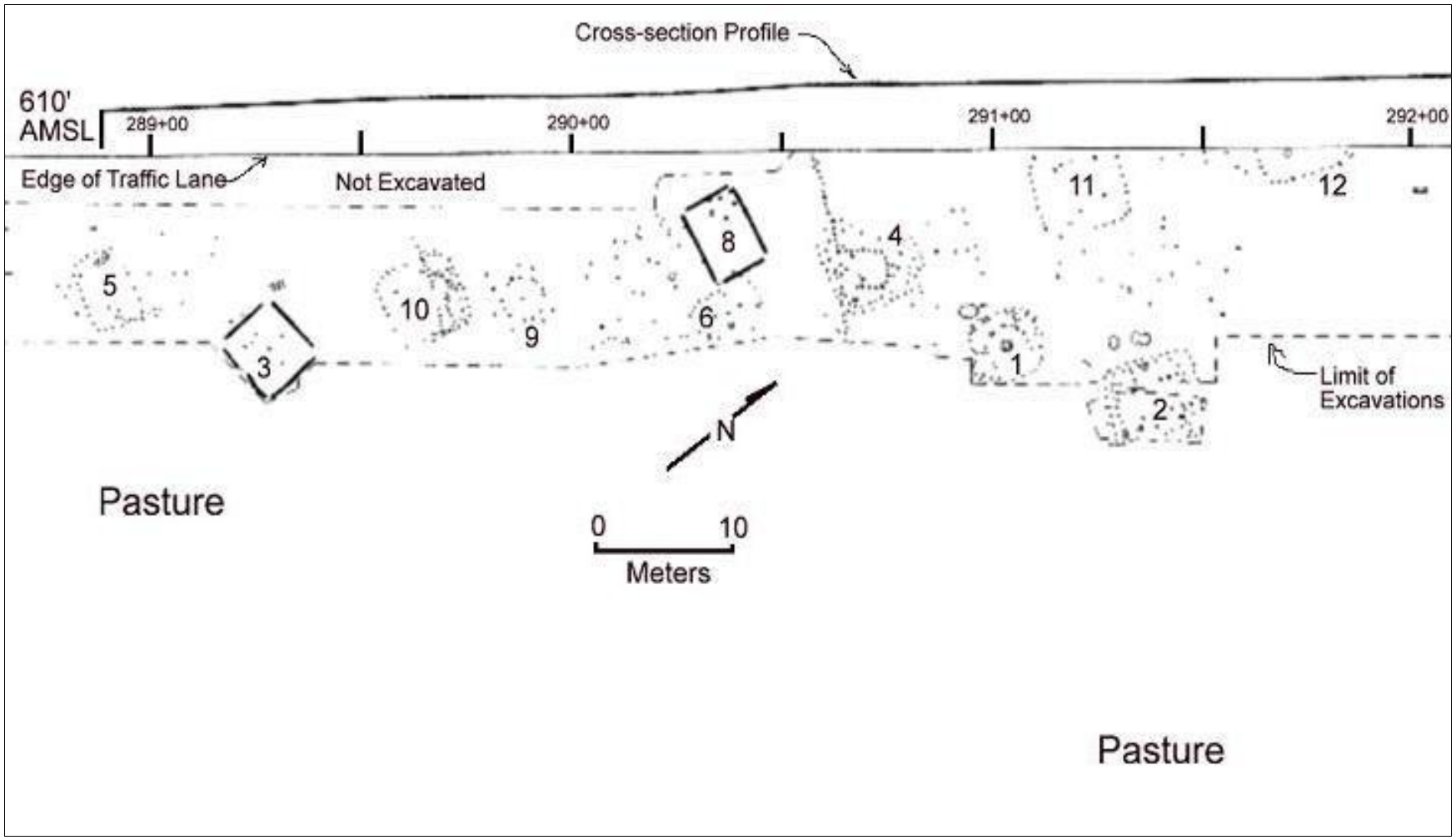


Figure 18. Enlarged excavation plan map showing house structures (n=10) and interpreted storage facility (Structure 9).

Table 1. Kellytown structure data.

Structure	Const. Type	Percent Complete	♦Max. Dimensions	#Area m^2	Orient. E of N	Size Grade	Post Count	*Support Type	Hearths	Rebuilt	Interior Burials	Burial Type
1	Post	100	5.25 x 4.80	25.2	18	8	69	B	1	No		
2	Post	85	6.75 x ?	45.56	20.5	2	77	B		Yes	2	Stone box
3	Trench	100	5.4 x 4.95	26.73	355.5	7	10	C		No		
4	Post	70	6.65 x 6.55	43.56	10	3	60	B		Yes		
5	Post	65	5.4 x 5.25	28.35	14	6	37	B		No	1	Stone box
6	Post	35	5.0 x ?	25.0	355	9	21	B	1	No		
7	Post	55	9.35 x ?	87.42	5	1	39	A		No		
8	Trench	100	5.65 x 4.20	23.73	7	10	9	A		No	1	Vessel
9	Post	100	3.5 circular	9.62	8♣	11	21	A		No		
10	Post	90	5.75 x 5.75	33.06	10	5	81	B	1	No	1	Stone box
11	Post	70	6.5 x ?	42.25	21	4	31	B		No		
12	Post	25	?	?	11.5	?	18	D		No		

♦Maximum dimensions- Meters measured from center of wall posts or trenches to opposite walls.

Area- Incomplete structure pattern assumed square.

*Support Type- Interior (A,B,C,D,)

A-Central support post

B- Square support frame consisting of 4 posts

C- Right angle support frame consisting of three posts

D- No interior support evident

♣ Orientation of the outside frame of this circular structure

houses were built around a primary roof support formed by four vertical posts placed in a square pattern slightly offset from the walls. Archaeological data indicate the square roof support design was also used in house construction by later Natives, including the Cherokee (Schroedl 1986:226). The square wall trench house had three primary interior roof support posts and the rectangular one had single central one.

Wattle and daub houses of both single-post and wall trench construction are documented archaeologically at a number of Mississippian sites in the Middle Cumberland region. Some sites falling within the same time frame as Kellytown are: Averbuch, Rutherford-Kizer, Brentwood Library, Gordontown and Kelly's Battery. At Averbuch 22 structures were identified. Seventeen (17) were of the single-post type and five had wall trenches (Reed and Klippel 1984:1.4.25). At Rutherford-Kizer, of the eleven structures recorded seven were built with single-posts and four had wall trenches (Moore 2001a:53). At Brentwood Library, all 63 structures discerned were of single-post construction (Moore 2005b). Testing at Gordontown (40DV6; Moore and Stripling 1998a:30-36) and at Kelly's Battery (40DV392; Jones 2001:42) also revealed only single-post structures, n= 3 and n= 13 respectively.

In some areas of Mississippian influence, for example at Cahokia, the existence of both single-post and wall trench houses has been attributed to diachronic variability with the shift being from single-post to wall trench (Pauketat 1998:57-137). This does not appear to be the case in the Middle Cumberland region where radiocarbon assays vary widely for both structure types. At Mound Bottom where C-14 dates indicate primarily an early Mississippian placement, wall trench houses (n=13) make up 76% of the structure sample. This three-to-one ratio is opposite of that at Kellytown where wall trench structures make up only 20% of the sample. Though the samples are small, the difference between Mound Bottom and Kellytown may suggest a shift through time from wall trench to single-post construction of domestic houses - opposite of the temporal trend suggested for Cahokia. More radiocarbon dates on Middle Cumberland houses of both construction methods are clearly needed.

Wall trench houses documented in the Middle Cumberland region and elsewhere in the Mississippi Valley are almost exclusively open-cornered or "semi-open air" sometimes with gable ends or portions of walls left open suggesting they were used in the summer (Starr 1999). This interpretation is supported by ethnographic accounts of summer structures built by regional Native American tribes such as the Cherokee, Creek, Chickasaw and Choctaw (Hudson 1976:216, Swanton 1946). However, it is also possible that the corners of these types of structures were lashed together. This would have provided wall and roof support but may not be readily apparent in the archaeological record.

Floor areas were estimated for all but one of the 10 houses documented at Kellytown. The exception is Structure 12, which extends under Hillsboro Road and was insufficiently exposed to be measured. The floor areas were calculated based on widths and lengths taken from the centers of postmolds or trenches where opposing walls were at their maximum distance. Areas ranged from 23.73 to 45.56m^2, with a mean of 32.6 (Table 1).

Five Middle Cumberland Mississippian sites similar in architectural density to that of Kellytown provide comparative structure area data. While structures at these sites are not differentiated according to function most are evidently family houses. At Kelly's Battery the floor areas of nine single-post structures ranged from 15.4 to 32.86m^2 (Jones 2001:42), with an average of 23.17. Floor areas of 40 of the 63 structures excavated at the Brentwood Library site could be estimated based on the wall dimensions provided by Moore (2005a:52-118) They exhibit a wide range in area, 9.0 to 49.0m^2, but average 32.69, very close to the average house floor area calculated at Kellytown. Smith (1992:356) provides structure area estimates for three other sites, Averbuch, Mound Bottom and Sellers. Twenty-five structures ranged in size from 7.8 to 60.5m^2 with a mean of 30.2. The six site structure averages combined have a mean of 29.67m^2 suggesting the typical Middle Cumberland Mississippian family house had a floor area of about 30m^2.

The houses at Kellytown were examined for overlapping wall post and trench patterns indicative of same site rebuilding in order to provide additional information about the duration of site occupation. Structures 6 and 8 overlap at the corners, structures 2 and 4 were clearly rebuilt and the wall pattern of Structure 4 also overlaps a palisade bastion (Feature 34). The overlapping structure wall patterns indicate Kellytown was occupied long enough to necessitate rebuilding on locations where previous structures once stood.

Azimuths were estimated for all defined structure patterns. Orientation in relation to current magnetic north was figured by placing a line over the straightest wall of each of the structure patterns on the excavation plan and determining the degree of the angle represented. The orientations of the structures suggest order to the spatial layout of the community (Figure 19).

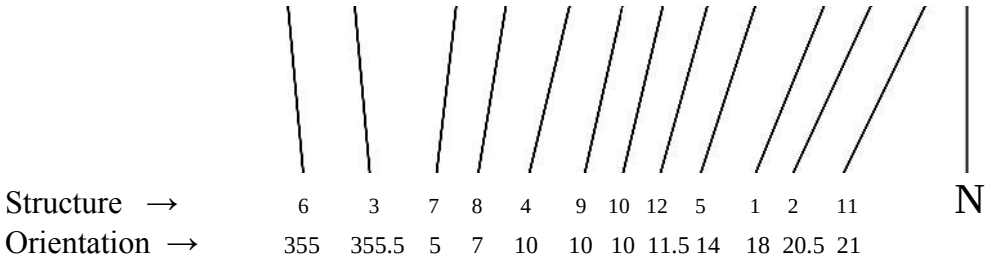


Figure 19. Schematic of structure orientations relative to magnetic north.

Structure 1

Plan: Square with rounded corners ***Construction Type:*** Single-post
Pattern Percentage: 100
Max. Dimensions: 5.25m x 4.8m ***Area:*** 25.2m^2 ***Orientation:*** 18° east
Structure Size Grade: 8th smallest ***Post Count:*** 69
Interior Support type: Square
Related Features: Hearth, limestone & organic concentration ***Reconstruction:*** No
Comments: Burned and abandoned, intact floor with contents

Structure 1 was a single-post house identified by Phase II testing in late January 1999. It was evidenced during the mechanical removal of plowzone in Trench C when a layer of daub rubble was encountered at roughly 22 centimeters below surface (cmbs) (see Figure 20). Small chunks and pea-sized particles of daub in the east wall profile of the trench above the rubble layer indicated some plow disturbance, however the deposit was not completely truncated suggesting an intact structure floor was below it. To determine the spatial limits of the rubble within the right-of-way (ROW) a strip block was mechanically opened to the west of Trench C and the plowzone (Level 1) was carefully removed. Because of its context the plowzone was not screened. However, artifacts observed during the stripping were collected and provenienced accordingly. When the overburden was removed the scatter pattern of the rubble in the strip block was revealed (Figure 21). Protruding from the rubble was the rim of a clay hearth and crushed ceramic vessels. These data indicated a wattle and daub structure that was never rebuilt after it quickly (and probably unexpectedly) burned down, leaving the domestic contents in place. The burned rubble continued beyond the east wall of the excavations and was densest along the east side of the block. This suggested that much of the archaeological deposit remained in the unexcavated area east of the block. That portion of the structure was temporarily left unexcavated while excavations continued in the strip block with the hand removal of daub (Level 2) and subsequent exposure of the structure floor.

In March of 1999 TDOT and TDOA personnel along with members of the Middle Cumberland Archaeological Society hand excavated the unexposed portion of Structure 1. In order to maintain vertical control, a 50cm wide balk was left across the house floor, the west side of which constituted the east wall of Trench C. A 2 by 8 meter excavation unit (Unit 7) was then laid out across the area perceived to encompass the remainder of the house. It was then divided into four $2m^2$ sub-units. The manual removal of the plowzone (Level 1) across unit 7 revealed that the remainder of the daub layer (Level 2) was confined almost exclusively to the two southern-most sub-units (Figures 22). The northern-most sub-unit was outside of the structure and for the sake of time only its southern half was excavated beyond Level 1.

Due to differential preservation related to the intensity of burning, the exact configuration of the daub rubble over Structure 1 was difficult to map (Figure 23). Daub encountered near the building's center where the hearth occurred was the most heavily burned and thus the best preserved. Daub further away was less fired and consequently less well preserved. This evidence strongly suggests that the hearth was in use when Structure 1 burned. The occurrence of the heaviest accumulation of daub near the center of Structure 1 and its distance from the nearest exterior wall (>2.5 meters) also tends to suggest some of the material came from the roof of the structure. Similar daub concentrations have been reported over the center of Mississippian house floors in Georgia (Poplin 1990) and Alabama (Blitz 1980). In both cases they were attributed to ceiling daub.

Below the daub rubble (Level 2) was a thin layer of dark stained soil and several amorphous areas of fired red clay, generally less than .5cm in thickness (Figure 24). Scattered structural remains of charred wood, cane and ash as well as numerous domestic artifacts were documented in contact with the thin layer. These data indicate the living floor of the structure resulted from a combination of everyday use and fire, rather than from formal floor preparation.

Figure 20. Close up of daub rubble on the floor of Trench C.

Figure 21. View south of Trench C and block exposure of daub rubble over the western half of Structure 1.

Figure 22. View north of Unit 7 with daub rubble exposed over the eastern half of Structure 1 (foreground).

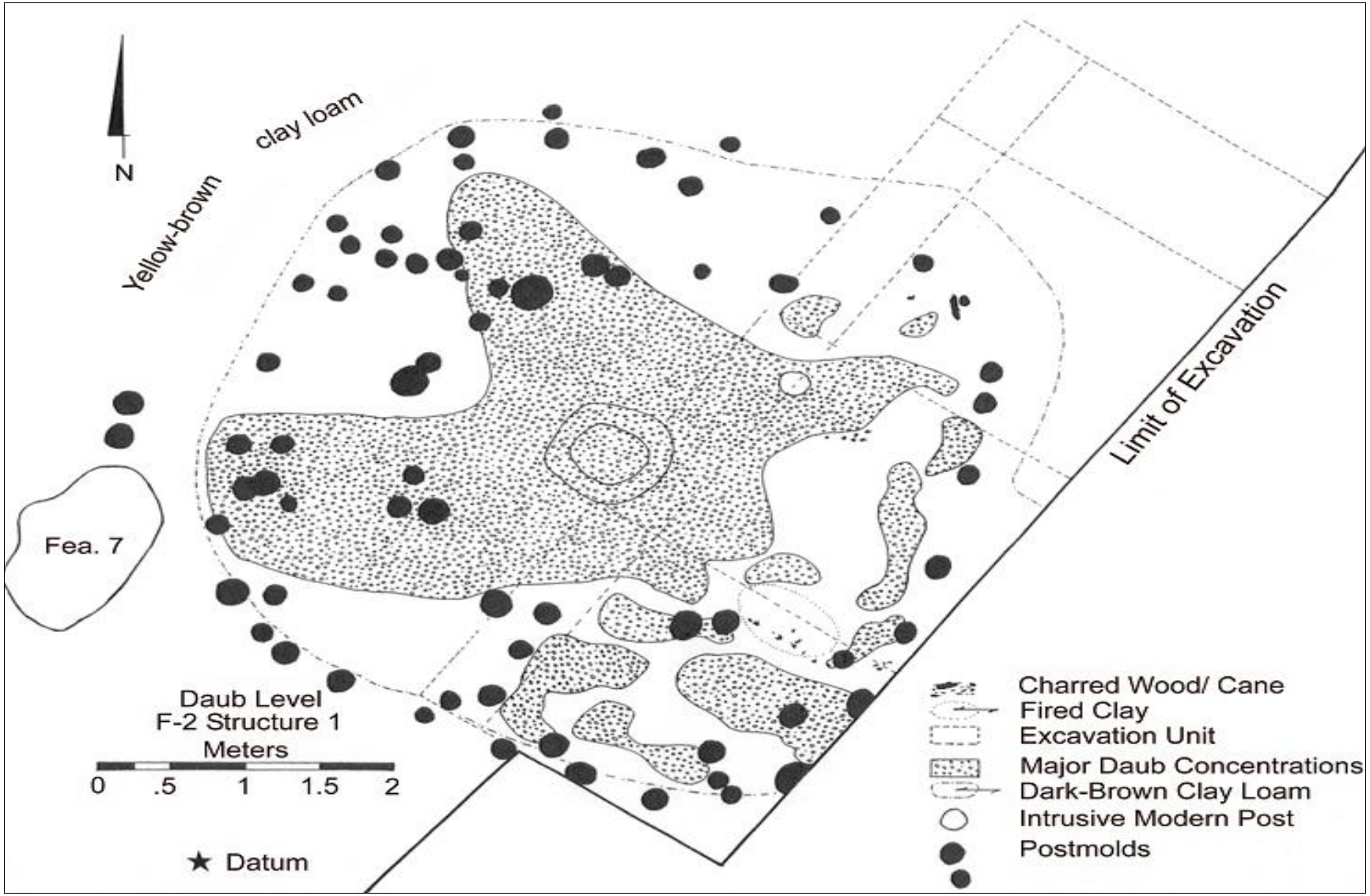


Figure 23. Structure 1 plan map showing daub rubble scatter, post pattern and central hearth.

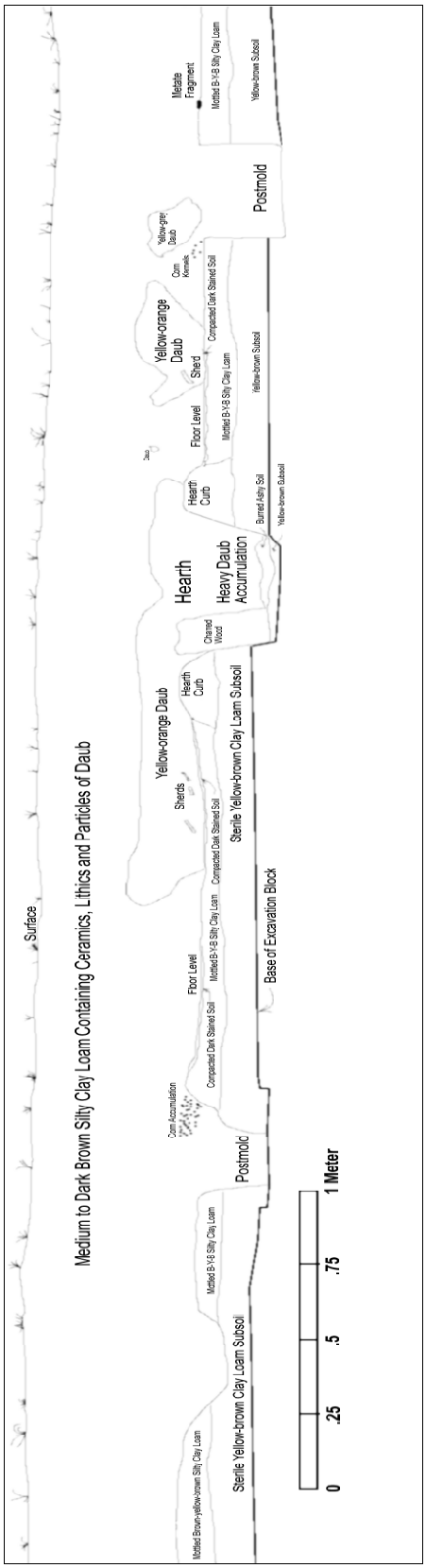


Figure 24. East wall profile of Trench C through Structure 1. Note central hearth.

At two similar Mississipian burned house excavations (see Kline 1979, and Poplin 1990) large sections of charred beams and rafters were preserved on the floors. The length of the longest charred post-section found on the floor of Structure 1 was only 32cm. This information, coupled with the heavy accumulation of daub on the Structure 1 floor, and the recovery of near-vitrified pottery sherds on it suggests the fire that consumed Structure 1 was sufficiently intense to render most of its wood frame to ash.

Artifacts and ecofacts found in contact with the floor of Structure 1 were piece-plotted. These include ceramic containers broken in place, other pottery items and sherds, chipped chert, stone and bone tools, an article of adornment, and charred fruits and seeds. The food remains include complete persimmon fruits (*Diospyros virginiana*), wild bean (*Fabaceae*); corn (*Zea maize*), pumpkin (*Cucurbita* sp.), sunflower (*Helianthus annuus*) and honey locust seeds (*Gleditsia triacanthos*) (see *Results of Laboratory Analysis*). Concentrations of certain types of these remains were found in different areas of the house (Figure 25).

Based on interpretation of the postmold patterns (Figures 23, 25 and 26) and the distribution of domestic artifacts and ecofacts, Structure 1 is interpreted to have had four small partitions or benched areas that adjoined a large or primary room. The interpreted divisions are indicated "A"-"E" in Figure 27. Area "A" defines the northwest corner of the house. Area "B" borders area "A" and defines the west side of the house. Area "C" borders area "B" and defines the southwest corner of the house, Area "D" borders area "C" and defines the southeast corner of the house. The primary area (designated room "E") comprises nearly half of the Structure 1 plan including its center, east side and northeast corner.

Area "A" measured roughly 1.8 by 1.2 m^2. It was separated from area "B" by what appears to be a full wall. Area "A" had a number of vertical posts around the interior of its perimeter (see Figure 25). The pattern of these suggests they formed a bench. Only one artifact was found in contact with the floor in area "A". It was a grooved whetstone located along the north wall. Area "A" is thought to have served as a sleeping quarter given its small size and post configuration.

Area "B" measured roughly 1.8 by 0.8 m^2. Two ceramic artifacts, a pottery trowel found standing up-right (Figure 28) and a detached duck head rim-rider (see Figure 25) were piece-plotted in Area B. Area "B" yielded no other ceramic vessel or sherds of a paste matching that of the duck head rim-rider. This suggests the artifact was a keepsake or toy. The size and shape of area "B" coupled with a lack of artifacts indicating other specific activities suggests it also functioned as a sleeping quarter.

Area "C" in the southwest portion of the house was roughly oval in plan and measured approximately 2 by 1.2 meters. A cooking or heating facility was identified in this area. It was designated Feature 6 and consisted of a circular-shaped concentration of burned limestone, charred organic material and pottery sherds. A total of 138 corn kernels, a cob segment, and 39 whole and 71 fragments of pumpkin seed were obtained from the feature. A variety of charred wood including black locust, hickory, oak and cane were also in feature fill.

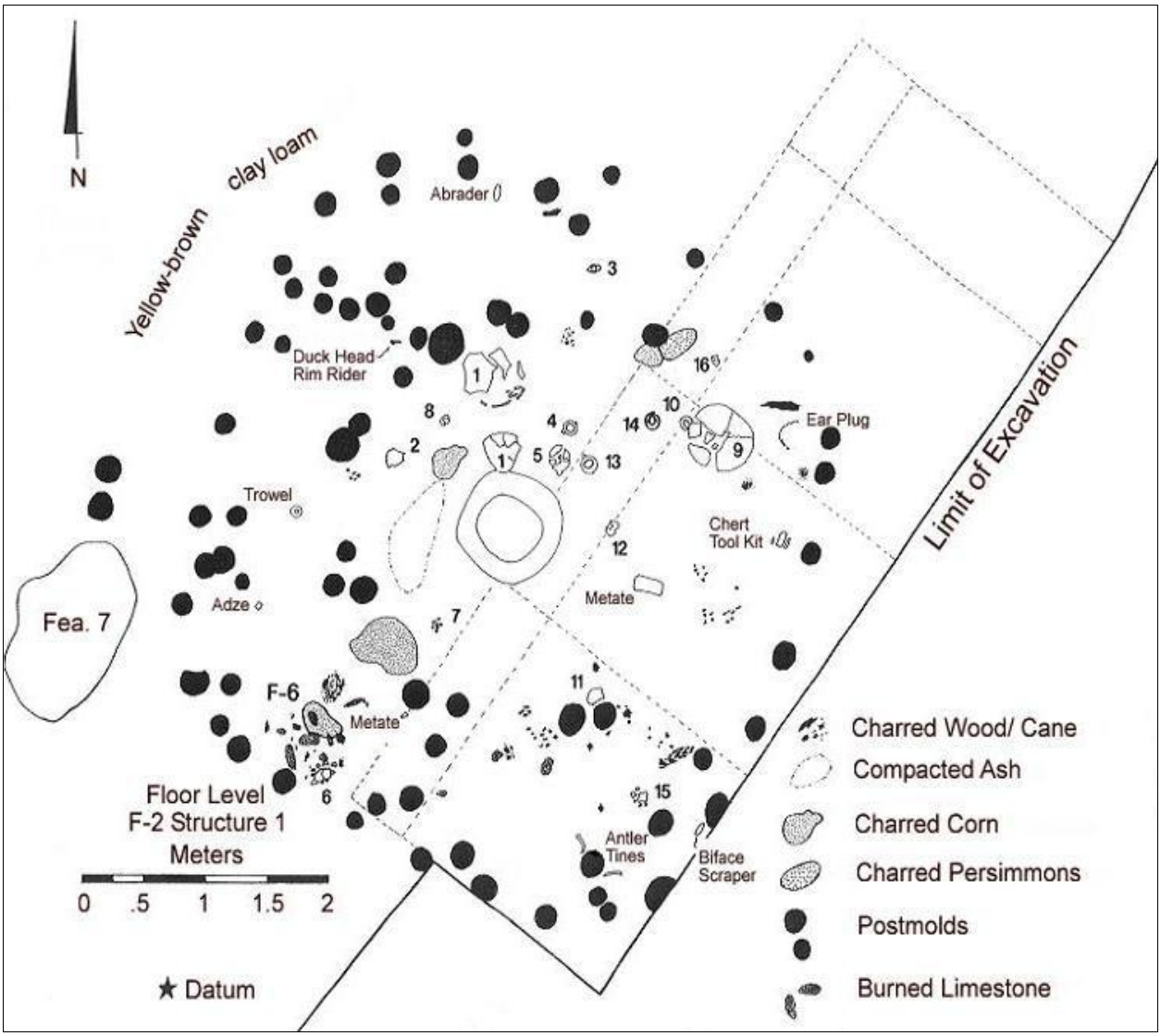


Figure 25. Plan map of the post pattern, central hearth, and domestic artifacts and ecofacts piece-plotted on the floor of Structure 1.

Pottery sherds (n=25) in Feature 6 were designated Vessel 6 at excavation but laboratory analysis revealed they were from a minimum of two vessels. These body sherds appeared purposefully placed in the base of the feature, perhaps for heat retention. A burned and broken metate and a broken Dover adze were also piece-plotted on the floor of area "C" (see Figure 25). Artifacts and ecofacts from this area of the house suggest it was used for food processing and/or preparation. At the Brandywine Point site (40DV247), also in the Central Basin, a similar limestone feature was found in a Mississippian house with a central hearth. It too was presumed to have served a "cooking related function" (Moore and Smith 1994:200).

Area "D" defines the southeast quadrant of the structure measuring roughly 2 by 1.3 m^2. Two burned and cut antler tines, presumably used as flaking tools, a biface scraper and a concentration of pottery sherds were found on the floor in this area of the house. The sherds represent approximately one-fourth of a smashed strap-handle jar (Vessel 15). Several pieces of burned

Figure 26. View north showing Structure 1 postmold pattern.

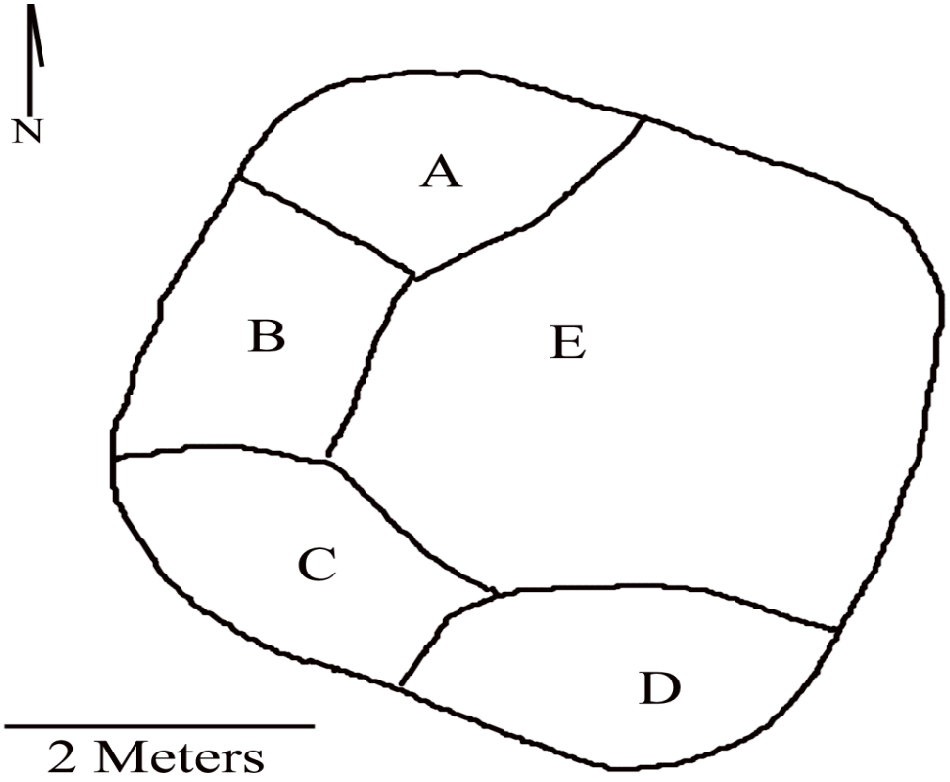


Figure 27. Schematic of interpreted Structure 1 partitions.

Figure 28. Pottery trowel *in situ* in partitioned "B". Note high daub density.

limestone were also noted. The configuration of vertical posts within area "D" suggests it too had a bench. The similarity in size and configuration of it to that of the two other interpreted sleeping quarters suggests it served the same function.

The largest part of Structure 1, room "E" (Figure 27), comprised the primary activity area of the house. It served as the point of ingress and egress for the structure and it was through it that all of the other partitioned or benched areas were accessed. Room "E" contained the hearth and was situated near the center of the structure. The hearth was circular in shape with a puddled clay rim or curb that was 20cm or less in width and extended about four centimeters above the level of the house floor (see Figures 12 and 24). The hearth had a maximum diameter of 85cm from the outside of its rim and a maximum inside or bowl diameter of 50cm. The walls were slanted and extended to a maximum depth of 20cm below the top of the rim. The base was flat with a maximum width of 38cm and it contained daub, charred wood and ashy soil (Figures 13 and 25). The burned wood was hackberry, oak, and ash. Food processing, cooking and serving utensils also were found around the hearth.

Fourteen (14) pottery sherd concentrations were piece-plotted on the floor in room "E". All but three of the concentrations were located within a meter of the hearth. Seven vessels appeared to have been unbroken but later cracked apart from root penetration and ground pressure. One of these had also been sheared by the plow. Five additional pottery clusters were containers that had been smashed on the floor, apparently from debris falling as the structure burned and

collapsed. The remainder was two isolated strap-handles unassociated with any vessel in Structure 1.

The fill from Levels 1 and 2 also yielded ceramic sherds. Some of them were later adjoined to vessels found on the floor of Structure 1. Others appear to be from Structure 1 vessels but don't have adjoin-able breaks. The remaining sherds are not conclusively attributable to the structure. A brief discussion of the positions and conditions of the vessels from Structure 1 is presented below. Detailed analysis of the Structure 1 vessels and the remainder of the ceramic assemblage from Kellytown is presented in the *Results of Laboratory Analysis* section of this report.

Based on their horizontal distribution and percentage of adjoin-able sherds, 13 of the 16 clusters are single containers. These vessels fall into three basic shape categories. In order of frequency they are jars (n=7), bowls (n=5) and pans (n=1). The remaining three vessel designations include Vessel 6 (body sherds from two separate containers found at the base of Feature 6) and two strap-handles.

Jars (n=7)

Jars comprise 54 percent of the vessels associated with the floor of Structure 1. All examples are globular in form with wide constricted necks and all but one have plain undecorated surfaces. The exception has rectilinear incisions (guilloche) around its shoulders and rim. Five of the jars have strap-handles, one has bifurcated-lugs and one has no handles. Two of the vessels are similar in dimensions, but as a group their profiles, sizes and orifice measurements vary greatly.

Vessel 1, a double-lug jar, is the largest ceramic container from Structure 1. It was smashed in two sections between the hearth and area "A" (Figures 25 and 29). Its location and sherd scatter pattern indicate it was suspended over the hearth and fell to the floor when the house burned. Food remains were found in proximity to the vessel. While such containers are generally thought to be for food storage, these data suggest Vessel 1 was used for cooking.

Vessel 2 was the second largest of the jars and the largest one with strap-handles. It was located on the floor in room "E" between the hearth and area "B" (see Figure 25). Roughly half of the jar was facing the floor with the interior-side down and lying over the bottom of the jar which had the interior-side up (Figure 30). The position of the vessel suggests it fell to the floor and collapsed inwardly.

Vessel 7 was less than a meter southwest of the hearth in room "E" (see Figure 25). Unfortunately the sherds that constitute it are in poor condition and only parts of the rim and strap-handle were recovered. The position and extent of preservation of Vessel 7 suggest it also fell to the floor when Structure 1 burned.

Vessel 8 was a small jar with strap-handles and an incised guilloche pattern around the shoulder and rim. In addition to the incised decoration, Vessel 8 has nodes on its body exterior indicating it is an effigy, possibly of a frog. It was sitting on the floor (see Figure 25) with the orifice up

Figure 29. Schematic plan and image of Vessel 1 *in situ.* Note proximity to Vessels 4 and 5, center-right of image).

Figure 30. Vessel 2 *in situ*.

(Figure 31). The position and state of preservation of the vessel suggest it was on the floor when the house burned.

Vessel 10 was a small-to-medium size strap-handle jar located northeast of the hearth. It was sitting orifice up and was partially superimposed by Vessel 9, a pan (Figures 25 and 32). The position of Vessel 10 indicates it was on the floor of the structure and that Vessel 9 fell on it during the fire damaging both containers. Due to its thin walls, Vessel 10 disintegrated when removed from the ground and few of its sherds could be cross-mended.

Vessel 14 is a small-to-medium size strap-handle jar that was located roughly a meter northeast of the hearth (Figures 25 and 33). It was sitting on the floor with the orifice up and was almost completely mend-able, as the only damage was apparently from ground pressure and root penetration.

Vessel 15 was found in contact with the Structure 1 floor in area "D". It is the only vessel found outside of room E and was the furthest container from the hearth (see Figure 25). The vessel is a small-to-medium size strap-handle jar. The position and distribution of the sherds that constitute it suggest Vessel 15 fell to the floor and smashed during the fire and was later plow disturbed. Visual and metric similarities between the sherds that represent Vessel 7 and Vessel 15 suggest they may be parts of the same container.

Bowls (n=5)

All of these are restricted-rim effigy bowls. The forms include two fishes, a frog, a gourd and a gourd or pumpkin.

Vessel 3, a fish effigy, was the smallest bowl. It was located approximately .5m inside of the north wall of the structure and away from the main group of containers (see Figure 25). Vessel 3 was sitting orifice up on the structure floor. The bottom was eroded away but the rest was completely mend-able, having only been cracked in place by ground pressure and root penetration (Figure 34). Maize kernels and cupules were scattered around the vessel.

Vessel 4 is also a fish effigy bowl. It was located near the center of the main group of containers, roughly 40cm north-northeast of the hearth (see Figure 25). It was sitting orifice up and was completely mend-able, having only cracked in place by ground pressure and root penetration (Figure 35). Maize kernels and cupules were found around it.

Vessel 5 was located near the center of the main group of containers in room "E (see Figure 25). The vessel is either a squash or pumpkin effigy (*Cucurbita pepo*). A molded spout or ladle represents the neck or stem of the fruit. Nodes forming the shape of a flower blossom are present on the opposite side of the bowl from the ladle. The configuration of sherds *in situ* that constitute it suggest the vessel fell from above the floor and fragmented, or that falling structural debris caused it to fracture (Figure 35).


Figure 31. Vessel 8 *in situ*.

Vessel 11, a gourd or pumpkin effigy (Figure 36), was sitting on the floor orifice up. A spout or ladle represents the neck or stem of the fruit. Roughly 75% of the rim and about half of the body were missing. What remained of the bowl was cracked by ground pressure and root penetration but completely mend-able. Possibly the bowl was fractured by house demolition but adjoin-able sherds were not found on the structure floor. These data suggest post-depositional disturbance, probably from plowing.

Vessel 13, a frog effigy, was within the main group of containers in room "E" (Figures 25, 33 and 37). The vessel was sitting on the floor with the orifice up. Ground pressure and root penetration had caused the walls of this bowl to crack apart but it was completely mendable.

Pans (n=1)

Vessel 9 is a large pan or platter that was located northeast of the hearth (see Figure 25). It was partially superimposed over Vessel 10 (Figure 32). This suggests that the pan fell to the floor.

Other Ceramic Artifacts (n=3)

A pottery trowel found upright on the house floor in area "B", a perforated hourglass earplug, a type commonly found in the Middle Cumberland region (Smith 1992:215), and a duck head

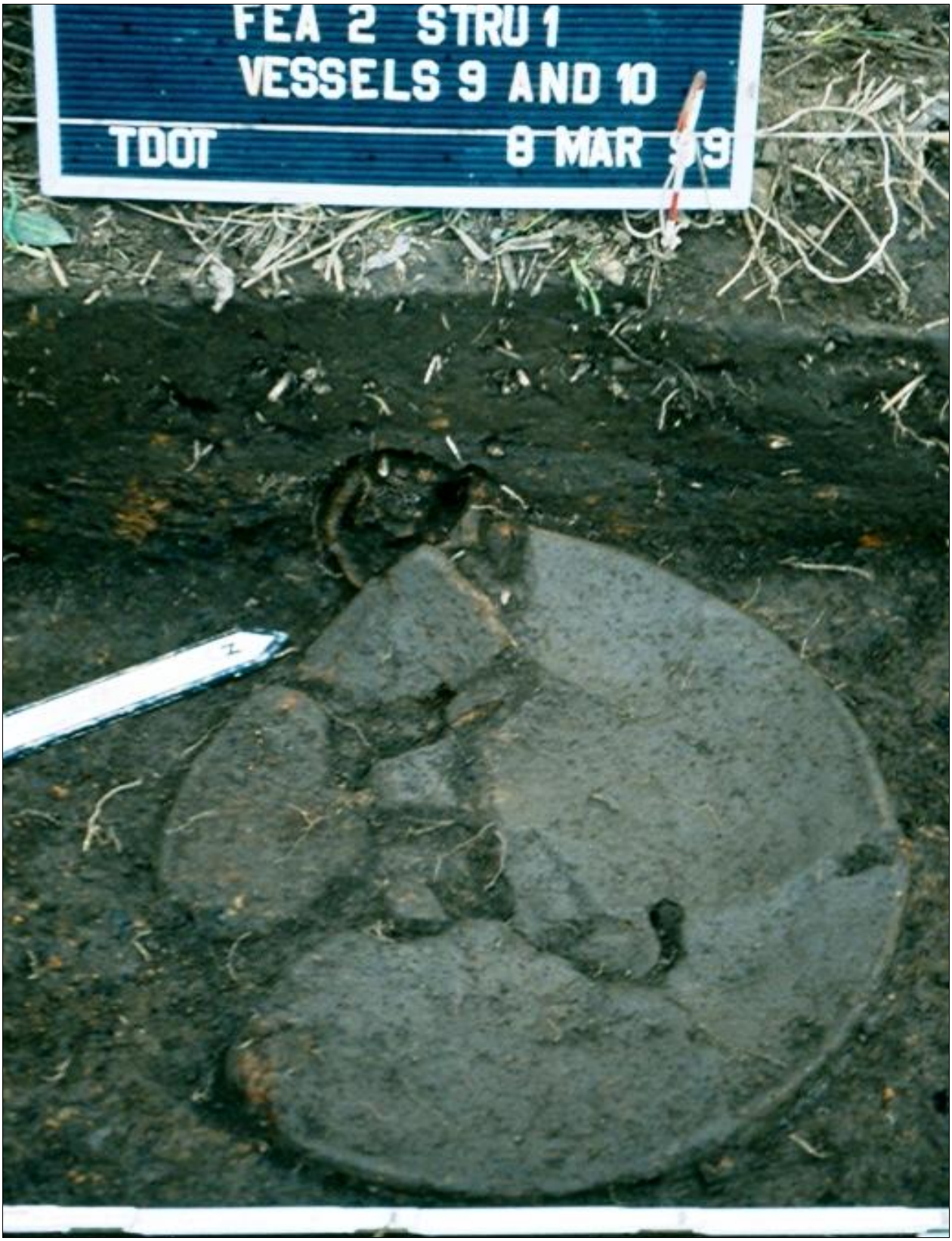


Figure 32. Vessels 9 (pan) superimposed over Vessel 10 (strap-handle jar) *in situ*.

Figure 33. Vessel 14 (bottom-right) *in situ* relative to Vessel 12 (center-left), Vessel 13 (center) and the structure hearth after removal of Vessels 9 and 10.

Figure 34. Vessel 3, fish effigy bowl, *in situ*.

Figure 35. Vessel 4, fish effigy bowl (center) and Vessel 5, gourd effigy bowl (right), *in situ*.

Figure 36. Vessel 11 *in situ*.

Figure 37. Vessel 13, frog effigy bowl, *in situ.* Note hearth rim center-right.

effigy rim-rider were also found on the floor of Structure 1. Wear around the base of the duck head where it would have attached to a vessel and the lack of adjoin-able sherds in its vicinity suggest this artifact was a keepsake or toy.

Chipped Chert and Ground Stone Tools

Stone tools found scattered across the floor in room "E" include a large section of a metate (Figure 38), a perforator/scraper, a thick biface and a uniface blade scraper. The metate is in addition to the broken one found in area "C" indicating more than one was in use in the structure, presumably at the same time. Both metates are made of cemented micaceous sandstone that is not available in the vicinity of Kellytown. The three chipped chert tools were situated in such a manner as to be considered a tool kit (see Figure 25). The perforator/scraper and thick biface are made of local Ft. Payne chert. The thick biface has polish on some of the flake scars indicating it was a hoe that had been further reduced. The uniface blade scraper, as the adze from area "C", is made of Dover chert, a non-local raw material.

Structure 1 Archaeobotanical Remains

Abundant archaeobotanical material was scattered across the floor of Structure 1. Seventy-one separate specimens, some piece-plotted, were bagged. The sample includes seeds and fruit, wood and residual charred material. The majority of the food remains were in five separate clusters (see Figure 25). Two of these were briefly discussed under house area "C". The other three include

Figure 38. Metate *in situ* on the floor of Room "E" (center-left). Note daub rubble in balk profile (center) and Vessel 10 (right).

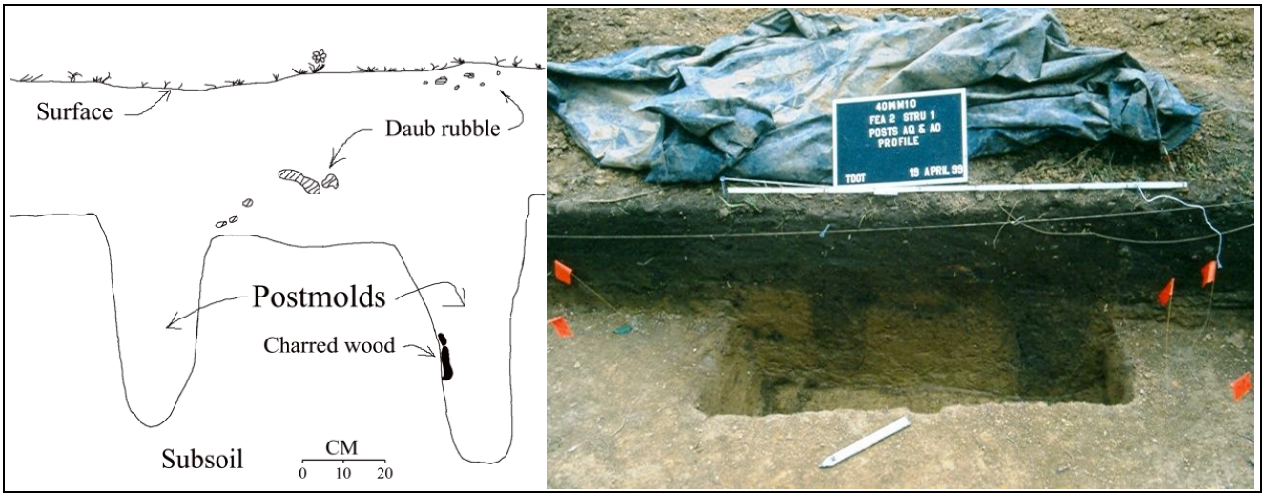
two large concentrations of burned maize and a concentration of charred, complete, un-dried persimmons.

Archaeofaunal Remains

Twenty-five samples of animal bone were collected during the excavation of Structure 1 (Appendix V). All but one piece, a cranial fragment from an unidentified mammal found in the plowzone, were associated with the structure floor. Approximately half of the specimens are identified as white-tail deer or wild turkey. The remainder are either too badly burned or fragmented to be identified. The sample includes both modified and unmodified bone. Four of nine pieces of bone identified as white-tail deer appear to have been modified. Two of these, found very near one another in area "D" (see Figure 25), are antler tines that were scored and snapped. Though poorly preserved, scratches on the distal ends of the two tines suggest they were pressure flaking tools. A third antler tine fragment found in the west half of Structure 1 (room "E") also has scratches on its distal end suggesting it served the same purpose as the other two. The fourth modified bone is a right side portion of deer mandible from the east side of room "E". Polish on the lower side of this jaw bone section suggest it too was used as a tool of some kind. The two remaining identifiable bones from the floor of Structure 1 in "room E" are from wild turkey, neither of which is modified, and are thought to be food waste.

Structure 1 Summary

Structure 1 was in many ways typical of those built by Late Prehistoric groups throughout the Southeast (Halley 1989; Polhemus 1987; Sullivan 1989). Local trees were used to make posts that were set vertically into individual holes in the pattern of a square with rounded corners. Forty-five (45) posts, ranging in diameter from 9 to 30cm (with a mean of 17.7cm; Appendix I), comprised the outside wall. The four interior support posts had diameters that ranged from 11 to 28cm with a mean of 18.2. The wall posts and four interior roof support posts were set well into the ground, generally about a half meter into the subsoil (Figure 39).



Figures 39. Schematic profile and image of Structure 1 exterior wall postmolds "AQ" and "AO".

The roof of Structure 1 was built with rafters, woven with cane, and matted with grass, bark or other thatch. The wall posts were wrapped from the exterior with woven split-cane mats. Plaster consisting of local clay mud and grass was then applied to the exterior of the walls and smoothed. A plastered smoke-hole was formed in the top of the roof over the center of the structure and a hearth pit was excavated into the floor below it. A puddled clay rim or lip was then molded around the hearth pit.

The pattern of the interior posts in Structure 1 and the artifacts and ecofacts found in it suggest the structure had five activity areas ("A"-"E"). Three are interpreted to be sleeping quarters that contained benches or platforms. The presence of a small heating or cooking facility (Feature 6) in area "C" along with tools and food remains found there indicate it served for cooking or food preparation. The largest activity area within Structure 1, designated room "E" comprised roughly half of the 25.2m^2 area of the house and contained the central hearth. The size of the room and the presence of the hearth indicate that it was the hub of activity within the structure. Of 13 ceramic containers clearly associated with the house floor, 12 were recovered in room "E". The ceramics and food remains from room "E" reveal food processing, preparation and serving occurred around the central hearth.

Artifacts and ecofacts from the floor of Structure 1 strongly suggest it was occupied and destroyed in the fall. All of the seed and fruit remains, in particular the unprocessed burned

persimmons, are harvested during that season. The occurrence of bone from white-tail deer and wild turkey may also suggest fall occupation.

While it is impossible to determine the gender or age of the occupants of Structure 1, there are several indicators it was a single-family dwelling. The small size and the number of interpreted sleeping quarters suggest three-to-five individuals occupied the home. A detached ceramic duck-head or rim-rider found on the floor of the structure and the lack of the body of the vessel from which it was derived suggest it is a keepsake or toy and may indicate children comprised part of the household. Ceramic containers clearly associated with the floor of the structure represent the set of "dishes" used by the house occupants. The set includes a large jar (Vessel 1) that was apparently suspended over the hearth and was presumably the main cooking utensil, a large serving platter (Vessel 9), six additional jars of varied sizes (Vessels 2, 7, 8, 10, 14 and 15), two bowls used as liquid serving containers, as indicated by the presence of pouring spouts or ladles (Vessel 5 and 11), and three bowls (Vessels 3, 4, and 5). The size and composition of the "dish set" tend to support the single-family interpretation.

Mathematical formulae to estimate household size and composition have been developed to provide a basis for cross-cultural comparisons (see Cook 1972, Hassen 1981). To further estimate household size at Kellytown one such formulae (Casselberry 1974) was employed. Casselberry's method estimates the number of household occupants as a percentage of the floor area of a structure. The percentage is suggested to be one-sixth of this area in square meters. This calculation suggests Structure 1 housed 4.2 individuals (25.2x .166).

The substantial number of domestic utensils and other personal items and the density of food remains found on the floor of Structure 1 indicate it was occupied when the fire that destroyed it broke out. The house data indicate it burned so quickly that many items inside it could not be rescued. Whether accidentally burned, intentionally burned by its occupants, or burned as a result of conflict with neighboring villages, no new house was built on the location of Structure 1.

Structure 2

Plan: Square with rounded corners ***Construction Type:*** Single-post
Pattern Percentage: 85
Max. Dimensions: 6.75m x ? ***Area:*** 45.56m^2 (estimated) ***Orientation:*** 20.5° east
Structure Size Grade: 2nd largest ***Post Count:*** 77 ***Interior Support type:*** Square
Related Features: Two stone box child graves ***Reconstruction:*** Yes

Mechanical stripping five meters northeast of Structure 1 revealed 32 postmolds and the stone box grave of a child (Burial 2). The configuration of the postmolds in relation to the burial indicated the grave was within the west wall of a single-post house, of which approximately a third was in the TDOT ROW and the remainder was on private property. The landowner granted our request to expose the portion of the structure on her property. To do so, a block was stripped to the east over the presumed central and east portion of the structure (Figures 17 and 18). A balk roughly one-meter-wide was left for vertical control. Forty-five (45) additional postmolds and the

stone box grave of a second child (Burial 3) were found. The discovery of the second burial halted excavation of the strip block before the entire house pattern was exposed.

Two stages of house construction were evidenced by 77 postmolds that constitute the plan of Structure 2 (Figures 40 and 41). The two stages are indicated by separate overlapping wall post and roof support patterns. These are oriented at approximately the same angle (20.5° east of north). The larger pattern has an area of roughly 45m^2 and encompasses a smaller house pattern at roughly the same distance on all sides. Since the smaller house pattern crosses both of the identified child graves these are presumed associated with the larger of the two structure patterns.

Eighteen (18) postmolds; designated "A" in Appendix I, constitute what was exposed of the exterior wall pattern of the smaller structure. These ranged in diameter from 12 to 17cm with a mean of 14. Thirty-three (33) postmolds; designated "B" in Appendix I, constitute the exterior wall pattern of the larger structure. These ranged in diameter from 9 to 23cm, with a mean of 16.3. While the exterior wall post pattern of the smaller structure shows no obvious refurbishing, the south wall of the larger one appears to have undergone substantial renovation as a number of the posts along this wall have been supported with additional posts.

Interior postmolds of the two structure patterns are divided into two categories, roof support posts (n=8) and other interior posts (n=18). The roof supports consist of four posts for each structure. These posts were much larger in diameters than those in the exterior walls. The former ranged from 24 to 34cm with a mean of 27.75, while 15.19cm is the combined average of the latter. All other interior postmolds within the two structures (n=18) ranged in diameter from 13 to 24cm with a mean of 14.84.

Eight wall postmolds from the northwest corner of the larger structure, four wall postmolds from the northwest corner of the smaller one and two roof support postmolds were excavated. Fill was retained for flotation. Charcoal was recovered from the fill of five of the postmolds. Four contained almost entirely black locust charcoal and one contained predominantly hickory. The average depth below origination of the postmolds from the larger structure was 22.25cm while those from the smaller one averaged 16.5cm. The roof support posts were set deeper, averaging 36cm in depth below origination.

Only three artifacts were recovered during the removal of plowzone over Structure 2. These include one ceramic sherd, a modified flake scraper and an abrader. Mechanical and hand removal of overburden between the plowzone and subsoil revealed no intact floor or artifacts. Neither was a central hearth found. These data coupled with balk profiles and apparent disturbance of capstones over Burial 3 indicate the floors of the two identified structures had been plowed away.

No daub was found while removing overburden on Structure 2, suggesting that neither house burned. Quite possibly the first structure was intentionally demolished or dismantled and a larger house was built at the same location. It too was apparently abandoned. Given the estimated size of the larger house in comparison to the others found it is thought to have been occupied by five to seven individuals. Casselberry's (1974) demographic formula indicates an occupancy of 7.56.

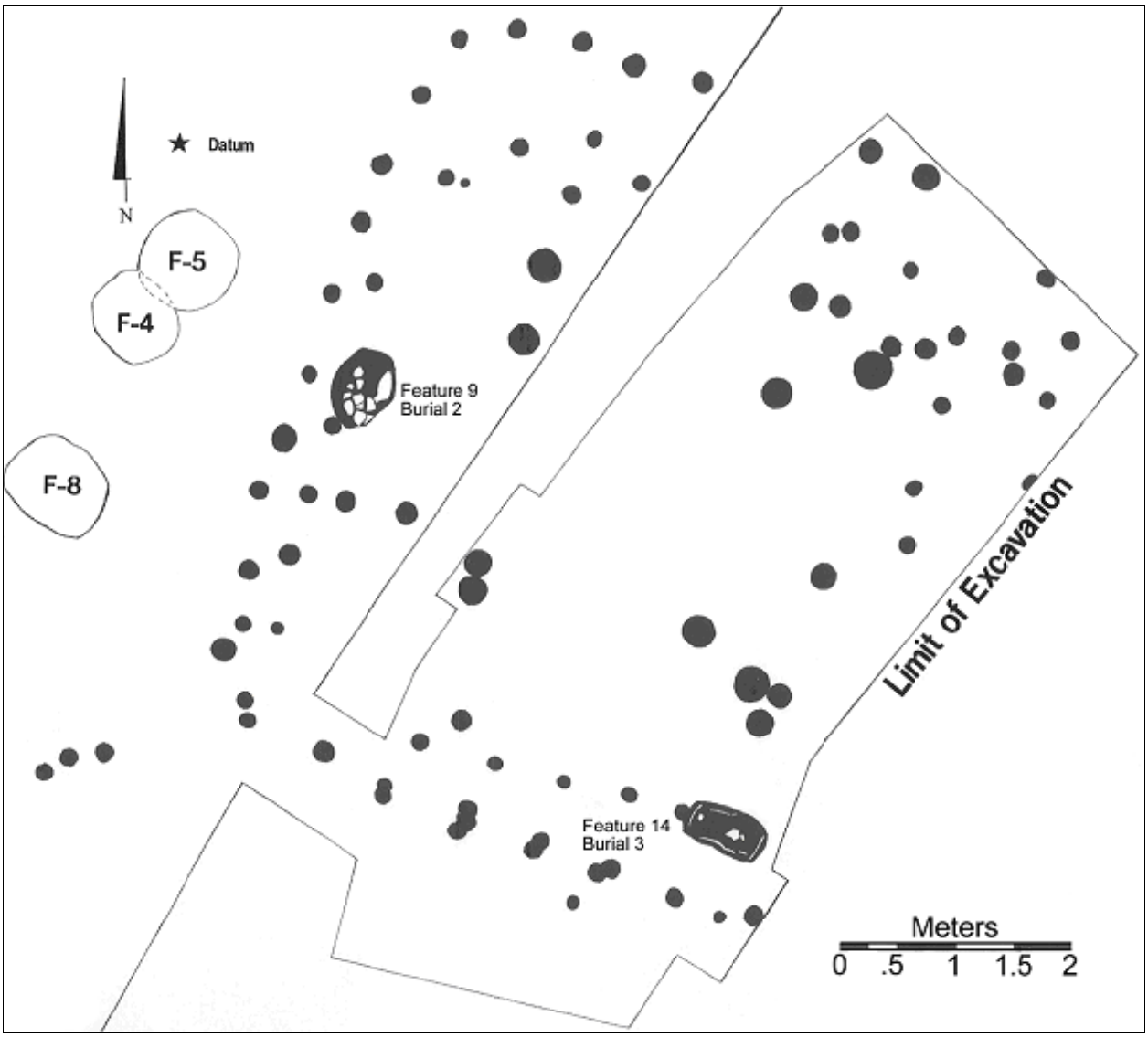


Figure 40. Plan map of Structure 2 postmold patterns (A and B). Note Burials 2 and 3 within the structures.


Figure 41. View northeast of Structure 2 postmold patterns and Burials 2 and 3.

Structure 3

Plan: Square with open corners ***Construction Type:*** Wall trench ***Pattern Percentage:*** 100
Max. Dimensions: 5.4m x 4.95m ***Area:*** 26.73m^2 ***Orientation:*** 355.5° east
Structure Size Grade: 7th smallest ***Post Count:*** 10 ***Interior Support type:*** Right angle-3 posts
Related Features: Central pit, stone box grave outside northwest corner ***Reconstruction:*** No

Structure 3 was the seventh smallest of the structures documented. It was evidenced by a wall trench pattern exposed during mechanical stripping in the ROW roughly 50m southwest of Structure 1 and five meters northeast of Structure 5 (Figures 17 and 18). Approximately two-thirds of the pattern was in TDOT ROW. Five wall trenches that formed a square defined Structure 3 (Figure 42). The trench pattern was oriented on an azimuth of 355.5° and encompassed an area of 26.73m^2, nearly the same as Structure 1. The east, west and north walls were built in single trenches while the south wall consisted of two separate sections (Figure 43). The east wall trench extended about 10cm into subsoil (Figure 44). The west wall trench was the deepest, extending a maximum of 18 cm into subsoil. The average depth below subsoil of all the trenches was 14.2 cm (Appendix I).

Removal of fill from the west and south (west ½) wall trenches revealed no evidence of vertical posts. It's possible that vertical wall posts were lashed to logs horizontally placed in the trenches. These "wall frames" were possibly constructed before they were set in the trenches, in much the

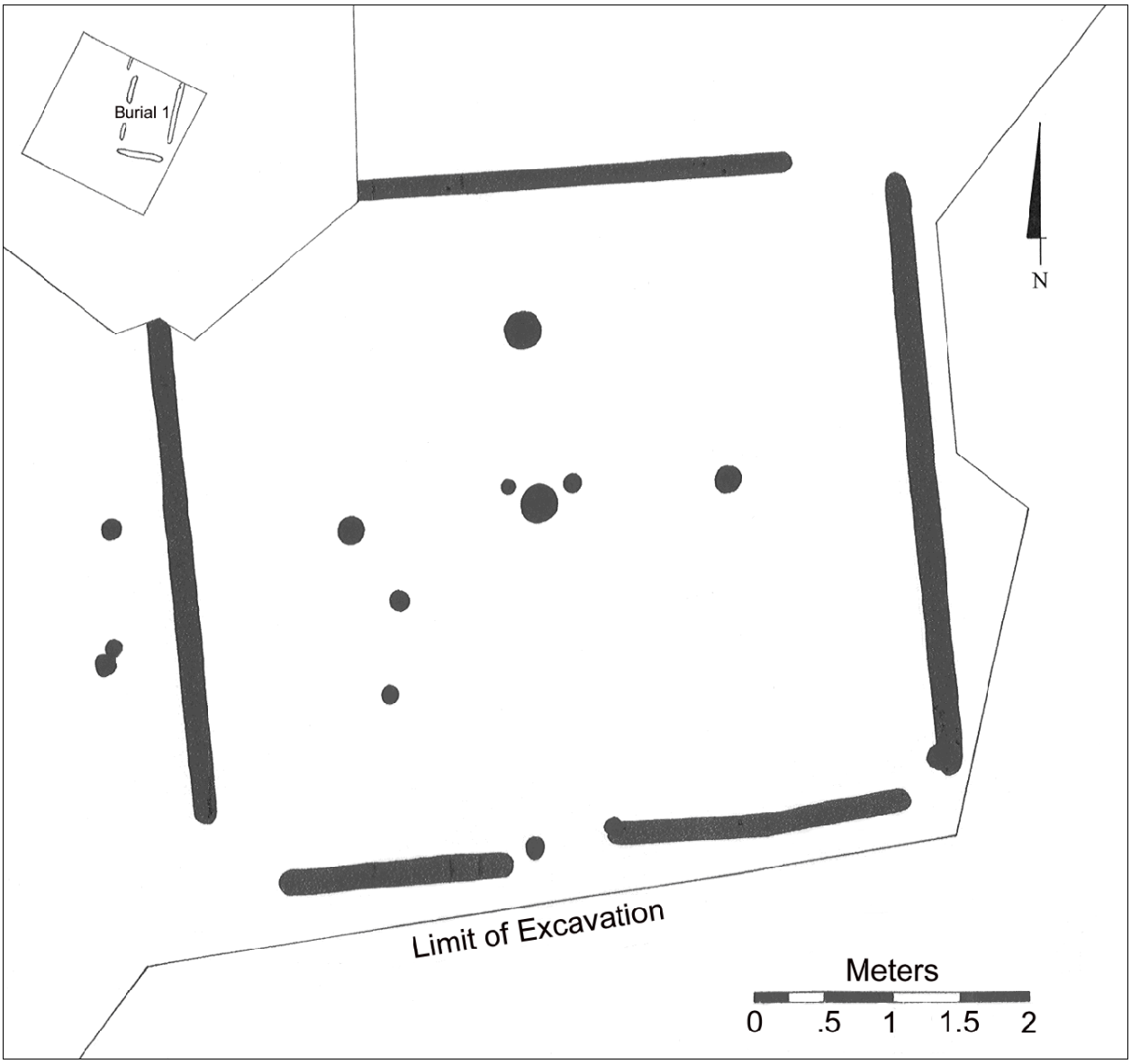


Figure 42. Plan map of Structure 3 wall trenches, postmolds and associated Burial 1.

same construction method used today. Single postmolds at the ends of two trenches suggest that after the walls were upright additional vertical posts were wedged at the ends of the walls where needed for support. The trench configuration indicates the corners of Structure 3 were open and that there was also an opening between the two shorter walls on the south side of the house. This opening was the widest at 7cm. The other openings vary in width from 28 to 68cm. Being widest, the opening in the south wall is presumed to be the likely point of ingress/egress for the house.

Eight stains presumed to be from postmolds were mapped inside Structure 3 (Figure 42). Archaeobotanical samples from what was thought to be the central support post suggest that it was actually a small pit or the bottom of a cooking facility. At subsoil the pit (designated FA) measured 28cm wide east-west and 30cm wide north-south. The pit had slanted walls that


Figure 43. View north of wall trench Structure 3.

extended 22cm into subsoil and a flat bottom that was 15cm wide. Varieties of wood, including black locust, hickory and oak comprised the majority of carbonized material from the feature. Cane and charred corn (31 kernel fragments and 1 cupule fragment) were also recovered from the pit's fill. Two small posts next to the pit may have functioned as hangers. Three relatively larger posts form a right-angle around the pit. These are thought to be roof supports. The purpose of the post between the wall trenches on the south side of the structure is not clear, although it may have functioned as some type of doorway closing or cover.

No prepared floor was discerned in the dark-brown soil covering Structure 3. Although it may have been plowed away, the depth of the trenches below the surface and the recovery of 53 Mississippian Period ceramic sherds, 103 pieces of debitage and nine lithic tools from above the subsoil in the vicinity of the structure suggest that the floor level may have been intact. Possibly some of these artifacts represent debris from the floor. What is clear is that no dense domestic deposit was present over the structure. A lack of daub in the house and vicinity suggest Structure 3 did not burn. It appears to have been abandoned and emptied of its contents. Close in size to Structure 1, Structure 3 was probably a single family dwelling that housed three to five individuals. Casselberry's (1974) demographic formula indicates an occupancy of 4.46.

The stone box grave of a sub-adult (Burial 1) was located just outside the northwest corner of Structure 3 (see Figure 42). It was encountered during the manual excavation of Unit 1 during the

Phase II testing (see Figure 17). Given the proximity to Structure 3, this grave probably holds the remains of one of its occupants. See page 103 for additional discussion of Burial 1.

Figure 44. Structure 3 east wall trench profile (bottom-center).

Structure 4

Plan: Square with rounded corners ***Construction Type:*** Single-post ***Pattern Percentage:*** 70
Max. Dimensions: 6.65m x 6.55m ***Area:*** 43.56m^2 ***Orientation:*** 10° east
Structure Size Grade: 3rd largest ***Post Count:*** 60 ***Interior Support type:*** Square
Related Features: Superimposed palisade and bastion ***Reconstruction:*** Yes

Mechanical stripping five-to-ten meters southwest of Structure 1 (Figures 17 and 18) revealed a cluster of 110 postmolds ranging in diameter from 9 to 34cm. Examination of the plan map indicates the postmolds represent two house patterns and an overlapping section of a palisade and bastion (Figures 45 and 46). Approximately 70 percent of the postmolds constituting the house patterns were exposed. The exception was the west and northwest area of the structures where a

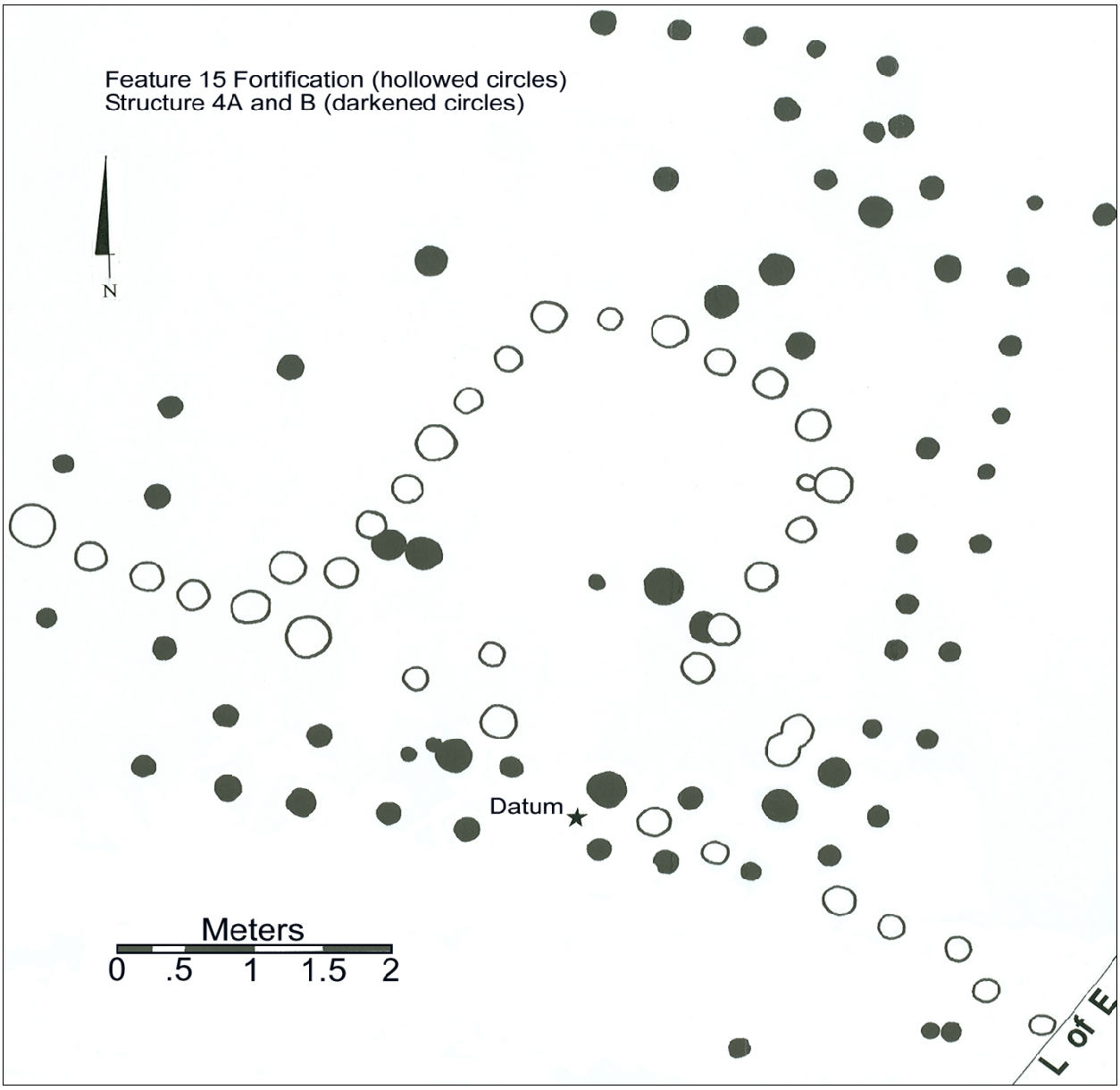


Figure 45. Plan map of Structure 4 (A and B; filled circles), and later palisade bastion (Feature 15; open circles). L of E = limit of excavations.

telephone line trench was encountered in subsoil and heavy tree root disturbance obscured the plan.

Sixty postmolds designated Structure 4 clearly show two superimposed houses, one smaller than the other. The 19 wall postmolds associated with the smaller structure ranged in diameter from 10 to 26cm with a mean of 17.16, while the 24 associated with the larger one ranged in diameter from 11 to 20cm with a mean of 15.29 (differentiated in Appendix I). The virtual lack of additional support posts along either of the two sets of house walls indicates neither structure underwent substantial renovation.


Figure 46. View east of Structure 4(A and B) and superimposed palisade and bastion.

The interpretation of the rebuilding stages is supported by the presence in the interior of the structures of two overlapping square roof-support patterns. The fact that both houses were oriented at approximately the same angle (10° east of north), and that the larger structure wall pattern encompassed the smaller one at roughly the same distance on all sides indicate a relationship between the two dwellings.

Postmolds inside Structure 4 are divided into two categories, roof support posts (n= 7) and other interior posts (n=9). The seven roof supports are from two sets of four posts, one set from the first structure and one set from the second stage one. Postmolds from the roof supports were much larger in diameter than those from the walls ranging from 22 to 30cm with a mean of 25.0. Other interior postmolds (n=9) ranged in size from 9 to 25cm with a mean of 18.33. These are not differentiated according to construction stages.

The larger of the two structures encompassed an area of roughly 43m^2, making it the third largest of the structures identified. While the walls from the two house construction stages are easily distinguished the interior divisions of Structure 4 are complicated by the overlapping patterns making it difficult to discern the interior layout of rooms and/or partitioned areas or benches. Structure 4 is presumed to have housed a family of five-to-seven individuals. Casselberry's (1974) demographic formula indicates an occupancy rate of 7.27 for the larger house pattern.

Fill was removed from eight (8) Structure 4 postmolds. These include five of the roof supports, two wall posts and one interior post. The average depth below subsoil of the wall postmolds was 17.5cm, while the roof support postmolds were only slightly deeper at an average of 18.86cmbs. Charcoal from one roof support was predominately black locust and a fragment of a corn kernel. One wall post was entirely persimmon and an interior post was entirely walnut.

Balk profiles and a lack of hearths in Structure 4 suggest the floor(s) had been plowed away. No artifacts were clearly associated with Structure 4, nor was daub found to suggest that either burned. From the lack of artifacts and daub it can be inferred that the smaller structure was demolished or dismantled to build the larger one and the larger one was abandoned after the occupants removed the contents.

Structure 5

Plan**:* Square with rounded corners ***Construction Type**:* Single-post ***Pattern Percentage: 65
***Max. Dimensions**:* 5.4m x 5.25m ***Area**:* 28.35m^2 ***Orientation**:* 14° east
***Structure Size Grade**:* 6th smallest ***Post Count**:* 37 ***Interior Support type**:* Square
***Related Features**:* Burial 4 inside structure, Feature 29 outside west wall
***Reconstruction**:* One corner possibly refurbished

Structure 5 was evidenced by a partial postmold pattern uncovered while stripping 5-to-12 meters southwest of Structure 3 (Figures 17 and 18). The pattern consisted of 37 postmolds that formed roughly 65% of a square single-post house plan (Figure 47). Three corners, two and a half walls (east, south and west, respectively), roof supports and other interior features were discerned. Four additional postmolds were identified outside of the south wall of the structure. Three of these form a triangular pattern of unknown function. The proximity of these postmolds to Structure 5 suggests they are associated with it. An additional postmold was encountered on the south side of the structure and three others on the northeast corner, the later suggesting a corner bench.

Of 37 postmolds clearly associated with Structure 5, twenty-five (25) are wall posts, three (3) are roof supports and the remaining nine (9) are from interior posts. The diameters of the wall postmolds at origination (Subsoil) ranged from 9 to 20cm with a mean of 15.56. Three of the roof supports were evident and ranged in diameter from 15 to 18cm with a mean of 16.33. The configuration of the three posts suggests they were part of a square roof support system, although the diameters are small when compared with this type of roof support in other structures. The remaining interior posts ranged in diameter from 12 to 22cm with a mean of 17.33 (Appendix I). No central hearth was found, though plowing and other disturbances probably account for its absence.

Structure 5 was on an azimuth of 14° and enclosed an area of roughly 28m^2, making it the sixth smallest structure. Because it was incompletely exposed, its interior spatial organization is difficult to determine. Examination of the partial pattern suggests there was at least one partitioned or benched area in the southeast corner and possibly two more along the east wall. Two postmolds between the roof supports along the north side of the structure suggest this area

Figure 47. Structure 5 postmold pattern showing interior Burial 4 (Feature 19) and exterior pit (Feature 29; west of structure).

of the house also was partitioned or benched. The assumption is that Structure 5 had a primary room with adjacent sleeping quarters similar to those of other houses at the site.

The badly disturbed stone box grave of a sub-adult (Burial 4) was encountered along the west wall of Structure 5. Given the state of this burial and the incompleteness of the house postmold pattern at least part of this area of the structure had suffered from prior ground disturbances. A telephone line trench also extended through this area of Structure 5.

Four lithic tools, 86 pieces of chert debitage, 16 ceramic sherds and four fragments of unidentified mammal bone were recovered during removal of overburden from Structure 5. No prepared floor was discerned in the dark-brown soil over it. While it's unclear whether the floor may have been plowed away the depth of the postmolds below the surface (circa 40cm) and the

recovery of artifacts suggest at least part of the floor level may have been intact. On the other hand, no extensive domestic deposits were present over the structure house pattern.

Coupled with the lack of daub, it appears Structure 5 did not burn. It was apparently abandoned after the occupants removed their contents. Similar to the other houses at Kellytown, Structure 5 was probably a single family dwelling that housed three-to-five individuals. Casselberry's (1974) demographic formula indicates an occupancy of 4.73.

Structure 6

Plan: Square with rounded corners ***Construction Type:*** Single-post ***Pattern Percentage:*** 35
Max. Dimensions: 5.0m x ? ***Area:*** 25.0m^2 (estimated) ***Orientation:*** 355°
Structure Size Grade: 9th smallest ***Post Count:*** 21 ***Interior Support type:*** Square
Related Features: Central hearth ***Reconstruction:*** No

Structure 6 (Figures 17 and 18) was first evidenced by discovery of a puddled clay hearth. Initially the entire structure was within the ROW but changes made to the project design to minimize the risk of disturbing human remains resulted in one third of the structure remaining unexcavated. The hearth originated 41cmbs in an area of dense root growth. Roots had penetrated the hearth and most of its rim had crumbled (Figures 48 and 49). The hearth had a maximum bowl diameter of 43cm and the maximum depth of the bowl from the top of what remained of the rim was 14cm. The rim itself was insufficiently complete to determine its original dimensions. The hearth fill was floated at the TDOT Archaeology lab but found devoid of archaeobotanical material. Shovel skimming in the vicinity of the structure and screening of overburden yielded 180 artifacts including 115 pieces of chert debitage, 10 lithic tools, 55 Mississippian sherds, six fragments of unidentified mammal bone and half of a bivalve. The bivalve was the only shell ecofact recovered from the site. Along with the ceramics, three of the lithic tools are temporally diagnostic (see *Results of Laboratory Analysis*). Two of these predate the Mississippian occupation of the site. The third artifact is part of a chisel of Dover chert. This artifact has spalls and crazing that indicate it was burned. The presence of pea sized daub in overburden from the apparent floor level of the structure also suggests an episode of burning. However, no large sections of daub or charred wood were identified, nor were domestic remains accumulated at the floor level as assumed by the vertical position of the hearth. Structure 6 may well have been burned intentionally and the area cleaned of rubble in preparation for the building of Structure 8 which partially superimposed Structure 6.

Once the Structure 6 floor level was investigated, the area was mechanically stripped to reveal its architectural plan. Twenty-four postmolds, constituting roughly 35% of the house pattern, were found (Appendix I). Three of the postmolds overlap Structure 8 (Figure 51).

Figure 48. Structure 6 hearth (Feature 18).

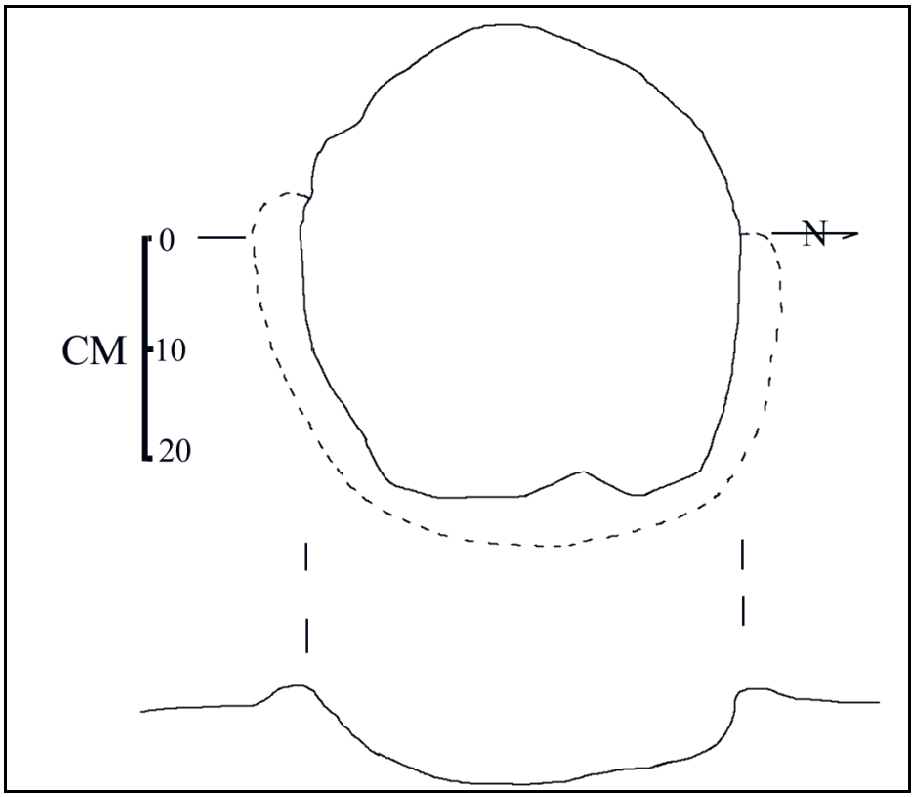


Figure 49. Planview and profile of Structure 6 hearth (Feature 18).

Eight (8) postmolds form the exterior wall of Structure 6, four (4) are roof supports and the remaining nine (9) are interior posts. The diameters of the wall postmolds at origination (subsoil) ranged from 13 to 27cm with a mean of 16.75. The roof supports ranged in diameter from 13 to 25cm with a mean of 19.25. The configuration indicates four posts in a square or somewhat rectangular pattern supported the house roof. The remaining interior posts ranged in diameter from 12 to 31cm with a mean of 19.11.

Based on the interpreted wall pattern, Structure 6 was oriented on an azimuth of 355 degrees, nearly identical to Structure 3. The house is estimated to have enclosed an area of 25m^2, roughly the same size as Structure 1. It was the third smallest of all of the structure patterns identified. Because this house pattern was not completely exposed it is difficult to determine the layout of the interior space. Given the estimated area of Structure 6, it is presumed to have housed a single family of three-to-five individuals. Casselberry's (1974) demographic formula indicates an occupancy of 4.18.

Structure 8

Plan: Rectangular with open corners ***Construction Type:*** Wall trench ***Pattern Percentage:*** 100
Max. Dimensions: 5.65m x 4.20m ***Area:*** 23.73m^2 ***Orientation:*** 7° east
Structure Size Grade: 10th smallest ***Post Count:*** 9 ***Interior Support type:*** Central
Related Features: Interior child burial and pits ***Reconstruction:*** No

Structure 8 was a wall trench house composed of four trenches in the shape of a rectangle (Figures 17 and 18). The north and south wall trenches were the longest, measuring 5.19 and 5.21m, respectively, and averaging 19cm in width. The west wall trench was the shortest at 3.44m, 10cm less than that of the east wall trench. The average width of the shorter trenches was 20.5cm. Partial excavation of the east wall trench and probing of the other three revealed they were dug into subsoil to a maximum depth of 21cmbs (Appendix I). While postmolds were located along the edges of three of the wall trenches (east, south, and west) none were observed within them. Structure 8 had the same type walls as those described for Structure 3. As previously mentioned, Structure 8 partially overlapped Structure 6 (Figures 50 and 51).

Ten postsmolds were identified inside and in the immediate vicinity of Structure 8. One overlapped the east wall trench, three overlapped the south wall trench, one was just outside of the south wall trench and one was just inside the east wall trench. Three of these postmolds appear to be associated with Structure 6. Two posts appear to have been placed against the south wall of Structure 8 as wedges to support it. The presence of limestone within and along the west wall trench further supports the hypothesis that the walls were wedged into place. The remaining four postmolds were located within the structure. Two were along the west wall, one was a central support post and one was an interior post that probably also supported the roof of the structure. Excavations also revealed six pits within Structure 8. These were located in the northwest corner and appear in the shape of a partial circle with one pit (Feature 42) actually

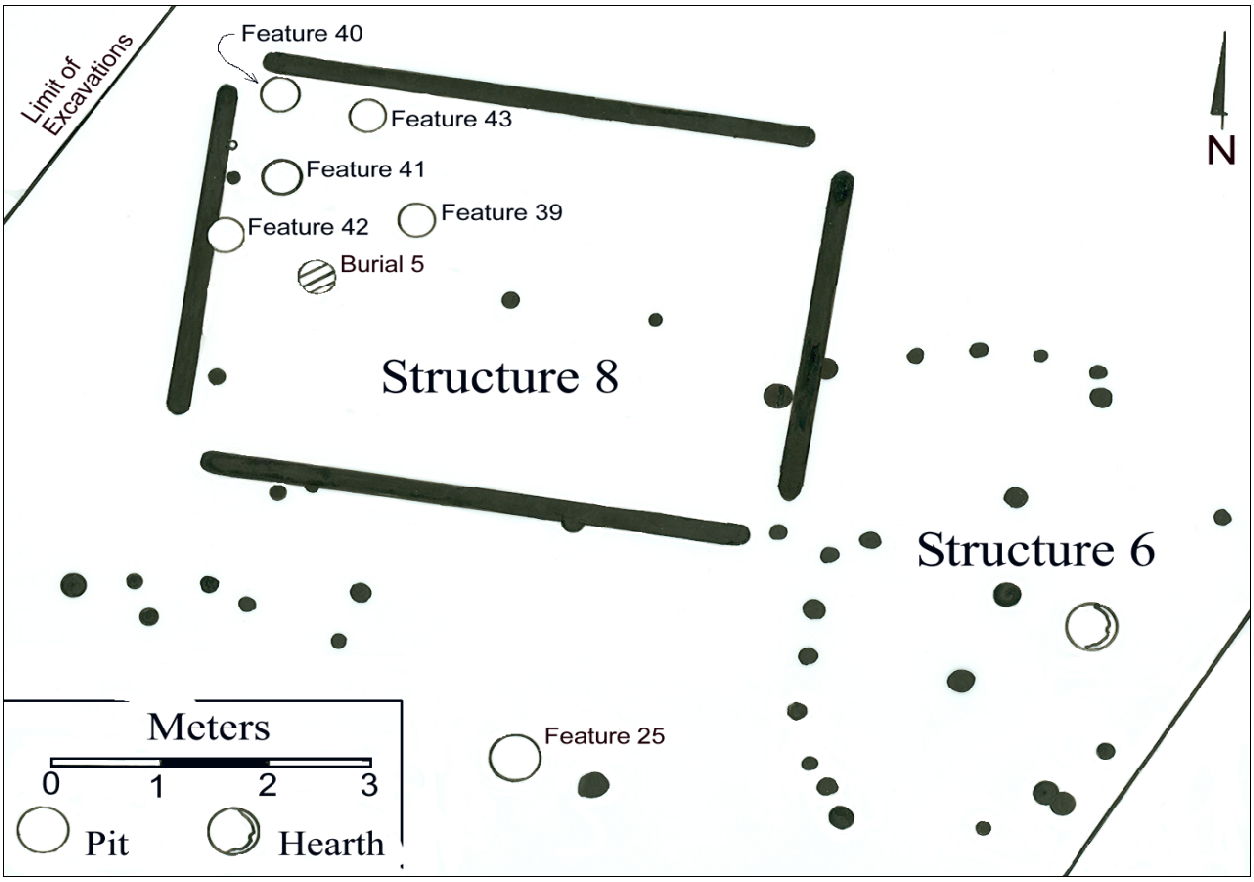


Figure 50. Plan maps of Structures 6 and 8 with cultural features in vicinity.

overlapping the east wall of Structure 8 (see Figure 52). One of these pits contained an infant burial in a ceramic jar (Burial 5). The other five pits (Features 39-43) were of nearly equal diameter to that of the burial and averaged 37.2cm. Four of these, Features 39-42, were excavated. These produced varied amounts of Mississippian ceramic sherds, daub, food remains, charred wood and lithics. The similarities of the pits and their configuration suggest a relationship but the fact that one of them overlapped the west wall trench suggests it, and probably the others, postdate the demise of Structure 8.

Structure 8 was the eleventh smallest structure. It was oriented on an azimuth of seven degrees and encompassed an area of 23.73m^2, roughly three square meters less than that of the only other wall trench house (Structure 3). The floor plan consisted of four walls built in separate trenches with open corners that varied in width from roughly 35-50cm. Four postmolds within the structure are interpreted as being clearly associated with it; a central roof support, an additional interior post that was at the same distance from the north and south walls as the central support, and two from posts along the west wall that may have supported a bench. The few postmolds within Structure 8 indicate possibly one partition wall extended from the central support post into the east wall. This would have divided the house into a large room on the west side and two smaller areas of equal size on the east side. No evidence of a cooking facility was encountered. Given its size, Structure 8 was probably a single family dwelling that housed three-to-five individuals. Casselberry's (1974) demographic formula indicates an occupancy of 3.96.

Figure 51. View south of Structure 8. Note phone line trench through it.

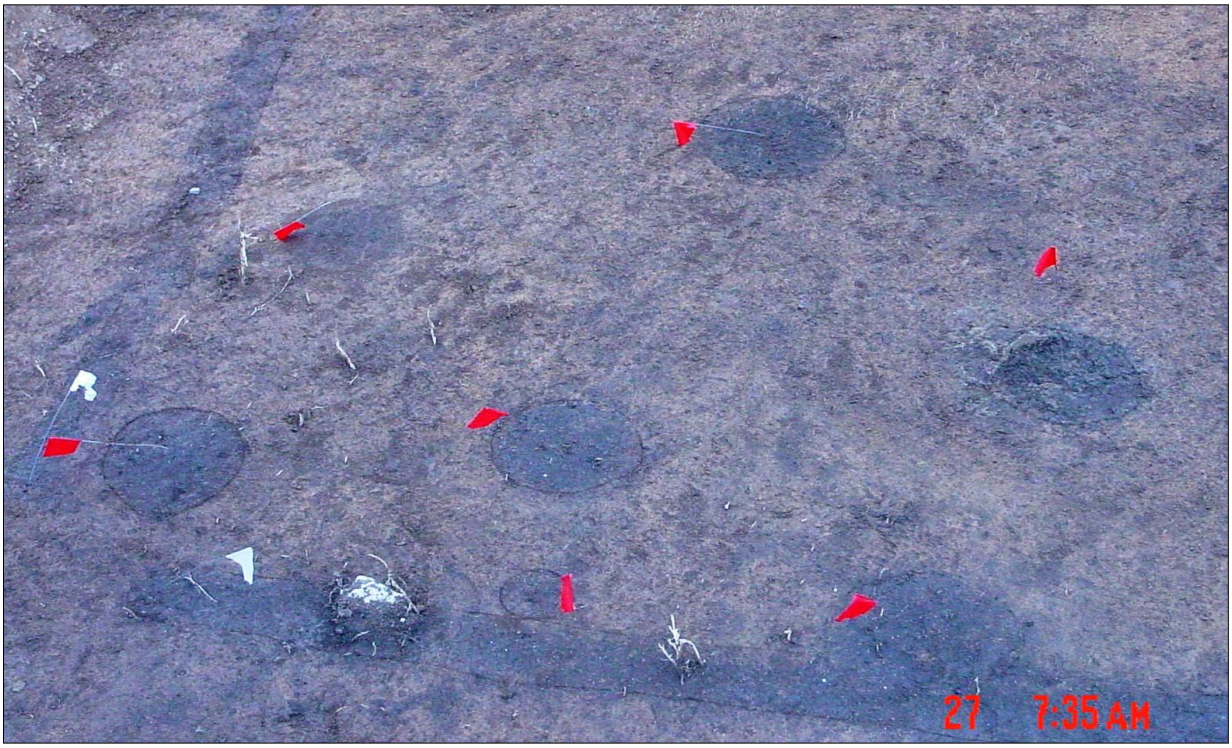


Figure 52. View east close-up of pit features in Structure 8. Feature 28/Burial 5 at center-right.

Only a single ceramic sherd was recovered from above the apparent house floor level suggesting the structure was abandoned after the occupants removed the contents. No prepared floor was discerned in the dark-brown soil across Structure 8. The floor may have been plowed away but the 0.5m average depth of the trenches below surface suggests it wasn't.

Structure 10

Plan: Square with rounded corners ***Construction Type:*** Single-post ***Pattern Percentage:*** 90
Max. Dimensions: 5.75m x 5.75m ***Area:*** 33.06m^2 ***Orientation:*** 10°
Structure Size Grade: 5th largest ***Post Count:*** 81 ***Interior Support type:*** Square
Related Features: Interior hearth and child burial
Reconstruction: No, but evidence of wall refurbishing

When a tree with a trunk diameter of about 70cm was pushed over and removed from ROW in the Kelly front yard a circular layer of burned clay was exposed in the tree's root ball. The deposit had a maximum diameter of 49cm and a maximum thickness of five centimeters. The size and characteristics of the deposit suggested it was a hearth probably within another prehistoric house (Figures 17 and 18).

To assess the condition of archaeological deposits in the area of the burned clay a trench was excavated immediately west of where the tree was uprooted. The trench was five meters long and 1.2m wide and extended in a north-south direction. The trench profiles revealed dark-brown silt loam to a maximum depth of 41cmbs with orange-brown clay hardpan below it. While no internal stratigraphy was evident in the upper soil zone, a light scatter of cultural material consisting of Mississippian ceramics, lithics and small pieces of daub was observed in the trench walls. The artifact bearing level extended from near the surface to a maximum depth of 32cmbs. Given the burned clay deposit and the fact that postmolds were present in subsoil at the base of the trench, the bottom of the artifact bearing layer was presumed the level of a house floor.

After examination of the trench plan and profiles, the area around the uprooted tree was mechanically stripped to 25cmbs, the presumed top of the burned clay deposit. The remainder of the artifact bearing soil (25-32cmbs) was shovel excavated and screened. While some artifacts (n=59) and a concentration of daub were found in the dark-brown soil of the floor level, extensive structural debris, domestic features, or artifact clusters were not identified.

Once below the artifact layer the remainder of the upper soil zone was mechanically stripped to subsoil. There, 81 postmolds representing a single-post house (Structure 10) were recorded (Figures 53 and 54). Supporting its initial interpretation as a hearth, the burned clay deposit exposed by the uprooted tree stump was in the center of the house.

Like the other single-post houses, Structure 10 was square with rounded corners and had a square roof support comprised of four posts. Additional postmolds indicating partitions or benches were found in the north half of the house. Two postmolds, each measuring 18cm in diameter, extended at a right-angle from the exterior of the west wall of Structure 10. The line formed by these is

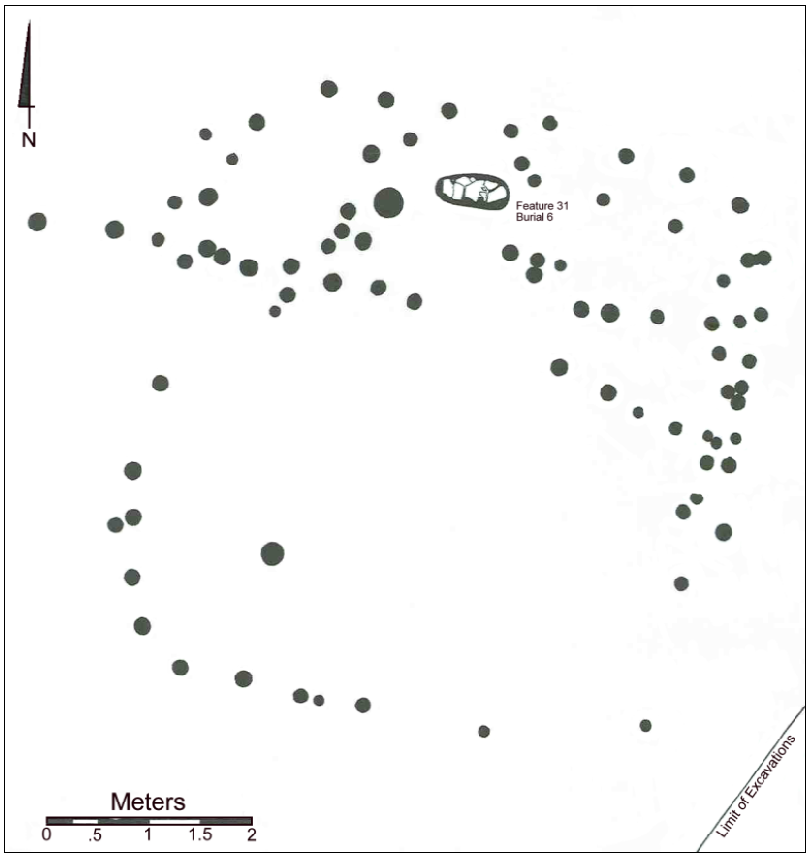


Figure 53. Structure 10 plan map with interior Burial 6 (Feature 31).


Figure 54. View southeast of Structure 10 showing Burial 6 and recent disturbance.

directly north of the widest postmold gap in the west wall of the structure suggesting it was a windbreak at the house entrance.

Structure 10 exhibited evidence of renovation. The walls in the northeast corner appear to have been completely replaced as indicated by two rows of postmolds. The house may have been slightly expanded in this area. Three overlapping postmolds along the outer wall in the northeast corner of the house and a set of double postmolds in the southwest corner indicate some of the walls were supported with additional posts. While Structure 10 was clearly renovated it was not completely rebuilt, as was the case with Structures 2 and 4. The majority of the wall pattern, roughly 75%, is indicated by a single row of postmolds and there are no overlapping roof support patterns.

The eighty-one (81) postmolds that comprise the Structure 10 house pattern range in diameter from 10 to 29cm with a mean of 15.06 (Appendix I) and the walls enclosed an area of approximately 33m^2 making it the fifth largest structure. Structure 10 is similar to the other "single-post" houses at the site with partitioned areas extending from the roof supports into the exterior walls. It too appears to have had one large room with at least three sleeping quarters in the north half of the structure. Abundant postmolds in the northeast corner of the house suggest the area was benched.

Relatively few artifacts (n=72) were recovered from the hand excavation of Structure 10. These include one flake tool, 17 pieces of debitage, 11 fragments of unidentified mammal bone and 41 Mississippian sherds. The sherds are from a minimum of three vessels. Thirteen (13) additional sherds were found above the hand-excavated level. The previously mentioned burned clay deposit occurred in a roughly 1.5m area over the south-central portion of the structure pattern, directly adjacent to where the tree had been removed. Nearly all of the observed burned clay was pea size to nickel size and occurred between 28 and 32cmbs. Four pieces of daub larger than a quarter in diameter were collected for analysis.

The lack of artifact concentrations on the floor of Structure 10 suggests it was abandoned. The floor level was heavily penetrated by roots and modern underground utilities were another source of disturbance. A 50-60cm wide gas-line trench extended through the west, central and east part of the house and a utility pole hole measuring roughly 1.5 meters in diameter had been recently dug within the southeast area of the structure. It missed the gas line by less than 20 centimeters. A paved driveway also extended over the north half of the house pattern. When the subsoil below the driveway was uncovered the stone box grave of a child (Burial 6) was found. As with Structures 2 and 5 the grave was just inside the house walls in what appears to be a partitioned area.

Structure 10 is typical of the single-post houses found at Kellytown having a primary room with a minimum of three adjoining partitioned areas around a central hearth. The presence of Burial 6 within the structure and the configuration of the house plan suggest it was a single family dwelling that housed four-to-six individuals. Casselberry's (1974) demographic formula indicates an occupancy rate of 5.52. The child's grave and the wall renovations noted suggest the structure was occupied for an extended period of time. The low frequency of artifacts recovered

and the presence of daub over the house floor in the south-central area of the structure suggest it was ultimately abandoned and burned.

Structure 11

Plan: Square with rounded corners ***Construction Type:*** Single-post ***Pattern Percentage:*** 70
Max. Dimensions: 6.5m x ? ***Area:*** 42.25m^2 (estimated) ***Orientation:*** 21°
Structure Size Grade: 4th largest ***Post Count:*** 31 ***Interior Support type:*** Square
Related Features: None ***Reconstruction:*** No

Structure 11 was single-post constructed and evidenced in plan by three walls (north, south and east) around a square roof support pattern. The west wall was not exposed as it was and still is under Hillsboro Road. No floor level, stratified structural remains or artifact accumulations were evident in the road cut profile. Because Structure 11 extended under in-use traffic lanes safety issues required it be investigated quickly. After postmolds were probed to determine their depths, mapped (Figure 55) and photographed (Figure 56) the area was immediately filled with crushed limestone. Twenty-four of the 31 postmolds associated with Structure 11 were wall posts. These ranged in diameter from 14 to 24cm with a mean of 18.0. Probing revealed their depths below surface ranged from 19 to 40cm with a mean of 30.13. Three of the postmolds from the square roof support pattern were clearly evident and ranged in diameter from 25 to 28cm with a mean of 26.33 (Appendix I). Their depths below surface ranged from 32 to 37cm with a mean of 35.0. The remainder of the postmolds (n=4) are interior posts. Two of these are within the square roof support pattern and two are in the east side of the structure.

When compared with the other single-post house patterns, Structure 11 had relatively few interior posts. Assuming the probing depths presented are accurate, and given the ground disturbance evident along Hillsboro Road, it may be that additional postmolds were dug less deep within the structure but were disturbed or not discerned in the dark topsoil. While the interior architecture of the house is unclear, its square roof support pattern and the presence of the additional interior postmolds suggest it was like the other houses found, having a primary room with several partitioned areas or sleeping quarters.

Structure 11 is estimated to have had a floor area of roughly 42m^2, slightly smaller than that of Structures 4 and 2, respectively. It was the third largest house and the fourth largest structure found. The data suggest it housed a single family of five-to-seven individuals. Casselberry's (1974) demographic formula indicates an occupancy rate of 7.05. As no double postmolds were evident along the walls of Structure 11 the house does not appear to have been occupied long enough to require renovation. Because the floor level of the house was not discerned and no evidence of burning was found the structure is thought to have been abandoned.

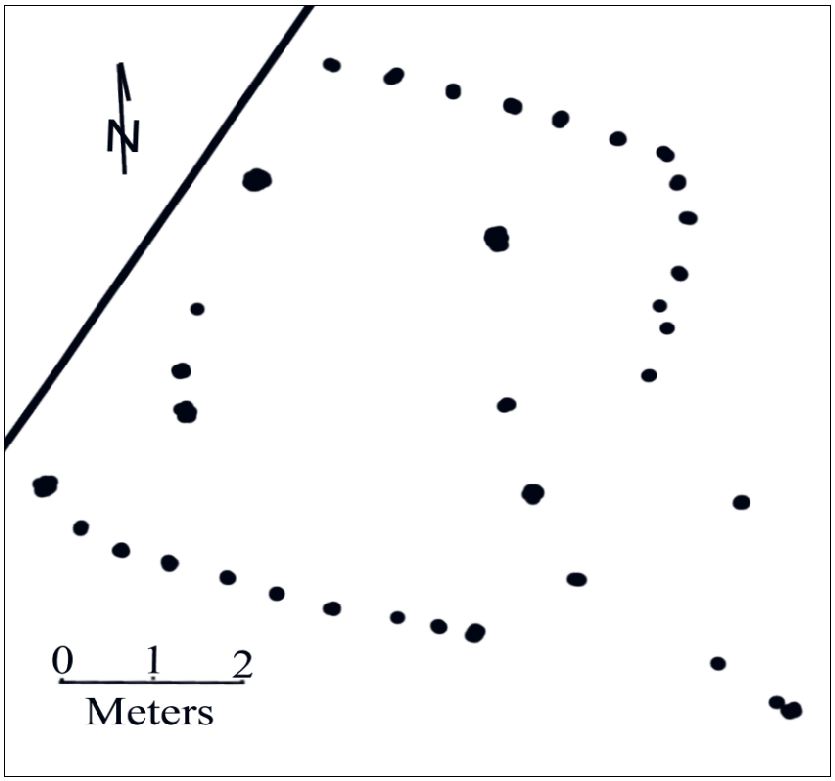


Figure 55. Structure 11 plan map.

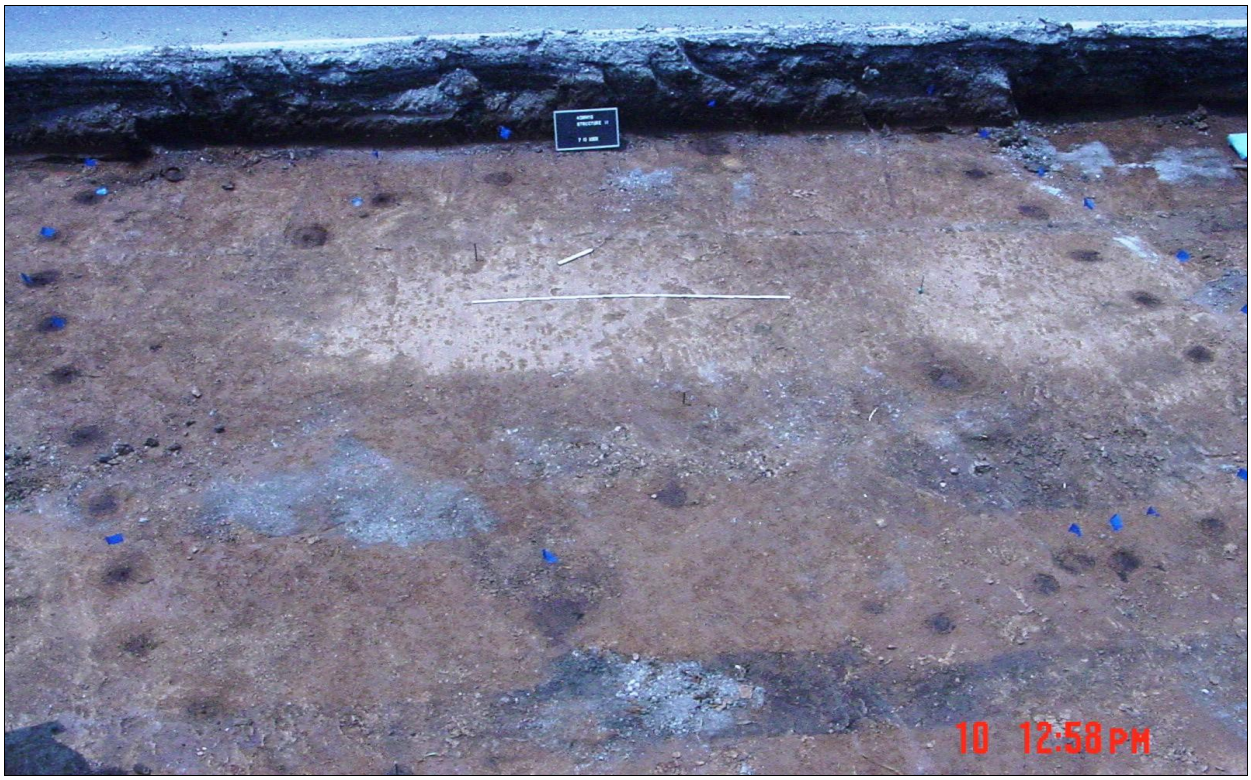


Figure 56. View northwest of Structure 11 postmold pattern.

Structure 12

Plan: Square with rounded corners ***Construction Type:*** Single-post ***Pattern Percentage:*** 25
Max. Dimensions: ? ***Area:*** ? ***Orientation:*** 11.5°
Structure Size Grade: ? ***Post Count:*** 18 ***Interior Support type:*** ?
Related Features: Oval pit (Feature 37) inside structure
Reconstruction: Two double postmolds along east wall indicate possible repair

A portion of a structure postmold pattern was uncovered on June 10, 2002 while stripping shoulder and ditch directly north along Hillsboro Road from where the Structure 11 house pattern was discerned. Structure 12 was evidenced by 18 postmolds that penetrated the subsoil (Figures 17 and 18). The postmolds constituted most of the east wall and about a third of the south wall of what is presumed to be another single-post house (Figure 57). An estimated 25 percent of the structure was exposed. The remainder was, and still is, under Hillsboro Road (Figure 58).

Because Structure 12 extended under in-use traffic lanes, safety issues required it be investigated quickly. After the postmold diameters were recorded, and the partial house pattern was photographed and mapped, the area of Structure 12 was immediately filled in with crushed limestone to the level of the in-use roadway pavement.

The partially exposed wall pattern of Structure 12 is quite similar in construction and orientation to Structures 2, 4 and 11 suggesting it was a house of about the same size. Seventeen (17) of the eighteen postsmolds forming the house pattern were from exterior walls. These ranged in diameter from 15 to 26cm with a mean of 19.24. The single exception was located in the northeast corner of the house and had the smallest diameter at 15cm. Two double postmolds were noted in the east wall of the house. These might be repairs but they could also be posts wedged into postholes along the walls for support when the structure was built, or they might be associated with an interior function of some sort.

One interior feature (Feature 37) was noted within Structure 12. It was a small to medium sized pit in the southeast quadrant evidenced by an oval to amorphous stain in planview. It had a maximum length of 40cm and a maximum width of 32cm. Given the relatively high incidence of child burials in the structures at Kellytown and because of safety concerns due to the proximity of in-use traffic lanes Feature 37 was not excavated.

No prepared/living floor was evident in the road profile that crossed Structure 12 and nothing was observed during excavation to indicate one. The lack of domestic items from the house suggests it was abandoned. However a ditch previously graded over the 3-meter wide exposed portion of the structure may have disturbed the floor level along Hillsboro Road.

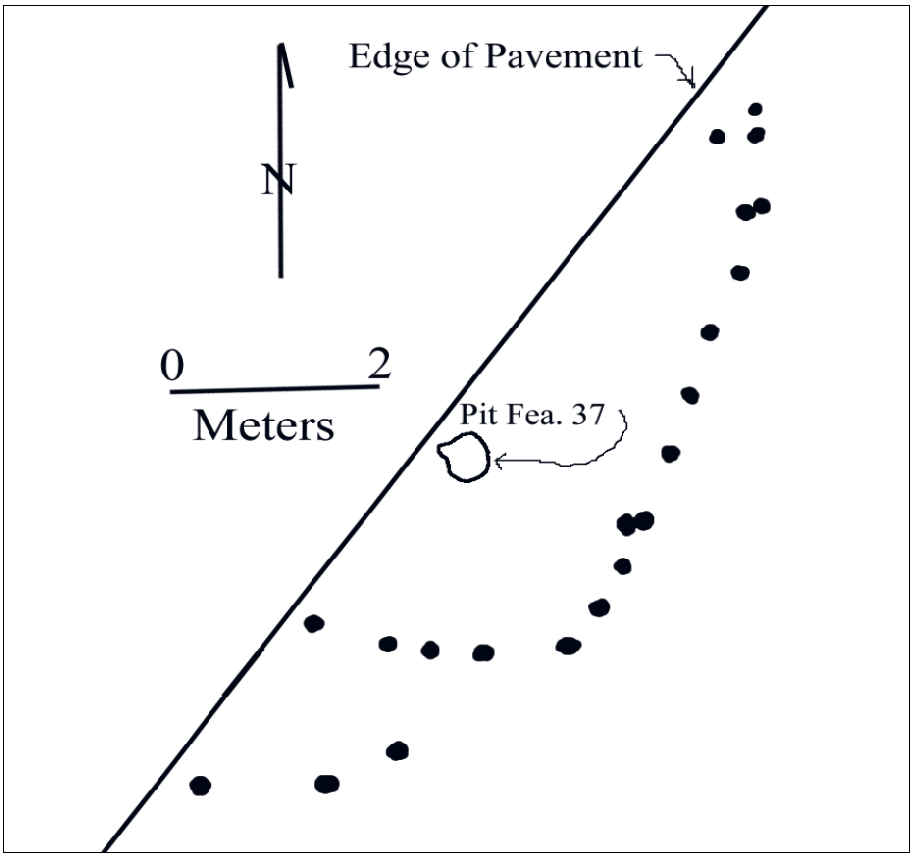


Figure 57. Structure 12 plan map.

Figure 58. View northwest showing partially exposed Structure 12 postmold pattern.

Public Buildings (n=1)

One of the 12 structures at Kellytown, Structure 7, is distinctive from the others in its size, location and construction plan. Structure 7 enclosed over twice the area of any other building except one. The exception (Structure 2) was 52 percent (45.56m^2) of Structure 7's area. Structure 2 was roughly 30m southwest of Structure 7. All other structures were at a further distance. A roughly 25 meter-long span between Structure 7 and Structure 2 was void of postmolds or other architectural features. Neither was evidence of prehistoric construction unearthed in a roughly 25 meter-long span north of Structure 7 (Figure 17). It appears that Structure 7 was surrounded by an open area or plaza purposely separated from the residential area of the community. Structure 7 is also differentiated from the others by having a single room with a central roof support and little evidence of interior features.

Structure 7

Plan: Square with rounded corners ***Construction Type:*** Single-post ***Pattern Percentage***: 55
Max. Dimensions: 9.35m x ? ***Area:*** 87.42m^2 (estimated) ***Orientation:*** 5°
Structure Size Grade: Largest ***Post Count:*** 39 ***Interior Support type:*** Central
Related Features: Feature 26 ***Reconstruction:*** No

Structure 7 was identified by 39 postmolds that penetrated into subsoil. Thirty-three (33) of these formed two complete walls (east and south) joined by a rounded corner, five were within the building and one was along the structure's north wall. The rest of the structure is under Hillsboro Road (Figures 59 and 60). The building was square with rounded corners and is estimated to have enclosed an area of 87.42 m^2. If Structure 7 was assumed to be a domestic residence, Casselberry's formulae (1974) would indicate an occupancy rate of 14.6 individuals. The number of persons calculated for the interpreted houses ranged from 3.96 in Structure 8 to 7.6 in Structure 2 with a mean of 5.44.

The Structure 7 wall postmolds ranged in diameter from 9 to 35cm and had a mean of 16.36. Interior postmolds ranged in diameter from 15 to 28cm with a mean of 21.8 (Appendix I). The largest postmold found was within the east wall of the structure and had a diameter of 35cm. An additional interior postmold nearby it could suggest wall repair or possibly they anchored benches or platforms. No other indication of renovation was evident along the structure walls.

Fill was removed from two of the Structure 7 postmolds, one from the southeast corner and one from the interior. The corner postmold extended to a depth of 17cm below contact. Flotation of fill yielded 31.8 grams of charcoal. Twenty-five grams of the material was submitted to Beta Analytic of Miami, Florida for an age determination (see *Radiocarbon Essays*). The remainder (6.8 grams) was identified as black locust. The interior postmold was located roughly four meters northeast of the central post and bottomed at 18cm below subsoil contact. Flotation of the fill yielded a variety of charred material including in order of frequency (fragments); cane, oak, black locust, persimmon wood, and corn (1 cupule fragment). The variety of fill material suggests this feature may have actually been a small pit, not a postmold.

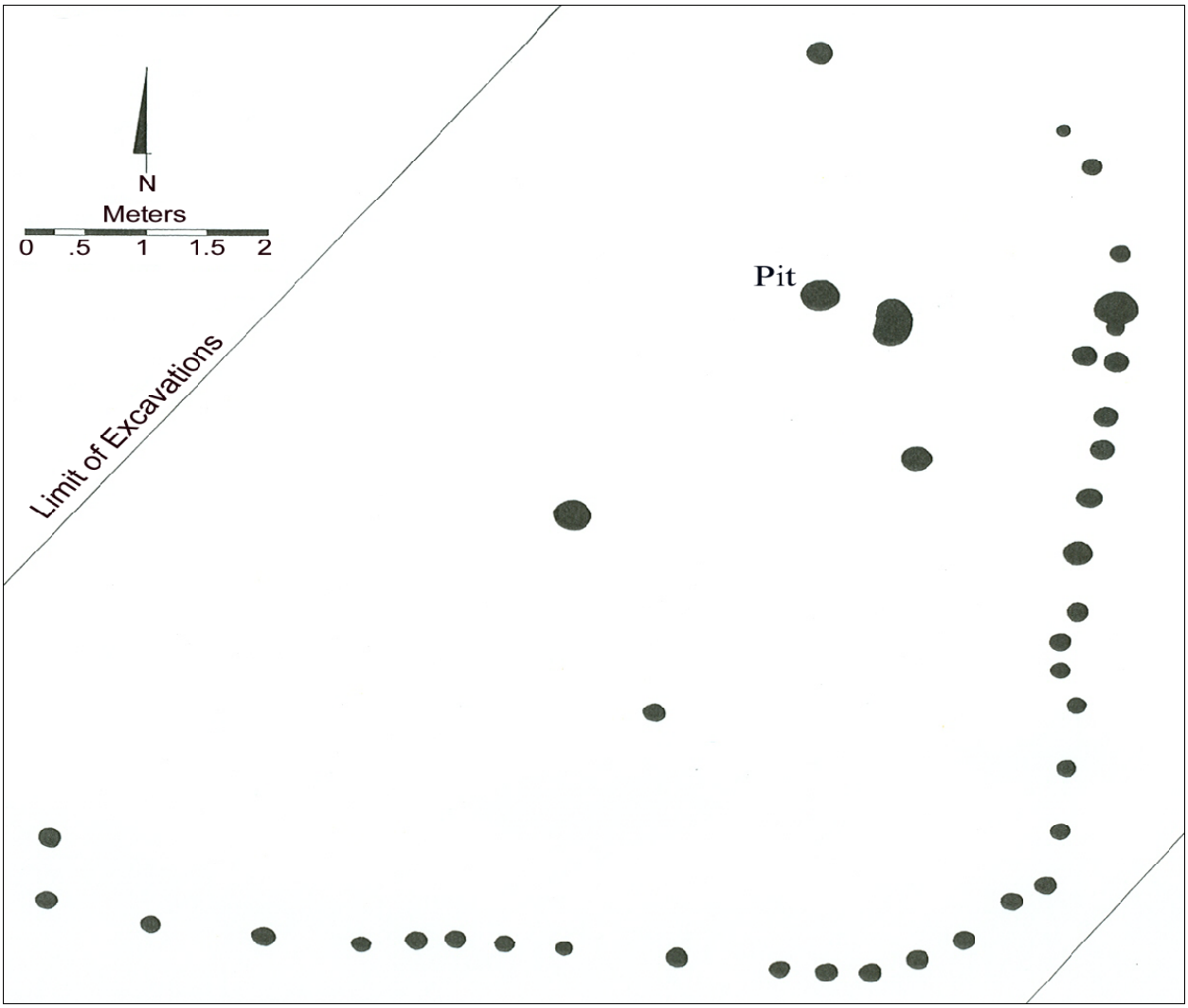


Figure 59. Structure 7 plan map.

Another anomaly identified in Structure 7 was a dark somewhat crescent shaped stain. It measured 50cm north-south and had a maximum width of 25cm. Excavation revealed the deposit to be double postmolds dug through by rodents. Both postmolds had flat bases with diameters of 18cm and extended to the same depth, seven centimeters below origination (subsoil). Fill was not collected from them.

Extensive disturbance was evident across the exposed part of Structure 7. Most of it was a result of tree stump removal along Hillsboro Road but a ditch and telephone line trench also extended through the structure. Missing postmolds along the north wall of the pattern also indicate disturbance.

The vertical floor level of Structure 7 was not discerned and artifacts were not found across the structure pattern. No evidence of burning (daub, burned clay) was found in the vicinity of Structure 7. This may indicate the floor level was destroyed by recent activity, or it had no formally prepared floor. Assuming the later scenario and given the lack of associated artifacts,


Figure 60. View northwest of Structure 7 postmold pattern.

the building appears to have been kept free of debris. The architectural and archaeological data suggest Structure 7 was a public building of some kind.

Storage Facilities (n=1)

Structure 9 was assigned to this architectural category based on its size, construction plan, recovered archaeobotanical material and regional literature. It had by far the smallest postmold configuration enclosing an area of 9.62m^2. The next largest one, Structure 6, enclosed 25m^2. Structure 9 is also differentiated by its circular pattern and by the types of archaeobotanical remains recovered from postmold fill.

Structure 9

***Plan**:* Circular with outlying post frame ***Construction Type**:* Single-post
Pattern Percentage: 100
***Max. Dimensions**:* 3.5m ***Area**:* 9.62m^2 ***Orientation**:* 8° (square frame)
***Structure Size Grade**:* smallest ***Post Count**:* 21 ***Interior Support type**:* Central
***Related Features**:* none ***Reconstruction**:* No

The circular pattern of Structure 9 contained 13 postmolds (Figures 17 and 18). The circumference was formed by five relatively evenly spaced postmold clusters. Three of these were comprised of three posts each and constituted the east, west and south circumference of the

circle, respectively. The remaining two clusters consisted of two posts each and comprised its north circumference (Figures 61 and 62). The postmolds ranged in diameter from 16 to 28cm with a mean of 18. A single central interior postmold measured 18cm in diameter. Four additional postmolds formed a square, oriented on an 8 degree azimuth that encompassed the circular pattern. The length of its sides was 3.2m and the four postmolds ranged in diameter from 18 to 25cm with a mean of 21. In addition to the circle and square postmold patterns, a triangular pattern formed by three postmolds was discerned. It was spaced around three sides of the square post pattern. These three postmolds were smaller in diameter than all but two others associated with Structure 9 having ranged from 12 to 15cm with a mean of 13.67 (Appendix I).

The architectural plan of Structure 9 suggests it may have been an above ground granary or crib. Archaeobotanical remains from postmolds associated with it tend to support the hypothesis. Fill floated from the central roof support produced 11 corn kernel fragments. In addition a postmold located in the east side of the circular pattern produced corn cob, kernels and cupules along with eight whole goosefoot or chenopod seeds, and part of a persimmon seed. All of these were relied upon for subsistence by Mississippian peoples in the Middle Cumberland region and their storage and consumption is well documented in the Southeast.

Identified post patterns similar to Structure 9 have been interpreted as above ground granaries or cribs in other regions. In the American Bottom they occur at small farmsteads and hamlets, as well as at the major civic and ceremonial centers (Yerkes 1987). At Cahokia four building patterns with triangular foundations dating to the early Mississippian Lohmann Phase were interpreted to be above ground storage facilities. Some are thought to represent public granaries while others are associated with individual households. (Mehrer and Collins 1995:40). A similar structure pattern in size and shape to that of Structure 9 was recently excavated at 40LD52, an early Mississippian hamlet in the Tennessee Valley. It also was interpreted to be a circular granary (Kuttruff and Walling 2001).

Ethnographic accounts support the use of granaries in the Mississippian Southeast. During his travels between 1773 and 1777 William Bartrum described Native communities that had both public use and private use granaries (Bartrum 1955:401). Creek Chiefdoms later made use of such food storage facilities (Reid 1970).

Fortifications (n=2)

Seven hundred and six (706) postmolds are associated with two separate Mississippian Period palisade lines or town walls (Figure 17). Feature 20, the northern-most one (outer palisade) contained fifty postmolds that formed an east-west line across the northern perimeter of the TDOT ROW. With permission of the landowner a backhoe was used to follow this feature eastward. An additional 226 postmolds were recorded (Barker 2002). Feature 34, the southern-most palisade was evidenced by 50 postmolds that formed a line across the TDOT ROW approximately 140 meters south of the outer one. Small square or U-shaped postmold patterns demonstrate that bastions were incorporated into each of the two features, supporting the interpretation of them as defensive fortifications.

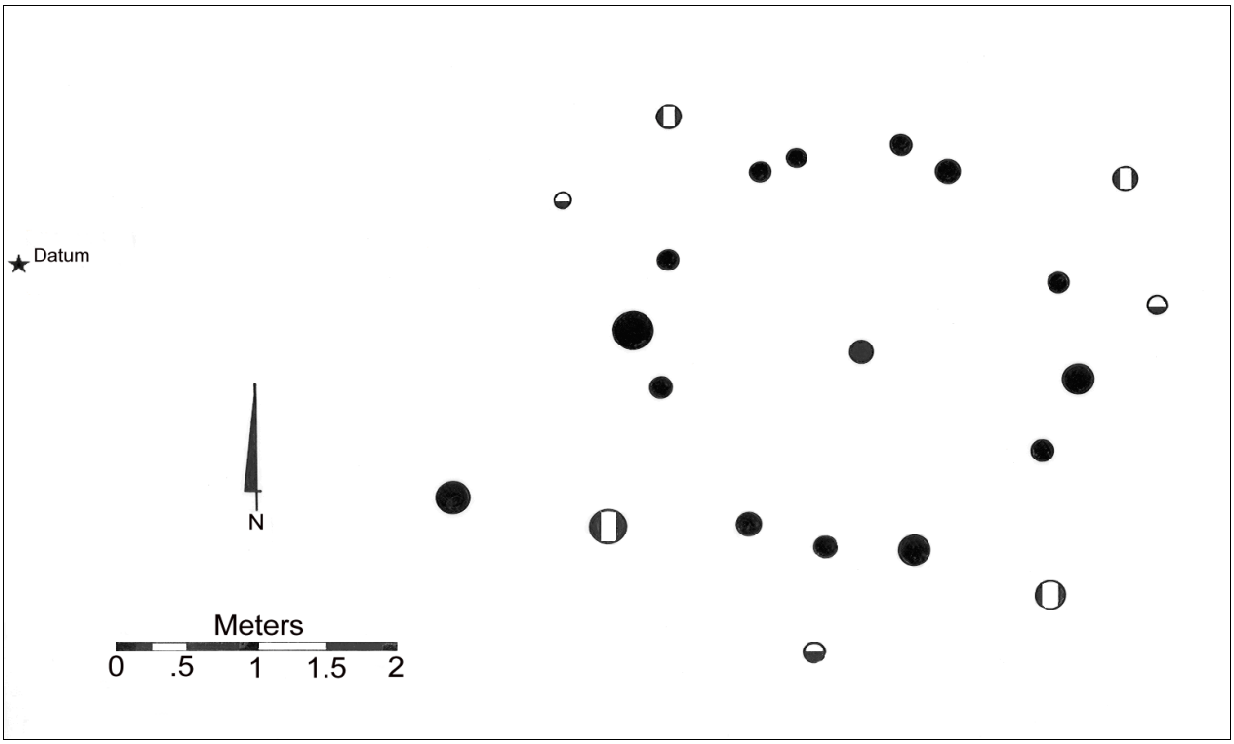


Figure 61. The triangular, square and circlular architectural constituents of Structure 9 (differentiated by symbol).


Figure 62. View west of Structure 9 postmold pattern.

Outer Palisade and Bastions

Construction Type: Single-post ***Length in ROW:*** 13.5m ***Maximum Length:*** 94.8m
General Orientation: 101° ***Post Count:*** 276
Post Diam. Range: 8-33cm ***Mean Post Diam.:***17.18cm
Post Depth Range: 2-50cm ***Mean Post Depth:*** 12.68cm
Bastion "A" Dimensions: 3.75m x 2.45m (9.2m^2)

Feature 20 was initially identified by 26 postmolds that formed the shape of a "P". The 26 postmolds were thought to represent a section of palisade line and bastion. However, they also could have been part of a structure pattern. With consent, a trench was mechanically excavated eastward outside the TDOT ROW to clarify the interpretation. Excavations confirmed the postmold pattern represented a section of palisade and bastion. The trench ultimately exposed an additional 226 postmolds that extended the palisade line eastward 81.3 meters (267'), bringing its total identified length to 94.8 meters (311') (see Barker 2002). The palisade line also extended westward to the edge of Hillsboro Road and may continue even farther under the roadway (Figures 63 and 64).

The postmolds that formed the palisade line varied in spacing from touching to nearly a meter apart (Figures 65 and 66), ranged in diameter from 9 to 30cm with a mean of 15 and extended to an average depth below subsoil of 12.68cm (Appendix I). Minor adjustments were noted in the configuration of Feature 20 (Figures 66, 67 and 68). Beginning at its west end the palisade continued along the edge of a gentle south facing slope at 95° east for 13.5m. Projecting the angle of the palisade, it continued for 19.5m at 101° east of north around the slope. Then it extended at roughly 107° east of north for 30.2m into a shallow swale and diverted to 95° east of north for another 31.6m across level ground where the archaeological excavations were terminated. The configuration of Feature 20 suggests it was constructed with regard to the natural topography. The line essentially extends around the base of a slope and divides the more level terrace and floodplain along the Little Harpeth River from the uplands to the north.

Three bastions were discerned along the Feature 20 palisade. One was in the TDOT ROW and the other two were on the Kelly property. The bastion in the ROW (Figures 64 and 65) is a rectangular or somewhat U-shaped enclosure tied into the palisade wall with additional posts behind the line. The enclosure projected outward from the palisade for a maximum distance of 3.75m and had a maximum width of 2.45m, creating an area of 9.2m^2 (30ft^2). With a diameter range of 20 to 30cm and a mean of 26cm, the postmolds that formed the projection of the bastion were generally larger than those in the palisade line. An explanation for this may be found in ethnographic accounts wherein bastions are described as elevated above the palisade walls. The longer posts needed would have required logs with greater diameters.

The middle bastion, located 52m east along the palisade from the westernmost bastion, was not completely exposed but was indicated by two postmolds that projected at a right-angle to the palisade and by additional postmolds at the point where the bastion was attached to the palisade.

Figure 63. View west of outer palisade (Feature 20) extending under Hillsboro Road.

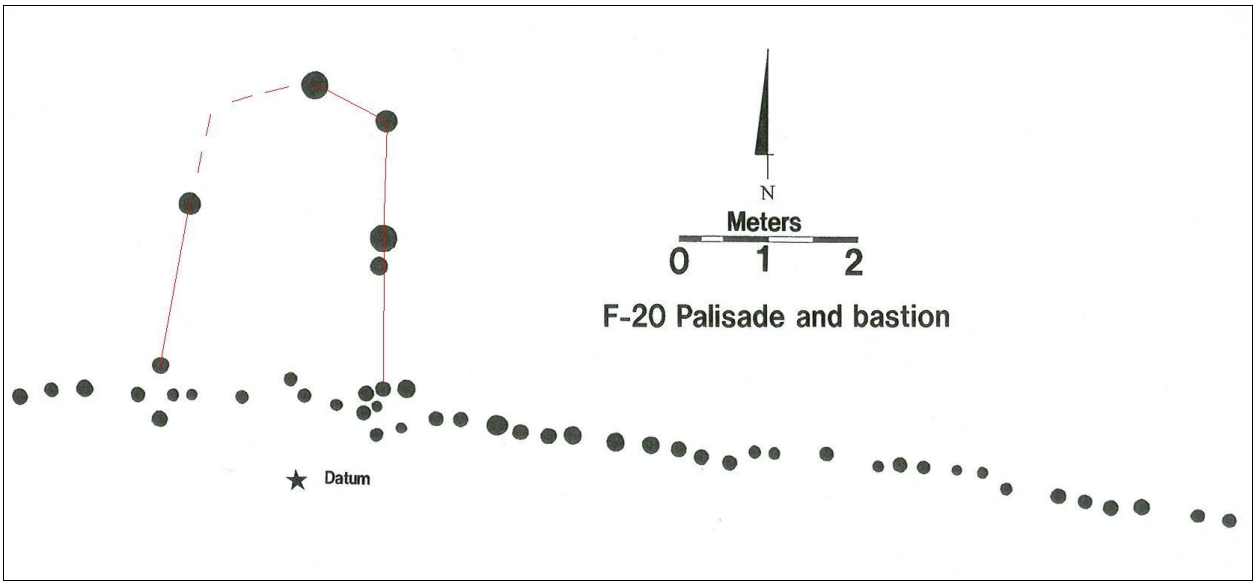


Figure 64. Plan map of the bastion "A" (outlined) section of the outer palisade (Feature 20).


Figure 65. Example of closely spaced postmolds of the outer palisade (Feature 20). Note daub in left-most flagged postmold.

Figure 66. View west of the outer palisade (Feature 20) relative to the local topography. Project construction on Hillsboro Road underway in background.

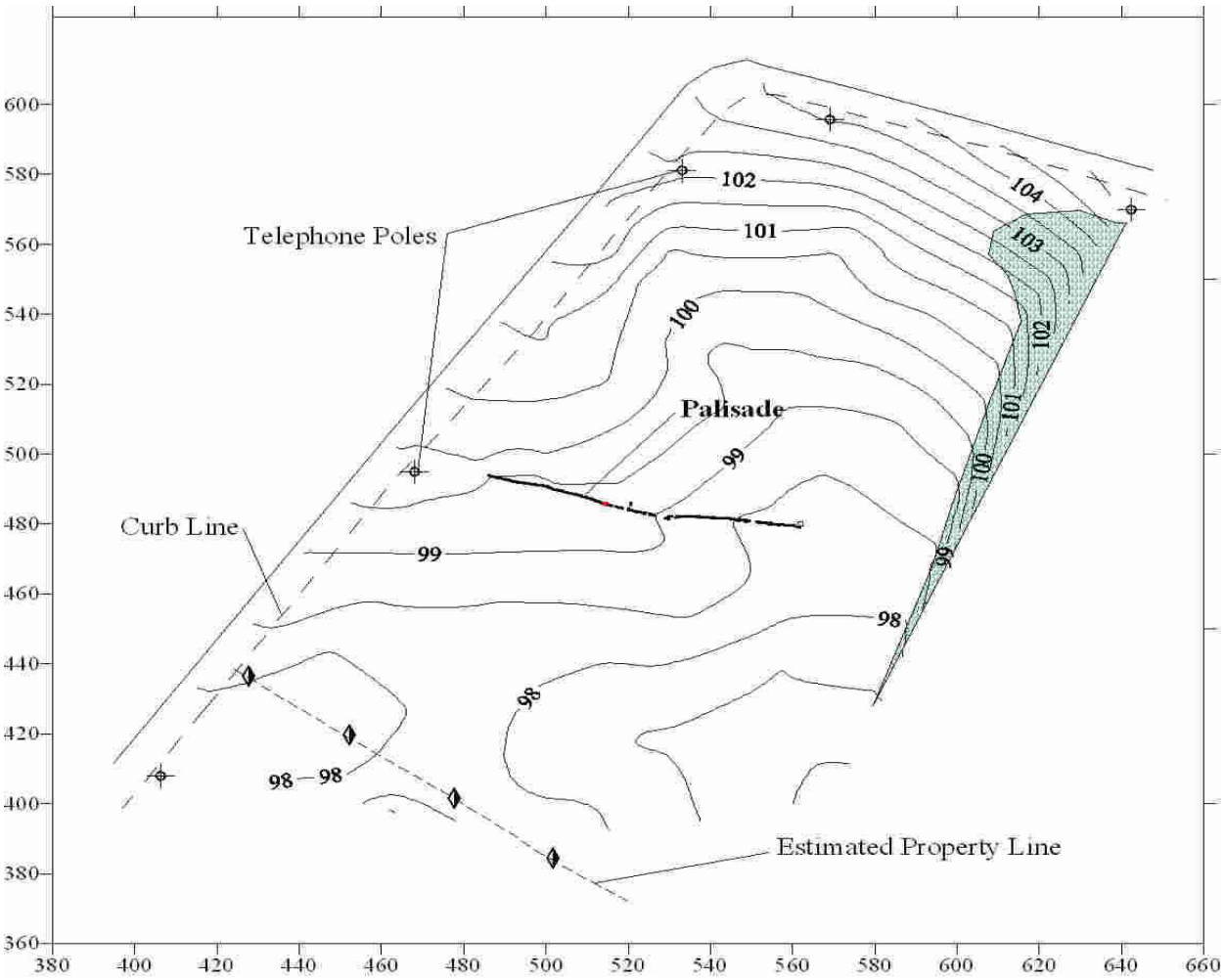


Figure 67. Contour map indicating orientation of the outer palisade (Feature 20) to the local topography (oriented north; 0.5 meter contour interval).

The bastion is estimated to have been roughly 2m wide. As with the first described, the bastion postmolds were larger in diameter than those in the palisade line.

The eastern-most bastion was located some 28m east of the middle bastion. The postmold configuration of it was the same as the western-most bastion where additional posts extend through the line at a right-angle. The width of the bastion is estimated to have been 2m. The excavation was not expanded to the north or south however, so its length was not determined.

The Feature 20 palisade cross cut two dark circular-to-oval stains (Figure 69). These were not excavated because of the possibility they are human burials. Human burials have been found in association with fortification lines at other Mississippian towns in the study region including Brentwood Library (Moore 2005), Gordontown (Moore and Stripling 1998:23), Rutherford Kizer (Moore 2001b:40) and the Fewkes site (Merrill Dicks personal communication). The stains may also represent pits used for some other function or they may be from trees left along the fortification line to be used as lookouts. This was the case at Summerville, a Mississippian town

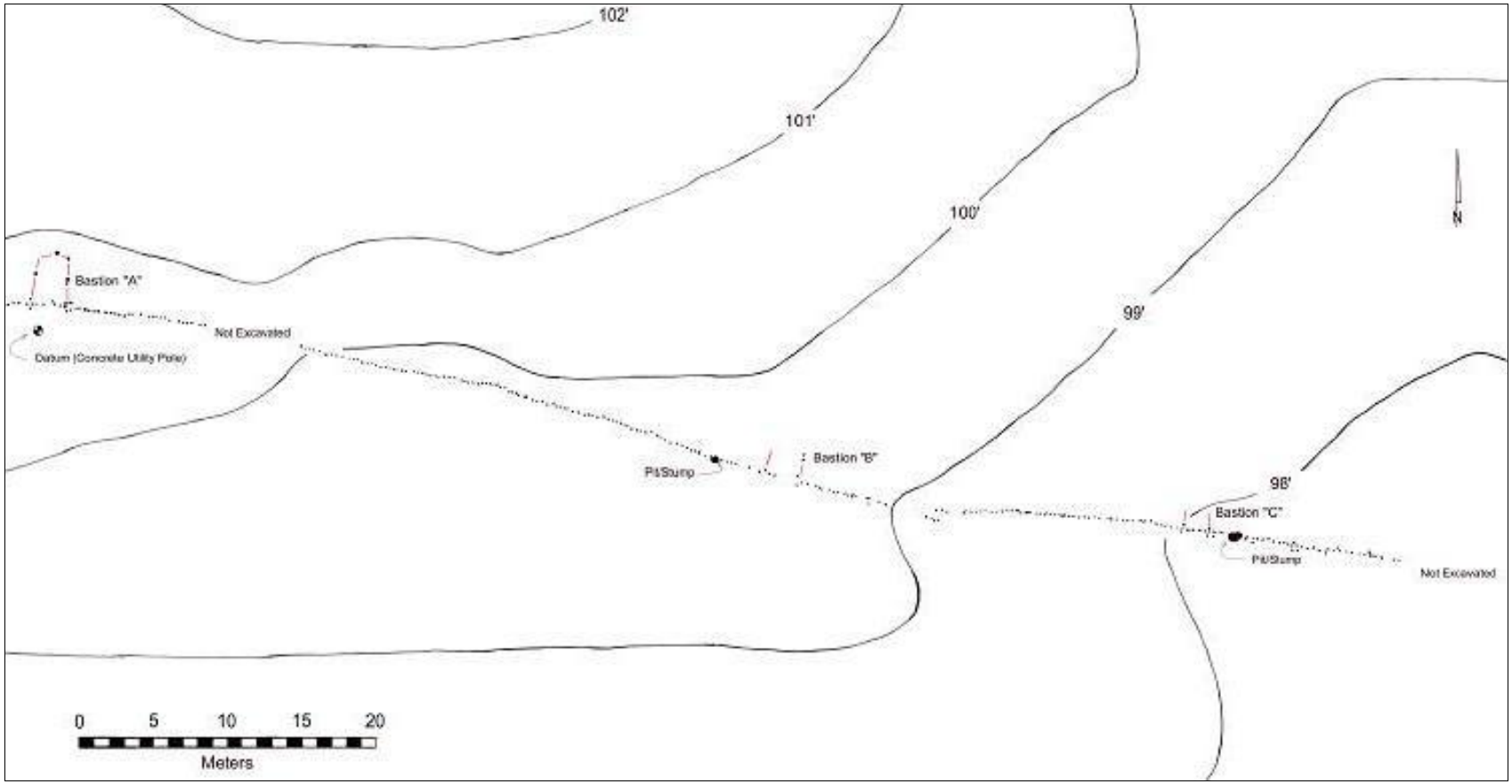


Figure 68. Plan map of entire outer palisade (Feature 20) excavation showing bastions A-C and possible pits/ stumps (Barker 2002).

in west Alabama where a fortified palisade had two bastions constructed around living trees (Brose 1991:86).

A 2.6m (8.5') wide void is evident in the palisade between the identified middle and eastern bastions (Figure 67 and 68). The excavation trench was expanded in that area to relocate the palisade postmold line. The line was found east of the void along with a second row of postmolds parallel to and south of it. Given the locations of the bastions, the double set of postmolds and opening in the palisade through a shallow swale, it is suggested the void represents a village entry that was possibly gated in some way.

In 2002, ten postmolds (13, 18, 61, 62, 90, 116, 193, 215, 219 and 223) from Feature 20 were excavated and processed by flotation. Fill from samples 18, 193 and 215 contained insufficient carbonized material for identification. Wood was recovered from the remaining samples (n=7). Oak is the predominant wood type represented. Carbonized material from postmolds 13, 61, 62 and 116 is entirely oak. Oak also comprised half (n=15) of the wood fragments recovered from postmold 219 and a third (n=10) of the wood fragments from postmold 223. These data indicate Feature 20 was constructed of local hardwoods, predominantly oak.

Shovel skimming revealed chunks of daub at the point of origination of postmold 111 (Figure 65). The daub had a combined weight of 14 grams. While the daub had no surface cane impressions it can be distinguished from burned clay by the presence of grass impressions in its matrix. These data and the recovery of cane from the fill of postmold 90 suggest the Feature 20 palisade was plastered with wattle and daub and that some of it burned.

In addition to carbonized wood, fill from two postmolds (Nos. 90 and 223) contained a variety of seeds. Seven whole and 50 fragmentary corn kernels (Zea maize), a fragment of a cultivated bean, a whole sumpweed seed and a whole sunflower seed were recovered from the fill of Postmold 90. Corn kernels (n=14 whole and 100+ fragments) and cupules (n=1 whole and 2 fragments), a whole smartweed seed (*Polygonum* sp.), cultivated bean (12 fragments) a maypop seed, 20 whole and 17 fragmentary sumpweed seeds, two whole and eight fragmentary sunflower seeds and 19 whole goosefoot seeds were found in fill from postmold 223. The abundance of seeds in the two postmolds suggests plants were cultivated and/or allowed to grow along the inside of the palisade. Clearly the town wall would have been suitable for vines or running plants like beans and maypop. A discussion of the habitats and prehistoric use of these cultivated and wild plants is presented in the "*Archaeobotanical Remains*" section of this report.

Inner Palisade and Bastion

Construction Type: Single-post***:*** ***Post Count:*** 50 ***Length:*** 13.5m ***Orientation:*** 115°
Post Diam. Range (palisade and bastion): 11-35cm
Mean Post Diam. (palisade and bastion): 22.48cm
Post Depth Range (palisade and bastion): 7-72cm
Mean Post Depth (palisade and bastion): 24.44cm
Bastion Dimensions: 3.5m x 2.8m (9.8m^2)

A second palisade line with attached bastion (Feature 34) extended east-west (115° azimuth) across the TDOT construction corridor about 140m (459') south of the northern palisade (Figure 17). Excavation of this palisade was limited to 13.5m. Its length was comprised of 50 postmolds. The palisade clearly continued both westward under the existing pavement of Hillsboro Road (Figure 69) and eastward into the front yard of the Kelly home (Figure 70).

The palisade and bastion overlapped Structures 4A and 4B, but it was easy to distinguish the association of the postmolds with one or the other (Figure 46). Twenty-nine of the 50 postmolds represent the Feature 34 palisade line and the remainder (n=21) are associated with the bastion. The palisade postmolds ranged in diameter from 17 to 35cm with a mean of 22.0 and their depths (n=23) ranged from 7 to 51cm into subsoil with an average depth of 20.65 (Appendix I).

The bastion or enclosure along Feature 34 was rectangular or somewhat U-shaped in plan (Figure 71). It projected 3.5m outward from the palisade, had a maximum width of 2.8m and an area of 9.8 m^2 (32.2ft^2), nearly the same as Bastion "A" along Feature 20 which had an area of 9.2 m^2. Postmolds (n=21) interpreted to comprise the bastion ranged in diameter from 11 to 28cm with a mean of 23.14cm. Eighteen of the postmolds ranged from 9 to 72cm in depth below origination with a mean of 29.3. Depth measurements support the notion that the bastion was elevated above the palisade line and thus required sturdier anchoring than the palisade wall. The posts that comprised the bastion were also spaced much closer on average (10-25cm) than those used in the palisade wall (10-65cm).

Three postmolds from the bastion and one from the palisade line were excavated and processed by flotation. Carbonized material from all of the samples consisted entirely of hardwood: hickory, oak and walnut. No daub was found in the postmolds to indicate the palisade was constructed of wattle and daub or burned.

Radiocarbon dates were obtained for postmolds associated with both the northern-most (Feature 20) and southern-most palisades (Feature 34; see *Radiocarbon Assays*). Material from the southern palisade produced a conventional radiocarbon age of 950+/-50 (Beta-173015) with an intercept age of AD 1040 (Appendix XVII). Calibrated results at one standard deviation place the fortification's age between AD 990-1220. Material from the northern palisade produced a conventional radiocarbon age of 710+/-60, with calibrated results at one standard deviation yielding an age range of AD 1220-1400 (Beta 173019). These dates suggest the southern palisade is older than the northern one.

Defensive fortifications similar to those at Kellytown are known from many Mississippian regions. In the Middle Cumberland area nearly all of the documented Mississippian mound centers and towns were fortified. The defenses consisted of either palisaded earthen embankments with associated ditches (moats) or bastioned palisades without earthworks. Kellytown is only one of a number of fortified settlements within the Harpeth River drainage (Figure 9); others include Brentwood Library (Moore 2005), DeGraffenreid (Smith 1994), Fewkes (Smith 1992, Merrill Dicks personal communication), Oldtown (Smith 1993), Mound Bottom and the associated Pack Site (O'Brien 1977) and the West Harpeth site (Jones 1876). Radiocarbon data from Kellytown, Brentwood Library, Mound Bottom and Oldtown (Smith

Figure 69. View southwest of inner palisade (Feature 34), probably extending under Hillsboro Road.


Figure 70. View east showing the inner palisade (Feature 34) (row of postmold from bottom-center to upper-right of image), probably continuing eastward beyond the project ROW


Figure 71. View southwest of inner palisade bastion postmold pattern (center).

2002:9-37) suggest that by the late Mississippian Thruston Phase palisade walls with bastions were the predominant type of settlement defense in the Harpeth River drainage.

Ethnographic accounts indicate that at the time of the first European explorations palisaded towns were still prevalent among Native groups in the Southeast. Hernando De Soto encountered a number of these in his travels between 1539 and 1543 (Bourne 1904). The first fortified town noted by De Soto's expedition was Chiaha, generally thought to have been along one of the major streams flowing west from the Smokey Mountains in East Tennessee. DeSoto also observed palisaded settlements in the present states of Arkansas (Casqui, Pacaha and Utiangue) and Alabama (Mabila; Bourne 1904). In fact, a description of Mabila, bears striking resemblance to Kellytown. As described by Hudson (1976:113), "The town was situated on a clear, level plain, surrounded by a strong palisade that stood "as a high as three men." It was built of heavy vertical posts with smaller poles tied to these in horizontal courses on both sides, and the whole thing plastered with mud mixed with grass. Defensive towers that could each hold seven or eight warriors were situated at fifty-foot intervals along the wall. Inside there was a plaza with houses and buildings around it"

Pits (n=18)

Eighteen of 43 features were intentionally-dug pits used for multiple purposes. These were evidenced by dark stains in subsoil and differentiated from postmolds by their dimensions, shape, and locations in relation to architectural features. All but two of the pits were excavated. Those

removed in 1999 (n=12) were recorded in plan, cross-sectioned and profiled. Some fill from half of each feature was put through quarter inch screen in the field and the remainder was processed by flotation at the TDOT archaeology lab.

Feature 28, an infant burial in a jar, and four pits overlapping Structure 8 (Features 39, 40, 42 and 43) were very similar in size and shape, and together formed somewhat of a circular pattern in planview (see Figures 50-52). Another pit, Feature 41, was within the circle formed by the pits and grave. The horizontal configuration of these features suggests they are related. Time allowed for excavation of four of the non-mortuary pits (39-42). Fill was bagged and metric data (length, width and depth) and other attributes (plan, wall and base shapes) were recorded. Fill contents were transported to the TDOT archaeology lab and processed by flotation. Recovered artifacts from fill attribute them to the Mississippian Period occupation of the site.

Seventy-two percent (n=13) of the 18 excavated non-mortuary pit features are clearly associated with Middle Cumberland Mississippian Culture. This assumption is based upon the presence of incidentally or intentionally deposited ceramic sherds in pit fill. All of the 206 sherds recovered are from shell-tempered wares and some of the pottery exhibits other Mississippian ceramic traits. Feature 7 contained no pottery and Feature 37 was not excavated. However, given the locations of these pits in relation to Structures 1 and 12 respectively, they are probably contemporaneous with other Mississippian features at Kellytown. If Features 7, 37 and 43 are added to the 13 pits that contained chronologically diagnostic artifacts 89 percent of the features in the pit category are attributable to the Middle Cumberland Mississippian Culture.

Eleven of 13 Mississippian pits in the TDOT ROW that contained cultural material had relatively small amounts of artifacts and ecofacts (Appendix VII). All but two features (22 and 24) containing ceramic sherds were within/overlapping structures or in close proximity to them. Pit attributes and artifact frequencies from fill indicate 10 of these features were used for purposes other than disposal. Artifacts recovered from all but one of them are thought to be incidental inclusions. The exception is Feature 6 in Structure 1 where sherds were apparently placed in the bottom of the pit.

Feature 24 is differentiated from the other Mississippian pits at the site by content, frequency, profile and location. It contained 42% of the ceramics recovered from all of the pits and greater than four times as many sherds (n=86) as the next highest artifact bearing one (Feature 22 [n=21 sherds]).

It also contained a scraper and lithic debitage from tool production. Feature 24 was the deepest pit excavated at 0.69m. As with Feature 22 it was just inside the outer palisade line (Feature 20), was over 65m (213') away from the nearest structure (#7) and greater than 100m away from the nearest identified house (Structure 12)(see excavation plan in Figure 17). Data from Feature 24 suggest it was a large posthole later used for waste disposal.

Features 15 and 26 were void of chronologically diagnostic artifacts (ceramics or lithics) but both contained archaeobotanical samples in fill that suggest they predate the previously summarized pit features. A radiocarbon determination for wood charcoal recovered from Feature 15 indicates

it has a Late Archaic temporal affiliation (see Appendix XVII). Feature 26 contained starchy seeds that are associated with the "Eastern Agricultural Complex" (Smith 1989, 1992). The excavation profile of Feature 26 and the presence in its fill of these seeds suggest it dates to the Woodland Period. Scattered Woodland lithic diagnostics from general midden at the site may support this assumption.

One anomaly thought to be a pit was assigned a numerical feature designation (33) but later determined to be a tree stump. Consequently, it is not indicated on the excavation plan in Figures 17 and 18, or in feature Table 2.

The 14 pits associated with the Mississippian occupation of 40WM10 are divided according to two broad functional categories based on morphology and content. These are heating or cooking pits (n=7) and refuse pits (n=5). A third category includes pits (n=2) that served undetermined functions. Feature plan dimensions are presented for all pits, including Features 37 and 43 that were not excavated, in Table 2 along with other metric attributes and descriptive information. Figure 72 provides the cross-section shapes of all excavated pits.

Cooking/heating (n=7)

Feature 6 was a circular shaped concentration of burned limestone, charred organics, and pottery sherds located in partition "C" of Structure 1 (Figure 24). The feature had a maximum length of 0.51m, a maximum width of 0.31m and was 0.20m deep. Fill from the deposit contained 138 corn kernels, a cob segment, and 39 whole and 71 fragments of pumpkin seeds. A variety of charred wood, including black locust (*Robinia pseudoacacia*), hickory (*Carya* sp.), oak (*Quercus* sp.) and cane (*Arundinarai* sp.) were also recovered. Twenty-five (25) Mississippi Plain sherds from a minimum of two vessels appeared to have been purposefully placed in the base of the feature. Their presence along with burned limestone and organics indicate Feature 6 served a cooking or heating function. The sherds were probably placed in the base of the feature for heat retention. A broken metate and a broken Dover adze recovered in proximity to Feature 6 suggest food processing and/or preparation was carried out in partition "C" of Structure 1. At the Brandywine Point site, also in the Central Basin, a similar feature was found in a Mississippian house with a central hearth. It too was presumed to have served a "cooking related function" (Moore and Smith 1994:200).

Feature 17 was a small circular pit located between Structures 2 and 12. It had a maximum length of 0.375m, a maximum width of 0.36m and was 0.17m deep. It had straight to rounded walls, a rounded bottom and was partially lined with limestone and pottery. Twelve (12) Mississippi Plain and four Bell Plain sherds from the deposit represent a minimum of five vessels. Flotation of fill yielded no charred organics but several pieces of limestone in the pit were clearly burned (Figure 73). The placement and condition of the limestone suggest Feature 17 served a cooking or heating function. The location of Feature 17 between Structures 2 and 12 suggests this was an out door facility associated with one or both of these houses.

Feature 29 was a small pit located west of Structure 5 (Figure 47). In plan view it was circular having a maximum diameter of 0.372m. In profile the pit was basin shaped with a maximum

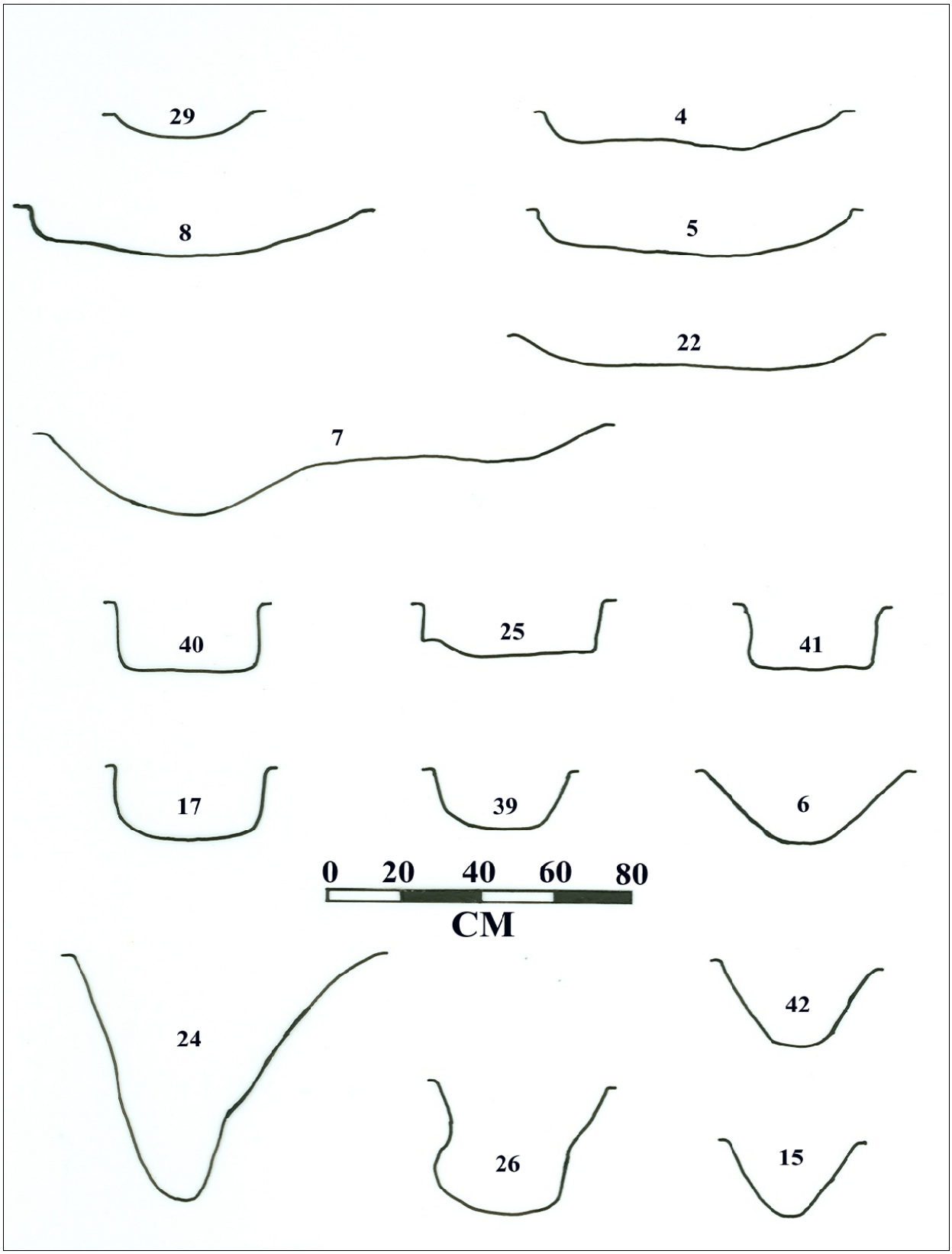


Figure 72. Cross-section shapes of all excavated pit features. Feature number in profile.

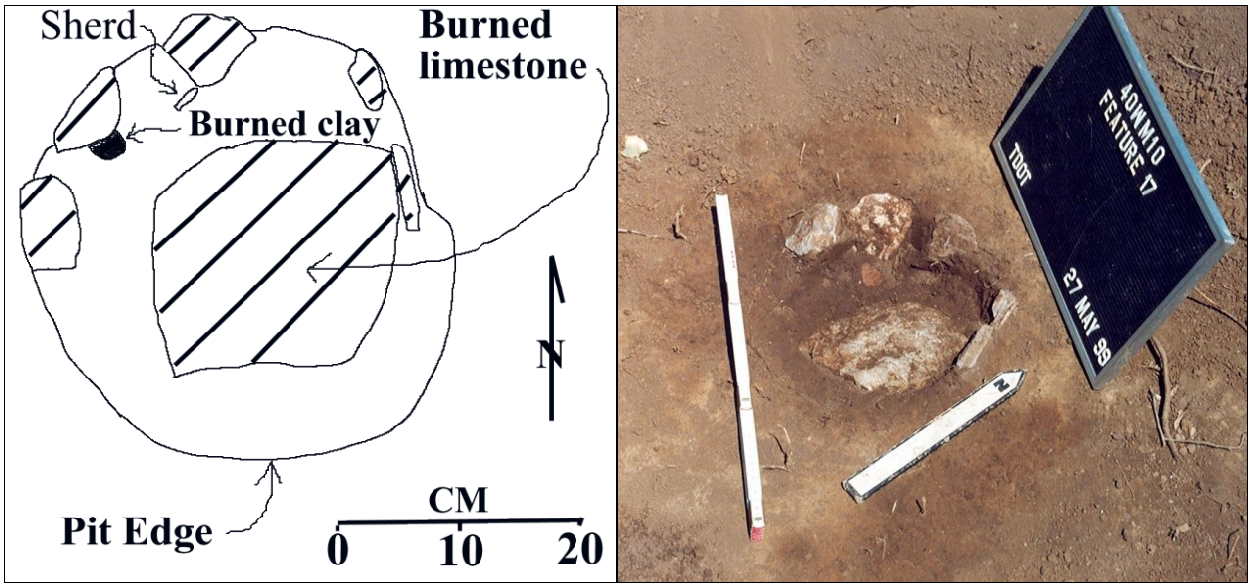


Figure 73. Plan map and view northwest of Feature 17 after excavation.

depth of 0.108m (Figure 72). Screening and flotation of fill from Feature 29 yielded one Mississippi Plain body sherd, four chunks of burned limestone weighing 39.6 grams and 12.3 grams of charred organics. The latter includes 27 fragments of oak wood (*Quercus* sp.), three fragments of cane (*Arundinaria* sp.), 60 fragments of hickory nutshell (*Carya* sp.), one fragment of walnut shell (*Juglans* sp.) and three fragments of corn kernels (*Zea mays*). The presence of the burned limestone, wood and food remains in the pit suggest Feature 29 served a cooking or heating function. Its location suggests it may have been associated with Structure 5.

Feature 39, one of six small circular pits that overlapped Structure 8 (Figures 18, 50-52), had straight walls with a rounded bottom, a maximum diameter of 0.38m and a maximum depth of 0.20m (Figure 72). Screening and flotation of fill from Feature 39 yielded pottery and charred organics. The pottery consists of one filleted rim sherd from a Bell Plain bowl and a curved (neck) sherd from a Mississippi Plain vessel. The charred organics include 25 fragments of hickory (*Carya* sp.) and five fragments of cane (*Arundinaria* sp). These suggest Feature 39 served a cooking or heating function. The position of the pit in relation to four others that formed a partial circle over Structure 8 suggests they are contemporaneous and had a related function. Since one of these pits (Feature 42) penetrates the west wall trench of Structure 8 its clear that it, and possibly the others, including Feature 39, post-date Structure 8.

Feature 40, another of the six small circular pits that overlapped Structure 8 (Figures 18 and 50-52), was straight-sided and flat-bottomed with a maximum diameter of 0.37m and a maximum depth of 0.19m (Figure 72). Screening and flotation of fill from Feature 40 recovered pottery, lithic artifacts and charred organics. The pottery consists of one curved (neck) sherd from a Mississippi Plain vessel. Cultural lithics include four pieces of debitage. The charred organics consist of one fragment of unidentified wood. The exact function of Feature 40 is unclear, but it was assigned to the "cooking/heating category" due to its size and shape similarities to features 17, 39 and 41 that were located very near it.

Feature 41, also one of the six small circular pits that overlapped Structure 8 (Figures 18 and 50-52), had straight walls and a flat bottom. Its maximum diameter was 0.36m and its maximum depth was 0.18m (Figure 72). Screening and flotation of fill from Feature 41 recovered pottery, cultural lithics, charred organics and daub. The pottery consists of two curved rim sherds from a Mississippi Plain jar, four body sherds from the same jar and four body sherds from a Bell Plain vessel, probably a bowl. Cultural lithics include one utilized flake scraper and 11 pieces of debitage, three of which are burned. The charred organics consist of 13 fragments of unidentified wood. Because charred organics from Kellytown were submitted for analysis prior to the June 2002 excavation of Feature 41, wood from this pit was not included in the archaeobotanical section of this report.

In addition to the burned lithic debitage and charred wood three chunks of daub were recovered from the base of Feature 41. The daub had a combined weight of 112.4 grams and is classed as the Type II daub described for Structure 1. The burned artifacts, charred wood and daub at the base of the feature suggest the pit was used for cooking or heating.

Feature 42, another of the six small circular pits that overlapped Structure 8 (Figures 18, and 50-52), had slanted walls and a rounded bottom. Its maximum diameter was 0.39m and its maximum depth was 0.22m (Figure 72). Screening and flotation of fill from this pit recovered pottery, cultural lithics and charred organics. The pottery consists of six body sherds from a Mississippi Plain jar, 12 sherds from a Bell Plain unidentified effigy vessel, and a rim sherd and body sherd from a Kimmswick-Plain pan. Cultural lithics include six pieces of lithic debitage, half of which are burned. The charred organics consist of 20 fragments of unidentified wood, seven corn (*Zea mays*) kernels and one fragment of walnut (*Juglans nigra*). Because charred organics from Kellytown were submitted for analysis prior to the June 2002 excavation of Feature 42, wood and other charred organics from this pit were not included in the archaeobotanical section of this report. The presence in pit fill of the charred organics and burned lithic debitage suggest Feature 42 served a cooking or heating function.

Refuse (n=5)

Feature 4, a shallow basin located just west of Structure 2 that slightly overlapped a similar feature (5) (Figures 72 and 74), had slanted to rounded walls and a relatively flat bottom. Its maximum length was 0.78m and it was roughly 0.51m wide and 0.102m deep. Three Mississippi Plain body sherds, two chert flakes, a single piece of angular debris, 11 fragments of walnut shell (*Juglans nigra*), three unidentified mammal bone fragments and an unidentified mammal long bone fragment were recovered from screening and flotation of fill from the pit. The lack of evidence of heating of the pit indicates it was not a cooking facility. Possibly it was used for clay extraction and later filled in with refuse.

Feature 5, a shallow basin evidenced in subsoil plan just west of Structure 2 that slightly overlapped Feature 4 (see Structure 2 plan in Figure 41), was circular in plan (Figure 40), had rounded walls and a relatively flat bottom. Its maximum length was 0.84m, its maximum width was 0.72m and it was 0.225m deep (Figures 72 and 74). Artifacts from feature fill include four

Table 2. Pit feature (n=18) metric data, shape attributes and locations in relation to architectural features.

Feature #	Length m	Width m	Depth m	Volume m^3	Plan Shape	Wall Profile Sides	Base Shape	Vicinity
4	.78	.51*	.102	.041	circular	Slanted	flat	west/outside of Structure 2
5	.84	.72	.225	.136	circular	rounded	flat	west/outside of Structure 2
6	.51	.31	.20	.032	oval	sloped	round	inside Structure 1
7	1.46	.94	.248	.340	oval/irreg.	sloped/irreg	irregular	outside SW corner of Structure 1
8	.928	.746	.21	.145	oblong	round/slanted	flat	west of Structure 2
15	.22	.21	.22	.010	circular	slanted	round	within east half of Structure 2
17	.375	.36	.170	.023	circular	round/straight	round	west of Structure 2,
22	1.00	.84	.068	.057	oval/irreg.	sloped	flat	inside outer palisade line
24	1.06	.748	.69	.547	oval	slanted	round	inside F-20 palisade, by Feature 22
25	.478	.45	.157	.034	circular	straight	flat	just south of Structure 6
26	.62	.43	.36	.096	irregular	convex/sloped	round	northeast of Structure 7
29	.372	.346	.108	.014	circular	rounded	round	west of Structure 5
37	.40	.32	ne	ne	oval	ne	ne	within Structure 12
39	.38	.37	.20	.028	circular	straight	round	overlapping Structure 8
40	.37	.35	.19	.023	circular	straight	flat	overlapping Structure 8
41	.36	.35	.18	.023	circular	straight	flat	overlapping Structure 8
42	.39	.36	.22	.031	circular	slanted	round	overlapping Structure 8
43	.36	.34	ne	ne	circular	ne	ne	overlapping Structure 8

* - intruded by Feature 5
ne- not excavated

Mississippi Plain body sherds, 13 chert flakes and a PP/K medial of unknown temporal affiliation. Charred organics were also recovered; including walnut (*Juglans nigra*) and hickory shell (*Carya* sp), hickory, oak (*Quercus* sp.) and black locust (*Robinia pseudoacacia*) wood, and 0.5 gram of cane (*Arundinaria*). As with Feature 4 the lack of evidence of heating of the pit indicates it was not a cooking facility. Possibly it was used for clay extraction and later filled in with refuse.

Feature 8, located just south of Features 4 and 5 and just west of Structure 2 (Figure 40), was an oblong shaped dark stain that had a maximum length of 0.928m, a maximum width of 0.746m and a maximum depth of 0.21m. Thirteen Mississippi Plain sherds, one Bell Plain sherd, 31 chert flakes, two PP/K distals of unknown temporal affiliation, one phalange and one femur of white-tailed deer (*Odocoileus virginianus*), seven unidentified mammal bone fragments, and 69 grams of burned limestone were recovered from feature fill. These data suggest Feature 8 was either dug for waste disposal or later used for such purposes. Its proximity to Structure 2 suggests that it, like Features 4 and 5, was associated with this house.

Feature 22 was an oval shaped pit just inside the outer palisade line (Feature 20) and adjacent to Feature 24 (Figure 17 & 75). It had a maximum length of one meter, a maximum width of 0.84m and a maximum depth of .068m. Fill from the pit contained 21 sherds, a single flake and three chunks of unburned limestone. All but one of the sherds is from the body of the same Mississippi Plain vessel. The remainder is a body sherd from a different one of the same type. The shallow nature of the pit, its irregular shape, and its location suggest Feature 22 may have been a natural depression that collected refuse.

Feature 24 was located just inside the Feature 20 palisade line and adjacent to Feature 22 (Figure 17). It had a maximum length of 1.06m, a maximum width of 0.748m and a maximum depth of 0.69m. The west side of the pit was sloped to a step that appears to have been excavated to aid in the upright placement of a large post (Figure 76). Excavation and flotation of fill from Feature 24 yielded 67 Mississippi Plain, 14 Bell Plain and five Beckwith-Incised sherds that represent a minimum of five vessels. Ten chert flakes, one utilized flake and several pieces of limestone were also recovered from pit fill. No charred organic remains were found. The presence of the broken pottery and the lithic material possibly suggests Feature 24 was filled with refuse during or after being used as a post hole.

Undetermined Function (n=2)

Feature 7 was evidenced outside the southwest corner of Structure 1 as an oval to irregular-shaped stain in subsoil plan (Figures 24 & 77). It had a maximum length of 1.46m, a maximum width of 0.94m and was 0.248m deep. The pit had irregular-to-sloped-shaped walls and an irregular-to-basin-shaped bottom (Figure 72). A lack of evidence of burning of the pit walls indicates it was not used for heating. No artifacts or ecofacts were recovered from feature fill.

Figure 74. View northeast showing cross-sections of intersecting Features 4 (front) and 5 (rear).

Figure 75. Feature 22 in cross-section. View north.

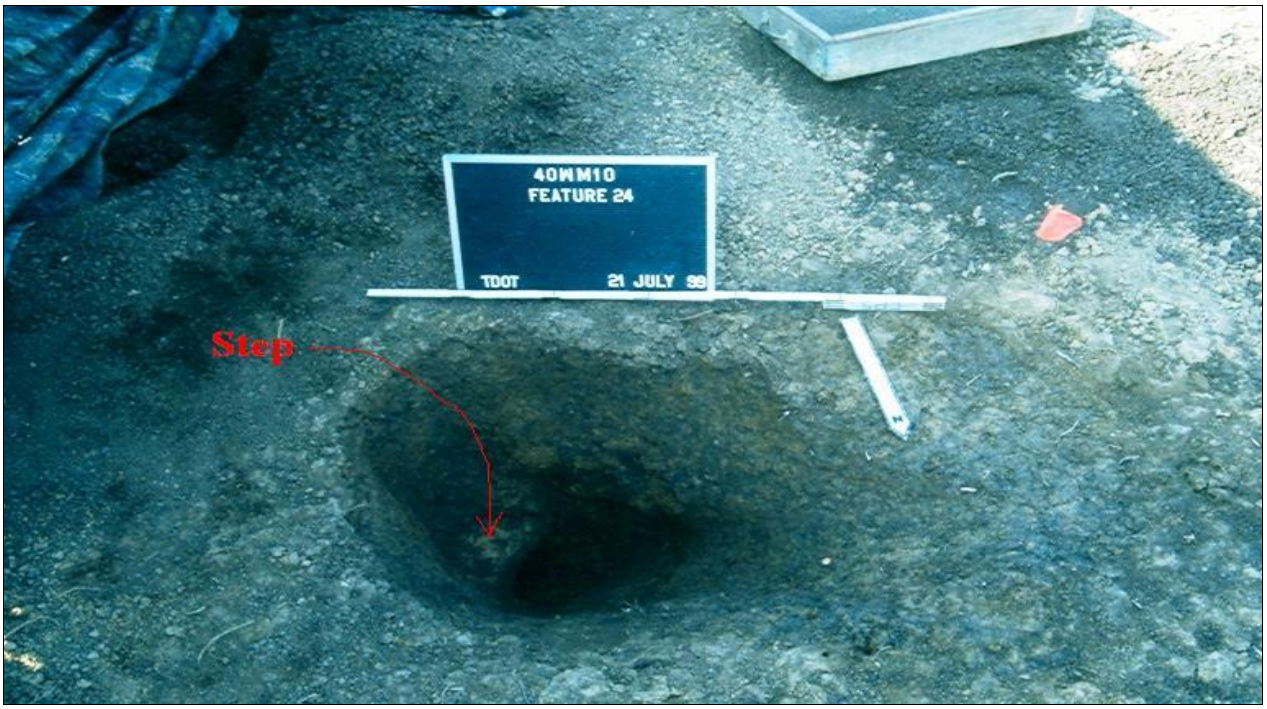


Figure 76. View south of Feature 24. Apparent step in eastern wall.

Figure 77. View northwest of Feature 7 at origination.

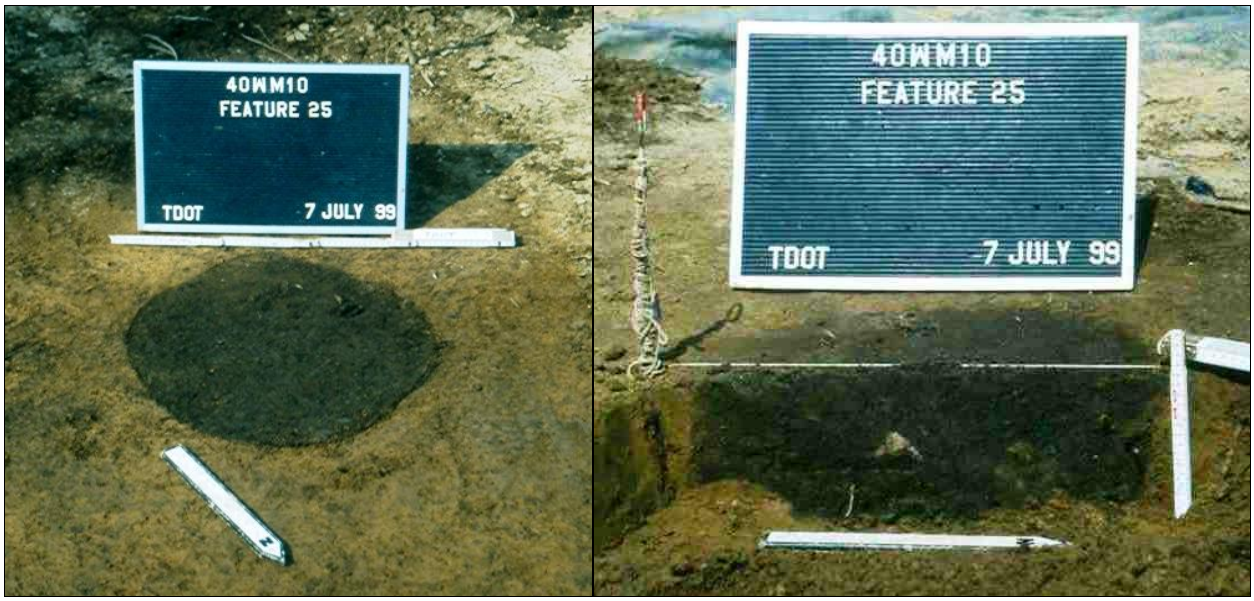


Figure 78. Feature 25 in planview and profile.

Feature 25 was located southwest of Structure 6 and south of Structure 8 (Figure 50). It consisted of a circular-shaped pit with straight walls and a relatively flat bottom. It had a maximum length of 0.478m, a maximum width of 0.45m and a maximum depth of 0.157m (Figure 78). This pit contained three Mississippi Plain body sherds from the same vessel and one piece of blocky chert. A lack of evidence of burning of the pit walls indicates it was not used for heating. The low frequency of artifacts in pit fill indicates it was not a trash pit.

Isolated hearths (n=1)

Feature 27 was located approximately 30m within the outer palisade line (Figure 17). It consisted of a somewhat rectangular lens of burned orange clay. The rectangular shape of the burned clay, 0.48 by 0.33m, did not appear to be the result of a simple surface burn; rather the deposit looked to be prepared (Figure 79). Preparation was also indicated by the vertical placement of a single Mississippi Plain body sherd along the edge or rim of the deposit. Within the burned clay was a six-centimeter thick layer of fill that contained charred organics. Flotation of the fill yielded 70 grams of burned wood. All identifiable fragments (n=30) are black locust. Aside from the vertically placed sherd no other artifacts were recovered from the feature.

Three postmolds were identified within a 1.5m radius of Feature 27. Additional postmolds (n=4) were located just to its north. The presence of the postmolds in proximity to the feature suggests it may have been within a structure but no clear post pattern was discerned.

Artifact clusters (n=2)

Feature 3 consisted of an accumulation of 40 pottery sherds identified in backhoe trench "C". Included in the count are 21 Mississippi Plain sherds from a double lug-handled jar, 14 Mississippi Plain sherds from a minimum of two vessels of unknown form, three Bell Plain sherds from a large bowl and two Bell Plain sherds from a vessel of unknown form. Because the

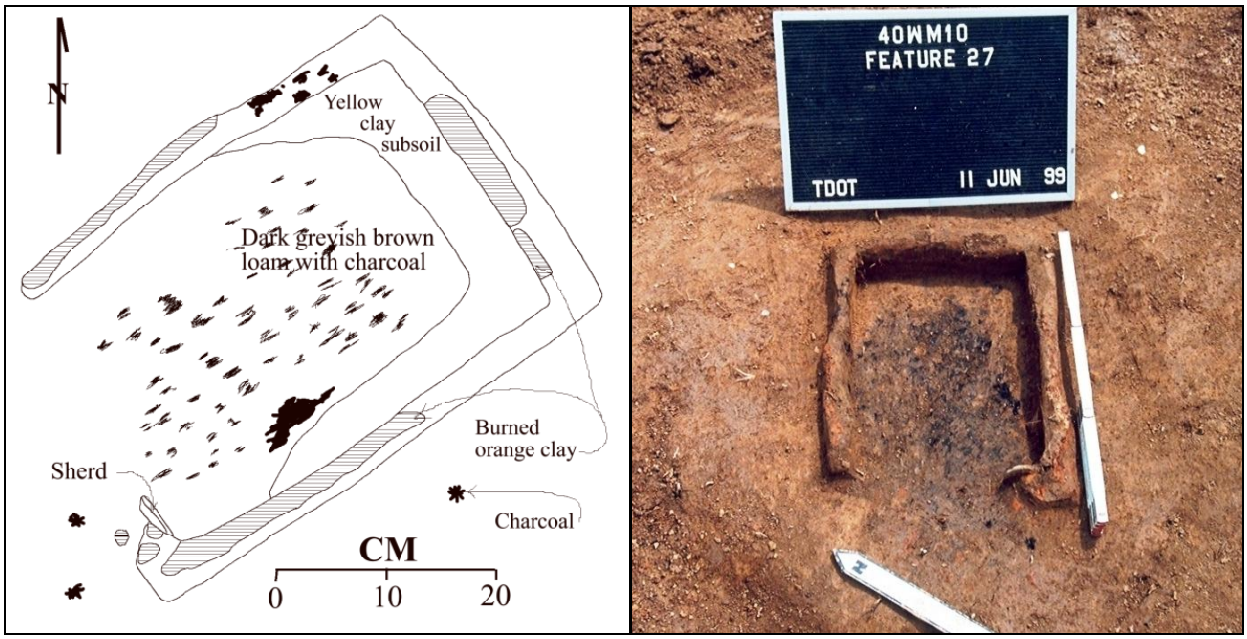


Figure 79. Isolated prepared clay hearth (Feature 27) plan map and view northeast after excavation.

pottery was observed in dark-brown topsoil it's unclear if it was in a pit. However, the depth of the artifact accumulation below surface (0.36m) suggests so.

Feature 12, southwest of Structure 3 and east of Structure 5, consisted of an accumulation of pottery, chert debitage and burned limestone (n=27.2 grams). The maximum depth below surface of the artifact accumulation was 54cm. Yellow-brown compact clay subsoil was evident in profile at the base of the feature. Because of the presence of artifacts in the block profile a one-meter wide unit (Unit #6) was placed over the deposit and hand excavated to determine the nature of the artifact accumulation. Excavations revealed the artifacts were in dark-brown topsoil. No pit was discerned. However the depth below surface of the artifacts and the presence of the burned limestone suggests the artifacts were in a pit.

Sixty-three (63) pottery sherds, 332 grams of burned limestone, 126 chert flakes, one fragment of turtle shell and a fragment of long bone from an unidentified mammal were recovered from Feature 12. Seven sherds were found above 30cmbs and were somewhat scattered indicating plowzone disturbance. The remainder (n=56) was found greater than 30cmbs in an undisturbed concentrated cluster. The sherd count from Feature 12 includes 57 Mississippi Plain sherds from a minimum of three vessels, including at least one jar, five Bell Plain body sherds from a minimum of four vessels of unknown form, and a 16cm long rim sherd from a Kimmswick Plain pan.

Human Burials (n=7)

The excavations identified seven human burials. Six were stone box graves and the other was an infant or fetal burial in a pottery jar. All seven graves are clearly attributable to the Mississippian occupation of the site. The practice of interring the dead in stone boxes is a distinct mortuary

practice of the Middle Cumberland Culture (Ferguson 1972; Breitburg et al. 1998). While stone box graves are known for other parts of the Mid-south and lower Mid-west, the Middle Cumberland Basin is clearly the main focus of this mortuary practice (Brown 1981, Smith 1992). Stone box grave discoveries along the middle Cumberland River and its tributaries, particularly the Harpeth River, was so prevalent during the middle to late 19th century that the civilization that constructed them was typically referred to as the "Stone Grave Race" (Thruston 1890:1). It has been postulated that by the 20th century, farming, treasure hunting, antiquarian excavations, and development in Nashville alone had unearthed over 25,000 stone box graves (Brehm and Evans 1977:16).

While many Mississippian cemeteries disappeared from the archaeological record in the 19th century others were documented by some of the premier antiquarian scholars of the day. One of these was Gates P. Thruston (1855-1931), a brigadier general in the Union Army who had served at the battles of Stones River and Chickamauga, among others. Thruston resigned his army commission in Nashville in 1865 after which he oversaw the excavation of more than 3,000 stone box coffins at a single cemetery in what is now the Woodmont area of south Nashville (Noel Farm; Thruston 1890:2). Thruston also reportedly investigated at least 1,000 more graves on tracts adjacent to the Noel Farm (ibid 1890:28). His artifact collections from these cemeteries and other sites in the region were donated to Vanderbilt University in 1908. Much of the more aesthetic burial associations are now displayed at the Tennessee State Museum in Nashville.

Other 19th century scholars provide evidence of the sheer number of stone box coffins dug in and around Nashville before the turn of the 20th century. Of the more well known of these are Frederick Ward Putnam (1839-1915), considered by many to be the father of American archaeology, Joseph Jones (1833-1896), a distinguished professor of chemistry and clinical medicine, and Edwin Curtiss (1830-1880), a protege of Putnam's. These three individuals oversaw the excavation of additional thousands of stone boxes at various locations in Middle Tennessee (Jones 1876; Putnam 1878). Notes and collections from their explorations are housed at the Peabody Museum of Archaeology and Ethnology at Harvard University. Recently these data have been used by local researchers to augment Mississippian archaeological investigations in the study region (Smith and Moore 2001b:17-24).

Four of the seven graves identified at Kellytown were within the floors of structures. Of the remaining three, one was superimposed over Structure 8, one was directly adjacent to the corner of Structure 3 and the other was in an open area between Structures 7 and 12. While none of the graves were excavated, their dimensions (Table 3) indicate that all of them are children, or sub-adults.

No "formal cemetery" (cluster of adult graves) was present in the TDOT construction corridor. However, information from temporally similar Middle Cumberland towns in the region (Berryman 1984:1.5.1-133, Moore 2001b: 39-44, Jones 2001:132) indicate a cemetery or cluster of adult graves is, or was, present somewhere within the confines of the palisades. Examination of topography suggests the possibility of a mound approximately 50m east of Hillsboro Road. This possible mound, about 25m in diameter and nearly a meter high, contains historic period

graves and is known as the Scruggs Cemetery. Because this cemetery is outside of the TDOT project construction zone it was not investigated.

Table 3. Kellytown stone box grave dimensions in centimeters, and other descriptive information.

Burial #	Fea. #	Orientation	Max. length	Max. width	Age estimate*	Locations/ comments
1	1	20°	103.7	45.7	Sub-adult	Outside Struct. 3/ No capstones
2	9	32°	66.0	43.1	Child	Within Struct. 2/ Some capstones
3	14	105°	75.3	46.1	Child	Within Struct. 2/ Undisturbed capstones
4	19	3.5°	107	45	Sub-adult	Within Struct. 5/ No capstones
6	32	91°	62.3	28.0	Child	Within Struct. 10/ Undisturbed capstones
7	38	37.5°	102.5	44.2	Sub-adult	Between Struct. 7 and 12/ No capstones

***** Based on stone box dimensions.

Burial 1 *(Feature 1)*
Type: Stone box *Construction material*: local Ordivician age limestone slabs
Maximum box length: 103.7cm (3.4') *Maximum box width*: 45.7cm (1.5')
Oriented: 20° east of north *Estimated age*: child<10 years (based on stone box size)
Disturbance: Capstones removed by plowing *Comments*: Outside the NW corner of Structure 3

Burial 1 was the first cultural feature discovered by the TDOT work at Kellytown. This grave was located just outside the northwest corner of Structure 3 and is presumed associated with it (Figures16, 42 and 80). Vertically placed limestone slabs formed a rectangle. The tops of the slabs were 28cmbs. Plowzone was indicated by the presence of several pieces of historic whiteware and glass at the level of the top of the stone box walls. Horizontally placed capstones

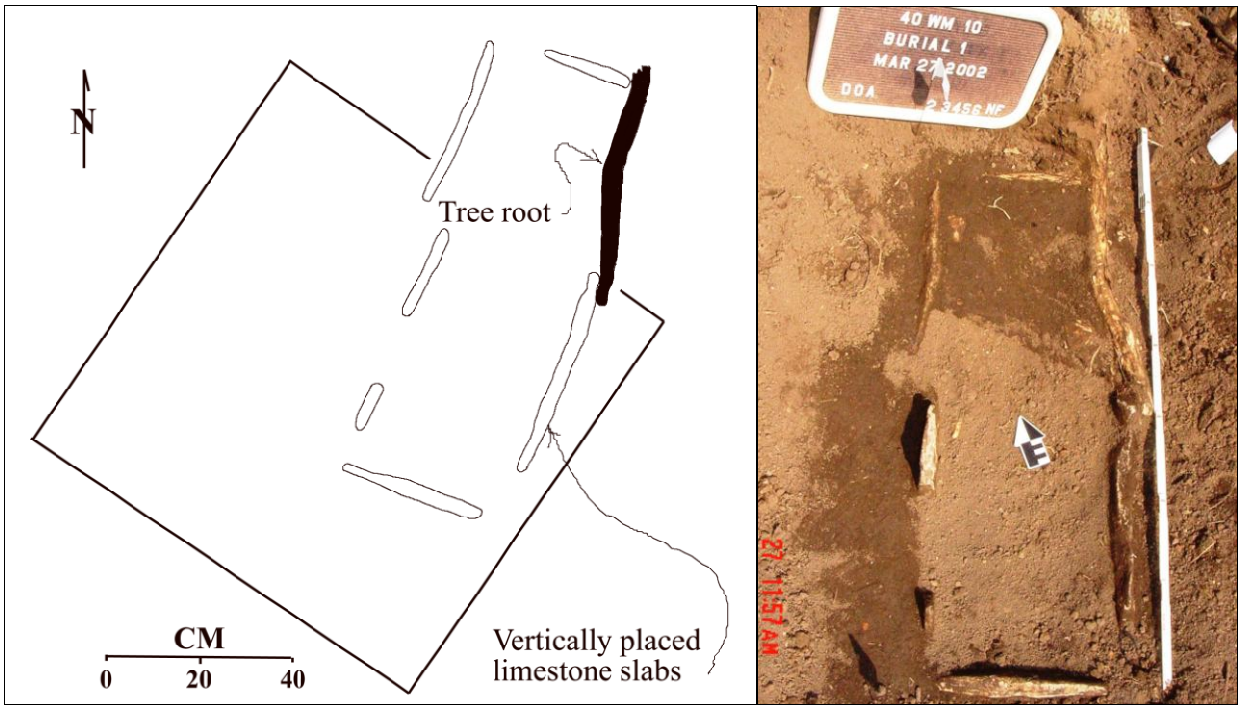


Figure 80. Plan map and view northeast of Burial 1 in Unit 1.

were not present. The depth of historic items found in relation to the grave suggests the capstones wereplowed away. Hand removal of a small amount of soil fill from near the center of the stone box verified the presence of human bone but was insufficient to determine completeness of skeleton, articulation, element measurements, pathologies, or other mortuary data. Burial 1 was left *in situ*, capped with reinforced concrete, and is one of three burials not covered over by Hillsboro Road.

Burial 2 *(Feature 9)*
Type: Stone box *Construction material*: Local Ordovician age limestone slabs
Maximum box length: 66.0cm (2.17') *Maximum box width*: 43.1cm (1.41')
Oriented: 32° east of north
Estimated age: <3 years (based on stone box size)
Disturbance: Undisturbed; Capstones collapsed
Comments: Within second construction phase of Structure 2

Mechanical stripping exposed the capstones of Burial 2. The grave was just inside the west wall of the larger Structure 2 pattern. The size of the grave indicates it contains the remains of a small child. The placement of the grave indicates it was dug into the Structure 2 floor after it was rebuilt and enlarged. The association of the grave with the larger house pattern ("B") is clear because the smaller pattern ("A") crosses the grave (Figure 40).

The limestone slabs used for the capstones of Burial 2 were not long enough to span the vertical walls of the stone box (Figure 81). The size and placement of these slabs indicate that after the child was interred the grave shaft was filled with soil and capstones placed over it. Because the capstones were not removed and the grave was left *in situ* metric, pathological and other mortuary data were not obtained. Burial 2 was capped with reinforced concrete and soil but was not covered over by Hillsboro Road.

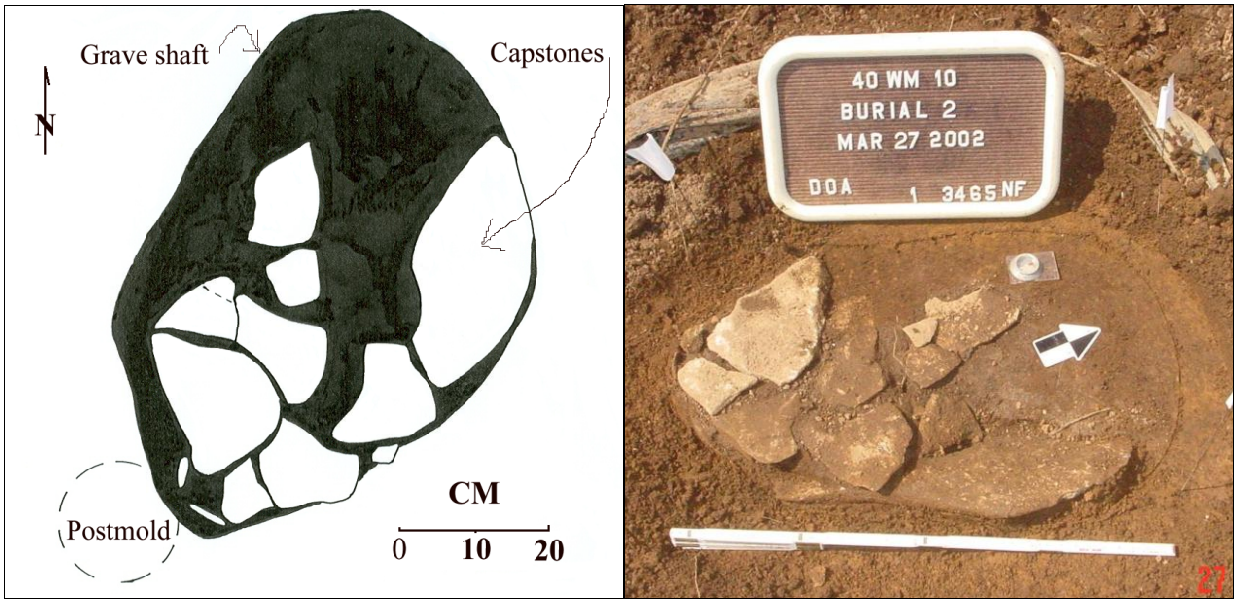


Figure 81. Plan map and view west of Burial 2.

Burial 3 *(Feature 14*)
Type: Stone box; *Construction material*: Local Ordovician age limestone slabs
Maximum box length: 75.3cm (2.47'); *Maximum box width*: 46.1cm (1.51')
Oriented: 105° east of north
Estimated age: <3 years (based on stone box size)
Disturbance: Some capstones removed by plowing
Comments: Within second construction phase of Structure 2

Mechanical stripping exposed the capstones of Burial 3. The internment was just inside the southeast corner of the larger Structure 2 pattern ("B"). The size of the grave indicates it contains the remains of a small child. The placement of the grave suggests it was dug into the floor of Structure 2 after it was rebuilt and enlarged. The association of the grave with the second stage ("B") or larger house is clear because the smaller of the two house patterns ("A") crosses the grave (Figure 40). These data indicate a relationship between Burials 2 and 3 and may suggest Structure 2 was enlarged to accommodate a larger family.

All but three of the limestone slabs that comprised the capstones of Burial 3 were removed by plowing (Figure 82). The size and placement of the *in situ* capstones indicate that after the child was interred in the stone box it was filled with soil and capstones were placed over it. Because the capstones were not removed and the grave was left *in situ* metric, pathological and other mortuary data were not obtained. Burial 3 was capped with reinforced concrete but was not covered by Hillsboro Road.

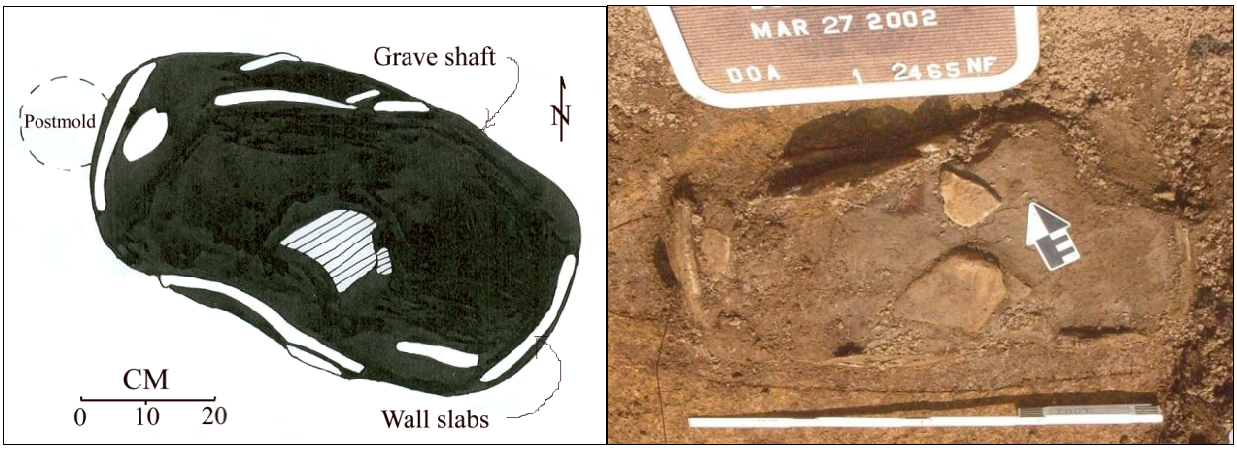


Figure 82. Plan map and view northeast of Burial 3.

Burial 4 *(Feature 19)*
Type: Stone box; *Construction material*: Local Ordovician age limestone slabs
Maximum box length: 107cm (3.51'); *Maximum box width*: 45cm (1.48')
Oriented: 3.5° east of north
Estimated age: <10 years (based on stone box size)
Disturbance: Extensive, capstones and majority of wall slabs removed
Comments: Within Structure 5

Mechanical stripping exposed Burial 4. The interment was just inside the west wall post pattern of Structure 5 (Figure 47). The size of the grave indicates it contains the remains of a sub-adult, while its placement indicates it was dug into the floor of Structure 5. Burial 4 had suffered extensive damage. The lack of capstones and nearly all of the wall slabs, and the location of the grave near Hillsboro Road suggest it was cut into during previous excavation of a roadside ditch. Because what remained of the grave was left *in situ* metric, pathological and other mortuary data were not obtained. Burial 4 was capped with reinforced concrete and is under the Hillsboro Road pavement.

Burial 5 *(Feature 28)*
Type: Vessel; *Construction material*: Shell-tempered ceramic jar
Maximum diameter: 37cm (1.21')
Estimated age: <6 months (fetus?)
Disturbance: Rim of vessel sheared off, otherwise undisturbed
Comments: Possibly superimposed Structure 8

Mechanical stripping exposed Burial 5. The grave was within the confines of the Structure 8 house pattern. It consisted of an infant or possibly stillborn interred in a Mississippi Plain jar. The orifice of the vessel had been plow sheared but a small part of the rim remained intact. Measurements indicate the mouth of the jar had a diameter of 37cm. The vessel was placed within a small pit that was quite similar in size to five nearby pits (Features 39-43). The burial and four of the pits form a partial circle with one pit (Feature 42) actually overlapping the east wall trench of Structure 8 (Figures 50-52). The shape of the pit pattern and the nearly identical diameters of the pits indicate a relationship. The fact that one of them overlapped a Structure 8 wall trench suggests it, and probably the other pits, including Burial 5, were dug after the demise of the structure.

Several very small human bones were exposed at the top of the Burial 5 vessel. Data from the excavation of four of the other pits suggest the vessel containing the burial may have functioned as an in-ground storage jar that later was used as a burial receptacle. Because the grave was left *in situ* metric, pathological and other mortuary data were not obtained. Burial 5 was capped with reinforced concrete and is under Hillsboro Road. Recent excavations at the Brentwood Library site encountered a grave very similar to that of Burial 5. The skeletal remains of an infant or small child were found in a Mississippi Plain jar that had been placed in the floor of a domestic structure (Moore 2001b).

Burial 6 *(Feature 32)*
Type: Stone box; *Construction material*: Local Ordovician age limestone slabs
Maximum box length: 62.3cm (2.04'); *Maximum box width*: 28cm (.92')
Oriented: 91° east of north
Estimated age: <3 years (based on stone box size)
Disturbance: Undisturbed
Comments: Within Structure 2

Mechanical stripping exposed the capstones of Burial 6. The stone box was dug into the floor just inside the west wall of Structure 10 (Figure 53). Its size indicates it contains the remains of a small child. Burial 6 had at least two layers of limestone-slab capstones (Figure 83). Because the capstones were not removed and the grave was left *in situ* metric, pathological and other mortuary data were not obtained. Burial 6 was capped with reinforced concrete and is now under Hillsboro Road.

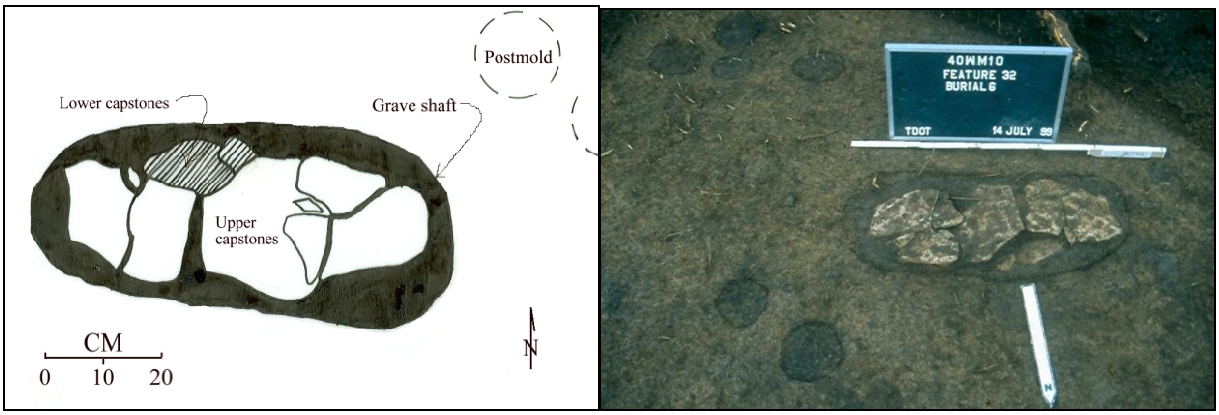


Figure 83. Plan map and view south of Burial 6.

Burial 7 *(Feature 38)*
Type: Stone box; *Construction material*: Local Ordovician age limestone slabs
Maximum box length: 102.5cm (3.36'); *Maximum box width*: 44.2cm (1.45')
Oriented: 91° east of north
Estimated age: <10 years (based on stone box size)
Disturbance: Extensive, capstones and majority of wall slabs removed
Comments: Found in an open area between Structures 7 and 12

Burial 7 was exposed during monitoring of soil removal along Hillsboro Road. It was located in an open area roughly five meters northeast of Structure 12 (Figure 18). The burial was one of two not within structure floors. The capstones and most of the side walls of Burial 7 had been destroyed by previous utility or road construction. The grave was evidenced by a dark elongated stain that contained three vertically placed limestone slabs, two along the west side of the stain and one on its north end. The limestone slabs and several fragments of human bone were all that remained of this burial. The size of the grave pit (stain) indicates it contained the remains of a sub-adult. Burial 7 was capped with reinforced concrete and is now under Hillsboro Road.

RESULTS OF LABORATORY ANALYSES

Excavations yielded 960 ceramic artifacts, 13,544.27 grams of daub, 2,280 lithic artifacts, 1,486.4 grams of charred plant remains and 149.12 grams of animal bone from features, midden and other archaeological contexts. This cultural material provides additional information about Mississippian ceramic production, lithic tool production and subsistence strategies in use in the study region just prior to Euro-American contact. Included in the artifact assemblage is a unique sample of utensils, personal items and food remains from the preserved floor of a Mississippian Period burned house (Structure 1). Thirty-three percent of the pottery (n=314), 31% of the cultural lithics (n=707), 72% of the botanical remains (n=1073.7 grams) and 75% of the animal bone (n=111.3 grams) are from excavation of this structure. Artifacts from this hastily abandoned dwelling provide an unprecedented glimpse into the day to day subsistence, technology and spatial utilization of a late prehistoric Middle Cumberland household.

Ceramics

Pottery from Kellytown (n=960) was placed in bags, labeled with provenience information and transported to the TDOT Archaeology Lab at the end of each excavation day. There, it was examined for applied decoration (paint, negative impressions), washed with a soft bristle toothbrush in water and allowed to dry. Broken artifacts from each provenience were checked for cross-mending, adjoined where possible, and tabulated as single items. Ceramics smaller than ½ inch in diameter were removed from the collection.

Two broad categories of ceramic artifacts are recognized in the assemblage, "containers" and "non container items". The container category includes whole or partially mended vessels (n=13) from the floor of Structure 1, fragments or sherds (n=298) found in Structure 1 rubble, and sherds from various other field provenience (n=646). The non-container items (n=3) include; a trowel, an earplug and a rim-rider duck head effigy, all from Structure 1.

During excavation of Structure 1 sixteen (16) pottery sherd concentrations were given vessel numbers. Laboratory analysis revealed 13 are broken containers. The sherds that comprise the remaining three vessel designations (Vessels 6, 12 and 16) were tabulated in sherd counts for the site rather than vessel counts for the structure. Sherds designated Vessel 6 were at the bottom of a cooking or heating facility (Feature 6) and are clearly not parts of containers in use when the structure was demolished. Vessel designations 12 and 16 are handles that may be parts of Structure 1 vessels scattered beyond recognition. Given that no definitive conjoin-able portions of these containers were found, they cannot be conclusively assigned to the Structure 1 vessel set. Table 4 presents ceramics excavated from the floor of Structure 1 and overlying rubble.

Five hundred sherds (500) were recovered from features other than Structure 1. Included in the count are 215 sherds from structure areas (Table 5), 181 sherds from pits (Table 6) and 104 sherds from different features (Table 7). One hundred forty-six sherds were also recovered from arbitrary unit excavations and grab bag collections from mechanical stripping of plowzone and/or general midden (Table 8). The entire pottery assemblage is presented according to provenience, paste and artifact category in Table 9.

Table 4. Structure 1 ceramics by paste, decoration, artifact type and provenience.

	Mississippi Plain			**Bell Plain**			**Kimmswick Plain**		Beckwith Incised		**No Shell**	
Provenience	Sherds	Vessels	Other	Sherds	Vessels	Other	Sherds	Vessels	Sherds	Vessels	Other	***TOTAL***
Unit 7North, Level 1	-	-	-	-	-	-	-	-	-	-	-	**0**
U- 7 North, Level 1 balk	-	-	-	2	-	-	-	-	-	-	-	**2**
U-7North, Level 2	10	-	-	3	-	-	-	-	-	-	-	**13**
U-7North, Level 2 balk	-	-	-	-	-	-	-	-	-	-	-	**0**
U-7NM, Level 1	8	-	-	-	-	-	-	-	-	-	-	**8**
U-7NM, L-1 balk	16	-	-	7	-	-	-	-	-	-	-	**23**
U-7NM, Level 2	5	-	-	5	-	-	-	-	-	-	1	**11**
U-7NM L-2 balk	8	-	-	4	-	-	-	-	-	-	-	**12**
U-7SM, Level 1	3	-	-	5	-	-	-	-	-	-	-	**8**
U-7SM, Level 1 balk	4	-	-	8	-	-	-	-	-	-	-	**12**
U-7SM, Level 2	11	-	-	11	-	-	-	1	-	-	-	**23**
U-7SM, Level 2 balk	13	3	-	7	-	-	-	-	-	-	-	**23**
U-7S, Level 1	14	-	-	12	-	-	-	-	-	-	-	**26**
U-7S, Level 1 balk	12	-	-	2	-	-	-	-	-	-	-	**14**
U-7 South, Level 2	29	2	-	2	-	-	-	-	-	-	-	**33**
U-7 South , L-2 balk	10	-	-	2	-	-	-	-	-	-	-	**12**
NW Quadrant, Level 2	3	-	-	-	-	-	-	-	-	-	-	**3**
West ½ of floor (L-2)	45	5	1	12	1	1	-	-	-	1	-	**66**
Fea. 6 in Struct. 1	25	-	-	-	-	-	-	-	-	-	-	**25**
TOTAL	**216**	**10**	**1**	**82**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**314**

Sorting Criteria

The typology used in the analysis of the Kellytown ceramics employs elements of the "type-variety" concept developed by Phillips (1970, 1958) for the Central Mississippi Valley. In this system ceramic "types" are distinguished "on features of paste, surfaces and decorative technique" and "as little as possible on form and design". While types are assumed to be sort-able, varieties are seen as local or temporal expressions of the "type" and are considered to have low sort-ability. This is because variety characteristics (form, design etc.) often inter-grade making them to some extent arbitrary classifications (Phillips 1970:26).

There is considerable debate over the use of the "Type Variety System" and it's applications to the understanding of cultural and historical relationships (Sears 1960; Shepard 1956; Steponaitis 1983; Smith 1992). In spite of differences of opinion, variations of this taxonomy remain the conventional approach to prehistoric ceramic analysis in the southeastern United States. This is because the "Type-Variety System" provides a standard nomenclature for inter-regional comparison of ceramic data sets. However, when using the system to make intra-regional comparisons, in this case, within the Middle Cumberland region, certain sorting problems become apparent. One of the more critical of these is pointed out by Smith (1992:85), who states "The primary distinguishing factors of this system, paste and surface treatment show only minor variations during the Mississippian Period within the study area". Smith goes on to say "the nature of the ceramics from the Middle Cumberland region requires a focus on rim and vessel forms as opposed to paste, temper or surface treatment" (Smith 1992:86). Given these circumstances, and in order to retain some comparability with other studies, the system of analysis employed for Kellytown relies not only on paste characteristics and decorative technique emphasized by Phillips for sherd analysis, but also on the distinguishing modes of form (shapes, rims and appendages) for ceramic wares discussed by Smith for the Middle Cumberland region (Smith 1992:85-129).

Paste Categories

The overwhelming majority (>99%) of pottery from Kellytown is formed of paste tempered with shell. Shell tempered wares dominate the Mississippian period ceramic assemblages of the Middle Cumberland region (Moore and Smith 1993, Reed 1984, Smith and Moore 2001a, Trubitt 1998, Walling et al. 2000) and are ubiquitous in the Southeast (Phillips 1970, Smith 1992, Steponaitis 1983). Ninety-eight percent of the sherds recovered at Kellytown have coarse or fine shell temper. The two percent minority contain inclusions of grit, rock or grog.

Three "Type-Variety" categories or "super-types" see Phillips (1970:130-135, 58-61 and 95-97). are represented in the shell-tempered ceramics from Kellytown. In order of frequency these are: Mississippi Plain (78%), Bell Plain (20%) and Kimmswick (<1%). Seven decorated shell tempered ceramics comprising less than one percent of the remainder of pottery from the site are categorized separate from the three major Mississippian "super-types" listed above. This decorated pottery was first recognized and defined in southeast Missouri where it was classified as "Beckwith-Incised" (see Williams 1954).

Table 5. Ceramics from structures other than Structure 1 by paste, decoration, artifact type and provenience.

	Mississippi Plain		**Bell Plain**		**Kimmswick Plain**		**Beckwith Incised**		
Provenience	Sherds	Other	Sherds	Other	Sherds	Other	Sherds	Other	***TOTAL***
Fea. 10 Structure 2	1	-	-	-	-	-	-	-	**1**
Fea. 13, Stru. 3 East ½	3	-	1	-	-	-	-	-	**4**
Fea. 13, Stru. 3 West ½	1	-	-	-	-	-	-	-	**1**
F13,S3, -F16,S5 P-Zone	25	-	4	-	-	-	-	-	**29**
F13,S3, -F16,S5 Vicinity	19	-	5	-	-	-	-	-	**24**
Feature 16, S5 West	14	-	-	-	2	-	-	-	**16**
Feature 18, Structure 6	46	-	9	-	-	-	-	-	**55**
Feature 23, Structure 8	1	-	-	-	-	-	-	-	**1**
F30,S9- F31,S10, P-zone	25	-	5	-	-	-	-	-	**30**
Fea. 31, Struct. 10 PZ	8	-	5	-	-	-	-	-	**13**
Feature 31, Structure 10	25	-	15	-	-	-	1	-	**41**
TOTAL	**168**	**0**	**44**	**0**	**2**	**0**	**1**	**0**	**215**

Table 6. Ceramics from pit features by paste, decoration, artifact type and provenience.

	Mississippi Plain		**Bell Plain**		**Kimmswick Plain**		**Beckwith Incised**		
Provenience	Sherds	Other	Sherds	Other	Sherds	Other	Sherds	Other	***TOTAL***
Feature 4	3	-	-	-	-	-	-	-	**3**
Feature 5,	4	-	-	-	-	-	-	-	**4**
Feature 8	13	-	1	-	-	-	-	-	**14**
Feature 17	12	-	4	-	-	-	-	-	**16**
Feature 22, Pit, South ½	13	-	-	-	-	-	-	-	**13**
Feature 22, Pit, North ½	8	-	-	-	-	-	-	-	**8**
Feature 24, Pit	67	-	14	-	-	-	5	-	**86**
Feature 25, Pit	3	-	-	-	-	-	-	-	**3**
Feature 29, Pit	1	-	-	-	-	-	-	-	**1**
Feature 39	1	-	1	-	-	-	-	-	**2**
Feature 40	1	-	-	-	-	-	-	-	**1**
Feature 41	6	-	4	-	-	-	-	-	**10**
Feature 42	6	-	12	-	2	-	-	-	**20**
TOTAL	**138**	**0**	**36**	**0**	**2**	**0**	**5**	**0**	**181**

Table 7. Ceramics from other features by paste, decoration and artifact type.

	Mississippi Plain		**Bell Plain**		**Kimmswick Plain**		**Beckwith Incised**		
Provenience	Sherds	Other	Sherds	Other	Sherds	Other	Sherds	Other	***TOTAL***
Fea. 3 Ceramic Cluster	35	-	5	-	-	-	-	-	**40**
F12, Unit 6 above 30 cm	7	-	-	-	-	-	-	-	**7**
F12 Unit 6 below 30 cm	50	-	5	-	1	-	-	-	**56**
Feature 27 hearth	1	-	-	-	-	-	-	-	**1**
TOTAL	**93**	**0**	**10**	**0**	**1**	**0**	**0**	**0**	**104**

Table 8. Ceramics from miscellaneous proveniences by paste, decoration, artifact type.

	Mississippi Plain		Bell Plain		Kimmswick Plain		Beckwith Incised		
Provenience	Sherds	Other	Sherds	Other	Sherds	Other	Sherds	Other	***TOTAL***
Trench "A"	28	-	3	-	-	-	-	-	**31**
Trench "C"	13	-	4	-	-	-	-	-	**17**
Unit 1, Lev. 1, 0-30 cm	22	-	1	-	-	-	-	-	**23**
Unit 1, Lev. 2, 30-42 cm	7	-	-	-	-	-	-	-	**7**
Unit 2, Lev. 1, 0-30 cm	-	-	-	-	-	-	-	-	**0**
Unit 2, Lev. 2, 30-50 cm	21	-	4	-	-	-	-	-	**25**
Unit 3, Lev. 1, 0-30 cm	12	-	6	-	-	-	-	-	**18**
Unit 3, Lev. 2, 30-50 cm	17	-	1	-	1	-	-	-	**19**
Unit 4, Lev. 1, 0-30 cm	5	-	1	-	-	-	-	-	**6**
Unit 4, Lev. 2, 30-50 cm	-	-	-	-	-	-	-	-	**0**
Unit 5, Lev. 1, 0-30 cm	-	-	1	-	-	-	-	-	**1**
Unit 5, Lev. 2, 30-50 cm	-	-	-	-	-	-	-	-	**0**
TOTAL	**125**	**0**	**21**	**0**	**1**	**0**	**0**	**0**	**147**

Table 9. Total ceramics from 40WM10 by paste, decoration and artifact type.

	Mississippi Plain			Bell Plain			Kimmswick Plain		Beckwith Incised		No Shell	
Provenience	Sherds	Vessels	Other	Sherds	Vessels	Other	Sherds	Vessels	Sherds	Vessels	Other	***TOTAL***
Structure 1	216	10	1	82	1	1	-	1	-	1	1	**314**
Other Structures	168	-	-	44	-	-	2	-	1	-	-	**215**
Pit features	138	-	-	36	-	-	2	-	5	-	-	**181**
Other Features	93	-	-	10	-	-	1	-	-	-	-	**104**
Arbitrary Prov.	125	-	-	20	-	-	1	-	-	-	-	**146**
TOTAL	**740**	**10**	**1**	**192**	**1**	**1**	**6**	**1**	**6**	**1**	**1**	**960**

Mississippi Plain (Phillips 1970:130-135)

Sample size (n= 751 artifacts)
Sherds n= 740 (685 body, 13 appendages [8 strap, 5 bifurcate lug]) 31 rims, 8 shoulder/neck sherds, 2 sherds with effigy nodes and 1 base sherd
Vessels n= 10 (4 strap-handle jars, 1 bifurcate lug jar, 1 indeterminate jar and 4 effigy bowls)
Other n=1 (trowel)

Paste: Poor to moderately compact clay tempered with medium to coarse crushed mussel shell. Shell temper particle size varies but generally is between 2-5mm in diameter. Small amounts of grit and/ or rock are evident in some of the sherds.

Surface characteristics: Surface treatment beyond that of simple smoothing or wiping is not evident on any of the pottery assigned to this category. Generally exterior surfaces are fine to uneven to the touch with exposed shell temper and small cavities that have resulted from shell leaching. Interior surfaces differ little from those of exterior surfaces but are commonly rougher to the touch and more leached.

Color: A variety of colors and hues are evident. Typically these range from grey to tan to orange to red with the lighter hues more prevalent. Due to differential firing many of the vessels and sherds examined are more than one color.

Form: Four forms occur in the Middle Cumberland region. These are jars, bowls, bottles and plates. All but the later are represented in the sample from Kellytown.

Decoration: None.

Thickness: Sherds range in thickness from 3mm to 13mm.

Suggested Chronological Position: Used throughout the Mississippian Period in the Middle Cumberland region, elsewhere in the Southeast and parts of the Midwest.

Bell Plain (Phillips Ford and Griffin 1951:122-126, Phillips 1970:58-61)

Sample size (n= 194 artifacts)
Sherds n= 192 (162 body, 1 strap-handle appendage, 25 rims, 1 shoulder/neck sherd, 2 sherds with effigy nodes and 1 base sherd)
Vessels n= 1 (effigy bowl)
Other n= 1 (duck head rim-rider, keepsake or toy)

Paste: While there is some overlapping in the criteria used to distinguish Bell Plain ceramics from those of the proceeding category the primary determining factor is paste texture. Bell Plain pottery is molded from a fine paste with pulverized or finely crushed shell. The temper particles are generally less than 1mm in size and in some instances have been completely leached away.

Surface characteristics: Two types of surface treatment are evident in the sample, smoothing and burnishing/polishing. Smoothing was done while the vessels were in a wet or plastic state and involved wiping with fabric or other soft material to close pores in the vessel walls. Samples with burnished or polished surfaces appear to have been rubbed with a harder object such as a pebble or stone after the vessel had been allowed to dry. This technique produces a harder shiny surface.

Color: Ranges from orange-brown to dark-grey or black with most specimens exhibiting the darker hues. Over half of the pottery sherds in this category have different surface versus core colors. Most commonly observed were sherds with grey to dark-grey cores and dark-grey to black surfaces, or vice versa. This cross-section/surface color variation is a result of surface treatment.

Form: Vessels consist of bowls, bottles, plates, and to a lesser extent jars. The Kellytown sample is comprised almost entirely of bowls including effigy forms and those with appliqué rim treatments. One strap-handle from a jar found in rubble above Structure 1 provides the only evidence from the site that jars were also made on Bell Plain paste.

Decoration: None

Thickness: Sherds range in thickness from 2.7mm to 9.2mm.

Suggested Chronological Position: Bell Plain wares are associated with Middle to Late Mississippian culture in the Middle Cumberland region.

Kimmswick Fabric-Impressed (Phillips 1970: 95-97)

Ceramics in this category lack fabric-impressions but have paste characteristics of the pottery "super-type" Kimmswick Fabric-Impressed. According to Phillips (1970: 95) "The ware is both plain and fabric-impressed". Phillips suggests the surface differences require splitting the two varieties of pottery into separate types because they have different temporal and spatial distribution. In the Middle Cumberland region the term "Kimmswick Plain" has become synonymous with the type that lacks fabric-impressions (see Jones 2001:109, Smith and Moore 2001a:149, Trubitt 1998:103, Walling 2000:253).

Kimmswick Plain

Sample size (n= 7 artifacts)
Sherds n= 6 (rims)
Vessels n= 1 (pan)
Other n=0

Paste: Distinguished from Mississippi Plain ceramics by composition, texture and thickness. Kimmswick ceramics are poorly to moderately compact and tempered with heavy amounts of coarsely crushed shell. Shell particles are quite large and generally exceed 6mm in size.

Surface characteristics: The six sherds and single vessel assigned to this category have rough uneven exterior surfaces that are not smoothed and evidence little finished workmanship. Impressions of fabric or other plant material is not evident and holes are abundant where shell has leached from the paste. Interior surfaces are well smoothed.

Color: Outer surface color ranges from orange-brown to grey-black. Core colors generally correspond with those represented on interior and exterior surfaces but on one sherd the core is lighter in color.

Form: Restricted to shallow basin pans. One mended example (Vessel 9) was recovered from the floor of Structure 1. Two pans are represented by two rims from the vicinity of Structure 5. One pan is represented by a rim from Feature 12. One pan is represented by two rims from pit Feature 42, and one pan is represented by a single rim sherd from Unit 2, Level 3.

Decoration: None.

Thickness: Rims range from 15.65 to 21mm in thickness. Broad thickness variability is evident on single rim sherds. The Kimmswick Plain pan from Structure 1 indicates containers in this category have much thinner bodies than rims with rim thickness generally doubling that of base thickness. The Structure 1 pan exhibits a minimum thickness of 8.1mm at its base and a maximum thickness at its rim of 21.0mm. Thickness variability from rim to base probably accounts for a general under identification of Kimmswick Plain body sherds in ceramic samples from the region. As noted by Smith (1992:124-125), and Smith and Moore (2001a:149) accurate tabulation is further complicated by the similarities of Kimmswick Plain and Mississippi Plain pastes, the later of which can also contain large shell particles.

Suggested Chronological Position: Kimmswick Plain pans are exclusively associated with Late Mississippian ceramic assemblages in the study region (Jones 2001, Reed 1984, Smith and Moore 2001a, Trubitt 1998). Radiocarbon determinations from Kellytown support this temporal ascription. These data and a virtual absence of Kimmswick Fabric-Impressed pans at Thruston Phase sites (Smith 1992:129) suggest fabric ceased to be used as casting material in the manufacture of pans by Late Mississippian times.

Matthews-Incised, variety Beckwith (Phillips 1970:128)

Comments: This decorated pottery, first defined as "Beckwith-Incised" by Williams (1954), was later subsumed in the Type-Variety system and called Matthews-Incised *variety Beckwith* by Phillips (1970:128). However, Phillips cautions that *variety Beckwith* does not entirely coincide with other varieties of Matthews and suggests further information might necessitate classifying it differently. In the Middle Cumberland region variety Beckwith is simply defined as "Beckwith-Incised" (see Smith and Moore 2001a:154).

Beckwith-Incised

Sample size (n= 7 artifacts)
Sherds n= 6 (4 neck/shoulder and 2 rims)
Vessels n= 1 (jar)
Other n=0

Paste: Pottery in this category is made of Mississippi Plain paste that is moderately compact and tempered with fine to medium crushed mussel shell. Temper size varies but generally includes platy
shell particles not larger than 3mm in diameter.

Surface characteristics: Exterior and interior surfaces are well smoothed and exhibit small holes from leaching. Interior surfaces differ little from those of exterior surfaces but are slightly rougher to the touch and more leached.

Color: A nearly whole container found on the floor of Structure 1 (Vessel 8) is light-brown to black on the interior and exterior with core colors ranging from dark-grey to black. Other sherds represented in the sample are light-brown to orange-brown with the same core colors.

Form: Beckwith-Incised appears restricted to strap-handle jars in the Middle Cumberland region (Cox 1985:135, Jones 2001:106-108, Reed 1984 Vol II:7.17, Smith 1992:129, Trubitt 1998:84-87). Three Beckwith-Incised vessels are represented in the Kellytown sample. Vessel 8 is a nearly whole strap-handle jar. The other two are represented by a single rim sherd from a large jar associated with Structure 10, and one rim and four neck sherds from a medium size jar found in refuse pit Feature 24. Handles were not present on jars represented by sherds. The Vessel 8 maximum orifice diameter and the estimated vessel orifice diameters for the two recovered rim sherds range from 7 to 28cm with a mean of 18. These data indicate broad range in vessel size.

Decoration: Philips (1970:128) describes *variety Beckwith* ceramics as having "rectilinear and curvilinear guilloche motifs" that extend around the shoulder and neck of standard jars. The design is comprised of incised lines made with a fine pointed implement. Locally the Beckwith-Incised motif often extends onto the strap handles of jars and consists of "two finely incised vertically parallel lines running from near the point of attachment at the lip to the midsection of the vessel handle." (Reed 1984: II: 7.17). Vessel 8 strap handles have these incisions.

In the Middle Cumberland region there is some variation in the descriptions presented for the design elements of Beckwith-Incised. At East Nashville Mounds and the French Lick sites the motif is described as "running angular guilloche on the rim of a jar" (Walling 2000:256). At Gordontown the motif is said to be "formed with three or four incised lines in a cross-hatched diamond pattern around the neck area of vessels" (Trubitt 1998:86), At Avurbuch sherds that correspond to those from Gordontown (Trubitt 1998:88) are described as having "a continuous angular guilloche pattern" but are said to be "equivalent to Mathews-Incised *variety Mathews*" (Reed 1984: II: 7.17). The Beckwith-Incised design is most commonly depicted as continuous and overlapping angles comprised of three or four lines (Smith 1993:80). The design represented

at Kellytown appears as a series of overlapping "Z"s (Figure 84). The large rim sherd from Structure 10 and the small nearly whole vessel from Structure 1 both evidence this incised pattern.

One rim and four neck sherds from Feature 24 have incised lines. These sherds are from the same jar but do not adjoin. The precise design represented is not clear but overlapping incised lines are evident on two of them. The incisions and their apparent placement around the neck of the jar appear sufficient to categorize the sherds as Beckwith-Incised.

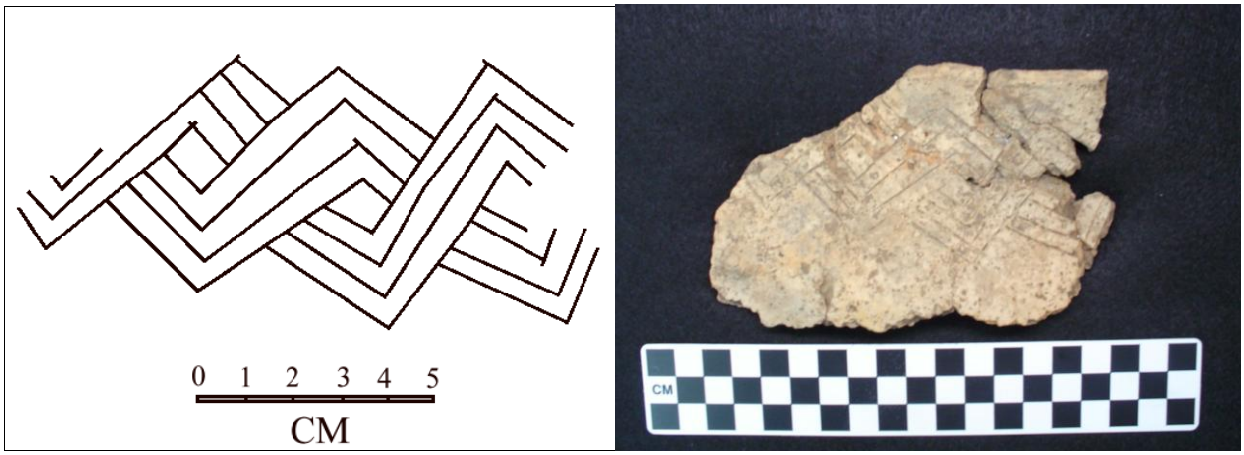


Figure 84. Beckwith Incised sherd from Structure 10.

Beckwith-Incised jars with strap-handles attributed to the Late Mississippian Thruston Phase are often further characterized by zoomorphic (Ferguson 1972:32) or anthropomorphic effigies (Smith 1987). These are distinguished by the presence of nodes of varies sorts that represent eyes, ears, nose, tail, anus or hair buns placed symmetrically around the shoulders of standard jars (Smith 1992:113-115, Reed 1984:II7.17). At Kelly's Battery 54 sherds were categorized as v*ariety Beckwith* (Jones 2001:107). A number of these exhibited nodes but effigy forms could not be distinguished. At the Noel Cemetery site in Nashville three Beckwith-Incised strap-handle jars found with nodes were interpreted to be turtles (Cox 1985:135). Incised sherds and vessels with nodes representing zoomorphic and anthropomorphic effigies were also found locally at Averbuch (Reed 1984II7.17) and Gordontown (Trubitt 1998:84-88).

Vessel 8 has nodes symmetrically placed around its shoulders. The large Beckwith-Incised sherd from Structure 10 also exhibits a conical node along its shoulder area. The presence of the node on this sherd and the fact that it exhibits the same incised pattern evident on Vessel 8 suggest the two jars represent the same effigy form.

Thickness: Sherds range in thickness from 2.8 to 8.5mm. The range in thickness suggests broad variability in container size.

Suggested Chronological Position: Beckwith-Incised strap-handle jars are consistently associated with Late Mississippian Thruston Phase sites in the Middle Cumberland Region (Jones 2001;

Reed 1984; Smith 1992; Smith and Moore 2001b; Trubitt 1998). The decoration has similar chronological placement elsewhere in the Southeast (see Phillips 1970).

Kellytown Ceramic Forms

After classification by paste type and surface treatment diagnostic ceramics were pulled for vessel form analysis. Containers from Structure 1 were analyzed as a set because of their contextual relationship. Thirteen (13) vessels were clearly associated with the floor of this house. Other containers are indicated by sherds designated Vessel 6 (n=25), Vessel 12 (n=1) and Vessel 16 (n=1). As previously discussed these are tabulated in sherd counts for the structure. An additional 271 sherds were found in Structure 1 house rubble and overlying plowzone. Twenty percent of these (n=54) could not be cross-mended but macroscopically appear to be fragments of Structure 1 Vessels, 2 (n=9), 7 (n=19), 10 (n=14) and 15 (n=12). The remainder (n=219 sherds) are not adjoin-able, probably representing broken containers scattered beyond the confines of the house floor. A number of these sherds (n=39) may also be from partially reconstructed containers identified on the floor of Structure 1 but their condition (burned/eroded) makes it difficult to determine with surety. The remaining sherds (n=180) are clearly from other vessels. Possibly these were also associated with the floor of Structure 1. An additional possibility is that they are parts of containers discarded in rubble after the house demolished. The Structure 1 vessel assemblage is presented below followed by a discussion of the ceramic non-container items from the structure and the results of the analysis of diagnostic sherds from the remainder of the site.

Structure 1 Vessels (n=13)

Three vessel forms are represented in the Structure 1 container assemblage. In order of frequency these are jars (n= 7), bowls (n=5) and pans (n=1). Ten of 13 vessels (4 jars, 5 bowls and a pan) were cracked apart or fragmented. These were mended to varying degrees. One of the remainder (Vessel 10) was substantially complete *in situ* but disintegrated when removed. The sherds that represent it were extremely weathered and only small areas of the rim and shoulder were cross-mended. However rim and neck morphology determine Vessel 10 is a jar. Concentrations of sherds represent Vessels 7 and 15. Parts of appendages and rims reveal these are from strap-handle jars. Similar sherds were found in rubble and plowzone indicating Vessels 7 and 15 were scattered during demolition, by natural processes and/or plowing. Metric data suggests these sherd concentrations may represent the same vessel but sherds from each could not be cross-mended. For this reason they are discussed as separate vessels.

There is great variance in the size and morphological characteristics of the Structure 1 vessels. This variability occurs between vessel forms and within vessel forms and is indicated by measurable vessel orifice (mouth) diameters in the schematic in Figure 85. Vessels 1, 2, 8 and 14 are jars, Vessels 3, 4, 5, 11 and 13 are bowls and Vessel 9 is a pan. Vessel orifice diameters and morphological characteristics serve to differentiate the containers to some degree by function. Smith (1987:13-20) hypothesized vessel function in the Middle Cumberland region using such factors as volume, stability, and suspension. In general he concluded that bottles held liquid or gruels, bowls were used for storage, preparation or serving of liquids and solid foods, and jars

were used for storage, cooking and food preparation. The functions of pans and plates are less clear.

Vessel form, size and wear characteristics indicate the Structure 1 containers to be domestic utilitarian wares. The frequency and context of the vessels, food remains and other items from the house floor suggest a single family used them. The jars were probably used for cooking or food storage, bowls for serving and consumption and the single pan for food preparation, or possibly cleansing or washing.

Jars (n=7)

Jars are the primary Mississippian vessel form represented in the Middle Cumberland region (Smith 1992:97). At Rutherford Kizer 54% of rim sherds were from jars (Smith and Moore 2001a:169). At Gordontown jars comprised 49% of the vessel collection (Trubitt 1998:125). Jars were also most frequent at Kelly's Battery (Jones 2001:118), Averbuch (Reed 1984II:7.5), DeGraffenreid (Smith 1994:105), Armes (Smith and Moore 1995:6) and Sogom (Norton and Broster 2004) among other local sites.

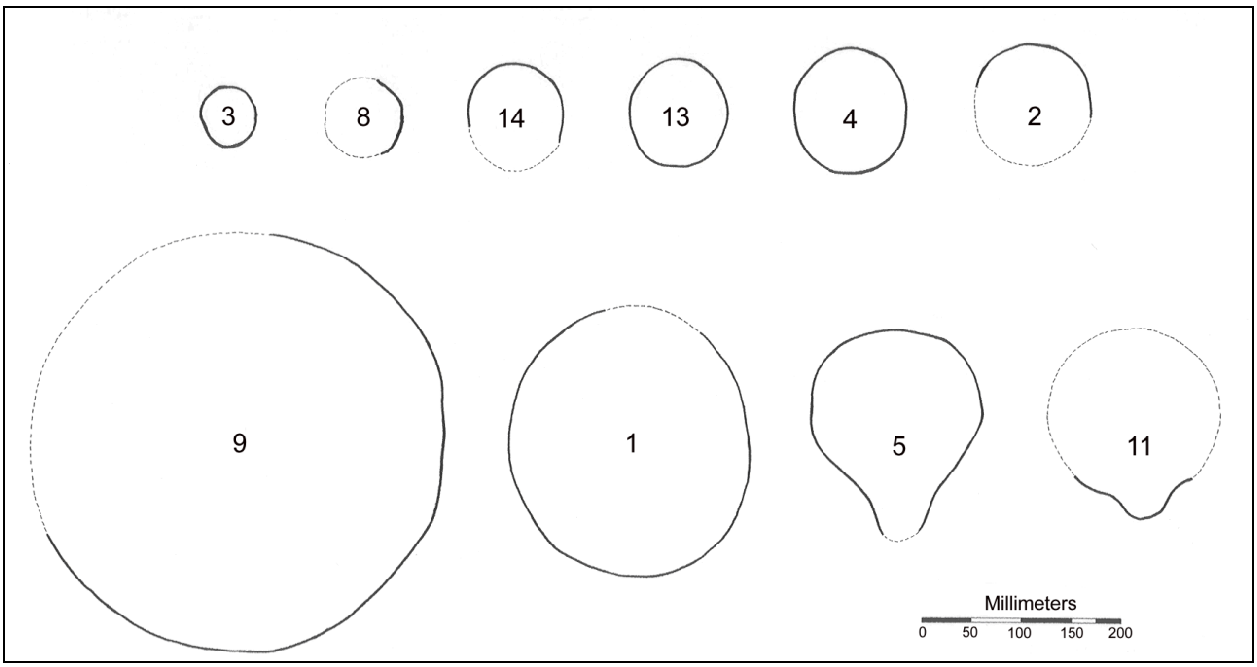


Figure 85. Schematic showing measurable Structure 1 vessel orifices (n=10).

Jars comprise 54% of the Structure 1 container assemblage. All are made of Mississippi Plain paste and all lack surface treatment beyond that of simple smoothing or wiping. As previously mentioned decoration consisting of angular incisions occurs around the shoulder of one jar. All examples are characteristic of the "Standard Jar" described by Smith for the Middle Cumberland region (Smith 1992:476-477). In general the Structure 1 examples have globular bodies and constricted wide orifices with necks that average 20% of vessel height. Metric dimensions of the jars are presented in Table 10.

Table 10. Metric attributes of Structure 1 jars.

Vessel #	Maximum Height	Maximum Diameter	Minimum Diameter	Maximum Girth	Max. Neck Height	Max. Dia. Orifice	Min. Dia. Orifice	Max. Rim Thickness
1	30.0	35.4	34.2	115.0	4.5	26.8	23.5	0.8
2	14.0	16.2	-	51.0•	3.0	12.0•	-	0.7
7	-	-	-	-	-	12.0	-	0.6
8	7.2	9.1	-	29.8	1.6	8.0•	6.3*	0.4
10	11.0	11.2	-	-	2.8	-	9.0	0.5
14	10.1	14.9	13.6	45.5	2.0	10.5	9.0*	0.3
15	-	-	-	-	2.3	12.0	-	0.6
Mean	14.5	17.7	24.0	60.3	2.7	14.7	12.0	0.6

Measurements in centimeters rounded to tenths • Estimated * Minimum orifice diameters at handles

Functional appendages, or lack thereof, divide the Structure 1 jars into three categories. These are lug-handle jars (n=1 bifurcate lug), strap-handle jars (n=5) and indeterminate jars (n=1). In all cases jars with appendages (n=6) have handles that occur as a pair opposite one another along the rim at the minimum vessel orifice.

Lug-handle jars (n=1)

Vessel 1 is the largest jar from Structure 1 and the only one with lug-handles. It was found smashed in two sections in room "E", between the hearth and partition "A" (Figures 25 and 29). As shown in Figure 86, approximately 80% of the jar was mended. Additional un-mend-able sherds were found in matrix.

Vessel 1 has a rounded bottom and rounded shoulders. The neck is slightly incurvate and comprises 15% of the vessel height. The rim lip is flattened. Two lugs occur on each side of the jar flush with the lip. These bend slightly downward and are separated horizontally by semi-circular notches presumably representing suspension points between the lugs. The appendage on one side of the vessel has a maximum thickness of 1.1cm, a maximum width of 11.4cm and extends a maximum of 1.6cm beyond the vessel wall. The lug appendage on the other side has a maximum thickness of 1.2cm, a maximum width of 11.6cm and extends a maximum of 1.8cm beyond the vessel wall.

Vessel 1 is molded of coarse paste and is orange-brown to tan-brown with one darkened area along the body at the same position on its interior and exterior. Body walls are thick with the maximum dimension at the base of the jar (1.6cm). At Gordontown jars of this type are interpreted as having been used over fire. Part of the reasoning is that thick walled jars are quite durable and maintain most of their strength after thermal shock/ alteration (Trubitt 1998:120).

The scatter pattern and location of Vessel 1 in relation to the central hearth strongly suggest it was suspended above it and that it smashed to the floor during house demolition. While soot deposits do not appear on the exterior surface of the jar there is abundant pitting around the shoulder of the vessel and on the bottom of its interior. This is an indication of thermal alteration.

Vessel morphology and archaeological context suggest the container was used for cooking/ heating.

Figure 86. Side and top views of lug-handle Vessel 1.

Strap-handle jars (n=5)

Vessel 2 Handles (n=1)	Top Width	Middle Width	Bottom Width	Max. Length	Handle Height	Handle Thickness•
	5.7	3.2	4.0	4.8	2.7	0.7

Measurements in centimeters rounded to tenths • Measured midway along the handle

Vessel 2 (Figure 87) is the second largest of the jars and the largest one with strap-handles. One side of it was found facing interior-side down over the bottom of the jar which was interior-side up. Sherds comprising roughly an eighth of the other side of the jar were scattered in matrix. The side and bottom of Vessel 2 were mended along with one strap-handle. The location of the jar in relation to other house features is indicated in the Structure 1 floor plan in Figure 25.

Vessel 2 has a rounded bottom and rounded shoulders. The neck is straight to slightly excurvate and comprises 21% of the vessel height. The rim lip is rounded and the handle attaches horizontally along the rim. At the handles the rim is slightly raised above the remainder of the vessel orifice apparently from pinching used to attach the appendages. The lower portion of the strap is anchored along the shoulder and just below the neck. The top width of the handle is 30% wider than that of the bottom. The strap has the narrowest width midway along the handle and maximum rim thickness and handle thickness (midway along the handle) are the same. Body wall thickness varies from base to shoulder being thickest above the shoulder (0.78cm), thinnest below the shoulder (0.56cm) and almost as thick at the base (0.73cm) as at the shoulder. Color varies from orange-brown to tan brown with some darker areas on the bottom of the vessel interior and around the outside of the body. Vessel 2 exhibits much wear. Pitting and abrasion are evident as a band around the exterior lower body of the container but no soot is present. Heavy

pitting and a filmy discoloration occur on the bottom of the interior of the container. These morphological characteristics suggest Vessel 2 served a cooking/heating function. The context of the jar suggests that postsmold(s) directly west of where it was found represent some sort of hangers, platform or bench that Vessel 2 may have fallen from when the structure burned.

Figure 87. Side and top views of strap-handle Vessel 2.

Vessel 7 was evidenced by a concentration of poorly preserved ceramic sherds (n=24) representing approximately a tenth of a container. The sherds were located on the structure floor less than a meter southwest of the hearth in room "E" (Figure 25). Portions of rim, neck and an appendage indicate a strap-handle jar of comparable size to that of Vessel 2. The occurrence of 19 similar sherds in plowzone above the structure floor suggests the jar was plow scattered.

Vessel 7 was orange-brown in color. It had rounded shoulders with a straight to slightly incurvate neck and a rim lip that was flattened. The top portion of a single handle from the vessel reveals it had strap-handles attached flush with the rim. Little quantitative data is available for this jar and its function is unclear. However, given similarities of it with Vessel 2 it probably was used for cooking or heating.

Vessel 8 (Figure 88) was the smallest jar recovered from the floor of Structure 1 and the only decorated one. It was located between Vessels 1 and 2, and the hearth in partition "B" (see Structure 1 floor plan in Figure 25). It was encountered fractured in place sitting upright on the floor. The position and state of preservation of Vessel 8 indicate it was on the house floor when the structure burned. Approximately two-thirds of the body and rim was mended.

Vessel 8 Handles (n=2)	Top Width	Middle Width	Bottom Width	Max. Length	Handle Height♥	Handle Thickness•
	-	2.1	2.8	2.8	1.3	0.4
	-	-	-	2.6	1.3	3.9

Measurements in centimeters rounded to tenths ♥from interior of body wall to exterior of handle • Measured midway along the handle

This small container has a rounded bottom and rounded shoulders. The neck is straight and comprises 22% of the vessel height. The rim lip is flattened and the handle attaches horizontally

along the rim. The lower portion of the strap is anchored at the shoulder just below the neck. Deterioration prevented complete measurements for both appendages. However one of the handles indicates the straps were widest at the top like those of Vessel 2. Vessel 8 is also similar to Vessel 2 in that handle thickness (midway along the appendage) and maximum rim thickness are the same. Vessel 8 body wall thickness varies from base to shoulder being thickest above the shoulder (0.4cm), thinnest below the shoulder (0.25cm) and almost as thick at the base (0.39cm) as at the shoulder.

Vessel 8 is light brown to black on the interior and exterior with core colors ranging from dark-grey to black. Overlapping angular patterns formed by lines incised with a sharp pointed object are apparent around the neck and rim of the jar. This "Beckwith-Incised" design is comprised of four lines each and appears as a series of overlapping "Z"s. The motif extends under both handles. Two linear parallel incisions are also evident on top of the handles.

As is common with Beckwith-Incised jars, Vessel 8 is an effigy. Three nodes are evident on the shoulder of one side of the vessel. Two are conical and the third is a larger vertically pinched triangular shaped node at an equal height and distance (4.2cm) between the other two. One of the conical nodes is very worn and subtle. The other is more pronounced. It has a diameter of 0.76cm and a height from the vessel body of 0.25cm. The pinched triangular node has a maximum length of 1cm, a maximum width at the bottom of 0.63cm and a maximum width at the top of 0.41cm and extends to a height above the vessel wall of 0.41cm. An additional node is evidenced symmetrically opposite the vessel from the triangular shaped node. It is round and flattened, has a depressed center, a maximum diameter of 1.1cm. and a maximum height from the vessel body of 0.14cm. Parts of the container symmetrically opposite the vessel from the two conical nodes are missing so it is unclear if additional nodes were present, and subsequently, if the effigy represented is zoomorphic or anthropomorphic. The pinched node and conical nodes either represent an animal head and body appendages, or human nose and eyes, respectively. The flattened node with the depressed center on the opposite side of the vessel may represent an anus or hair bun. The most common zoomorphic form represented locally is frog.

Vessel 8 exhibits much wear. Pitting is abundant on the exterior bottom of the vessel but no soot is present. Moderate pitting and a darkened cloudy area occur at the same point on the bottom of the interior and exterior of the container. The morphological characteristics of Vessel 8 suggest it too served a cooking/heating function.

Figure 88. Side, top, and front views of Beckwith-Incised strap-handle Vessel 8.

Vessel 14 is a small to medium sized strap-handle jar that was located a meter northeast of the hearth and .25m away from Vessel 10 (Figure 25). It was positioned orifice-up and was cracked from ground pressure and root penetration. Roughly a third of the upper portion of the jar was missing. What remained was fully cross-mended. Daub in and above the container indicate it was on the floor when the house burned.

Vessel 14 Handles (n=2)	Top Width	Middle Width	Bottom Width	Max. Length	Handle Height♥	Handle Thickness•
	-	3.3	3.8	2.5	1.5	0.4
	-	-	3.6	-	-	-

Measurements in centimeters rounded to tenths ♥ from interior of body wall to exterior of handle , •Measured midway along the handle

Vessel 14 (Figure 89) is the third largest jar from Structure 1 and the second largest one with strap-handles. It has a rounded bottom and vertically rounded shoulders. One side of the body of the jar is horizontally rounded. The opposite side has three lobes. These are evident when looking down on the jar. Two are placed along the shoulder. The third is symmetrically between them but positioned lower on the body. The lobes suggest some form of effigy but other defining characteristics (nodes, etc.) are lacking. The neck of Vessel 14 is straight and comprises 20% of the vessel height. The rim lip is flattened. Handles attach horizontally along the rim. The lower portions of the straps are anchored at the shoulder just below the neck. Deterioration prevented complete measurements for both appendages. However, one of the handles indicates the straps are widest at the top, nearly as wide at the bottom and narrowest midway along the handle. Handle thickness (midway along the appendage) and maximum rim thickness are roughly equal (0.3cm vs. 0.4cm, respectively). Vessel 14 body wall thickness varies from base to shoulder and is greatest at the base (43cm) and least just below the shoulder (29cm). Maximum thickness above the shoulder closely approximates vessel base thickness. The data show great similarity in the form characteristics of Vessels 14, 2 and 8.

Figure 89. Side and top views of strap-handle Vessel 14. Note lobed shoulders (right).

Vessel 14 is tan brown to black on the interior and exterior. Where broken the core color is dark-grey to black. Pitting is abundant on the interior bottom of the vessel and around the shoulder of

the exterior but no soot is present. Moderate pitting and a darkened cloudy area occur at the same point on the interior and exterior of the container just below one of the strap-handles. The morphological characteristics of the container suggest it was used for serving, cooking or heating.

Vessel 15 was evidenced by a concentration of ceramic sherds identified in Structure 1 partition "D" (Figure 25). These represent the only container identified on the Structure 1 floor that was not in the primary activity area of the house. It was also the container furthest from the central hearth. The sherds represent approximately ¼ of a medium size strap-handle jar. The position and extent of preservation of Vessel 15 indicate it was smashed on the floor. Sherds of the jar were recovered in the plowzone suggesting post-depositional disturbance.

Approximately half of the sherds that comprise Vessel 15 were mended together. The container is orange-brown to dark-brown with core color ranging from orange-brown to brown. The sherds comprise a section of shoulder, neck and rim, part of the body with handle anchor, and part of one appendage. These reveal the vessel had rounded shoulders with strap-handles and a straight to excurvate rim with a flattened lip. Like other strap-handle jars from the floor, rim thickness and appendage thickness are the same.

Visual attributes, vessel orifice and rim thickness of the sherds from Vessel 15 are comparable with those for Vessel 7 indicating both sherd concentrations may represent the same jar. Because this can't be determined conclusively with the portions of the jar(s) recovered they were categorized separately. Little quantitative data is available for Vessel 15 and its function is unclear. However, it's similarity to other jars from the floor interpreted to be used for cooking/heating suggest it served the same purpose.

Indeterminate handle jars (n=1)

Vessel 10 was approximately two-thirds of a small to medium size jar found northeast of the hearth. It was situated orifice-up. Nearly a third of the vessel was broken away from the body. This container was superimposed by Vessel 9, a pan (Figure 32). Vessel 9 dropped or fell on to Vessel 10. The collision damaged both containers. Daub rubble in both vessels indicates the vessels fell just before or as the structure burned.

Vessel 10 all but disintegrated when removed. Its fractured condition and poor state of preservation did not allow substantial cross-mending of sherds. However neck and rim parts, and measurements taken when the container was *in situ* provide its general description. Vessel 10 varied from orange-brown to tan-brown in color with the exterior exhibiting lighter hues. It had a rounded bottom and rounded shoulders. The neck was excurvate and comprised 26% of the vessel height. The rim lip is rounded. Maximum body thickness is 0.56cm and minimum body thickness is 0.30cm. It is unclear if the container had handles. The function of Vessel 10 is unknown.

Bowls (n=5)

Bowls comprise 38 percent of the Structure 1 vessels. Four are crafted of Mississippi Plain paste. Three of these (Vessels 4, 5, and 13) evidence shell particles and/or shell voids on their surfaces that range in size at the smaller end for the paste type (1-3mm in diameter). Shell temper of the remaining Mississippi Plain vessel (#11) is in the 3-5mm range. All of the bowls have well smoothed interior and exterior surfaces with smoothing most evident on the interior.

One bowl (Vessel 3) is made of Bell Plain paste. Its surfaces have small voids generally less than 1mm in diameter where finely crushed shell has dissolved. Both the interior and exterior surfaces of Vessel 3 are burnished or polished.

The Structure 1 bowls (Table 11) are characteristic of the "Restricted Rim" form described by Smith for the Middle Cumberland region (Smith 1992:473). These generally have globular bodies, with flattened bases and inverted or slightly upturned rims with no necks or shoulders. All of the specimens are effigies. Four are structural (effigies represented by molding of the vessel body) and one (Vessel 4) is of the lug and node type (effigy represented by attached lugs/ nodes).

Table 11. Metric attributes of Structure 1 bowls.

Vessel #	Maximum Height	Maximum Diameter	Minimum Diameter	Maximum Girth	Max. Dia. Orifice	Min. Dia. Orifice	Maximum length	Max. Rim Thickness
3	4.4*	8.0	7.5	27.0*	5.8	5.3	>11.0	0.5
4	7.8	14.3	14.0	46.0	12.1	10.8	16.5	0.6
5	9.5	18.2	17.5	60.0	16.7	16.0♣	23.8	0.6
11	6.5	>14.5*	>14.4	>46*	-	17.5*♣	>16.0	0.5
13	9.5	14.3	13.9	45	10.7	9.7	16.4	0.6
Mean	6.7	13.9	13.5	44.8	11.3	11.9	16.7	0.6

* Measurements in centimeters rounded to tenths, ♣ Estimated- excludes ladle length

Vessel 3, (Figure 90), the smallest container identified, was found orifice-up in the primary activity area (room "E") of Structure 1 but away from the main grouping of vessels (Figure 25). The position and state of preservation of Vessel 3 indicate it was on the floor when the house was destroyed. More than one hundred fragments of maize kernels and cupules were found directly adjacent to this bowl.

Vessel 3 is a structural fish effigy bowl. The fish is depicted in profile when looking down at the top of the bowl. Comparison of the effigy's morphology with local fish suggests it is a drum or sucker. The distinguishing similarities of these species to the vessel are their flattened foreheads with mouths positioned on the under side of the head (Figure 90). Bone elements in local faunal assemblages demonstrate that Mississippian groups in the Middle Cumberland region exploited drums and suckers, probably as subsistence resources (Breitburg and Moore 2001b:132; Jones 2001:162; Romanoski 1984:II13-18) and both species are abundant in the Little Harpeth River.

Vessel 3 was cracked from ground pressure and root penetration (Figure 34). The base of the container and part of the body that constitute the caudal (tail) fin were eroded away but most of the bowl was mended. It ranges in color from black to tan-brown on the interior and exterior with the lighter hue more evident around the vessel mouth. The vessel has a maximum length from the end of the head to the end of what remains of the tail of 11cm. The body of the bowl is globular and has a maximum diameter of 8.0cm and a minimum diameter of 7.5cm. (dimensions exclude molded head and tail). The bowl orifice is circular but not symmetrical. It has a maximum width of 5.8cm and a minimum width of 5.3cm. The rim averages 0.4cm in thickness and the lip is rounded. The effigy head, like the tail, is a molded part of the vessel body. The forehead is rounded and the sides of the head are flattened. The head extends 3.1cm outward from the vessel orifice. The nose is also flattened and a distinct angle marks the mandible and upper lip. A mouth is evident on the under side of the head and appears as a downward-facing U-shaped indention that averages 0.9cm in width. The mandible is elevated roughly 0.2cm higher than the body within the "U". It has a maximum length of 1.8cm and a maximum width of 0.9cm. An eye is also indicated on the upward facing side of the head by a gentle circular rise that is 1.7cm in diameter. Within the circle is a subtle depression marking the iris and a faint central rise marking the pupil. Like the head, the caudal fin is a molded part of the container body. It measures 3.4cm wide and 2.6cm thick where it extends away from the vessel wall. What remains of the under side of the caudal fin suggests Vessel 3 had a flat bottom. The length and morphological characteristics of the tail were not determined due to deterioration. The other anatomical features of the fish include a dorsal fin, two pelvic fins and an anal fin. The dorsal fin is comprised of an appliqué strip that begins behind the head where it slopes upward and away from the head. It has a maximum length of 3.8cm. The opposite end of the dorsal fin angles abruptly downward. The dorsal fin is widest at the body (1cm), has a maximum height from the body of 0.7cm and is somewhat triangular in cross-section. The two pelvic fins and anal fin are represented by elongated shaped pinched nodes that average 1.4cm long, 0.5cm wide and 0.5cm in height from the body wall. Clear abrasion or pitting is not evident on the interior or exterior of Vessel 3 but the subtle nature of the eye on the topside of the bowl appears a result of use-wear. The data suggest Vessel 3 was used for serving and consumption. The small size of the bowl may indicate it was for an infant or child.

Vessel 4 (Figure 91) was sitting orifice-up near the center of the main group of containers in room "E" (Figure 25). Two additional bowls (Vessels 5 and 13) were found in its immediate proximity. The vessel was cracked in place by ground pressure and root penetration (see Figure 35) but completely mended. Maize kernels and cupules were found in the immediate vicinity of this bowl. The position, state of preservation and context of Vessel 4 indicate it was on the floor when the house was razed.

Vessel 4 is a lug and node type fish effigy bowl. The fish is depicted in profile when looking down at the top of the bowl. Unlike Vessel 3, none of the anatomical features of the fish are molded parts of the vessel body. Lugs or appliqué strips represent a head, tail, dorsal fin, and an anal fin. Comparison of the effigy morphology with indigenous fresh water fishes suggests Vessel 4 is a minnow (*Cyprinidae*). The shared characteristic is a narrow pointed head. The recovery of skeletal elements in local faunal assemblages indicates that Middle Cumberland

Figure 90. Top, front and bottom views of Vessel 3.

Mississippian groups exploited the abundant minnows in the Little Harpeth River. At Averbuch, minnows comprised 19.1% of fish remains (Romanoski 1984:II.13)

Vessel 4 ranges in color from tan-brown to black. The darker color occurs at the base of the bowl on the inside and on the base and side of the bowl on the outside. A trowel scrape along the rim of the vessel indicates the core color is tan to dark grey or black. The body of the bowl is globular. It has a maximum height of 7.8 cm, a maximum diameter of 14.3cm and a girth of 46cm. The mouth of the vessel is oval. It has a maximum width of 12.1cm and a minimum width of 10.8cm. The rim averages 0.5cm in thickness and the lip is rounded. The effigy head is comprised of a lug attached just below (0.5cm) the rim lip. The head is widest at the vessel wall where it has a maximum width of 3.3cm. Its maximum thickness is 1.7cm and it extends 2.8cm away from the vessel orifice. Two eyes are evident on the head. These are comprised of rounded nodes, one on the top and one on the under side of the head. Each has a maximum diameter of 1.3cm. but the top eye extends 0.17cm off of the head while the bottom eye extends 0.3cm off of the head. The low profile of the upper eye in relation to the one on the under side is attributed to use-wear.

The Vessel 4 caudal fin is represented by a bifurcated lug attached just below the bowl rim at roughly the same height along the vessel as the head. The maximum width (3.5cm) and thickness (2.2cm) of the tail are at the point of attachment along the body wall. The tail extends 2.8cm away from the vessel orifice. The dorsal fin is represented by an appliqué strip that begins just behind the head and extends 13cm around the vessel body or roughly three-fourths the distance between the head and tail. The strip is somewhat uneven and tool marks are evident on it's under side. It has a maximum thickness of 1.5cm, a minimum thickness of 1cm and extends in height a maximum of 0.6cm above the body wall. The two pelvic fins and anal fin are represented by half disk shaped nodes on the opposite side of the vessel from the dorsal fin and between the head and tail. Nodes representing the pelvic fins average 2.1cm long, 1.2cm wide, and 0.6cm in height from the outside of the vessel wall. The anal fin is 1.3cm wide with the other dimensions roughly equal to the pelvic fins. Much abrasion is visible on the exterior body of Vessel 4. It is evident along and below the rim next to the tail and head, respectively. When holding the bowl with two hands these areas are where the thumbs would make contact with it. Abrasion is also evident along the vessel's lip, upper body, and on the top of the lug representing the effigy head, as previously indicated. The abrasion is attributed to use-wear. The morphological attributes of the vessel and the context from which it is derived suggest Vessel 4 was used for serving and consumption.

Vessel 5 (Figure 92) was found near the center of the main group of containers in room "E". It was directly south of Vessel 4 and between Vessels 1 and 13 (Figure 25). The *in situ* configuration of sherds that comprise Vessel 5 and the presence of daub in vessel fill indicate the container was on the floor, broken in place by falling structural rubble, when the house burned. With the exception of one base sherd that was not found Vessel 5 was completely mended.

Figure 91. Top, front and bottom views of fish effigy bowl Vessel 4.

Vessel 5 is a structural gourd effigy (*Cucurbita pepo* L.). Native Americans in the Southeast began cultivating certain types of gourds (squash and pumpkin) around 1000 B.C. (Hudson 1976:293). Thirty-nine charred whole seeds and 71 seed fragments of a variety of squash or pumpkin (*Cucurbita pepo*) were found on the floor of Structure 1.

The gourd evidenced by Vessel 5 is seen when looking down at the top of the bowl. A molded spout or ladle comprises the neck or stem of the fruit. Nodes forming the shape of a flower blossom are present on the opposite side of the bowl from the ladle. Five smaller nodes surround a larger central one representing petals and ovary, respectively. The blossom has a maximum diameter of 2.5cm and extends a maximum distance from the body wall of 1cm. This feature of the effigy may indicate the depicted fruit is immature or in a state of growth.

Vessel 5 is predominantly orange-tan-brown to grey-brown in color on the interior and exterior. A darker area is evident on the bottom side of the bowl inside and out. The inside of the ladle or spout is lightest in color and eroded probably from wear. Eroded areas along the rim and around the area of the missing base sherd indicate core color ranges from orange-brown to dark grey.

Vessel 5 is globular in shape. It has a maximum height of 9.5cm and a maximum length from the end of the ladle or spout to the end of the nodes forming the flower bud of 23.8cm. The maximum diameter of the bowl excluding the ladle is 18.2cm and the body girth is 60cm. The mouth of the vessel is oval with a maximum width of 16.7cm perpendicular to the ladle and a minimum width of 16cm parallel to the ladle (excludes ladle length). The ladle extends 6cm off of the bowl wall, has a maximum width along the bowl wall of 9cm and a maximum depth of 2.3cm. The rim ranges between 0.4 and 0.6cm thick. The lip of the vessel is flattened around the body and rounded on the ladle.

Abrasion, roughness, pitting and discoloration on areas of the interior and exterior surfaces of Vessel 5 evidence use wear. Most of this is visible within and around the lip of the ladle and is presumably from pouring. The morphological attributes of Vessel 5 and the context from which it is derived suggest it is a liquid serving container that was used frequently, or over an extended period of time.

Vessel 11 (Figure 93) was found opposite the hearth from the main group of containers in room "E" and near the division of partitions "E" and "D" (Figure 25). It was sitting on the floor orifice-up. Roughly 75% of the rim and about half of the body were missing. What remained of the bowl was cracked by ground pressure and root penetration but was nonetheless completely mended. An old break is present along the area of the container that is missing. Possibly the bowl was fractured by house demolition but adjoin able-sherds were not found on the structure floor. The most likely possibility is post-depositional plow disturbance.

Figure 92. Side and top views of gourd effigy bowl Vessel 5.

Figure 93. Top view of gourd effigy bowl Vessel 11.

Like Vessel 5, Vessel 11 is a structural gourd (*Cucurbita pepo* L.) effigy. The gourd is best seen when looking down at the top of the bowl. A molded spout or ladle comprises the neck or stem of the fruit. The area of the bowl opposite the ladle is missing. The lack of this part of the container makes it unclear if a blossom was part of the effigy as with Vessel 5. However, at the break of the vessel body the wall expands outward suggesting one was there.

Vessel 11 is predominantly dark-brown to black in color on the interior and exterior. A brown area is evident on the bottom side of the interior of the bowl. The old break along the vessel body indicates core color ranges from grey to black. Vessel 11 is globular in shape with a flat bottom and a round mouth. It has a maximum height of 6.5cm and an estimated maximum diameter of 14.5cm, excluding the ladle. The maximum length of the vessel is 16cm. The body girth of the vessel is greater than 46cm. The ladle extends 1.5cm off of the bowl wall, has a maximum width along the bowl wall of 8cm and a maximum depth of 3.3cm. The rim ranges between 0.35 and 0.45cm thick and the lip is rounded.

Pits and pot lids are evident around the interior wall of Vessel 11 and within the ladle but not on the interior bottom or exterior of the container. These data suggest the wall erosion is from use. The morphological attributes of Vessel 11 and the context from which it is derived suggest it is a liquid serving container that was used frequently, or over an extended period of time.

Vessel 13 (Figure 94) was found east and southeast of Vessels 4 and 5 respectively and was one of the bowls that comprised the main group of containers in room "E" (Figure 25). The vessel was sitting on the floor orifice-up and was fractured by ground pressure and root penetration but could be completely mended.

Vessel 13 is a frog or toad effigy bowl. A head and limbs are molded on the body of the bowl. Opposite the effigy head of the bowl is a conical lug that appears to represent a remnant tail. This feature of the vessel suggests the animal's anuran was intentionally depicted in an undeveloped state (froglet). Another possible explanation is that the lug represents a spike like bone or downward extension of the animal's vertebral column called a urostyle.

Frog effigies are common in Thruston Phase ceramic assemblages but are almost exclusively found in mortuary context. Similar bowls to that of Vessel 13 have been recovered from stone box graves at Noel Cemetery (Smith 1992:114-115, 26,131) and at Rutherford-Kizer (Smith and Moore 2001a:159). Fragments of two frog effigy bowls, one from a stone box grave, were also found at Gordontown (Trubitt 1998:101).

Vessel 13 is globular in shape. It has a maximum length from head to tail of 16.4cm, a maximum bowl diameter of 14.3cm, a girth of 45cm and a height of 9.5cm. The mouth of the vessel is oval and has a maximum width of 10.7cm (perpendicular to the head and tail) and a minimum width of 9.7cm (parallel to the head and tail). The rim averages 0.5cm thick and the lip is rounded. The vessel is predominantly yellow-brown in color. The bottom of the vessel is black on the exterior and a less dark cloud is evident on the bottom interior of the bowl. A trowel scrape along the rim of the vessel indicates similar surface-to-core color.

The head of the vessel effigy is located just below the bowl orifice and extends four centimeters away from it. Its maximum width (5.9cm) and maximum thickness (3.6cm) are along the bowl wall. The sides of the head are rounded and the top is flattened. Features of the head include mouth, eyes and external eardrums (tympanum). The mouth is represented by two incised lines made with a sharp pointed object that extend from each side of the head toward the middle. However, the lines do not come together in the middle. The lack of connection may be purposeful to depict the animal's tongue or possibly the capture of prey. Punctated conical nodes that average one centimeter in diameter and 0.3cm in height occur on the top of the head. These represent the eyes. Tympanum are indicated behind the eyes and just below the bowl rim by modeled round nodes with dimpled depressions. The nodes average 1.6cm in diameter. While the species of the frog depicted by Vessel 13 is difficult to determine with surety, characteristics of its effigy head suggest it is a bull frog (*Rana catesbeiana*). Bullfrogs can be distinguished from

Figure 94. Views of frog effigy bowl Vessel 13.

similar species by their large rounded heads and large external eardrums in relation to the size of the eyes. The later observation may also indicate the sex of the animal. In male bullfrogs the tympanum are larger than the eyes and in females they are equal to or smaller than the eyes.

The modeled legs (n=4) of effigy Vessel 13 are jointed and flexed inward. The front legs fold from the sides of the bowl under the head. The back legs fold from the sides of the bowl away from the head and under the tail. Incised lines indicate the animal's webbed toes. While frogs and toads have four toes on each front foot and five toes on each rear foot only 15 toes are represented on Vessel 13. These include five on the left front foot, four on the right front foot and three on each rear foot. Jointed legs and incised "claws" are considered a distinguishing characteristic of Mississippian frog effigies (Trubitt 1998:101). The remaining feature of the effigy, the tail, briefly discussed above, has a maximum diameter along the bowl wall of 1.9cm and extends 1.2cm away from the body of the bowl.

Pitting is visible on the interior and exterior of Vessel 13 and abrasion is evident along the vessel's lip. The abrasion is attributed to use-wear. The morphological attributes of the vessel and the context from which it is derived suggest Vessel 13 was used for serving and consumption.

Pans (n=1)

Vessel 9 (Figure 95) is a Kimmswick Plain pan or platter that was located northeast of the hearth (Figure 25). As shown, it partially superimposed Vessel 10 indicating it was not molded into the structure floor. The position of the pan in relation to Vessel 10 and its state of preservation suggest it fell from above the floor. Roughly half of the pan was mended. Another one-third was reconstructed in sherd sections that could not be adjoined to the larger part of the pan because of edge deterioration.

Vessel 9 is light-brown to orange-brown with some darker cloudy areas on the interior surface. Core color is similar to surface color but slightly lighter on average. The lip of the pan is flat to round and was formed by folding the rim downward, or over, and modeling it into the exterior of the pan. Wall thickness is at its maximum (2.1cm) along the rim and at its minimum at the base (1cm) of the pan. The pan can be described as having a thick rim, sloping sides and a flat to slightly rounded bottom. The maximum diameter of the vessel is estimated to be 51cm and occurs at the rim. The maximum height of the vessel is 11.6cm. The interior surface is well smoothed and heavily pitted. The exterior surface is unsmoothed, bumpy, rough and uneven with less pitting. Turned upside-down the vessel resembles a turtle carapace – a reasonable interpretation given the frequency of zoomorphic vessels in Structure 1.

It is unclear how Vessel 9 was used. It's context and the heavy pitting of the interior surface suggest it was used for serving and/or food preparation, or possibly for cleansing or washing. Tool marks are not evident on either surface of the vessel, suggesting it is not a "saltpan.

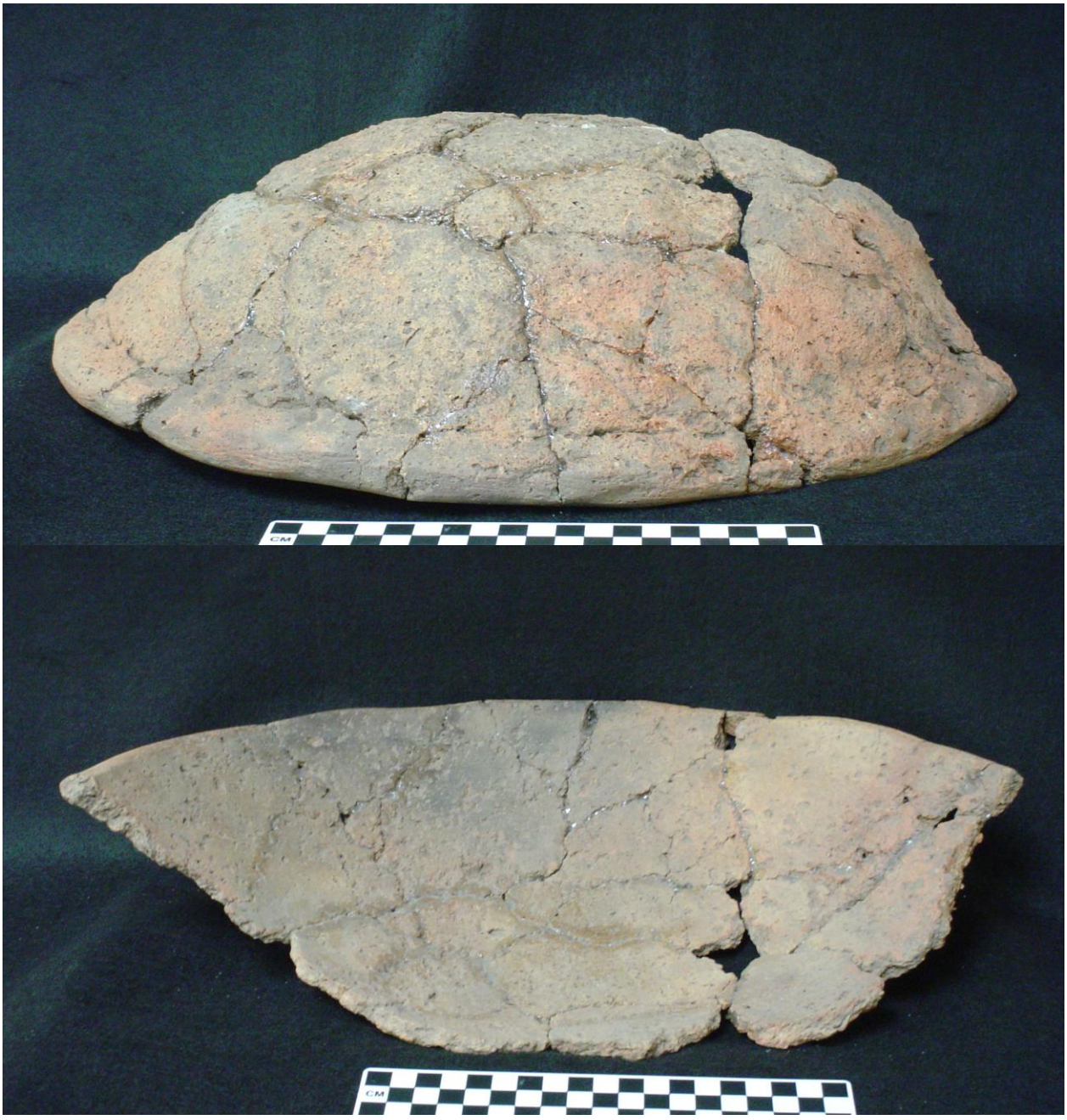


Figure 95. Bottom and top views of Kimmswick Plain pan (Vessel 9).

Non-container Ceramics from Structure 1 (n=3)

Three other ceramic items were associated with the floor of Structure 1. These include a pottery trowel, an earplug and a molded duck head effigy.

Pottery Trowels (n=1)

One pottery trowel (Figure 96) was found in Structure 1. It was in an up-right position (see Figure 28) at the division between partition "B" and the larger activity area of the house designated room "E".

Two types of pottery trowels are noted in local Mississippian literature. One is mushroom-shaped and the other is stirrup or "D" shaped (Smith 1992:210). The trowel from Structure 1 is the former type. These are thought to have been used for finishing pottery or for other polishing or grinding functions. Stirrup shaped trowels are believed to have been used to spread clay in hearths or daub on building walls. The later type is usually referred to as a "plastering" trowel (ibid.1992:210) and is not represented in the ceramic sample from Kellytown.

The trowel from Structure 1 can be described as a disk with a perpendicular handle attached at its center. The disk is plano-convex in cross-section, has a maximum diameter of 9.9cm and is thickest where attached to the handle. The handle has a maximum diameter of 3cm, is cylindrical in shape, slightly flared at the end and biconcave on the top. The length of the trowel through the handle is 8.9cm.

The artifact is made of medium to coarse shell tempered Mississippi Plain paste. It varies in color from dark-brown to black on the disk and lower part of the handle to tan, yellow-brown on the top of the handle. Shell is leached from the paste on most of the upper side of the artifact and to a lesser extent on the lower side. Abrasion and wear occur around the edge of the disk but not on its lower side, there a thin film of clay is adhered to part of the surface.

Mushroom and plaster trowels are ubiquitous throughout the Mississippian Period and have been found in burial and domestic context over much of the Middle Cumberland region. Local site data indicate the mushroom variety is the most common form and that it tends to be more prevalent at Thruston Phase sites. At Kelly's Battery two were recovered from burials and two were found in domestic context (Jones 2001:117). Both types were found in stone box graves at Averbuch (Reed 1984:II.7.48) and Noel Cemetery (Cox 1985:90-91). Mushroom type trowels are also represented in ceramic assemblages from Rutherford Kizer (Smith and Moore 2001a:180), Gordontown (Trubitt 1998:110), Logan (Smith 1992:212), French Lick and the East Nashville Mounds site (Walling 2000:265).

Earplug (n=1)

An earplug (Figure 97) was found 30cm east of Vessel 9 in the main activity area (room "E") of Structure 1 (Figure 25). As implied by the term "earplug" these artifacts are believed to have been inserted through holes or slits in the earlobe. The overwhelming majority of earplugs from the Middle Cumberland region, including the one from Structure 1, are perforated.The earplug from Structure 1 is oval and has a groove around the middle perpendicular to its long axis that gives it a bi-lobed appearance. The artifact has a maximum length of 22.4mm and a maximum

Figure 96. Pottery trowel from Structure 1 (scale in centimeters).

width of 19.7mm. The groove around the earplug has a maximum diameter of 17.7mm and the hole through it reaches 2.1mm in diameter. The surface of the earplug is reddish-brown and polished. Wear around the middle of the artifact indicates its core color is grey-black. The paste used to model the Structure 1 earplug is clay and contains finely ground grog temper.

Figure 97. Earplug from Structure 1.

Historical accounts of Native Americans in the Southeast attest to the prevalence of ear ornamentation in the region and indicate the practice often reflected status, rank or achievement (Swanton 1946; Hudson 1976). Holes through them suggest that earplugs functioned as anchors or shanks for suspending pendants, beads or other ornaments from the ear. Local archaeological data provide some evidence of the ornaments worn. At the Brick Church Mound site an effigy rattle, interpreted to represent an owl and having a hole through the neck, was found in a trash pit. Its perforation and the small size (38.84 mm in height) of the artifact suggest it was made to suspend from an earplug (Barker and Kuttruff 2001). At the Rutherford-Kizer site both earplugs, and small effigy pendants that could have been suspended are represented in the artifact assemblage. One of these, also interpreted to be an owl effigy (Smith and Moore 2001a:181), has a "suspension loop". Both earplugs and small effigy pendants were recovered from Averbuch (Reed 1984:II.7.48), and Noel Cemetery where a turtle effigy pendant with "a laterally drilled suspension hole through the neck" was found in a stone box grave (Cox 1985:99-100).

Earplugs by far outnumber pendants in the archaeological record of the study region and most are from burials. At the East Nashville Mounds 24 earplugs were found (Walling 2000:.260-261) but no pendants. Pendants and earplugs with holes through them were also recovered from stone box graves at the Kelly's Battery site (Jones 2001:115-116). Earplugs were also found in burials at the Logan site (Smith 1992:216). The relative abundance of earplugs in mortuary context and a corresponding lack of accompanying ornaments suggest the latter were not often interred with the dead.

Duck Head Effigy Rim-Rider (n=1)

A duck head effigy (Figure 98) was found on the floor of Structure 1 in partition "B" (Figure 25). The effigy is a rim-rider broken from a bowl. Excavation and analysis of contents from the house revealed two sherds with similar macroscopic characteristics of the rim-rider. These were not found with the artifact, so it is unclear whether the sherds are associated with the duck head. Data suggest the duck head was broken from a vessel before Structure 1 burned and that it was a keepsake or toy. The presence of edge rounding and a polished luster on the break at the neck where the duck head would have attached to the vessel support this inference. Those attributes

could only have resulted from handling or polishing the artifact after it was detached from the vessel.

The duck head from Structure 1 is made of Bell Plain paste and is primarily black in color. On the upper surface of the bill is a grey area on one side. The top of the head is dark-brown. The upper surface of the duck head is burnished or finely polished and has a variable black shinny luster. The under side is not finely polished. Tool marks are present on both sides of the rim-rider where the head meets the bill but eyes are not indicated. The artifact is 78.8mm long, has a maximum width of 32.3mm and is 33.2mm in height.

Detached duck head rim-riders have been recovered from domestic context at a number of Thruston Phase sites in the region. At Kelly's Battery one was found in a large pit that contained abundant Mississippian diagnostic artifacts and another was found in a midden just south of the feature (Jones 2001:41,97). Detached duck heads were also recovered at Gordontown (Trubitt 1998: 97), Rutherford-Kizer (Smith and Moore 2001a:156) and French Lick (Walling 2000:265).

Figure 98. Side and top views of duck head rim-rider from Structure 1.

Evidence of wear on these artifacts is not presented in the referenced studies, but the fact that the duck heads were isolated finds suggests they may have been keepsakes or toys.

Diagnostic Sherds (n=97)

Nine hundred and forty-four (944) sherds larger than 0.5 inch were recovered from the TDOT excavations. The small size of the sherd sample, the various contexts from which it is derived and the limited area of the site investigated preclude a detailed quantification of the vessel forms represented. However, diagnostic sherd data combined with Structure 1 vessel data do provide substantive evidence of the types of domestic or utilitarian wares used at the site. The data also further characterize the variability of the Thruston Phase pottery assemblage at Kellytown.

Just over 10% (n=97) of the sherd sample exhibits morphological attributes representative of vessel form. The remainder (n=847) are rounded body sherds from globular shaped jars, bowls and possibly bottles. Unless very large, rounded body sherds tend to lack definitive container form attributes. As such they were not sorted beyond paste type and surface treatment. Of the

total body sherds, 81% (n=685) are of Mississippi Plain paste and 19% (n=162) of Bell Plain paste. Kimmswick Plain sherds (n=6) were evidenced by rims only and Beckwith-Incised sherds were recognized by decorative incisions on rims and shoulder/neck sherds. For these reasons Kimmswick Plain and/or Matthews-Incised body sherds are not distinguished by paste type from Mississippi Plain sherds.

Diagnostic sherds (n=97) in the sample are divided into five categories. These are *appendages* (n=14), *rim sherds* (n=64), *shoulder/neck sherds* (n=13), *effigy fragments/nodes* (n=4) and *base sherds* (n=2). Only base sherds that are flat or flat with curving sides were recognized in the sample. This is because body sherds and base sherds from globular containers are virtually indistinguishable.

Appendages (9 strap-handles and 5 bifurcate lugs)

Strap-handles (*Minimum Vessel count n=9 jars*)

Items assigned to this category are strap-handles or parts of strap-handles from globular jars. At Gordontown the type is described as Form 1 by Trubitt (1998:71-72). Loop-handles are not represented in the sample. The count includes one whole and two relatively whole straps, one part of a strap, four body sherds with attached broken strap anchors, and a rim sherd with a broken strap anchor. Rims are incurvate to straight on four examples where rim profiles could be discerned. One handle has a rim portion with a flattened lip. Lip form could not be discerned on the remainder of the sample because rims were not attached to the handles. Eight of the appendages are from separate Mississippi Plain jars and one is from a Bell Plain jar. The latter represents the only evidence from the site that jars were not exclusively made of Mississippi Plain paste. At Rutherford Kizer two-thirds (n=18) of the strap-handles found were from Mississippi Plain jars and the remainder (n=9) were from Bell plain jars (Smith and Moore 2001a:166).

Three relatively complete strap-handles were recovered (Figure 99; with profiles). Two are from Structure 1. The third and largest was recovered from Feature 3, a ceramic cluster southeast of Structure 4. Metric data from the three strap-handles is presented with that from the straps of Structure 1 Vessels 2, 8 and 14 in Table 12. Orifice estimates for the vessels represented by the three relatively complete handles range from 16 to 36cm with a mean of 23.3. The strap-handles represented at Kellytown are generally widest where attached at the vessel rim and narrowest midway between the rim and body attachments. Handle thickness ranges from 3.92 to 6.80mm with a mean of 4.95.

Recent work by Wesler (2001:99) suggests morphological changes in strap-handle width and thickness has chronological significance. Strap-handles appear to become wider and less thick over time. Using Wesler's mathematical formula the metric data from the Kellytown strap-handles were analyzed to determine how projected chronological placement of the sample correlates with other time sensitive data from the site. Based on the formula, the strap-handle jars in the sample were produced from A.D. 1393-1464 with a mean production date of A.D. 1433 (Table 13). Other ceramic data and radiocarbon dates from the site correlate well with the results.

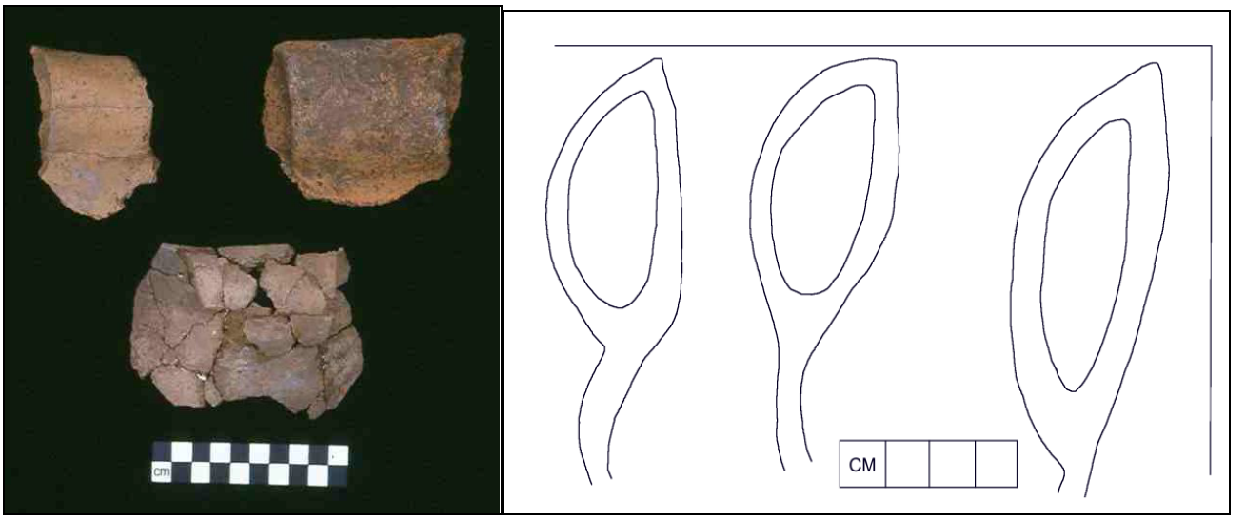


Figure 99. *Left image:* Strap-handle designated Vessel 16 (upper-left), strap-handle from Feature 3 (upper-right) and strap-handle designated Vessel 12 (bottom-center), Handle profiles of Vessels 16, 12 and Feature 3 (left to right).

Bifurcate lugs *(Five handles representing a minimum of 5 jars)*

Five rim sherds with bifurcate lug appendages representing a minimum of five vessels were recovered at Kellytown. Three are from structures, one was found in Feature 3, a ceramic concentration, and one is from pit Feature 24. In addition, Structure 1 Vessel 1 provides metric attributes for two other bifurcate lug-handles. Rim profiles and the visual attributes of Vessel 1 indicate all of them are from globular jars. Two of the appendages are on incurvate rims, one is on an excurvate rim and the remaining 2 are indeterminate.

Bifurcate lug appendages occur in pairs opposite one another and flush along the lips of standard jars (Trubitt's Form 3 [1998:74]). The lugs appear to have been molded on to the vessel rims. The mouths of double lug jars are narrowest between the appendages giving the vessel orifice an oval shape. The mouth constriction results from the molding of the handles on to the vessel rim.

All of the double lugs in the sample are flattened and extend out horizontally flush from the rim. Where parts of the rim remained on the appendage (2 examples) lips were flattened as is the case with the rim lip of Vessel 1. On all examples the lugs are bifurcated by semi-circular notches (Figure 100). Presumably the notches represent suspension points. Table 14 provides metric attributes of the Kellytown bifurcate lug appendages. Estimated and actual orifice diameters range from 26.8 to38cm with a mean of 32.16. These data indicate bifurcate lug jar size at

Kellytown is similar to that represented at other Thruston Phase sites. At Kelly's Battery 25 bifurcate lug appendages representing a minimum of 15 vessels ranged from 22 to 45cm with a mean of 31.2. (Jones 2001:77). At Gordontown orifice diameters were estimated for 16 vessels with double lug-handles. These ranged from 10 to 40cm with a mean of 26.7, somewhat lower than that for Kellytown or Kelly's Battery, although it was noted that 13 of the vessels had estimated rim diameters ranging from 20 to 32cm (Trubitt 1998:77). Given that double lug vessels generally have mouths that are narrowest opposite the handles, orifice diameter

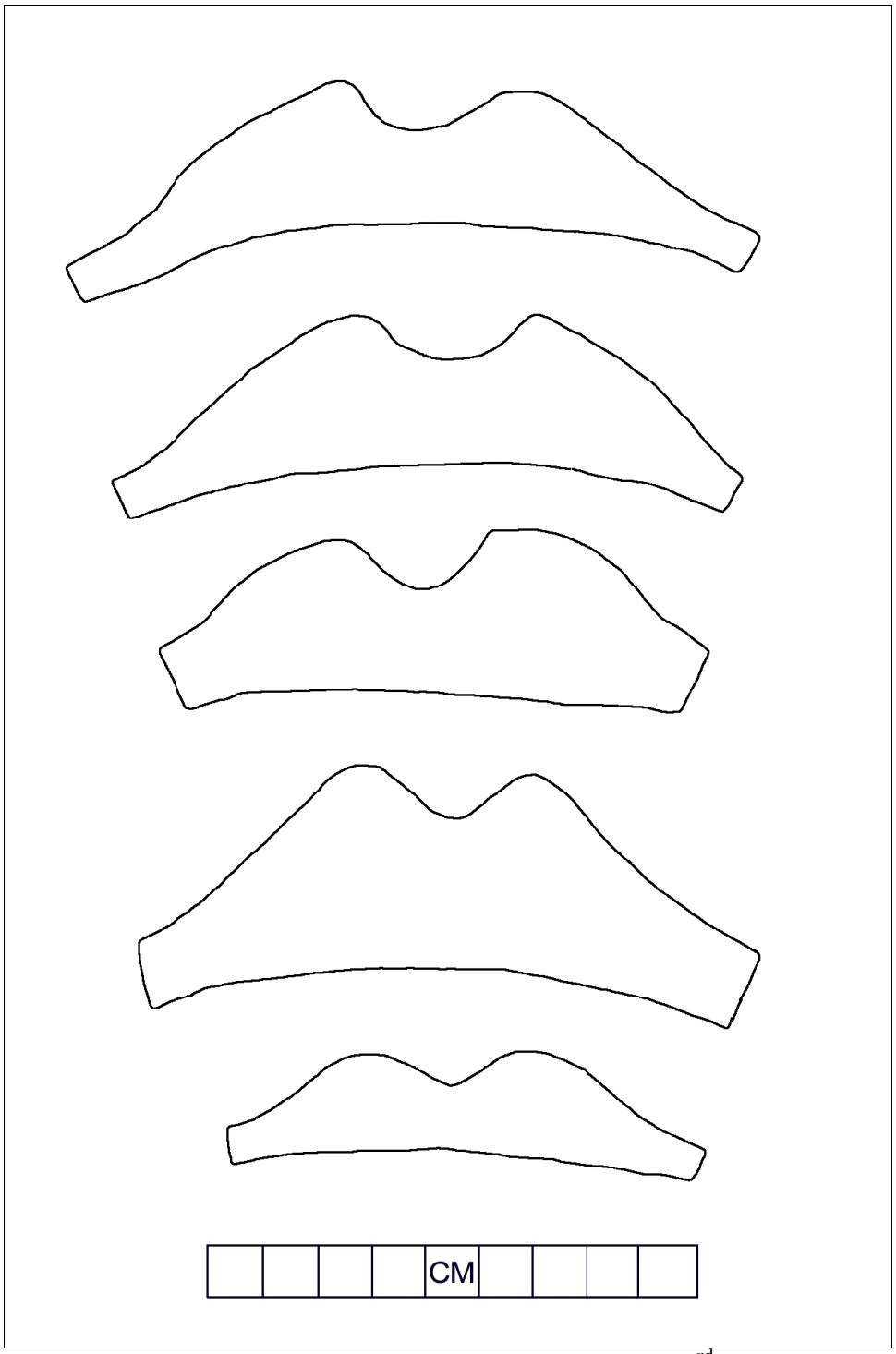


Figure 100. Bifurcate lug-handles: upper two - Structure 1 Vessel 1; 3rd from top - Feature 18 Structure 6; - 4th from top - Feature 10 Structure 2; bottom - Feature 2 Structure 1.

estimations from double lug appendages generally reflect the minimum width of the vessel's mouth. Comparison of double lug-handle jar orifice diameter estimates and the orifice of Vessel 1 from Structure 1 with strap-handle jar orifice diameter estimates and actual Structure 1 strap-handle jar orifice measurements suggest double lug jars were generally larger than strap-handle

jars. Possibly the vessel size and appendage differences reflects functional variation in the two jar styles.

Rim Sherds (n=64)

Roughly seven percent (n=64) of the sherds from Kellytown (excluding appendages) are parts of container rims. Of the total, 25 (39%), are from jars, 25 (41%) are from bowls, six (9%) are from pans and one is thought to be from a human effigy bottle. The remainder (n=7) are categorized as indeterminate because of their small size and/or poor condition. Table 15 indicates the rim sherd sample by vessel form, paste type and provenience.

Fifty-two percent (n=33) of the rim sherds are Mississippi Plain (includes two Beckwith-Incised decorated rims). Thirty-nine percent are Bell Plain and the remainder (n=6) are Kimmswick Plain. All jar rim sherds in the sample (including the two Beckwith-Incised rims) were made with Mississippi Plain paste, while the bowl rims are almost exclusively Bell Plain (88%). The single bottle rim sherd is also Bell Plain.

Jar Rim Sherds (n=25 representing a minimum of 22 vessels)

Twenty-five rim sherds are attributed to jars. Two have Beckwith-Incised decorations; one has a node along the rim suggesting it may be from an effigy form and the remainder lack decoration. The larger of the two Beckwith sherds is shown in Figure 84. The decoration is applied exclusively to strap-handle jars in the Middle Cumberland region and is most often attributed to the Late Mississippian Thruston Phase.

Most of the jar rims (n=23) have medium to coarse shell tempered paste with temper particle size increasing with increasing vessel size. The remainder have small to medium shell particles or leached holes. Kellytown jar rim sherd thickness ranges from 4.31 to 10.31mm with a mean of 7.35.

Jar rim lips are categorized according to three types, flat (n=21), round (n=3) and folded (n=1). Rims with flat lips range in thickness from 4.31 to 10.31mm with a mean of 7.38. Rims with round lips range in thickness from 4.82 to 9.73mm with a mean of 7.33 and the single folded rim lip is 6.89mm thick. Rims with flat lips are common on both lug-handle jars and strap-handle jars. Possibly some represent jars without handles. Assuming lug-handle jars are generally larger than strap-handle jars, most of the flat rims represent the larger jar form. Rounded jar rims are also common to lug and strap-handle forms but most often occur on the latter.

Table 12. 40WM10 strap-handle metric data in millimeters by provenience, type and paste *(Vessel 2 is missing one handle).*

Provenience	*Vessel #*	*Paste*	*Top width*	*Middle width*	*Bottom width*	*Maximum length•*	*Handle height♦*	*Handle thickness**
Structure 1	2	Miss. Plain	56.54	31.68	39.81	47.95	26.69	6.80
"	8	"	-	20.90	27.83	27.96	13.40	3.95
"			-	-	-	25.83	12.87	3.92
"	12+	Bell Plain	76.11	64.92	-	56.59	26.36	4.58
"	14	Miss. Plain	-	32.87	38.38	24.59	15.23	3.95
"			-	-	36.00	-	-	3.78
"	16+	"	-	50.51	51.77	46.63	22.06	5.81
Feature 3°	N/A	"	96.25	75.95	79.30	65.24	23.71	6.79
		Mean	***76.3***	***46.14***	***45.52***	***42.11***	***20.05***	***4.95***

° Isolated ceramic cluster + Isolated handle of body wall to exterior of handle @ midpoint • Vertical linear measurement from top of rim to vessel body ♦From interior *Measured at handle midpoint

Table 13. 40WM10 projected chronological placement of strap-handles based on Wesler (2001:99) where 1500-500(thickness/ width in millimeters) =date.

Provenience	*Vessel number*	*Handle thickness**	*Handle width**	*Projected chronological placement*
Structure 1	2	6.80	31.68	A.D. 1393
"	8	3.95	20.90	A.D. 1405
"	12• isolated handle	4.58	64.92	A.D. 1464
"	14	3.95	32.87	A.D. 1440
"	16• isolated handle	5.81	50.51	A.D. 1442
Feature 3°	Isolated handle	6.79	75.95	A.D. 1455
	Mean	***5.31***	**46.14**	***A.D. 1433***

*Measured at handle midpoint • Designated vessel numbers at excavation, not conclusively associated with the floor of Structure 1
° Isolated ceramic cluster

Table 14. Metric attributes of bifurcate lug appendages in centimeters.

Provenience	Estimated maximum orifice diameter	Maximum appendage thickness	Maximum appendage length	Maximum extension from body wall
Vessel 1in Structure 1	26.8 (actual)	1.1	11.4	1.6
		1.2	11.6	1.8
Fea. 2 Structure 1	38	1.21	>9	1.7
Feature 3	38	1.45	>16	-
Fea. 10 Structure 2	28	1.26	-	2.8
Fea. 18 Structure 6	30	1.29	-	2.4
Feature 24	-	1.13	-	1.25
Mean	***32.16***	***1.23***	***12.0***	***1.93***

Profiles were extrapolated from 12 of the 24 jar rim sherds (Figure 101). The remainder was too small to determine accurate vessel profiles. Incurvate to straight rims dominate. A single example is straight to slightly excurvate.

Bowl Rim Sherds (n=25 representing a minimum of 19 vessels)

Twenty-five sherds representing a minimum of 19 vessels are from bowls. Excluding one sherd with an everted flat rim that measures 18.13mm wide, bowl rim sherds range in thickness from 2.58 to 9.72mm with a mean of 6.37. With the exception of two round examples, all rim lips are flat.

Bowl rim sherds were divided according to three categories based on vessel profile. These are "simple bowls" (n=22 sherds), "restricted rim" bowls (n=2 sherds) and indeterminate bowls (n=1). Simple bowls have semi-hemispherical profiles with the maximum diameter at the orifice (Smith 1992:94-97). There are both decorated (n=15) and undecorated (n=7) specimens. Restricted rim bowls, represented by two undecorated rim sherds, have orifice diameters that are smaller than the maximum vessel diameters due to incurvature of the rim. The examples are from vessels with globular bodies. A single decorated sherd is from an indeterminate bowl type.

Simple bowl rim sherds (n=22)

Fifteen rim sherds representing a minimum of 11 simple bowls are decorated. All are Bell Plain paste. Referred to as filleted rims, the decoration consists of a strip of clay applied along or just below the rim lip that has relatively evenly placed notches, punctures or serrations that range from simple poke marks to well-shaped nodes cut with a sharp instrument (Figure 102). Orifice diameter estimates for the decorated simple bowl rims range from 18 to 24cm with a mean of 19.75cm. Vessels from which the rim sherds are derived had excurvate wall profiles and straight or slightly constricted rims (Figure 103). Filleted or "notched" rims are the predominant decoration on Bell Plain bowls and are the most consistent marker of Thruston Phase ceramics (Smith 1992:101).

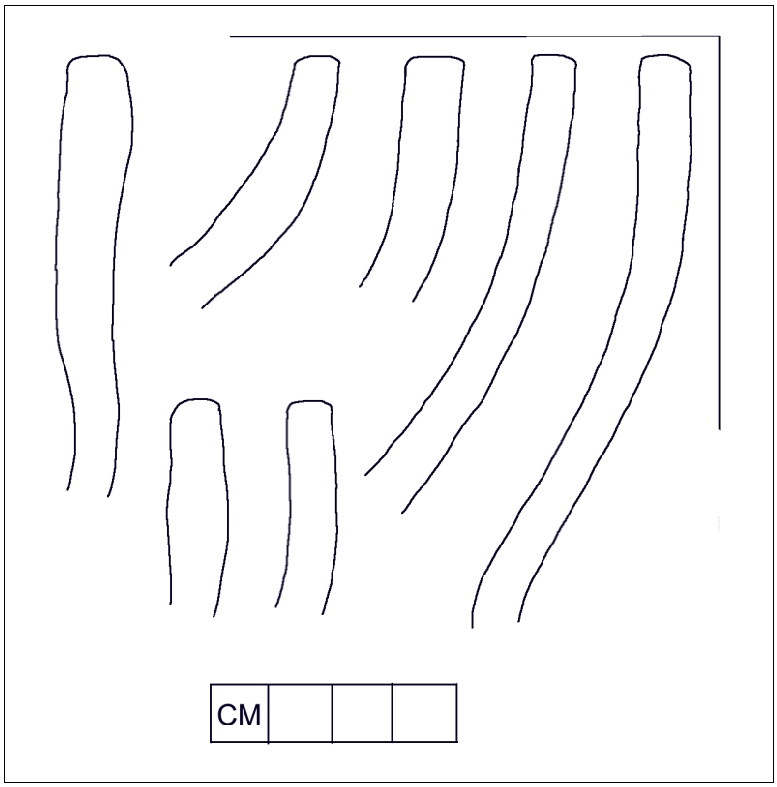


Figure 101. Selected jar rim profiles represented in the Kellytown sample (exterior left).

Figure 102. Filleted rim simple bowl sherds from Kellytown.

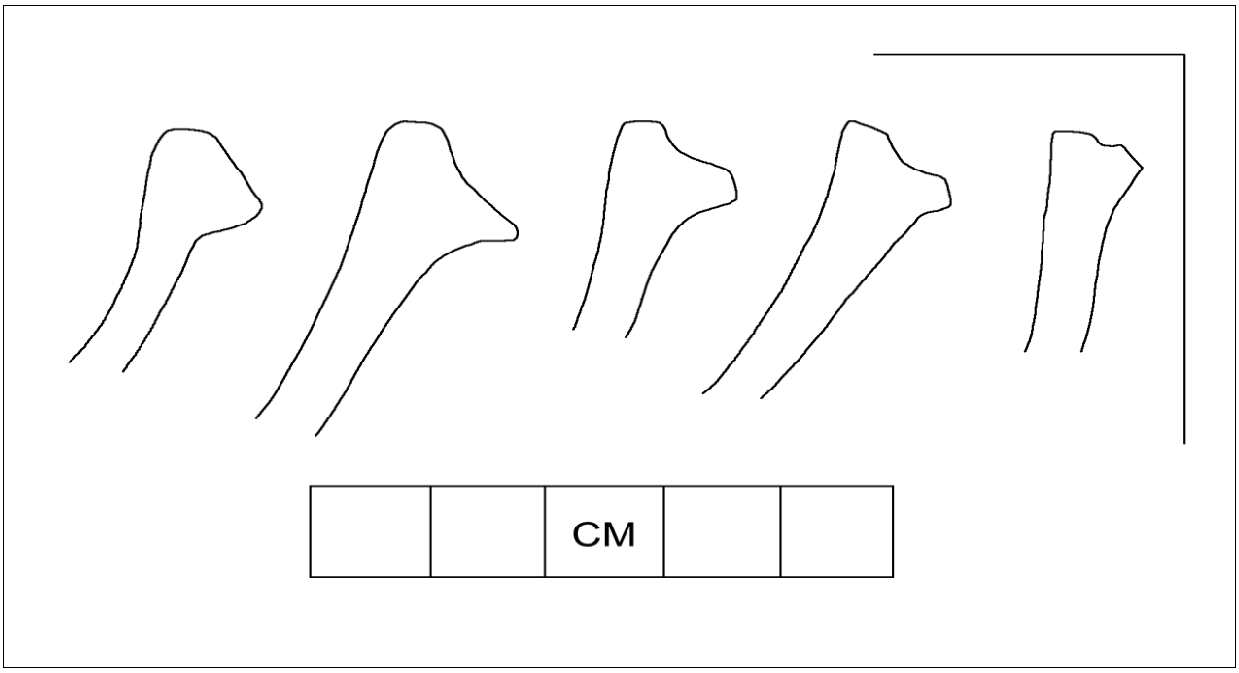


Figure 103. Profiles of selected Bell Plain filleted rim sherds from simple bowls (exterior right).

Figure 104. Kimmswick Plain rim sherds (top), restricted rim bowl sherd (left-bottom),everted rim sherd (bottom-center left), hooded bottle sherd (bottom-center-right) and decorated indeterminate bowl sherd (bottom-right).

The remaining simple bowl rim sherds (n=7), representing a minimum of five vessels, are undecorated. One of them has a horizontally flattened rim that extends outward at a 90° angle (Figure 105). Five are Bell Plain and two are Mississippi Plain.

Restricted rim bowl rim sherds (n=2)

This category includes two undecorated Bell Plain sherds representing two separate vessels. These are distinguished from simple bowl rim sherds by their inward sloping rims (Figure 104). The two sherds have rims similar to those of the effigy bowls recovered from the floor of Structure 1. Given the similarities they probably represent effigy bowls. Rim thickness ranges from 7.34 to 9.42mm with a mean of 8.38. Orifice diameter estimates range from 14 to 28cm with a mean of 21.

Indeterminate bowl rim sherds (n=1)

The single rim sherd in this category (Figure 104) measures 9.72mm in thickness and is decorated with lines spaced roughly 5.5mm apart, incised on top of the lip, and perpendicular across the rim. The lack of an appliqué strip distinguishes it from the filleted rims discussed above. The sherd appears to be from a restricted rim bowl but is too small to determine an accurate profile or orifice size estimate. A similar decorated rim sherd was found at the Thruston Phase Kelly's Battery site (Jones 2001:84).

Pan Rim Sherds (n=6 representing a minimum of 5 vessels)

Six rim sherds representing a minimum of five vessels were assigned to this category. All are from large shallow Kimmswick Plain pans with excurvate and thick flat or rounded rim lips. Rim thickness ranges from 15.65 to 18.92mm with a mean of 16.88. The thickness of the rims is a result of outward folding. This process often results in the formation of a lip below the rim on the exterior of the vessel wall. The crushed shell temper is coarse ranging between 1 and 10mm in size on all examples. Only one rim sherd was large enough to estimate orifice size. The example is from Feature 12 and provides an orifice diameter of 56cm. The single Kimmswick plain pan from Structure 1 has an orifice diameter of 51cm. Selected pan sherd profiles are shown in Figure 105.

Bottle Rim Sherds (n=1)

One Bell Plain sherd from the plowzone above the floor of Structure 1 appears to be a rim from the mouth of a hooded effigy bottle. The small percentage of the vessel represented by the sherd makes it difficult to determine with certainty, however, anthropomorphic and zoomorphic hooded bottles occur in Thruston Phase context. Most often these types of bottles are found in human graves rather than in domestic context. Two human effigy hooded bottles were found in graves at Gordontown (Trubitt 1998:82). A partial vessel was also recovered from a burial at Kelly's Battery (Jones 2001:104). One was found in a "stone grave mound" at the Rutherford Kizer site (Moore 2001c:198) and additional examples from mortuary context were unearthed at

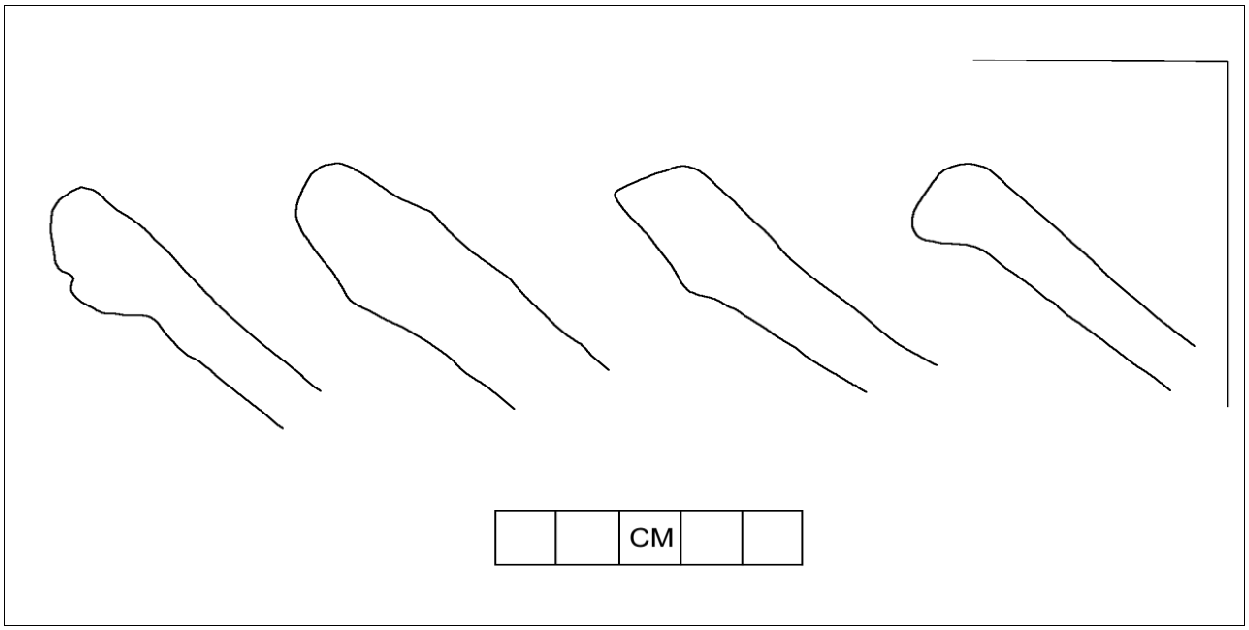


Figure 105. Selected Kimmswick Plain pan rim sherd profiles (exterior left).

Averbuch (Reed 1984:II.A.7.2-7.5). The virtual lack of representation of this vessel form in the ceramic assemblage from Kellytown may be because discovered graves at the site were not excavated. Possibly the one example in this category is from a plow disturbed grave.

The single sherd appears to have come from the side of the mouth of a hooded bottle (Figure 104). This is evidenced by the presence of a small portion of the neck and body of the effigy. The exterior of the sherd is highly polished and bares striations or tool marks that extend parallel to the rim. An additional deep incision also extends across the face of the sherd. The interior of the sherd is polished and the rim lip is flattened. The maximum thickness of the sherd rim is 4.51mm and the maximum sherd thickness is 6.46mm. The estimated diameter of the vessel orifice is about five centimeters.

Shoulder/ Neck Sherds (n=13 representing a minimum of eight vessels)

All 13 sherds assigned to this category are crafted of Mississippi Plain paste, have distinctive bends in profile indicative of the shoulders/necks of standard jars and lack rims. Four of the sherds have linear incisions on their exteriors sufficient to classify them as Beckwith-Incised and both appear to be from a single strap-handle jar. The remaining sherds (n=9) represent a minimum of seven jars of unknown style.

Effigy Fragments/Nodes (n= 4 representing a minimum of four vessels)

Four body sherds from four different vessels have nodes or parts thereof on their exterior surfaces. Three of the sherds are Bell Plain and one is Mississippi Plain. These have dimpled nodes on their exterior surfaces as commonly found on Beckwith-Incised strap-handle zoomorphic or anthropomorphic effigy jars. One of them has a flat round node with a depressed

Table 15. Total rim sherds* from 40WM10 by paste, vessel form and decoration.

	Mississippi Plain			**Bell Plain**				**Kimmswick Plain**	**Beckwith Incised**	
Provenience	Jar	Bowl	Ind.	Jar	Bowl	Bottle	Ind.	Pan	Jar	***TOTAL***
Structure 1	6	-	2	-	6	1	-	-	-	**15**
Other Structures	6	2	1	-	10	-	-	2	1	**22**
Pit features	4	-	1	-	2	-	1	2	1	**11**
Other Features	4	1	-	-	1	-	-	1	-	**7**
Arbitrary Prov.	3	-	1	-	3	-	1	1	-	**9**
TOTAL	**23**	**3**	**5**	**0**	**22**	**1**	**2**	**6**	**2**	**64**

***Excludes reconstructed vessels from Structure1 and rim sherds with appendages.*

center. The node has a maximum diameter of 1.7cm and extends 0.31cm from the exterior of the vessel wall. This dimpled node is identical in shape and form to one of the nodes evident on Beckwith-Incised Vessel 8 from Structure 1 and is likely from a larger effigy jar of similar form. These types of nodes are interpreted to represent hair buns on anthropomorphic effigy vessels or anus on zoomorphic effigy vessels (Reed 1984:II.7.170). The other sherd from above the floor of Structure 1 has a dimpled lunette-shaped node that has a maximum diameter of 1.6cm and extends 0.55cm from the vessel wall. These types of nodes are interpreted to represent ears on zoomorphic effigy vessels (Reed 1984: II7.170). The two sherds from above the floor of Structure 1 are shown in Figure 106.

One additional sherd from the ceramic cluster designated Feature 12 has an oval shaped node (Figure 106). The node has a maximum length of 2.13cm, a maximum width of 1.31cm and extends 0.54cm from the exterior of the vessel wall. The remaining sherd assigned to this category has roughly a third of a node on its exterior surface.

Base Sherds (n=2 representing a minimum of two vessels)

The two sherds assigned to this category are from the bottoms of separate vessels (Figure 106). One is Bell Plain, the other Mississippi Plain. Flat bottoms are generally associated with Mississippian Period bowls. All of the bowls from Structure 1 have flat bottoms. The Mississippi Plain sherd comes from a vessel with a base diameter of approximately 18cm and has a maximum thickness of 1.02cm. The Bell Plain sherd comes from a vessel with a base diameter of approximately 12cm and has a maximum thickness of 1.0cm.

Structure 1 Daub

Daub over the floor of Structure 1 varied from pieces which crumbled to a dirt-like consistency to those which were nearly brick-like in hardness. The best preserved of the material was sampled. Daub/plaster pieces larger in diameter than a quarter were bagged according to provenience and transferred to the TDOT Archaeology lab for processing. Soil was rinsed from the material and surfaces were gently cleaned using a soft toothbrush. Once the sample was dry it was weighed. The total weight of the collected material was 13,544.27grams (30.23 lbs.). Sixty-two percent (8,407 grams) came from the floor of the strip block. The remainder (n=5,137 grams) is from the excavation units (Table 16). Because most of the daub was generally small and badly weathered only specimens with two faces (having complete cross-sections) were analyzed. The remainder was discarded. The sample includes 34 pieces constituting roughly 21% of all the daub by weight (n=2,796 grams).

Based on surface characteristics, two distinct types of daub were noted. "Type I" daub, comprises the majority of specimens (n=25) and the largest percentage (79%) of the material by weight (n=2223 grams). The largest piece of Type I daub had a maximum length of 129.8mm, a maximum width of 121.4mm and weighed 342.6 grams. Type I daub is similar to that described as Type A daub by Connaway (1984:26-28) for a compatible late prehistoric site in Mississippi and is of the form typically associated with Mississippian architecture.

Figure 106. Bell Plain bowl base sherd (upper left), Mississippi Plain bowl base sherd (upper right), sherd with lunette node (bottom left), sherd with oval node (bottom center), sherd with circular node (bottom right).

Type I daub is characterized by having impressions of woven split cane mats on one side (Figure 107) and a smoothed to rough surface on the other. Specimens of Type I daub were found with cane-impressed side facing and in contact with the floor of the house. The observation indicates some exterior wall sections collapsed on to the floor and that the daub was applied to the outside walls of the structure. Examination of impressions on the daub reveals the cane (*Arundinaria* sp.) used was split lengthwise and nearly always in half. The cane warp elements of the mats were closely aligned or touching on all examples. The maximum width of the cane used is 15.10mm and the minimum width is 8.26mm. In all cases the interior of the cane is facing into the daub indicating that cane mats were hung around the exterior of the wall posts with the outside of the cane facing inward. Only one specimen of Type I daub had a weft impression. The maximum width of the weft is 10.14mm. On all but two specimens the opposite side of Type I daub has a flat lightly smoothed surface with incidental and irregular shallow impressions of grass. The presence of these impressions suggests the surface of the daub was smoothed by rubbing it with grass or other fibrous material after the clay was applied to the wall and while it had a plastic consistency.

Two samples of Type I daub have heavy imprints of grass and larger straw on the opposite surface of that with the cane impressions (Figure 107, bottom-right). Both specimens have thin cross-sections (28.63mm and 28.41mm) when compared with the remainder of the sample. These two specimens may have come from the top of a wall, the impressions having been imprinted from contact with thatched material used to cover the roof. The presumption being that the daub was applied after a thatched roof had been built over the structure.

Cross-section thickness was measured on all daub specimens. Type I daub (n=25 examples) ranged in thickness from 26.89 to 45.23mm with a mean of 37.7 (Table 17). Specimens of this type daub from the Wilsford site in Mississippi ranged in thickness from 21.0 to 66.0mm with a mean of 42.9 (Connaway 1984:26). Samples of similar daub from the Ellis Mound site in Arkansas averaged 38.66mm (Starr 1995:218). The thickness of the same type of material from Kellytown falls within the range of these samples. These data reveal common methods and materials were used in building construction over a vast area of the Southeast during Mississippian times.

The paste of type I daub was made with local clay and varied amounts of straw and grass. Sixty percent (n=15) of the sample has moderate to heavy inclusions of grass and other fibrous material. The remainder has only sporadic inclusions. No clear grass pattern was noted in the sample suggesting that the material was randomly stirred into the daub plaster while it was in a wet consistency. While grass is generally thought to have been used to strengthen plaster, its primary effect was to dry and shrink the material to reduce cracking (Boudreau 1980).

Nine pieces of daub, constituting 573.3 grams or 21% by weight of the sample with complete cross-sections were categorized as "Type II" daub. The paste forming Type II daub has the same

Table 16. Distribution of burned daub/ plaster from Structure 1 by weight.

Provenience	Dry weight in grams
Unit 7 South Level 1	234.5
Unit 7 South Level 2	2483.1
Unit 7 S. Middle Lev. 1	116.2
Unit 7 S. Middle Lev. 2	1,183.1
Unit 7 N. Middle Lev. 1	2.8
Unit 7 N. Middle Lev. 2	32.9
Unit 7 North Level 1	2.8
Balk-Unit 7 S. Lev. 1	131.6
Balk-Unit 7 S. Lev. 2	543
Balk-Unit 7 S.M. Lev. 1	46.4
Balk-Unit 7 S.M. Lev. 2	289.7
Balk-Unit 7 N.M. Lev. 1	9.0
Balk-Unit 7 N.M. Lev. 2	32.3
West ½ Level 2	8,367.4
Northwest Quad. Lev. 2	6.77
Southwest Quad. Lev. 2	32.6
Vessel 13 Fill	30.1
Total	**13,544.27**

Figure 107. Type I daub from the floor of Structure 1.

Table 17. Structure 1 Type "I" daub/ plaster cross-section thickness in millimeters, 25 samples constituting 2,223 grams (dry weight).

Provenience		
West ½	Unit 7 South Level 2	Unit 7 South Middle Level 2
40.44	36.88	37.84
45.23	41.53	28.63
44.80	31.60	26.89
42.67	44.48	34.77
44.84	33.97	30.27
43.24	40.73	27.41
34.85		39.69
30.02	Mean Thickness: 37.70	
38.00	Thickness Range: 26.89- 45.23	
38.20		
38.47		
38.12		

temper characteristics as that of Type I daub but cane impressions are lacking on either face.Like Type I daub, four of the examples have a flat lightly smoothed surface with incidental and irregular light impressions of grass on one side. However, the opposite faces have heavy imprints of grass or straw. The remainder of the specimens have heavy imprints on both faces with the imprints in parallel (n=2) or haphazard fashion.

Cross-section thickness of Type II daub is generally less than that of Type I, ranging from 26.29 to 43.95mm with a mean thickness of 32.77 (Table 18). All specimens of Type II daub were obtained from the central area of the structure with four pieces being from within the hearth. These observations suggest Type II daub may be from a roof smoke-hole positioned over the central hearth.

Table 18. Structure 1 Type "II" daub/ plaster cross-section thickness in millimeters, nine samples constituting 573.3 grams (dry weight).

Provenience		
West ½	Unit 7 South Level 2	Unit 7 South Middle Level 2
29.63	29.14	42.26
28.63	28.85	32.85
26.29		43.95
		33.39
	Mean Thickness: 32.77	
	Thickness Range: 26.29- 43.95	

Stone

A small collection of chipped and ground stone (n=2,280) exhibiting evidence of human modification or use was recovered at Kellytown. Of the total, 993 are from arbitrary sampling of midden and plowzone, 707 from Structure 1, 365 from other structure contexts, 128 from isolated artifact clusters, and 87 from pit features. Chipped and ground stone was first sorted by raw material type. This was carried out by comparing the recovered artifacts with raw material descriptions in local archaeological literature (Amick 1987, Marcher 1962, Penny and McCollough 1976), with raw material samples collected from within a kilometer of the site, and with local raw material samples housed at the TDOT Archaeology laboratory in Nashville. Greater than 99% of the lithic assemblage is chert. The remainder is limestone, sandstone or siltstone. All of the collected limestone (n=12,689.6 grams) is from features. With the exception of two tools, none of this material was modified, although roughly half of it was burned. Due to curation issues the unmodified limestone was discarded after being weighed (Appendix VIII). Seven pecked and ground tools were recovered. Four are siltstone, two limestone and one sandstone.

Chert artifacts comprise two broad categories, chipped stone tools and debitage. Debitage was divided into seven categories. Six of these are waste flakes from core reduction and stages in biface manufacture. The remaining category includes blocky debris, fire-cracked rock and shatter. Tools were assigned to traditional tool classes based on morphology and use-wear

attributes. Projectile points/knives (PP\K's) were identified by comparison to types with temporal and cultural significance defined in the local and regional literature (e.g. Justice 1987).

Chert Raw Material

The identification of chert raw material types and their source areas is useful for understanding prehistoric settlement patterns, procurement strategies, mobility, and trade relationships. Macroscopic and low level magnification (5x) were used to identify the types of chert from Kellytown and to determine if they are locally available. For the purpose of this study chert found within a kilometer of the site is considered locally available.

Greater than 90% (n=281) of the tested cobbles, cores, and early stage reduction chert debitage (primary and secondary flakes) from Kellytown has water-worn cortex typical of chert widely available along stream gravel bars in the study region. The remainder (n=29) lacks water-worn cortex and appears to be residual tabular chert likely collected from its source areas. Because cobble is the primary form of chert raw material at Kellytown it was sampled from gravel bars along the Little Harpeth River within a kilometer in each direction of the site. A comparison of the gravel bar and artifact samples can determine whether the Little Harpeth River was the source of the material used at Kellytown.

Cobble in both nodular and tabular form was found in gravel bars along the river but was small, blocky and not abundant. Twenty of the largest cobbles observed were randomly collected. Presumably the occupants of the site would have also sought the largest cobbles from the stream. The maximum diameters of those sampled range from 6.0 to 7.2cm with a mean of 6.7.

Flakes were removed from the river cobbles to examine their interiors. Visual characteristics of the specimens (bedding, texture, graininess, fossil inclusions, transparency, and color) suggest 75% (n=15) is Ft. Payne chert. The Ft. Payne formation is a chert bearing lower Mississippian age limestone that outcrops throughout the Highland Rim. In the Outer Central Basin this occurs as remnants on knobs and more elevated hills. The geologic map and mineral resource summary of the Oak Hill (308 SE) USGS topographic quadrangle (Wilson 1972) reveals this to be the case on both sides of the Little Harpeth River upstream from Kellytown for about five kilometers (3 miles). Ft. Payne chert is recognized as a major source of raw material for prehistoric tool production in the middle south (Amick 1987:40) and it comprises the vast majority (>90%) of prehistoric artifacts found in the Central Basin (Smith 1992:143).

Ft. Payne chert exhibits a broad range of color and morphological variation and its vertical and lateral distribution varies greatly in Middle Tennessee. Five broadly defined types of Ft Payne chert are recognized (Amick: 1987, Penny and McCollough 1976:155-165). Four of these are represented in the river cobble sample. Of the non-Fort Payne cobbles (n=5), one is either St. Louis Formation chert or a high-quality undefined Ft. Payne chert. Three are from Ordovician age limestone, probably the Catheys formation, and one has fossil inclusions suggesting it also is Ordovician rock.

Ft. Payne Chert

Chert from the Ft. Payne Formation comprises approximately 83% (n=1,892) of the stone artifacts from Kellytown. Of the 1,892 artifacts recovered from the site excavations classed as Ft Payne chert, 77 percent (n=1,457) is laminated, 11% (n=208) is fibrous, 6% (n=114) is crinoidal, 3% (n=57) is speckled, and 3% (n=56) is thought to be non-local Ft. Payne chert.

St. Louis Chert

Approximately six percent of the lithic artifacts (n=137 items) has characteristics of St. Louis Formation chert. On the western Highland Rim this Upper Mississippian-age formation is exposed on lesser eroded uplands above the Ft. Payne Formation. St Louis chert occurs as nodules, blocks and angular fragments. This dense fine-grained material generally ranges in color from light-grey to dark-blue and is banded in nodular form.

Ordovician Chert

Nine percent (n=205) of the Kellytown chipped and ground stone has descriptive characteristics of chert from Ordovician age bedrock. At least three types are represented. Twenty-five percent is thought to be Carters chert, 20% Catheys chert, 5% Bigby-Cannon chert and the remainder (n=50%) is undifferentiated but thought to be Ordovician rock. Carters chert is characterized by small scattered white flecks in a white-to-dark grey matrix and to some extent by irregular mottlings or banding. (Amick 1987: 35-36). Local geologic quadrangles indicate Carters bedrock is the vertically highest Ordovician formation in the Inner Nashville Basin and that it is exposed along headwater tributaries of the Little Harpeth River (Hardeman et al. 1966). Catheys chert is distinguished by the presence of numerous bryozoan inclusions in a light-grey to brown grainy matrix. It is considered of relatively poor quality for chipped stone tool production (Amick 1987:39). Catheys Formation limestone is laterally exposed from the site westward along the Little Harpeth River to its mouth at the Harpeth River. Distinctive white/grey, parallel, but irregular, banding in a light-grey to dark-grey matrix, distinguish Bigby Cannon chert. Faulkner and McCollough (1973:53-54) refer to this as "grey banded chert". Source areas are thought to be restricted to the Eastern Outer Nashville Basin (Amick 1987:38). No cobbles of gray banded chert were observed along the Little Harpeth River but Hardeman (1966 et al.) indicates the formation is broadly exposed from near Kellytown eastward into the Central Basin. The remaining artifacts (n=202) have fossils, mottles and bandings found in various Ordovician chert but are not attributed to a particular geologic bed.

Dover Chert

Less than one percent (n=2 artifacts) of the Kellytown lithic raw material is Dover chert. A broken adze and a uniface blade scraper from a hoe constitute the sample. Dover chert is one of the most widely recognized chert types in the southeast. It outcrops in Mississippian age bedrock (Ft. Payne/ St. Louis Formations) over a broad region including western Kentucky, the Highland Rim of Tennessee and southern Illinois (Marcher 1962). It is most notably associated with large quarry areas in Stewart County, Tennessee (Gramly 1992). Dover chert is a non-lustrous

cryptocrystalline raw material that occurs in various shades of brown, has a fine-grained texture and exhibits black lineations and occasional inclusions of blue-white quartz. During the Mississippian Period Dover chert was distributed over much of the Eastern Woodlands as a commodity in a wide ranging trade network. Outside of its principle source area of Stewart County it was mostly exported as finished tools (Kline 1984) such as knives, hoes, celts, chisels, and elaborate "maces" and long bi-pointed "swords" considered ceremonial items (Smith 1992:144-145). The Kellytown tool sample and lack of Dover chert debitage at the site tend to support this assumption. This is also suggested at the Thruston Phase Gordontown site where the only Dover artifacts found were a knife, hoe, celt and two chisels (Moore and Stripling 1998b:145).

Given that the Central Basin is a poor chert resource zone (Amick 1987:58-59), trade acquisition of the larger implements was likely a matter of necessity to the Mississippian populations of the Central Basin, particularly those of the Inner Basin. This is because while chert is available in the region it is generally too small and of poor quality to be used for the manufacture of large specialized or ceremonial purpose tools associated with chiefdom level society. As noted by Amick (1987:59), "chert resource base differences reflect an exponentially decreasing cline into the Nashville (Central) Basin and away from the Ft. Payne Formation."

Chert Debitage

Seven categories of chipped chert debitage are represented in the Kellytown sample. Six of these are waste byproducts from core reduction and biface manufacture. These are tested cobbles and cobble sections, cores and core sections, primary flakes, secondary flakes, blank flakes, and broken flakes. The final category is comprised of blocky debris, fire-cracked rock, and shatter. The distribution of the chipped chert sample is presented in Tables 19-23 and summarized in Table 24.

Tested Cobbles and Cobble Sections (n=13)

This category includes water-worn cobbles of chert that exhibit flake removal but retain a minimum of 60% cortex cover. The examples range in maximum dimension from 6.4 to 7.3cm with a mean of 6.7. Three tested cobbles were found during removal of plowzone over the floor of Structure 1. Three were found during hand excavation of the structure contents. Six were found during excavation of other structures and one example is from arbitrary provenience. Tested cobbles and cobble sections comprise less than one percent of the Kellytown lithic assemblage. These artifacts are thought to have been brought to the site for flake tool or biface fabrication but were not yet used or were rejected because of poor quality.

Cores and Core Sections (n=22)

These cobbles and angular blocks of chert have less than 60% cortex remaining and exhibit prepared platforms and regular patterns of flake removal. Most of the examples are exhausted cores of small size. Artifacts in this class range in diameter from 3 to 6.2cm with a mean of 4.1. Six examples are from plowzone over the floor of Structure 1, one was found during excavation

Table 19. Chert debitage from Structure 1-Feature 2.

Provenience	Tested Cobble/ Core	Cores/ Core Sect.s	Prim. Flakes	Secndry Flakes	Blank Flakes	Broken Flakes*	Blocky Debris/ Shatter	**Total**
Unit 7 South Level 1		2	7	7	55	45	30	**146**
Unit 7 South Level 2				2	8	1	16	**27**
Unit 7 S. Middle Lev. 1		1	3	6	26	14	10	**60**
Unit 7 S. Middle Lev. 2			1	2	1	3	20	**27**
Unit 7 N. Middle Lev. 1					2	2	1	**5**
Unit 7 N. Middle Lev. 2		1	3	4	13	6	9	**36**
Unit 7 North Level 1				1	5	5	1	**12**
Balk-Unit 7 S. Lev. 1			1	4	13	20	14	**52**
Balk-Unit 7 S. Lev. 2					1	1		**2**
Balk-Unit 7 S.M. Lev. 1	1		3	1	18	18	12	**53**
Balk-Unit 7 S.M. Lev. 2				1	2	1	7	**11**
Balk-Unit 7 N.M. Lv. 1	2	3	2	3	54	47	23	**134**
Balk-Unit 7 N.M. Lv. 2				3	3	2	8	**16**
West ½ Level 2	3		3	8	16	11	18	**59**
Northwest Quad. Lev. 2			1	2	2	2	2	**9**
Southwest Quad. Lev. 2				2	1		6	**9**
Total	**6**	**7**	**24**	**46**	**220**	**178**	**177**	**658**

*Lacking bulbs

Table 20. Chert debitage from structures other than Structure 1-Feature 2.

Provenience	Tested Cobble /Core	Cores/ Core Sect.s	Prim. Flakes	Secndry Flakes	Blank Flakes	Broken Flakes*	Blocky Debris/ Shatter	**Total**
Structure 2-Feature 10				1	2	4	2	**9**
Structure 3-Feature 13		3	8	10	36	17	29	**103**
Structure 5-Feature 16	5	2	3	23	22	14	17	**86**
Structure 6-Feature 18		1	2	8	38	34	32	**115**
Structure 9-Feature 30				1	3	2		**6**
Structure 10-Feature 31	1		3		7	1	5	**17**
Total	**6**	**6**	**16**	**43**	**108**	**72**	**85**	**336**

*Lacking bulbs

Table 21. Chert debitage from pit features.

Provenience	Tested Cobble/ Core	Cores/ Core Sect.s	Prim. Flakes	Secndry Flakes	Blank Flakes	Broken Flakes*	Blocky Debris/ Shatter	**Total**
Feature 4 O/L♦			1		1		1	**3**
Feature 5 O/L♦				2	5	5	1	**13**
Feature 8		1		6	13	10	1	**31**
Feature 22			1					**1**
Feature 24		1		2	1	2	4	**10**
Feature 25							1	**1**
Feature 33					2			**2**
Feature 40					**2**	**1**	**1**	**4**
Feature 41					**6**	**1**	**4**	**11**
Feature 42				**1**	**2**	**1**	**2**	**6**
Total	**0**	**2**	**2**	**11**	**32**	**20**	**15**	**82**

*Lacking bulbs
♦ Overlapping

Table 22. Chert debitage from artifact clusters designated features.

Provenience	Tested Cobble/ Core	Cores/ Core Sect.s	Prim. Flakes	Secndry Flakes	Blank Flakes	Broken Flakes*	Blocky Debris/ Shatter	**Total**
Fea. 12 Ceramic cluster			2	11	54	33	26	**126**

Table 23. Chert debitage from miscellaneous proveniences and general midden.

Provenience	Tested Cobble/ Core	Cores/ Core Sect.s	Prim. Flakes	Secndry Flakes	Blank Flakes	Broken Flakes*	Blocky Debris/ Shatter	**Total**
Unit 1 Level 1 0-30cm		1	8	36	125	143	46	**359**
Unit 2 Level 1 0-30cm			4	5	54	53	29	**145**
Unit 3 Level 1 0-30cm	1	2	2	8	18	16	11	**58**
Unit 3 Level 2 30-sub			1		2	6	3	**12**
Unit 4 Level 1 0-30cm			4	4	40	29	14	**91**
Unit 5 Level 1 0-30cm				1	5	1		**7**
Unit 5 Level 2 30-sub				2	6	6	3	**17**
Unit 6 Fea. 12			11	6	28	28	14	**87**
Trench A		1	3	8	34	24	6	**76**
Trench C		3	4	12	31	19	22	**91**
Total	**1**	**7**	**37**	**82**	**343**	**325**	**148**	**943**

*Lacking bulbs

Table 24. Chert debitage from Phase II-III excavations.

Provenience	Tested Cobble/ Core	Cores/ Core Sect.s	Prim. Flakes	Secndry Flakes	Blank Flakes	Broken Flakes	Blocky Debris/ Shatter	**Total**
Structure 1-Feature 2	6	7	24	46	220	178	177	**658**
Other structures	6	6	16	43	108	72	85	**336**
Pit features		2	2	11	32	20	15	**82**
Fea. 12 ceramic cluster			2	11	54	33	26	**126**
Arbitrary excavations*	1	7	37	82	343	325	148	**943**
Total	**13**	**22**	**81**	**193**	**757**	**628**	**451**	**2145**

* Includes general midden

of the house contents, six are from the excavation of other structures, two are from pit features and seven are from arbitrary excavations. Cores and core fragments comprise just over 1% of the lithic assemblage. Artifacts in this category are thought to have been collected for flake production rather than for the manufacture of bifaces.

Primary Flakes (n=81)

These unmodified flakes exhibit cortex over greater than 80% of their dorsal surface. They represent waste flakes from core reduction. Most have large striking platforms, broad bulbs of percussion and are thick and short indicating they were produced by hard hammer direct percussion. The recovered primary flakes have a maximum dimension that ranges from 17 to 42mm. Forty-six percent (n=37) are from arbitrary excavations. Thirty percent (n=24) are from Structure 1, including eight from the floor level (Level 2) and 16 from above it (Level 1). Twenty percent (n=16) are from other structures and the remainder (n=4) was found in pits or within artifact clusters. Primary flakes comprise roughly five percent of all recovered unmodified flakes from the site.

Secondary Flakes (n=193)

Secondary flakes have 20%-80% cortex on their dorsal surface. The flakes in this category have maximum dimensions that range from 12 to 43mm. Forty-two percent (n=82) are from arbitrary excavations, 11% (n=22) from pits or artifact clusters, 22% (n=43) from structures other than Structure 1, and 24% (n=46) from Structure 1. Fifty-two percent (n=24) of the Structure 1 examples are from the floor level and the remainder are from above it. Secondary flakes comprise roughly 12% of all recovered unmodified flakes from the site. Generally these flakes are produced during core reduction and initial stages of biface manufacture.

Blank Flakes (n=757)

This category combines unmodified bifacial thinning flakes and tertiary flakes with scars from previous flake removal on their dorsal surfaces and little-to-no cortex present. All have bulbs of percussion (platforms) and most of the bulbs are lipped. These flakes are generally longer than they are wide, and thin. Arbitrary excavations yielded 343 or 43% of the blank flakes found.

Structure 1 yielded 220 blank flakes of which 21% (n=47) are from the floor level and 79. 5% (n=173) are from above it. Other structures yielded 108 blank flakes and the remaining 11.4% (n=86) are from pits or artifact clusters. This artifact category comprises roughly 46% (n=757) of all unmodified flakes from the site. Blank flakes are indicative of late stage core reduction or biface manufacture.

Broken Flakes (n=628)

These artifacts are fragments of flakes that lack sufficient attributes to be more definitively classified. They comprise 38% of chipped chert assigned to flake categories. The majority (n=325) are from arbitrary excavations.

Blocky Debris (n=451)

Blocky debris includes angular pieces of chert with natural incipient fracture planes, or resulting from fire-cracking and mechanical shatter. Spalls, crazing and or discoloration indicate at least 45 % of the material is burned. Structure 1 yielded 39.2% (n=177) of the sample. Most of this material (60%) is from plowzone (Level 1). The rest (n=86) is from the floor level (Level 2). Interestingly, no blocky debris or fire-cracked rock was found in the Structure 1 hearth where it is commonly associated with heating activities. Thirty-three percent of the remaining blocky debris is from arbitrary excavations (n=148). Nineteen percent is from other structures and the remainder (n=41) is from pits and artifact clusters. This class comprises 21% of the lithic assemblage from the site.

Chert Tools

Based on morphology and/or attributes of edge modification or use-wear, the chert tool group was divided into eight artifact categories: modified flake scrapers, modified flake cutters, spokeshaves, utilized flake scrapers, utilized flake cutters, thick bifaces, PP\K's and thin bifaces, and burins. Provenience and distribution information is provided in Tables 25-29 and summarized in Table 30.

Modified Flake Scrapers (n=6)

These tools have steep unifacial flake scars along one or more of their edges. Interpreted as unidirectional scrapers, the steep edge resulted from intentional pressure retouching to initially form the edge followed by pressure retouch to resharpen it when it became dull. Two general sub-classes are recognized, end scrapers (n=2) and side scrapers (n=4). Flakes in this category range in length from 23.7 to 61mm. Two of these were identified in plowzone above Structure 1, one was found in the Structure 1 floor level, one was recovered from Structure 2 excavations, one was recovered from Structure 9 excavations and one is from Trench "C" fill.

Table 25. Stone tools from Structure 1-Feature 2.

Provenience	Mod. Flake Scrpr	Mod. Flake Cuter	Spok Shav	Util. Flake Scrpr	Util. Flake Cuter	Thick Bifce	PP/K / Thin Bifce	Burin	Other Stone Tools	**Total**
Piece plotted		1				1			6	**8**
Unit 7 South Level 1	1			2					1	**4**
Unit 7 South Level 2									1	**1**
Unit 7 S. Middle Lev. 1	1		1	2			1		1	**6**
Unit 7 S. Middle Lev. 2				1				1	1	**3**
Unit 7 N. Middle Lev. 2	1			3	1		1			**6**
Unit 7 North Level 2			1		1		2			**4**
Balk-Unit 7 S. Lev. 1							2		1	**3**
Balk-Unit 7 S. Lev. 2									1	**1**
Balk-Unit 7 S.M. Lev. 1				2				1	1	**4**
Balk-Unit 7 S.M. Lev. 2							1			**1**
Balk-Unit 7 N.M. Lv. 1				2			2			**4**
Balk-Unit 7 N.M. Lv. 2							1			**1**
West ½ Level 2				1			2			**3**
Total	**3**	**1**	**2**	**13**	**2**	**1**	**12**	**2**	**13**	**49**

Table 26. Stone tools from structures other than Structure 1-Feature 2.

Provenience	Mod. Flake Scrpr	Mod. Flake Cuter	Spok Shav	Util. Flake Scrpr	Util. Flake Cuter	Thick Bifce	PP/K / Thin Bifce	Burin	Other Stone Tools	**Total**
Structure 2-Feature 10	1								1	**2**
Structure 3-Feature 13		1		2		3	3			**9**
Structure 5- Feature 16				3					1	**4**
Structure 6-Feature 18		1	2	1			4		2	**10**
Structure 9-Feature 30	1			1	1					**3**
Structure 10-Feature 31					1					**1**
Total	**2**	**2**	**2**	**7**	**2**	**3**	**7**	**0**	**4**	**29**

Table 27. Stone tools from pit features.

Provenience	Mod. Flake Scrpr	Mod. Flake Cuter	Spok Shav	Util. Flake Scrpr	Util. Flake Cuter	Thick Bifce	PP/K / Thin Bifce	Burin	Other Stone Tools	**Total**
Feature 5 Pit							1			**1**
Feature 8 Pit							2			**2**
Feature 24 Pit		1								**1**
Feature 41 Pit				1						**1**
Total	**0**	**1**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**5**

Table 28. Stone tools from artifact clusters designated features.

Provenience	Mod. Flake Scrpr	Mod. Flake Cuter	Spok Shav	Util. Flake Scrpr	Util. Flake Cuter	Thick Bifce	PP/K / Thin Bifce	Burin	Other Stone Tools	**Total**
Fea. 12 ceramic cluster				**1**			**1**			**2**

Table 29. Stone tools from miscellaneous proveniences and general midden.

Provenience	Mod. Flake Scrpr	Mod. Flake Cuter	Spok Shav	Util. Flake Scrpr	Util. Flake Cuter	Thik Bifce	PP/K / Thin Bifce	Burin	Other Stone Tools	**Total**
Unit 1 Level 1 0-30cm							1			**1**
Unit 2 Level 1 0-30cm				3			1	1		**5**
Unit 2 Level 2 30-sub				2			3			**5**
Unit 3 Level 1 0-30cm				1		1				**2**
Unit 4 Level 1 0-30cm			2	1	1					**4**
Unit 5 Level 2 30-sub						1				**1**
Unit 6 Fea. 12							1			**1**
Trench A			1		2		6			**9**
Trench C	1		2	4		4	1		1	**13**
Trench F							2			**2**
General Midden							6		1	**7**
Total	**1**	**0**	**5**	**11**	**3**	**6**	**21**	**1**	**2**	**50**

Table 30. Distribution of all stone tools from Phase II-III excavations.

Provenience	Mod. Flake Scrpr	Mod. Flake Cuter	Spok Shav	Util. Flake Scrpr	Util. Flake Cuter	Thick Bifce	PP/K / Thin Bifce	Burin	Other Stone Tools	**Total**
Structure 1-Feature 2	3	1	2	13	2	1	12	2	13	**49**
Other structures	2	2	2	7	2	3	7		4	**29**
Pit features		1		1			3			**5**
Fea. 12 ceramic cluster				1			1			**2**
Arbitrary excavations*	1		5	11	3	6	21	1	2	**50**
Total	**6**	**4**	**9**	**33**	**7**	**10**	**44**	**3**	**19**	**135**

* Includes general midden

Modified Flake Cutters (n=4)

These flakes exhibit fine bifacial pressure flaking along one or more edges suggesting they were used for cutting. Flakes in this category range from 20.4 to 39mm in length. One is from the floor in the west half of Structure 1, one is from Structure 3 excavations, one is from Structure 6 excavations and the remainder (n=1) is from pit Feature 24.

Modified Flake Spokeshaves (n=9)

These flakes have semi-circular notches in their edges that were used to shape curved or rounded objects. With the exception of the notch these flakes are not otherwise modified. The notches in the Kellytown spokeshaves have depths ranging between 1.8 and 9.6mm. Most of the examples (n=5) are from arbitrary provenience, two are from Structure 6, one is from the floor level (Level 2) of Structure 1 and one is from plowzone above Structure 1.

Utilized Flake Scrapers (n=33)

The artifacts in this category are flakes that exhibit unifacial attrition or evidence of friction along one or more edges. They are viewed as expedient or incidental scraping tools. In the sample, they range from 17 to 63mm in length. Nearly half (n=13) were found during Structure 1 excavations with the largest amount (69%) recovered from screening of Level 1 plowzone.

Utilized Flake Cutters (n=7)

These flakes have attrition or evidence of friction along both sides of an edge. Like utilized flake scrapers, they are viewed as expedient or incidental tools. The flakes in the sample have lengths that range from 34 to 55mm. Most are from arbitrary excavations.

Thick Bifaces (n=10)

This artifact category includes bifacially-worked blanks that have large flake scars and thick cross-sections. They are minimally shaped, exhibit variable amounts of remaining cortex, and were produced primarily by hard-hammer direct percussion techniques. The lengths of these artifacts range from 36 to 84mm with a mean of 65. Cross-section thickness varies from 18.3 to 28mm with a mean of 23.4.

Projectile Points/Knives (PP/Ks) and Thin Bifaces (n=44)

This category is comprised of 11 notched or stemmed thin bifaces, and seven proximal, 11 medial and 15 distal fragments of thin bifaces that lack notches or stems. The majority (n=21) of these artifacts are from arbitrary excavations. Structure 1 yielded the next highest frequency (n=12), followed by other structures (n=7), pit features (n=3) and artifact clusters (n=1) (see Table 30).

About 30% of the thin bifaces in the sample (n=13) are chronologically diagnostic. Defined types recognized include Benton, Sykes, Matanzas, Brewerton, Pickwick, Bakers Creek, Lowe Cluster and several undifferentiated Woodland stemmed forms (Justice 1987). The majority of these are shown in Figures 108 and 109. All but two of the diagnostic PP/Ks predate the Mississippian occupation of the site. The exceptions are two crude triangular thin bifaces recovered from the floor level (Level 2) of Structure 1 and the plowzone (Level 1) above it, respectively. These have characteristics of Late Woodland and Mississippian dart forms. Metric attributes of the PP/Ks

Figure 108. Pickwick medial (top left), Lowe Cluster (top center), Brewerton corner-notched (top right), Benton (bottom left), Sykes (bottom center) and Matanzas side-notched (bottom right).

Figure 109. Possible Mississippian darts (top-left and right), Bakers Creek PP/K (top-center) and undifferentiated Woodland Stemmed PP/Ks (bottom).

Table 31. Metric attributes of temporally diagnostic PP/Ks (measurements in millimeters.).

	Type	Proveninece	Maximum Length	Shoulder Width	Stem Width	Base Width	Maximum Thickness	Maximum Blade width
MIDDLE ARCHAIC	Benton	Trench A	56.36*	40.5	24.71	27.52	9.23	45.26
	Sykes	Trench F	31.74*	31.06	18.3	17.2	7.9	31.52
LATE ARCHAIC	Matanzas	Structure 6	19.50*	22.54	15.54	15.62	6.65	22.54
	Brewerton	Structure 6	53.48*	31.14	16.14	18.83	9.6	31.14
	Pickwick	Structure 1	26.64*	35.45	15.73	-	9.32	35.45
MIDDLE WOODLAND	Bakers Creek	Structure 3	37.15*	22.10	13.47	18.02	7.91	22.10
	Lowe Cluster	Unit 6	45.61*	18.40	13.03	18.11	5.77	18.40
	Lowe Cluster	Unit 2	15.28*	-	15.4	21.9	7.57	-
WOODLAND Undifferentiated	Woodland Stermmed	Structure 3	61.15*	-*	15.15	11.72	12.95	34.74
	Woodland Stermmed	General Midden	62.56*	-*	12.80	-*	8.97	32.85
	Stemmed Variant	General Midden	51.84	21.48	11.51	13.92	10.52	22.55
MISSISSISSIPPIAN	Triangular Variant	Structure 1	49.21*	-	-	17.60	11.35	19.11
	Triangular variant	Structure 1	32.1*	-	-	17.08	9.04	18.14

from site 40WM10 are presented in Table 31. The remaining 33 broken biface fragments have a broad range of blade morphology but are too incomplete to provide comparative metric information.

Burins (n=3)

Three flakes recovered from Kellytown have sharp burins or snapped corners suggesting they were used for engraving or similar purposes. One is from arbitrary provenience, one is from the floor level (Level 2) of Structure 1 and one is from plowzone (Level 1) above it.

Other Stone Tools

This broad artifact category is comprised of 19 tools assigned to a single separate heading in the previous tables. These artifacts have morphological characteristics and/or are from stratigraphic contexts suggesting they date to the Thruston Phase occupation of the site. Five basic functions or activities are reflected by these artifacts. These are wood working (chisels and adzes), grinding and polishing (metates, whetstones and abraders), digging (hoes), scraping (uniface blades, biface scrapers and perforator scrapers), and pounding or crushing (hammer stones). Sixty-eight percent of the artifacts (n=13) are from the floor of Structure 1 or above it. The remainder (n=6) are from other structures (n=4) and arbitrary excavations (n=2). Table 32 summarizes these tools by type and provenience.

Table 32. Other stone tools recovered by provenience.

Tool Type	Structure 1	Structure 2	Structure 5	Structure 6	Trench C Fill	General Midden	Total
Chisels				1	1		2
Adzes	1						1
Metate sections	3						3
whetstones	1						1
abraders	1	1				1	3
Hoes	1						1
Uniface blades	1						1
biface scrapers	1						1
perforator scrappers	1						1
Hammerstones	3		1	1			5
Total	13	1	1	2	1	1	19

Wood-working Tools (Chisels and Adzes)

Chisels (n=2)

Both chisels are broken fragments that have plano-convex cross-sections (Figure 110). One was recovered from Structure 6. This tool is made of Ft Payne chert and is ground and polished on both faces. A large pot-lid fracture and crazing along the broken edge of the artifact suggest it was burned when Structure 6 was razed. The Structure 6 chisel has a maximum width of 32.9mm, a maximum thickness of 12.3mm and a maximum length of 44.5mm. The other chisel

section is from Trench C. It is made of a Dover-like chert of unknown origin. One face is heavily ground and polished and flakes have been removed from one face of the bit. The edge of the artifact formed by the flake removal is irregular and shows no wear. In length, width and thickness the broken chisel measures 39.8mm, 30.5mm and 13.0mm respectively.

Adzes (n=1)

One adze was recovered from the floor level of Structure 1 in area "C" (Figure 25). It is made of Dover chert (Figure 110). Plano-convex in cross-section and with an acutely slanted bit end, all of the intact surfaces are ground and polished to the point that most of the flake scars from manufacture are indiscernible. Thermal spalls and crazing indicate the adze was burned and fractured by the intense heat of the fire that consumed Structure 1.

The bit of the adze is slightly broken on one edge and has an actual width of 44.1mm. Its estimated width before being broken is 45.4mm. The width at the broken proximal end of the artifact is 41.1mm. The artifact has a maximum thickness of 13.0mm, identical to the maximum thickness of the chisel from Trench C, and a maximum length of 62.9mm.

Figure 110. Ft. Payne chisel proximal section from Structure 6 (left), Dover adze medial-distal section plotted in Structure 1 (center) and Dover-like chisel proximal section from Trench C (right).

Chisels and adzes have been found at a number of Thruston Phase sites (Smith 1992). At Rutherford Kizer, chisels comprised the second most common tool made of Dover chert at 84% (Moore 2001d: 106). The occurrence of these tools indicates the importance of woodworking to the late prehistoric populations of the region. No doubt chisels and adzes would have been needed to build structures, fortifications and canoes, and to manufacture other implements used in daily Mississippian life.

Grinding and Polishing Tools (Metates, Whetstones and Abraders)

Metates

Metates are pecked and ground stone artifacts generally associated with the processing of seeds and grain. They occur in an array of sizes. The distinguishing characteristic of the metate is the presence of a smooth depression worn into the upper surface of the artifact. Plant materials were ground in these depressions using handheld stones (manos). Manos were used in a horizontal grinding motion as opposed to the crushing motion associated with mortars and pestles. Generally, metates and mortars can be distinguished from one another by the depth and width of the depressions, metates having shallow wide ones and mortars having deep circular ones.

One large metate section and two sections of an additional metate were recovered from the floor level of Structure 1. The largest example was piece-plotted in room "E". A section of a different metate was piece-plotted in area "C" (Figure 25). The third metate section was found in Balk-Unit 7, South Middle, Level 1 and appears to be a part of the same artifact from area "C".

Visual attributes indicate the largest metate section is made of micaceous sandstone and that the two metate sections are made of locally available limestone. The relatively whole example is extensively burned on the bottom surface, opposite the smooth depression. It weighs 4.08 kg (9 lbs), has a maximum length of 25.5cm, a maximum width of 9.4cm and maximum thickness of 13.3cm. The depression on the artifact is 19cm long and has a maximum depth of 3.67mm (Figure 111). The two limestone metate sections are too fragmented to provide descriptive metrics. Although, it is worth mention that one has a single linear groove opposite its depression indicating it was also used as an abrader.

Metates have been archaeologically documented at a number of Thruston Phase sites. Four found at Rutherford Kizer (Moore 2001c:113) were all made of sandstone. Similarly, three sandstone metates were recovered at Gordontown (Moore and Stripling 1998b:143). Three metates of sandstone or limestone were identified at Averbuch (Kline 1984:II.8.38) and one relatively complete metate and fragments of six others made of local siltstone were documented at the Brentwood Library (Moore 2005d: 195-196).

Whetstones

One ground and pecked siltstone artifact (Figure 112) has wear suggesting it was used for sharpening. This broken tool was piece plotted on the floor of Structure 1 in area "A" (Figure 25). Wear along the fractured edge of the artifact indicates it continued to be used after it was

Figure 111. Micaceous sandstone metate found on the floor in room “E” of Structure 1.

Figure 112. Abrader and possible broken metate from Structure 1 (top left), abrader from plow-zone above Structure 2, (top right) and whetstone from the west half of Structure 1 (bottom).

broken. The artifact is oval in shape and burned black on one face. The opposite face has a smooth shallow linear groove that extends parallel to the length of the artifact. The tool is ground along its lateral edges and fits comfortably in the hand. It is 12.47cm long, 6.31cm wide and 9.02mm thick. The groove on the artifact extends to the break, and is 7.89cm long, 2.43cm wide and 1.31mm deep.

Abraders

Three siltstone artifacts have wear suggesting they were used for abrading. All of the examples are broken. The primary indication of their function is the presence of linear V-shaped grooves in one or more of the artifact's surfaces (Figure 112). One of the abraders was found in plowzone (Unit 7, South Middle, Level 1) over Structure 1. This example is pecked and ground smooth on both sides suggesting it may be part of a metate which was later used for abrading. The other two are from Structure 2 and general midden, respectively.

Digging Tools (hoes)

Hoes

A single hoe of Ft. Payne chert was recovered from the floor of room "E" in Structure 1. It was situated directly adjacent to a perforator/ scraper and a uniface blade scraper. The proximity of the three tools suggests a relationship. Consequently, they are referred to as a tool kit on the Structure 1 plan in Figure 25. The hoe is burned and heavily reworked but polished flake scars remaining on its bit attest to its digging function (Figure 113). What the artifact was later used for is unclear but its association with two other tools suggests it continued to be kept for some purpose. The hoe from Structure 1 has a broken butt-end. In length, width and thickness it measures 10.5cm, 5.97cm and 2.36cm respectively.

Scraping Tools (Uniface Blade Scrapers, Biface Scrapers and Perforator Scrapers)

Uniface Blade Scraper

This Dover chert artifact (Figure 113) has a flaked edge along one face that exhibits polish from use. The characteristics of the flaked edge indicate the tool is a scraper. The opposite, or dorsal, face of the scraper has a large spall or pot-lid fracture indicating the artifact was burned. A smooth flat flake scar, also on the dorsal surface of the artifact, suggests the tool is a recycled broken or exhausted hoe or spade. The maximum length of the tool is 10.23cm. Its maximum width is 3.37cm and its maximum thickness is 1.66cm.

Perforator Scrapers

This artifact is a cobble of Laminate Ft. Payne Chert that has a triangular cross-section with flakes removed along two faces (Figure 113). The surface of the third face exhibits water-worn cortex. Unifacial retouch along one edge of the tool suggests it served a scraping function. The

shape suggests it was also used as a perforator. In length, width and thickness it measures 7.37cm, 4.36cm and 3.54cm respectively.

Biface Scrapers

One artifact piece-plotted in area "D" on the floor of Structure 1 (Figure 25) was classed as a biface scraper based on the steep inclination of its flaked lateral edges and wear attributes (Figure 113). The artifact is made of Laminate Ft. Payne Chert and is burned on one side. It has a maximum length of 11.8cm, a maximum width of 5.48 cm and a maximum thickness of 3.18 centimeters.

Pounding or Crushing Tools

Hammer stones

Four cobbles and one tabular chunk of locally derived Ft. Payne chert have heavily battered surfaces indicating they were used as hammer stones. None of these artifacts have been purposefully shaped. The maximum dimensions of these tools range from 4.53 to 7.25cm.

Figure 113. Biface scraper (top), reworked hoe (bottom-left), Dover blade scraper (center right) and perforator/scraper (bottom-right) from Structure 1.

ARCHAEOBOTANICAL REMAINS

Andrea Shea Bishop and Gary Barker

Methods

Carbonized plant remains were processed by flotation or water screen recovery techniques. The laboratory analysis involved sifting the material from each sample through three standard geologic screens to divide by size, 2.0mm, 1.0mm and 250 microns, for easier sorting. Each fraction was examined under a magnification of 7X to 30X. Only material retained in the 2.0mm screen was entirely sorted and quantified by weight and number (fragment count). The material remaining in the two smaller size screens was not sorted but examined for smaller seeds and categorized as "residual". The analyzed plant remains are listed in Table 33 by general category (nutshell, wood and seeds/fruits), weight and number of fragments recorded for each provenience.

For the wood charcoal, a maximum of 30 fragments was randomly chosen from each sample for identification as to species or genus. After analysis was completed, some individual samples from one provenience were combined so that the total number of fragments in Table 33 is more than 30 from one provenience. For example, several individual samples from Structure 1, Unit 7 were analyzed separately with a maximum of 30 wood fragments identified. After analysis these were combined into one entry. Thus, the sum of wood fragments for Unit 7 is 528.

Results

A total of 1,486.4 grams of carbonized plant material was recovered from the TDOT excavation at Kellytown. These remains include two types of nutshell (hickory and walnut), 12 types of seeds and fruits from wild and cultivated plants (persimmon, chenopod, wild bean, bedstraw, honey locust, maypop, smartweed, pumpkin or squash, sunflower, sumpweed, beans, and maize) and 14 types of wood and cane. Excavation data and radiocarbon determinations indicate the majority of these remains represent a specific time frame and site usage dating to the late Mississippian Period Thruston Phase.

Seventy-two percent by weight of all plant remains recovered from Kellytown are from Structure 1. The archaeological data indicate this feature was a residential dwelling that burned suddenly. Food stores and other domestic items found on the floor of the house indicate it was occupied when the fire broke out. The *in situ* preservation of the plant material left on the floor of a rapidly burning house provides a rare look at a late Mississippian household's use and exploitation of domestic and wild plant resources.

A total of 1073.7 grams of plant material was recovered from Structure 1. Flotation samples were collected from different proveniences within the house. A number of these are comprised of more than one specimen from within a particular provenience. These are combined under 23 separate headings in Table 34 (see Appendix IX).

Table 33 Total carbonized plant remains from Kellytown.

PROVENIENCE	**Structure 1**		**Structure 2**		**Structure 9**		**Misc Structures**		**Inner Palisade**	
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight
TOTAL SAMPLE WEIGHT IN GRAMS		1073.7		145.5		25.3		15.6		6.0
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)		110.9		25.2		7.6		1.1		
NUTSHELL (TOTAL WEIGHT)		0		0.3		0		0		0
Species by Number of Fragments										
Carya sp., Hickory				<0.1						
Juglans nigra, Black Walnut				0.3						
WOOD COMPOSITION- TOTAL WEIGHT		472.6		119.7		12.3		14.0		6.0
Species by number of fragments										
Arundinaria sp., Cane	285		6		19		22			
Acer sp., Maple	7									
Carya sp., Hickory	86		20		5		35		61	
Celtis sp., Hackberry	15									
Cornus florida, Dogwood	10		3							
Diospyros virginiana, Persimmon							1			
Fraxinus sp., Ash	333				1		1			
Gleditsia triacanthos, Honey Locust	22				45					
Juniperus virginiana, Eastern Red Cedar							1			
Juglans sp., Walnut/ Butternut							2		10	
Liriodendron tulipifera, Yellow Poplar										
Populus deltoides, Cottonwood			1							
Prunus serotina, Black Cherry	10				1					
Robinia pseudoacacia, Black Locust	142		89		1		72			
Quercus sp., Oak	182		1		22		8		29	
Bark	1				7					
Unidentifiable	6									
TOTAL NUMBER OF FRAGMENTS	1099		120		101		142		100	
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)		490.2		0.3		5.4		0.5		
Chenopodium sp., Goosefoot, Chenopod seed					8 w	<0.1				
Cucurbita sp., Pumpkin seed	39w 71f	4.9								
Diospyros virginiana, Persimmon fruit & seed	9w fruit 200+f 43 seed frags	97.8			1 frag	<0.1				
Fabaceae, Wild Bean seed										
Galium sp., Bedstraw seed										
Gleditsia triacanthos, Honey Locust seed	1 whole	<0.1								
Helianthus annuus, Sunflower fruit & seed	2 whole, 3f	<0.1								
Iva annua, Sumpweed fruit & seed										
Passiflora incarnata, Maypop seed										
Phaseolus sp., Cultivated Bean seed	3 frags.	<0.1								
Polygonum sp., Smartweed seed										
Zea mays, Maize/Corn, TOTAL WEIGHT		387.5		0.3		5.4		0.5		
Kernels	706 whole 902+frags		1 frag.		1w, 12 frags		32 frags			
Cupules	218w, 282f		1w, 2f		3 f		2 frags			
cob fragments	94 frag.				1 f					
cob segments	1 frag.									

Table 33 (continued). Total carbonized plant remains from Kellytown.

PROVENIENCE	Feature 20 Outer Palisade		Misc. Features		40WM10 TOTAL WEIGHT	40WM10 TOTAL NUMBER
	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		57.0		163.3	1486.4	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)		10.0		54.8	209.6	
NUTSHELL (TOTAL WEIGHT)		0		2.2	2.5	
Species by Number of Fragments						
Carya sp., Hickory			66 f	1.7	1.7	67 fragments
Juglans nigra, Black Walnut			24 f	0.5	0.8	25 fragments
WOOD COMPOSITION- TOTAL WEIGHT		22.5		106.3	753.4	
Species by number of fragments						
Arundinaria sp., Cane	3		21			335
Acer sp., Maple			5			7
Carya sp., Hickory	18		34			225
Celtis sp., Hackberry			1			15
Cornus florida, Dogwood						13
Diospyros virginiana, Persimmon			7			1
Fraxinus sp., Ash	1		9			336
Gleditsia triacanthos, Honey Locust	3					70
Juniperus virginiana, Eastern Red Cedar						1
Juglans sp., Walnut/ Butternut						12
Liriodendron tulipifera, Yellow Poplar	4					4
Populus deltoides, Cottonwood						1
Prunus serotina, Black Cherry	3		3			14
Robinia pseudoacacia, Black Locust	6		39			310
Quercus sp., Oak	145		38			387
Bark						8
Unidentifiable						6
TOTAL NUMBER OF FRAGMENTS	183		157			1745
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)		24.5		0.1	521.0 grams	
Chenopodium sp., Goosefoot, Chenopod seed	19 w	<0.1			<0.1	27 whole seeds
Cucurbita sp., Pumpkin seed					4.9	39 whole seeds & 71 seed fragments
Diospyros virginiana, Persimmon fruit & seed					97.8	9 whole fruits & 200+ fragments, 44 seed fragments
Fabaceae, Wild Bean seed			2 w	<0.1	<0.1	2 whole seeds
Galium sp., Bedstraw seed			1 w	<0.1	<0.1	1 whole seed
Gleditsia triacanthos, Honey Locust seed					<0.1	1 whole seed
Helianthus annuus, Sunflower fruit & seed	3w, 8f	<0.1			<0.1	5 whole seeds 11 seed fragments
Iva annua, Sumpweed fruit & seed	21w17f	0.2			0.2	21 whole seeds & 17 seed fragments
Passiflora incarnata, Maypop seed	1 frag	<0.1			<0.1	1 seed fragment
Phaseolus sp., Cultivated Bean seed	13 f	0.2			0.2	16 seed fragments
Polygonum sp., Smartweed seed	1 w	<0.1	1 w 1 f	<0.1	<0.1	2 whole seeds &1 seed fragment
Zea mays, Maize/Corn, TOTAL WEIGHT		24.1		0.1	417.9	
Kernels	21w 150f		3 frags			728 whole kernels & 1,100+ fragments
Cupules	1w 2f					220+ whole cupules 291+ cupule fragments
cob fragments						95 cob fragments
cob segments						1 cob segment

The total plant remains from Structure 1 include 472.6 grams of wood charcoal, 110.9 grams of "residual", and 490.2 grams of seeds and fruits (mostly maize). No nutshell was recovered from Structure 1. Wood charcoal from the house includes 10 types of trees; maple, hickory, hackberry, dogwood, persimmon, ash, honey locust, black cherry, black locust and oak. River cane is also represented. Collectively ash, black locust, oak and river cane were the most abundant botanical materials in the sample equaling 86% of the total number of fragments. Seed and fruit remains from Structure 1 include 387.5 grams of maize cobs and kernels, 4.9 grams of pumpkin or squash seeds, 97.8 grams of whole and fragmented persimmon fruits, and small amounts of cultivated beans, cultivated sunflower seeds, and honey locust seeds.

As shown in Table 33, other structures and features yielded charred plant remains totaling 412.7 grams. The samples are indicated by general category and the weight and number of fragments recorded for specific proveniences (postmolds, arbitrary levels etc.) in Appendices X-XV. These remains include 2.5 grams of nutshell, 280.8 grams of wood charcoal, 98.7 grams of "residual", and 30.8 grams of seeds and fruits. The seed and fruit remains include 30.4 grams of maize cobs and kernels, 0.2 grams of cultivated sumpweed and sunflower seeds, 0.2 grams of cultivated beans, and small amounts of wild bean, bedstraw, chenopod, maypop, and smartweed.

Nutshell

Nutshell remains recovered include hickory *(Carya* sp.) and walnut (*Juglans nigra*), both in very small quantities. Only 67 fragments of hickory nutshell and 25 fragments of walnut shell were found (Table 33). The sample is comprised of material from features defined as pits, postmolds and artifact clusters, in order of frequency. Most of the hickory nutshell (n=61 fragments or 91%) came from a circular pit (Feature 29) located west of Structure 5 (Figure 47). It yielded 60 fragments of hickory nutshell and one fragment of walnut shell weighing 1.5 grams and 0.1 gram, respectively. The recovery of a single shell tempered ceramic body sherd from the fill of this pit indicates it dates to the Mississippian occupation of the site. Features 4 and 5, superimposed pits that also contained shell-tempered ceramics, yielded the next highest frequency of nutshell. Eleven fragments of walnut nutshell (0.1 gram) were obtained from Feature 4, and 11 fragments of walnut shell plus six fragments of hickory nutshell with equal weights (0.2 grams) were obtained from Feature 5. The remainder (n=3) includes one fragment of hickory nutshell and one fragment of walnut shell from Structure 2 postmolds and one fragment of walnut shell from Feature 12, a shell-tempered ceramic sherd and limestone cluster southwest of Structure 3.

Hickory nuts and walnuts are known to have been an important food source to aboriginal populations of the Southeast (Hudson 1976:286). Although sometimes processed for breadstuff, hickory nuts were primarily used for their oil (Swanton 1946:365). In addition to their nutritional significance, when processed in large numbers the nut hulls generated could have provided a fuel source for the site inhabitants as they burn readily and produce a hot flame. Walnuts were also an important food source. While they provide less food energy than hickory nuts their embryos have nearly twice as much crude protein (Shea 1978:612) and their larger mass would have decreased the amount of time needed to obtain a similar quantity of hickory nuts. While hickory nutshell and walnut shell comprise less than one percent of the plant remains by weight from Kellytown

Table 34 (sheet 1 of 4). Carbonized plant remains from Structure 1 (Feature 2) at Kellytown.

PROVENIENCE	Adjacent to Vessel 3		Unit 7 South Level 2		Unit 7 South Middle Level 2		Unit 7 South Middle Level 1		Unit 7 North Middle Level 1		Unit 7 North Middle Level 2		Unit 7 South Level 2, Vessel 11	
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight
TOTAL SAMPLE WEIGHT IN GRAMS		7.8		102.4		21.8		0.3		21.5		5.0		3.8
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)														
NUTSHELL (TOTAL WEIGHT)														
Species by Number of Fragments														
Carya sp., Hickory														
Juglans nigra, Black Walnut														
WOOD COMPOSITION- TOTAL WEIGHT		3.5		102.4		21.8		0.3		21.5		5.0		3.8
Species by number of fragments														
Arundinaria sp., Cane			116		29		2						10	
Acer sp., Maple														
Carya sp., Hickory											30			
Celtis sp., Hackberry														
Cornus florida, Dogwood														
Diospyros virginiana, Persimmon														
Fraxinus sp., Ash			73		33				60		30		20	
Gleditsia triacanthos, Honey Locust														
Juniperus virginiana, Eastern Red Cedar														
Juglans sp., Walnut/ Butternut														
Liriodendron tulipifera, Yellow Poplar														
Populus deltoides, Cottonwood														
Prunus serotina, Black Cherry														
Robinia pseudoacacia, Black Locust	20		60		28									
Quercus sp., Oak			35		32									
Bark					1									
Unidentifiable														
TOTAL NUMBER OF FRAGMENTS	20		284		123		2		60		60		30	
SEED & FRUIT (TOTAL WEIGHT), (w = Whole , f = Fragment(s))		4.3		<0.1										
Chenopodium sp., Goosefoot, Chenopod seed														
Cucurbita sp., Pumpkin seed														
Diospyros virginiana, Persimmon fruit & seed														
Fabaceae, Wild Bean seed														
Galium sp., Bedstraw seed														
Gleditsia triacanthos, Honey Locust seed														
Helianthus annuus, Sunflower fruit & seed														
Iva annua, Sumpweed fruit & seed														
Passiflora incarnata, Maypop seed														
Phaseolus sp., Cultivated Bean seed														
Polygonum sp., Smartweed seed														
Zea mays, Maize/Corn, TOTAL WEIGHT		4.3		<0.1										
Kernels	100+f													
Cupules	7f		1f											
cob fragments														
cob segments														

Table 34 (sheet 2 of 4). Carbonized plant remains from Structure 1 (Feature 2) at Kellytown.

PROVENIENCE	Unit 7 S. Middle Lev. 2 by V-9,10		Balk-N. Middle Level 2		Balk-South Level 1		West Side Level 2		Adjacent to Trowel		Southwest Miscellaneous		Triangulated from Vessels 3 & 4	
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight
TOTAL SAMPLE WEIGHT IN GRAMS		21.9		175.8		0.6		90.5		8.4		2.9		118.7
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)		1.8		21.0				17.3						0.6
NUTSHELL (TOTAL WEIGHT)														
Species by Number of Fragments														
Carya sp., Hickory														
Juglans nigra, Black Walnut														
WOOD COMPOSITION- TOTAL WEIGHT		1.2		0.1		0.6		57.8		8.4		2.9		118.1
Species by number of fragments														
Arundinaria sp., Cane							8		19				30	
Acer sp., Maple									5					
Carya sp., Hickory			1											
Celtis sp., Hackberry														
Cornus florida, Dogwood									5		5			
Diospyros virginiana, Persimmon														
Fraxinus sp., Ash	6				1		24		20				30	
Gleditsia triacanthos, Honey Locust							20							
Juniperus virginiana, Eastern Red Cedar														
Juglans sp., Walnut/ Butternut														
Liriodendron tulipifera, Yellow Poplar														
Populus deltoides, Cottonwood														
Prunus serotina, Black Cherry			10											
Robinia pseudoacacia, Black Locust							1							
Quercus sp., Oak					1		17				1			
Bark														
Unidentifiable			2		1		1							
TOTAL NUMBER OF FRAGMENTS	6		13		3		71		49		6		60	
SEED & FRUIT (TOTAL WEIGHT), (w = Whole , f = Fragment(s))		18.9		154.7				15.4		0		0		0
Chenopodium sp., Goosefoot, Chenopod seed														
Cucurbita sp., Pumpkin seed														
Diospyros virginiana, Persimmon fruit & seed	100+f fruit	18.6	9w/100f, 41w seed	78.5										
Fabaceae, Wild Bean seed														
Galium sp., Bedstraw seed														
Gleditsia triacanthos, Honey Locust seed														
Helianthus annuus, Sunflower fruit & seed														
Iva annua, Sumpweed fruit & seed														
Passiflora incarnata, Maypop seed														
Phaseolus sp., Cultivated Bean seed			2f	<0.1										
Polygonum sp., Smartweed seed														
Zea mays, Maize/Corn, TOTAL WEIGHT		0.3		76.2				15.4						
Kernels	100+f		128 w 100+f				100+f							
Cupules			100+w 100+f											
cob fragments			55f											

Table 34 (sheet 3 of 4). Carbonized plant remains from Structure 1 (Feature 2) at Kellytown.

PROVENIENCE	NE of Duck-head Rim-rider		Adjacent to Vessel 13		Northwest Corner		Hearth Fill		West Side Floor		Piece-plotted Maize Cluster		Between Hearth & Vessel 2	
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight
TOTAL SAMPLE WEIGHT IN GRAMS		7.3		3.7		31.0		31.2		63.5		149.4		50.5
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)										9.4		27.0		7.5
NUTSHELL (TOTAL WEIGHT)														
Species by Number of Fragments														
Carya sp., Hickory														
Juglans nigra, Black Walnut														
WOOD COMPOSITION- TOTAL WEIGHT		7.3		3.7		31.0		31.2		22.4		3.4		0.1
Species by number of fragments														
Arundinaria sp., Cane	12								27		5		9	
Acer sp., Maple									2					
Carya sp., Hickory									29					
Celtis sp., Hackberry							15							
Cornus florida, Dogwood														
Diospyros virginiana, Persimmon														
Fraxinus sp., Ash					30		2		1					
Gleditsia triacanthos, Honey Locust									2					
Juniperus virginiana, Eastern Red Cedar														
Juglans sp., Walnut/ Butternut														
Liriodendron tulipifera, Yellow Poplar														
Populus deltoides, Cottonwood														
Prunus serotina, Black Cherry														
Robinia pseudoacacia, Black Locust									1					
Quercus sp., Oak			30				13				25			
Bark														
Unidentifiable									2					
TOTAL NUMBER OF FRAGMENTS	12		30		30		30		64		30		9	
SEED & FRUIT (TOTAL WEIGHT), (w = Whole , f = Fragment(s))		0		0		0		<0.1		31.7		119.0		42.9
Chenopodium sp., Goosefoot, Chenopod seed														
Cucurbita sp., Pumpkin seed														
Diospyros virginiana, Persimmon fruit & seed									2f seeds	0.7				
Fabaceae, Wild Bean seed														
Galium sp., Bedstraw seed														
Gleditsia triacanthos, Honey Locust seed											1w	<0.1		
Helianthus annuus, Sunflower fruit & seed													2w 3f	<0.1
Iva annua, Sumpweed fruit & seed														
Passiflora incarnata, Maypop seed														
Phaseolus sp., Cultivated Bean seed													1f	<0.1
Polygonum sp., Smartweed seed														
Zea mays, Maize/Corn, TOTAL WEIGHT								<0.1		31.0		119.0		42.9
Kernels							2f		82w 100+f		220w 100+f		197w 100+f	
Cupules									4whole 7frags.		100+w 100+f		14w 36 frags.	
Cob fragments											36 frags.		1 frag.	
cob segments														

Table 34 (sheet 4 of 4). Carbonized plant remains from Structure 1 (Feature 2) at Kellytown.

PROVENIENCE	Feature 6		Between Vessel 6 & Vessel 7		Structure 1 TOTAL WEIGHT	Structure 1 TOTAL NUMBER
	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		111.3		44.4	1073.7	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)		19.3		7.0	110.9	
NUTSHELL (TOTAL WEIGHT)						
Species by Number of Fragments						
Carya sp., Hickory						
Juglans nigra, Black Walnut						
WOOD COMPOSITION- TOTAL WEIGHT		25.9		0.2	472.6	
Species by number of fragments						
Arundinaria sp., Cane	12		6			285
Acer sp., Maple						7
Carya sp., Hickory	21		5			86
Celtis sp., Hackberry						15
Cornus florida, Dogwood						10
Diospyros virginiana, Persimmon						
Fraxinus sp., Ash			3			333
Gleditsia triacanthos, Honey Locust						22
Juniperus virginiana, Eastern Red Cedar						
Juglans sp., Walnut/ Butternut						
Liriodendron tulipifera, Yellow Poplar						
Populus deltoides, Cottonwood						
Prunus serotina, Black Cherry						10
Robinia pseudoacacia, Black Locust	32					142
Quercus sp., Oak	28					182
Bark						1
Unidentifiable						6
TOTAL NUMBER OF FRAGMENTS	93		14			1099
SEED & FRUIT (TOTAL WEIGHT), (w = Whole , f = Fragment(s))		66.1		37.2	490.2	
Chenopodium sp., Goosefoot, Chenopod seed					0.0	
Cucurbita sp., Pumpkin seed	39w 71f	4.9			4.9	39 whole & 71 fragments
Diospyros virginiana, Persimmon fruit & seed					97.8	9 whole, 200+f fruit, 43 frags. seeds
Fabaceae, Wild Bean seed					0.0	
Galium sp., Bedstraw seed					0.0	
Gleditsia triacanthos, Honey Locust seed					<0.1	1 whole
Helianthus annuus, Sunflower fruit & seed					<0.1	2 whole & 3 fragments
Iva annua, Sumpweed fruit & seed					0.0	
Passiflora incarnata, Maypop seed					0.0	
Phaseolus sp., Cultivated Bean seed					<0.1	3 fragments
Polygonum sp., Smartweed seed					0.0	
Zea mays, Maize/Corn, TOTAL WEIGHT		61.2		37.2	387.5	
Kernels	138w 100+f		69w 100+f			706 whole & 902+ fragments
Cupules	15f		16f			218 whole & 282+ fragments
cob fragments	2f					94 fragments
cob segments	1f					1 fragment

this material coupled with other archaeobotanical data from the excavations provides an indication of the seasonality of the site occupation. Hickory nuts and walnuts are generally available from September through December and September through November, respectively.

Seeds and Fruits

Seeds and fruits analyzed from Kellytown include the remains from seven native wild plant species that would have grown in habitats near the site, and from five cultivated plant species that would have been grown in garden areas in the floodplain and terrace soils of the Little Harpeth River. The wild plants are persimmon (*Diospyros virginiana*), honey locust (Gleditsia *triacanthos*), chenopod (*Chenopodium* sp.), wild bean (Fabaceae family), bedstraw (Galium sp.), may pop (Passiflora *incarnata*) and smartweed (*Poylgonum* sp.). The cultivated plants are maize (*Zea mays*), beans (*Phaseolus vulgaris*), pumpkin or squash (*Cucurbita pepo*), sunflower (*Helianthus annuus*), and sumpweed (Iva *annua*) (Table 35).

Persimmon

Nine carbonized whole persimmon fruits, 100+ fruit fragments and 41 seeds were found burned *in situ* in the area of Structure 1 designated room "E" (Tables 33-35; Figure 114). Fruits whole enough to be measured had lengths that ranged from 17.61 to 22.13mm with a mean of 19.8 and widths that ranged from 25.16 to 26.63mm with a mean of 25.65. Persimmon was also evidenced by seed fragments in a different area of Structure 1 and by a single seed fragment recovered from Structure 9 postmold fill.

Persimmons were one of the most important wild fruits exploited by the Indians of the Southeast (Hudson 1976:285-300). Persimmon fruits ripen in the fall after the first frost. Prior to ripening they have a very pungent taste and are inedible. When ripe, the fruits are collected and then squeezed into a pulp that was spread out in flat loaves to dry in the sun. When dried the loaves could be kept for months. The persimmons in Structure 1 had probably been picked from the tree soon before they were burned. This is because the fruits perish rapidly if not processed in some manner. In the Middle Cumberland region the first frost occurs in October or early to mid–November. The seasonality indicated by these fruits is consistent with that derived from recovered nutshell.

Honey locust

One complete honey locust seed was recovered from Structure 1. It was within the corn cluster next to the persimmon concentration (Figure 25). While the seeds of honey locust are not edible and can be fatal if eaten, the pulp from honey locust fruit pods is very sweet and palatable. The fruit pod is about 10 inches long and though almost woody on the outside the thick edible pulp is on the inside. The Southeastern Indians dried and ground the pulp to use as a sweetener, and, according to Hudson (1976:309), the Cherokee still make a beverage from the pod. They split the pods, soak them in hot water, strain, and drink it hot or cold. White and black southerners were known to ferment the drink to make a beer. The fruit pods ripen in the late fall and can be

Figure 114. Charred persimmon fruits and seeds from the floor of Structure 1.

gathered throughout the winter. The honey locust seed on the floor of Structure 1 further indicates a fall and possibly winter occupation of the site.

Maypop

One seed fragment of maypop was recovered from post 223 along the outer palisade line (Feature 20). The fruits of maypop (or wild apricot) are edible after ripening in the late fall after a frost. According to Hudson (1976), the Cherokee boil and strain the fruits and make a hot beverage. The maypop vine grows in the edges of fields, along creek banks and other disturbed areas, and would have been available near Kellytown.

Sunflower and Sumpweed

The sunflower and sumpweed achenes and seeds recovered from the site are within the size ranges for cultivated plants. Both were cultivated as early as the Archaic Period from wild plants that were native to middle and eastern North America. Specimens recovered from archaeological sites show a substantial increase in seed size through time (Yarnell 1978). Sunflower is still cultivated today; but sumpweed only exists in the wild form. The prehistoric cultivated sumpweed seeds are much larger in size than the very small seeds found on the wild forms today. The sumpweed seeds recovered from Kellytown could be of the latest dated cultivated form yet found in southeastern North America. The latest date to the authors' knowledge is A.D. 1450 from the Warren Wilson site in North Carolina (Yarnell 1978).

Structure 1 yielded two whole sunflower seeds. An additional three whole sunflower seeds were recovered from Feature 20. The latter feature also yielded 14 whole sumpweed achenes and 7 whole sumpweed seeds (Figure 115).

The fruit of sunflower and sumpweed is called the achene and consist of a single seed enclosed in a dry pericarp or shell. The shell is usually removed for eating or processing. Therefore, the dimensions for the achenes will be larger than the dimensions for the seeds. Reconstruction factors for both sunflower and sumpweed were developed by Yarnell (1978) and Asch and Asch (1985) to determine the size of the achene prior to carbonization. The size index value, or the length times the width, is used in comparing the seeds recovered from archaeological sites. The dimensions of the actual seeds and achenes and the reconstructed dimensions are presented in Table 36. The size range (length x width in millimeters) for the 21 reconstructed sumpweed achenes from Feature 20 is 6.0mm–8.8mm x 3.3mm-5.7mm and the mean LxW index is 7.1mm x 4.9mm = 34.8. The size range for the reconstructed three sunflower achenes from Feature 20 is 9.1mm–11.7 mm x 4.6mm-7.2 mm and the mean LxW index is 10.6mm x 5.9mm = 62.5. The size range for the two reconstructed sunflower seeds from Structure 1 is 9.7mm-10.4mm x 4.3-4.6mm and the mean LxW index is 10.0mmx4.4mm = 44.

Sunflower and sumpweed seeds are both high in oil content and very nutritious. Both are available in late summer through late fall and can be roasted or eaten raw and stored for future consumption. There are no current uses and no ethnographic references for uses of sumpweed; however, it was undoubtedly an important plant to prehistoric peoples. At the Toqua site in east Tennessee, a Mississippian Dallas Phase structure (No. 14) which had burned yielded a vessel packed with 443 cultivated sumpweed achenes in combination with maize kernels. Mean size of the achenes is 7.2 x 6.4mm = 46.1 (Chapman and Shea 1981:1175). Sumpweed and sunflower remains were also identified in Mississippian context at the Averbuch site (Crites 1984: II.9.23). One sunflower achene measured 8.9 mm in length (reconstructed). Sumpweed remains include 2 whole kernels and 5 whole achenes with reconstructed mean length of 6.5mm and width of 4.5mm with the LxW index of 29.4mm. These achenes are considered to be from domesticated varieties and the size ranges overlap with the sizes of the Kellytown achenes.

Smartweed and Chenopod

Smartweed or knotweed *(Polygonum*) and chenopod (*Chenopodium*) are two plant species that are a part of the "Eastern Agricultural Complex" along with maygrass, sunflower and sumpweed. This term is used for wild plants that are native to middle and eastern North America and are considered to have been domesticated by prehistoric peoples (Archaic – Protohistoric) prior to the introduction of Mesoamerican cultigens (Stuever and Vickery 1973). It is plausible that the seeds recovered from Kellytown were from domesticated or cultivated plants; however, *Chenopodium* and *Polygonum* tend to be weedy and could have grown in habitats near the site or in disturbed areas of the site. Knotweed usually grows in wet soils in the floodplain or drainages.

Table 35. Summary of seed and fruit remains (w= whole, f = fragment).

Species	Str. 1	Str. 2	Str. 9	Str. 7	Str. 3	Str. 4	Fea 26	Fea 29	Fea 20	TOTAL
Chenopodium sp. (goosefoot, chenopod) – seed			8w						19w	27w
Cucurbita sp.(pumpkin) – seed	39w, 71f									39, 71f
Diospyros virginiana (persimmon) - seed and fruit	9w, 200f (fruit); 43f (seeds)		1f							9w, 200+f fruit
Fabaceae (wild bean) – seed							2w			2w
Galium sp. (bedstraw) – seed							1w			1w
Gleditsia triacanthos (honey locust) seed	1w									1w
*Helianthus ann*uus (sunflower) achene and seed	2w, 3f								3w, 8f	5w, 11f
Iva annua (sumpweed) achene and seed									21w, 17f	21w, 17f
Passiflora incarnata (maypop) seed									1f	1f
Phaseolus sp. (cultivated bean) seed	3f								13f	16f
Polygonum sp. (smartweed) seed							1w, 1f		1w	2w, 1f
Zea mays (maize)										
Kernels	706w, 902+f	1f	1w, 12f		31f	1f		3f	21w, 150+f	728w, 1100f
Cupules	218w, 282+f	1w, 2f	3f	1f	1f				1w, 2f	220+w, 291+f
cob fragments	94f		1f							95f
cob segment	1f									1f

Nineteen whole chenopod seeds and one whole smartweed seed were recovered from Feature 20 along with domesticated sumpweed and domesticated sunflower. The co-occurrence of these plants suggests that the chenopod and smartweed could be from cultivated plants. Hudson (1976:294) states that the Southeastern Indians continued to utilize the plants of the Eastern Agricultural Complex even after the established dependence upon corn and bean crops during the Mississippian Period. Eight whole seeds of chenopod were also recovered from Structure 9 and one whole seed of knotweed was recovered from Feature 26. Chenopod seeds, available in the late summer and fall, can be ground into a meal and the leaves are edible as greens in the spring (Hudson 1976: 287). Smartweed (knotweed) seeds, also available in the late summer and fall, can be ground into a meal. Seeds of all of the plant species of the Eastern Agricultural Complex have been recovered from prehistoric human feces at Salts Cave in Kentucky and Big Bone Cave in Tennessee (Yarnell 1978; Faulkner 1989).

Beans

Three fragments of cultivated beans were recovered from two areas of Structure 1. The fragments or cotyledons (one-half of the bean) were measured and the length x width determinations are as follows: 7.2x3.7mm, 7.4x3.7 mm; and 7.5x4.5mm. Thirteen fragments were recovered from Feature 20, 12 fragments from Post 223 and one fragment from Post 90. One cotyledon from Post 223 was measurable with the length x width 8.0x5.0mm. The one cotyledon from Post 90 was measured with a length x width 9.0x5.0mm. These remains are from a small pinto variety (*Phaseolus* sp.). Cultivated beans are harvested in the mid-late summer through early fall and can be stored for long periods. Representative examples of the bean cotyledons from Kellytown are shown in Figure 115.

Figure 115. Sunflower (*Helianthus annuus*) and sumpweed (*Iva annua*) seeds (left), chenopod (*Chenopodium* sp.) seeds (center), and cultivated bean (*Phaseolus* sp.) cotyledons (right) recovered from the fill of post 223 in the outer palisade (Feature 20). Scale in centimeters.

Pumpkin or Squash

Thirty-nine (39) whole seeds and 71 seed fragments of cultivated pumpkin were identified on the burned floor of Structure 1. No rind or peduncle fragments were found. Based on the large size of the cucurbit seeds they appear to be from a pumpkin or possibly a winter squash variety (*Cucurbita pepo;* Whitaker 1965). Pumpkins can be harvested for food in the early to late fall and the seeds can be roasted and stored. The flesh of the pumpkin must be processed in some manner.

Maize

The majority of maize remains are from Structure 1. Smaller amounts were recovered from Structure 2, Structure 3, Structure 4, Structure 7, Structure 9, Structure 20, and features 20 and 29 (see Table 35). The maize remains from Structure 1 totaled 378.5 grams and consist of 706 whole kernels, 218 whole cupules, 94 cob fragments and 1 segment each from a 10-rowed and 12-rowed cob. One cupule is from an 8-rowed cob. It appears that the maize from Structure 1 had already been processed prior to the fire because no kernels were attached to the cob fragments. Maize remains from the other structures and features totaled 30.4 grams. The measurable dimensions of these remains are presented in Appendix XVI. The maize recovered consists of fragments and segments of cobs including cupules and individual kernels that were detached from the cobs. Cupules are defined as the parts of a cob that hold the kernels. *Cob fragments* are here defined as two or more cupules attached together and a *cob segment* as a piece of a cob with a complete diameter (Figure 116). The actual number of rows can be counted on cob segments. However, only the approximate number of rows can be determined from cob fragments and individual cupules. In general, the number of rows is important in determining the type of maize that was grown by the site inhabitants. The maize kernels in the samples were all loose, not attached to the cobs. The number of whole kernels was counted in each sample and a percentage (about 25%) of the number was sampled for width and thickness measurements (Appendix XVI). The number of whole or fragmentary kernels was counted only if there were less than 100 in a sample. If there were more than 100 whole or fragmented kernels in a sample, the number is indicated in Tables 33 and 34 and Appendix XVI as 100+.

The measurements taken for the individual cupules and the cupules on the cob fragments include the length, width, glume width and the angle of the cupule. The angle provides an estimate of the number of rows on the cob to which the cupule was attached. The number of whole or fragmented cupules was counted only if there were less than 100 in a sample. For the "corn cluster" sample in Structure 1, the dimensions of the cupules were not measured because a large number of cob fragments were recovered that yielded more accurate measurements. The maize recovered is a flint type with little variation in the crescent- and rounded-shaped kernels. Eight-, 10-, and 12-rowed cobs are in the sample of fragments, with 2% 8-rowed (one specimen), 48% 10-rowed, and 51% 12-rowed. The size range of the kernels is 4.4 to 10.2mm (width) x 1.2–8.0mm (thickness) with a mean width of 7.8mm and thickness of 3.9mm. The size range for the individual cupules and the cupules in the cob fragments is 4.0 to 8.7mm (width) x 1.0 to 2.0mm (length) with a mean width of 6. 4mm and length of 1.8mm.

Maize was a main food source, along with beans and pumpkin, and could have been prepared in many ways. The more common are roasting and eating the whole cobs or removing the kernels from dried cobs or roasted cobs for hominy or gruel, flour for corn cakes or bread. Corn would have been grown in the spring and summer and could be preserved for later use year round.

Table 36. Actual and reconstructed dimensions of carbonized *Iva annua* (sumpweed) and *Helianthus annuus* (sunflower) seeds and achenes (millimeters).

Sumpweed achenes actual dimensions	Sumpweed achenes reconstructed dimensions	Sumpweed seeds (kernels) actual dimensions	Sumpweed seeds (kernels) reconstructed dimensions for achenes	Sunflower seeds (kernels) actual dimensions	Sunflower seeds (kernels) reconstructed dimensions for achenes
Feature 20, Post 223	**Feature 20, Post 223**	**Feature 20, Post 223**	**Feature 20, Post 223**	**Feature 20, Post 223**	**Feature 20, Post 223**
Length x width	Length x width	Length x width		Length x width	
6.0 x 3.5	6.6 x 3.8	5.5 x 3.2	7.6 x 4.6	8.5 x 4.2	11.0 x 6.1
6.0 x 4.0	6.6 x 4.4	4.8 x 4.0	6.7 x 5.7	7.0 x 3.2	9.1 x 4.6
7.5 x 5.0	8.2 x 5.5	5.0 x 4.0	6.9 x 5.7		
7.5 x 5.0	8.2 x 5.5	6.3 x 5.0	8.4 x 7.1		
8.0 x5.0	8.8 x 5.5	5.0 x 3.5	6.9 x 5.0		
7.0 x 5.0	7.7 x 5.5	6.2 x 4.0	8.6 x 5.7		
6.0 x 4.0	6.6 x 4.4	4.8 x 3.0	6.7 x 4.3		
6.0 x 3.5	6.6 x 3.8				
5.0 x 3.0	5.5 x 3.3				
7.0 x 5.0	7.7 x 5.5				
6.0 x 4.0	6.6 x 4.0				
6.0 x 4.6	6.6 x 5.1				
5.5 x 4.0	6.0 x 4.4				
Total Feature 20 Post 223	Range LxW = 6.0-8.8 x 3.3-5.5; Mean LxW = 7.2 x 4.9 = 35.2				
Feature 20, Post 90	**Feature 20, Post 90**			**Feature 20, Post 90**	**Feature 20, Post 90**
6.0 x 5.2	6.6 x 5.7 (LxW = 37.6)			9.0 x 5.0	11.7 x 7.2
Fea. 20 Total for Reconstructed Achenes	(n=21)Range LxW = 6.0-8.8 x 3.3-5.7; Mean LxW = 7.1 x 4.9 = 34.8				(n=3) Range LxW = 9.1-11.7 x 4.6 x 7.2; Mean LxW = 10.6 x 5.9 = 62.5
Structure 1 Between Hearth and Vessel 2				**Structure 1 Between Hearth and Vessel 2**	**Structure 1 Between Hearth and Vessel 2**
				8.0 x 3.2	10.4 x 4.6
				7.5 x 3.0	9.7 x 4.3
Total Struct. 1					(n=2) Index LxW = 10.0 x 4.4 = 44.0

Figure 116. Corn (*Zea mays*) kernels (left) cob segment (middle) and pumpkin (*Cucurbita* sp.) seeds (right) from the floor of Structure 1 (scale in centimeters).

Wood Charcoal

River cane and 14 types of trees were represented in the wood charcoal samples (Tables 33 and 34; Appendix XV). The wood was derived from general feature fill and structural material. Cane matting and cane structural remains were recovered from the structures. Many of the post samples contain one type of wood. Black locust was the most common. From most to least common, the following woods represent 91% of the Kellytown sample: oak (22.2%), ash (19.2%), cane (19.2%), black locust (17.7%) and hickory (12.8%). All of these would have occurred in abundance near the site.

Discussion

The Kellytown sample reveals the site inhabitants were heavily reliant on corn, particularly 10 and 12 row varieties as a food source. Beans, squash and sunflower were cultivated, but the Kellytown inhabitants continued to gather seasonal fruits, seeds and nuts. Although the latter would indicate a fall occupation they were recovered in only small amounts. The presence of cultigens adds the spring and summer seasons, supporting the proposition that Kellytown was occupied on a permanent year round basis. Archaeobotanical materials from the floor of Structure 1, however, clearly show that the structure was occupied and burned in the fall.

Archaeobotanical information from Kellytown is consistent with that obtained from other Mississippian towns in the Middle Cumberland region. Hickory and walnut shells, maize, persimmon seeds, honey locust seeds and cultivated beans were recovered at the Rutherford Kiser site (Shea and Moore 2001:135). Cob fragments and segments documented 8-, 10- and 12-

row varieties of maize. Hickory and walnut shells, maize, persimmon seeds, honey locust seeds, and cultivated squash seeds and rind were also recovered at Brandyewine Point (Moore and Smith 1993). As at Kellytown and Rutherford Kiser, measurement of the cob fragments and segments identified 8, 10 and 12 row varieties of maize. Plant remains recovered at Brentwood Library include hickory, acorn, butternut and walnut shells, maize, persimmon seeds, grape seeds, viburnum seeds and cultivated beans (Bishop and Moore 2005). Consisting mostly of whole kernels and a few cob fragments, 8, 10 and 12 row varieties of maize were identified, the later two dominating the sample. At Brick Church Pike recovered plant remains include hickory shells, maize, and one fragment of a persimmon seed (Bishop n.d.). Whole kernel and cob fragment measurements indicated 10 and 12 row varieties of maize with the 10-row variety most common. At Noel Cemetery, recovered plant remains include hickory shell, maize, and cultivated beans (Bishop n.d.). The maize remains consisted of numerous whole kernels and cob segments. As at Brick Church Pike, 10 and 12 row varieties of maize were present with the most common being 10-rowed. At Averbuch plant remains recovered include hickory, acorn, butternut and walnut shells, maize, and seed/ fruits of persimmon, honey locust, black gum, blackberry, passion flower (may pop), knotweed, chenopod, cultivated beans, domesticated sunflower and domesticated sumpweed (Crites 1984:Vol.II.9.1). Based on cupule angle measurements, the maize remains represent 8, 10, 12, 14 and 16 row cobs. The largest percentages were 10 and 12-rowed.

ARCHAEOFAUNAL REMAINS

Kellytown yielded 373 fragments (weight=149.12 grams) of bone and shell. Excavation data reveal all but one of the fragments is from the Mississippian Period site use. The exception is an unidentified mammal bone fragment from Feature 15 that yielded a radiocarbon assay suggesting it is of Late Archaic age.

Seventy-seven percent by weight (n=111.3 grams) of the faunal remains are from Structure 1 (Table 37). The remainder is from other structures (11.18 grams), pits (11.24 grams), artifact concentrations (3.12 grams) and arbitrary excavations (7.78 grams; Table 38). The specimens are almost entirely from vertebrates: mammal, bird and reptile (Sichler n.d.). There were no fish or amphibian remains. Invertebrate remains include four fragments of shell with a combined weight of 5.27 grams from a single unidentified mussel valve.

Sixty-six percent by weight of the vertebrate remains (n= 95.44 grams) could be classed according to species. Specimens were also categorized according to element and anatomical position (left or right) where possible and examined for cut marks and evidence of burning.

Only two elements have cut marks. One is a long bone fragment with a length of 1.3cm from an unidentified mammal. It was found in the fill of a Structure 9 postmold. The element has one cut mark perpendicular to the shaft. The other is the distal end of a scored and snapped white-tailed deer antler tine. It has a length of 3.3cm and a maximum diameter of 0.89cm and was recovered from the floor level in the west half of Structure 1.

Mammal

Just under 93% by weight (138.28 grams) of the faunal remains from Kellytown are from mammals. Mammals comprise 97% by weight (n=108.37 grams) of bone from Structure 1 and 92% by weight (n=29.91 grams) of bone from other archaeological contexts. Sixty-two percent by weight (n=68.04 grams) of the mammal bone from Structure 1 is burned, a simple reflection of the razing of this structure. Twenty-three percent by weight of the remaining mammal bone from the site is also burned or calcined.

White-tailed deer (*Odocoileus virginianus*) is the most prevalent identified species by weight (92.92 grams) and count (n=228). It comprises 98% by weight of identified mammal elements in the sample and 98% by weight (n=87.38 grams) of identified mammal elements from Structure 1. Identified deer elements from Structure 1 include two right mandible portions, three antler tines, and a single phalange. The two mandibles are fragmented and burned and one of the specimens is polished. It was recovered between Vessels 3 and 4 in the west half of the structure. The function of this element is unknown but its surface characteristics suggest it is not merely food waste. The other mandible was found in the east half of the structure and displays no polish, or other modification.

Table 37. Faunal samples (n=25) from Structure 1.

Provenience and Field Sample #*	Count	Weight in grams	Family	Genus	Species	Element	Portion	Side	Comments	Burned/ calcined
West ½ between V3 & V4 (1)	1	1.94	Cervidae	Odocoileus	virginianus	Mandible	Anticular Process	Right		Calcined
" (1)	2	5.66	"	"	"	"	Body fragment with sockets	"		
" (1)	7	1.92	Unid° mammal			Unidentified	Fragments			
West ½ cleanup (2)	1	.32	Unidentified			"	Fragment			
" (2)	1	1.37	Cervidae	Odocoileus	virginianus	Antler	Tine fragment		tool?	Calcined
Northwest quadrant (8)	1	4.04	"	"	"	Phalange 1	Missing distal			
Unit 7-South Level 1 (3)	1	1.25	Unid mammal			Craniel fragment				
Unit 7-South Level 2 (4)	15	2.11	"			Unidentified	Fragment			
" (5)	1	20.74	Cervidae	Odocoileus	virginianus	Antler	Reconstructed tine		tool?	Burned
" (5)	176	27.78	"	"	"	"	completely fragmented		tool?	"
U7 North Middle Lev. 2 (6)	9	11.06	"	"		Mandible	Fragments with tooth row	Right		
" (6)	34	10.34	"	"	"	"	Fragments of above specimen			
" (7)	1	.5	Phasianidae cf.			Caracoid	Proximal epiphysis	Left?		Burned
" (7)	1	1.09	phasianidae	Meleagris	gallopavo	"	Proximal epiphysis+1/3 diaph.	Left		
" (7)	6	.8	Unidentified			Unidentified	Fragments			
" (11)	1	.45	Unid mammal			Long bone frag.	"			Calcined
" (11)	5	.75	"			"	"			Burned
U7 South Middle Level 2 (9)	1	.58	"			Unidentified	"			Calcined
" (9)	2	.58	"			"				Burned
" (10)	1	.22	Unidentified			"	Fragments			
" (10)	1	2.77	Unid mammal			Long bone frag.	2 joints			Burned/calcined
" (10)	1	4.45	Cervidae	Odocoileus	virginianus	Metatarsal	Proximal lateral epiphysis	Left		
" (10)	2	2.45	Unid mammal			Long bone frags.				Calcined
" (10)	5	1.79	"			"				Burned
" (10)	7	6.34	"			"				Burned/calcined
TOTAL	**283**	**111.3**								

*See Appendix V for field information
° Unidentified

Table 38. Faunal samples (n=27) from proveniences other than Structure 1.

Provenience and Field Sample #*	Count	Weight in grams	Family	Genus	Species	Element	Portion	Side	Comments	Burned/ calcined
Pit Feature 4 (12)	1	.18	Unid° mammal			Long bone frag.				
" (12)	3	.46	Unidentified			Uid				
Pit Feature 8 13)	1	.95	Unid mammal			Long bone frag.			Rod, gnawing	
" (13)	1	1.51	Cervidae	Odocoileus	virginianus	Phalange 2	Prox. epiphysis +min. diaphysis			
" 13)	1	4.03	"			Femur	distal diaphysis segment	Left		
" 13)	6	2.39	Unid mammal			Long bone frag.				
F. 12 Artifact concent. (14)	1	.49	testudines			Peripheral	Lateral edge present			
" 14)	1	.98	Unid mammal			Long bone frag.				Calcined
" (14)	1	1.65	"			"				
Pit Feature 15 (15)	14	1.72	"			Fragment				
Fea. 18- Structure 6 (16)	2	1.87	"			Long bone frag.				Calcined
" (16)	4	2.2	"			"				Burned/calcined
" (16)	4	5.27	Unid shell							
Fea. 16- Structure 5 (17)	1	.83	Unid mammal			Long bone frag.				
" (17)	3	1.53	"			Craniel				
" (17)	12	1.34	Unid mam/bird			Fragment				
Fea 31- Structure 10 (18)	11	1.94	Unid mammal			"				
Fea. 30- Structure 9 (19)	1	.1	testudines			Carapace				
" (19)	1	.35	Unid mammal			Long bone frag.			possible cuts	
" (19)	3	.25	Unid mam/bird			Fragment				
Unit 8 Level 1 (21)	3	1.01	Unid mammal			"				Burned
" (21)	3	1.73	"			"				
" (21)	5	1.64	"			"				Calcined
Unit 8 Level 2 (22)	1	.17	"			"				Calcined
" (22)	1	.77	Ursidae	Ursus	americanus	M2	Upper permanent tooth			
" (22)	4	1.8	Unid mammal			Fragment				
Unit 5 Level 1 (23)	1	.66	Leporidae	Sylvilagus	floridanus	Femur	Diaph. med.with/lesser trochan	Right		
TOTAL	**90**	**37.82**								

*See Appredix V for field information
° Unidentified

Three antler tines were recovered from the floor of Structure 1. As previously indicated one is a scored and snapped distal from the floor level in the west half of the house. The acute end of this tine has wear and is broken suggesting the artifact was a tool possibly used as a pressure flaker or punch. Two additional antler tines were piece plotted in the southeast area of Structure 1 (Figure 25). One of these was partially mended. It has a maximum length of 10.4cm and a maximum diameter of 3.3cm. The other tine all but disintegrated upon removal and consists of 176 burned fragments. The distal end of the partially reconstructed tine is broken and the proximal end is fragmented. No cut marks are evident on the reconstructed specimen but it appears to be polished. The proximity of the two tines suggests they were complimentary elements of a tool kit.

Two other mammal species are evidenced in the site collection: part of a black bear (*Ursus americanus*) molar and a portion of a right femur from an eastern cottontail rabbit (*Sylvilagus floridanus*).

Thirteen bone elements with a combined weight of 12.29 grams were classified as large mammal but the species could not be identified. The remaining mammal bone includes 96 specimens with a combined weight of 31.64 grams that could not be identified to species. Fifteen additional bone specimens with a combined weight of 1.59 grams could not be differentiated beyond mammal or bird. A summary of the species represented and condition of the sample (ie. burned/calcined) is presented in Table 39.

Table 39. Total faunal sample by weight, count and physical characteristics.

SpeciesList					
Family	**Genus**	**Species**	**Common Name**	**Count**	**Weight**
cervidae	*Odocoileus*	*virginianus*	white-tailed deer	227	90.98
cervidae	*Odocoileus*	*virginianus* cf.		1	1.94
ursidae	*Ursus*	*americanus*	black bear	1	0.77
leporidae	*Sylvilagus*	*floridanus*	eastern cottontail	1	0.66
mammal	Large mammal			13	12.29
°Unid. mammal	Unid. Mammal			96	31.64
Unid. Mamm./ bird	Unid. mammal/ bird			15	1.59
phasianidae	*Meleagris*	*gallopavo*	Turkey	1	1.09
phasianidae cf.	*phasianidae* cf.			1	0.5
testudines				2	0.59
Uid. shell	Unid. Shell			4	5.27
Uid.	Unidentified			11	1.8
			TOTAL	**373**	**149.12**
Thermally Altered Bone					
Burned	193	53.15			
Burned/ Calcined	12	11.31			
Calcined	15	11.45			
TOTAL	**220**	**75.91**			

° Unidentified

Bird

Avian remains are represented in the site collection by two bone elements from Structure 1 that have a combined weight of 1.59 grams. These include a portion of a left caracoid (proximal epiphysis) from a wild turkey (*Meleagris gallopavo*) and a part of a possible left caracoid (proximal epiphysis) classed only to family (*phasianidae*). Both elements are from the floor level in the extreme northeast corner of the house area designated room "E" (see Figure 27). The proximity of the two specimens suggests both are from wild turkey. One of the elements is burned and the other is not. Neither example displays cut marks or other modification.

Reptile

Two turtle shell fragments comprise the only reptile remains from the site. These include one small piece of carapace (central) from a postmold in Structure 9 and a small piece of peripheral shell with the lateral edge present from artifact cluster Feature 12. Neither of the specimens could be identified beyond family (*testudines*). Both specimens are unburned and unmodified.

Discussion

The virtual lack of cut and/or modified bone in the site sample provides little towards the understanding of Middle Cumberland Mississippian animal butchering and bone tool making practices or strategies. However, the species identified in the faunal collection do provide evidence of Mississippian faunal exploitation in the region. The Kellytown identified bone sample is comprised almost entirely of mammalian species adapted to forest edge margins and open forests. Of the species associated with these habitats, white-tailed deer is most common in the site sample followed by wild turkey, cottontail rabbit and black bear.

Forest edges and open forests are known to have been heavily relied upon for hunting by regional Mississippian peoples. White-tailed deer was clearly a primary focus of this exploitation (Breitburg 1998:147, Breitburg and Moore 2001b:119, Romanoski 1984:II.1-46). Wild turkey and cottontail rabbit are also well represented in local faunal samples indicating they were an important food supplement. At the Thruston Phase Kelly's Battery site cottontail rabbit comprised the largest percentage (33.68) of identified elements in the faunal sample (Jones 2001:162).

Local faunal collections indicate densely wooded upland habitats were also hunted by Mississippian peoples. One of the species adapted to this habitat and represented in most faunal collections from the period is black bear. A fragment of a single black bear tooth (M2) is the only evidence of the species at Kellytown. The fragment was recovered from arbitrary provenience.

No identified species adapted to aquatic/riparian habitats are evidenced in the faunal sample from Kellytown. Considering the proximity of the site to the Little Harpeth River and the use of cobble chert from deposits in and along the river, however, it is unlikely that aquatic/riparian species were not taken. There are indicators that these species were important to the Kellytown inhabitants. Turtle shell and mussel valve fragments provide the only direct evidence. More

compelling is the secondary evidence of fish and frog effigy bowls recovered on the floor of Structure 1. The under representation of species adapted to aquatic/riparian habitats is generally considered a result of preservation factors.

The faunal sample from Kellytown indicates a primary reliance on large mammals, particularly white-tailed deer, and possibly black bear. With the inclusion of wild turkey, small mammals, aquatic (though no fish) and riparian species the pattern is consistent with other Mississippian sites in the Middle Cumberland region (Breitburg 1998:161).

RADIOCARBON ASSAYS

Excavations at 40WM10 yielded abundant charred botanical material sufficient for radiocarbon dating. Funding was provided by the Tennessee Division of Archaeology for nine conventional age determinations. Sample selection focused on the Kellytown structures and palisades, and on providing age determinations for the domestic vessel set from Structure 1, and other site ceramics.

Radiocarbon dates were obtained from two domestic houses, a public building and a granary, structures 1, 2, 7 and 9 respectively. All are located outside the inner fortification line but within the outer one. To more precisely determine the age of Structure 1 and its contents, two radiocarbon dates were obtained for it. One dated sample is from a small section of charred post found on the house floor in the north east area of room "E". The other sample is from a cluster of charred corn (maize) found on the house floor between Vessels 1 and 2 in room "E". The post section and corn are indicated in the Structure 1 floor plan in Figure 25. The other three structures were dated from wood charcoal recovered in postmold fill.

There is remarkable consistency in the intercept ages of radiocarbon determinations for the four structures (Table 40, Figure 119). These range from A.D. 1400 to A.D. 1435 with a mean of A.D. 1421. Radiocarbon intercepts for the wood and corn from Structure 1 are A.D. 1420 and A.D. 1435, respectively. Calibrated results of the structure assays indicate a Mississippian site occupation during the early 15th century. This time frame corresponds to the late part of the Thruston Phase, which tentatively spans the 200 years from A.D. 1250-1450.

Radiocarbon dates for the Kellytown structures are entirely consistent with temporally diagnostic ceramics from the site. Strap-handle jars, bifurcate lug-handle jars, "Beckwith-Incised" jars, effigy bowls, simple bowls with appliqué notched-rims and Kimmswick Plain pans are all indicative of the Middle Cumberland Mississippian Thruston Phase (Smith and Trubitt 1998). Interestingly, Wesler's formula for determining the age of a Mississippian period ceramic assemblage based on dimensions of strap handles on jars (Wesler 2001:99) yielded a mean production date for the Kellytown sample of A.D. 1433 (Table 13).

In addition to the Structure radiocarbon dates, three assays were obtained for the two palisades: two dates for the outer one and one for the inner one. Interpretation of these dates is problematic. Corn (maize) from the postmold fill of Post 223 in the outer palisade yielded an assay of 230 +/- 60 (Beta-17308) with an intercept age of A.D. 1660. This date does not correspond well with the assays for the identified structures or the site ceramic information. For this reason it is not included in the graph in Figure 119. Possibly the result is in error due to the type of carbonized material on which it is based. Corn is a C_4 plant rather than a C_3 one. Because C_4 plants take up larger amounts of ^{14}C than C_3 plants, such as trees, radiocarbon assays on corn can produce results that are as much as 250 years younger than those on wood charcoal of the same age (Smith 2002:5). Another possibility is that the recovered corn is from a later occupation of the site.

An additional wood charcoal sample from the outer palisade line (Post 62) yielded a date of 710+/- 60 BP (Beta-173019) with an intercept age of A.D. 1290. Though it seems slightly too old for the feature, the younger end of the 2 sigma calibrated results, A.D. 1220-1400, overlaps other Kellytown structure dates (Figure 117).

Wood charcoal from bastion post AMR in the inner palisade line yielded a date of 950+/-60 BP (Beta-173015) with an intercept age of A.D. 1040. The date is within the time frame for the early Spencer Phase of the Middle Cumberland Mississippian culture. Though more data are clearly needed, it is tempting to suggest that the late Dowd/early Thruston Phase date for the outer palisade indicates an increase in the size of the Kellytown population to the point that expansion of the village area became necessary to accommodate everyone. The structure dates add an important perspective on the site. Including them, the occupation of Kellytown spans most, if not all, of the currently recognized Middle Cumberland Culture from the early Spencer Phase through the late Thruston Phase, a period of approximately 500 years. The primary occupation, however, appears to be during the Thruston Phase.

Lastly, one radiocarbon assay (Beta-136156) was obtained for wood charcoal from the fill of Feature 15. This pit was within the post pattern of Structure 2 and was assumed to be associated with the house. Feature 15 yielded a conventional radiocarbon age of 3500+/-70 BP. The assay and the recovery of a small number of Late Archaic Period projectile points/ knives suggest the pit dates to an earlier period of site use.

Table 40. Kellytown radiocarbon assays (n= 9) and calibrated results.

Provenience	*Sample Type*	*Conventional C14 Age[1/] Intercept Age♦*	*Calibrated Results° 1 Sigma*	*2 Sigma*
Structure 1 Feature 2;Between Vessels 1 and 2	Corn	460+/-60 BP AD 1435	AD 1420-1460 BP 530-490	AD 1400-1515 BP 550-435
				AD 1590-1620 BP 360-330
Structure 1 Feature 2; Charred post- Partition E	Wood	500+/-60 BP AD 1420	AD 1410-1440 BP 540-510	AD 1310-1360 BP 640 - 590
				AD 1390-1480 BP 560-470
Structure 2 Feature 10 Support post BX	Wood	580+/-60 BP AD 1400	AD 1300-1420 BP 640-530	AD 1290-1440 BP 660-510
Structure 7 Feature 21 Corner post AES	Wood	520+/-60 BP AD 1420	AD 1400-1435 BP 550-515	AD 1305-1460 BP 645-490
Structure 9 Feature 30 Post API	Wood	470+/-80 BP AD 1430	AD 1410-1470 BP 540-480	AD 1310-1370 BP 640-580
				AD 1380-1530 BP 570-420
				AD 1550-1630 BP 400-320
Outer Palisade Feature 20 Post 223	Corn	230-+/-60 BP AD 1660	AD 1640-1680 BP 310-270	AD 1510-1600 BP 440-350
			AD 1770-1800 BP 180-150	AD 1620-1700 BP 320-250 *
			AD 1940-1950 BP 10-0	AD 1720-1820 BP 230-130*
				AD 1840-1880 BP 110-70*
				AD 1920-1950 BP 30-0*
Outer Palisade Feature 20 Post 62	Wood	710+/-60 BP AD 1290	AD 1270-1300 BP 680-650	AD 1220-1400 BP 730-550
Inner Palisade Feature 34 Bastion Post AMR	Wood	950+/-60 BP AD 1040	AD 1020-1170 BP 930-780	AD 990-1220 BP 960-730
Feature 15	Wood	3500+/-70 BP 1865 BC	BC 1910-1735 BP 3860-3600	BC 2010-1650 BP 3960-3600

[1] C13/C12 ratio estimated. ♦ Intercept of radiocarbon age with calibration curve, see Appendix XVII. ° INCAL98 Radiocarbon Age Calibration (Stuiver et al. 1998). * Multiple ranges possible due to wiggles in the calibration curve at this period of time.

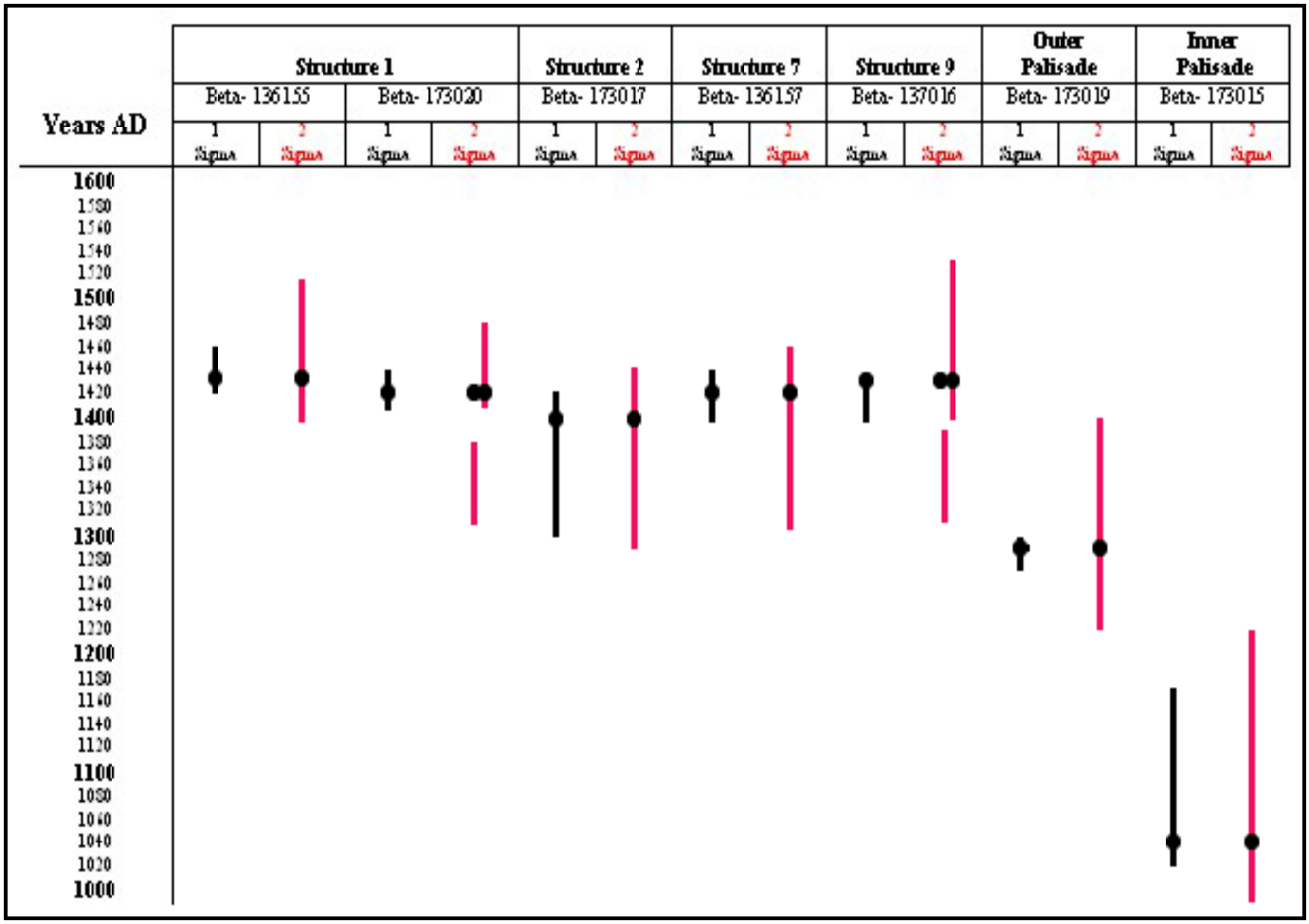


Figure 117. Graph indicating Kellytown (40WM10) radiocarbon intercept ages and calibrated ranges at 1 sigma and 2 sigma (Stuiver et al. 1998).

SUMMARY AND CONCLUSSIONS

Site Chronology

Forty-two prehistoric archaeological features were identified in the TDOT project corridor at Kellytown. Fifty-percent of these, including 12 post structures, two wall trench structures, two palisades with bastions, six stone box graves and a burial in a vessel, are characteristic of Middle Cumberland Mississippian culture. By virtue of their association with structures and/or their contents, 90% (n=19) of the remaining features (16 pits, an isolated hearth and two artifact clusters) are also Mississippian. Radiocarbon determinations from structures and diagnostic ceramic artifacts place the town's primary occupation in the early 15th century during the Thruston Phase, which tentatively dates from A.D. 1250 to A.D. 1450.

Radiocarbon Determinations

Radiocarbon assays were run on wood charcoal or charred corn from four of the structures and the two palisades. The intercept ages of the structure dates range from A.D. 1400 to A.D. 1435 with a mean of A.D. 1421. Radiocarbon intercepts for one wooden post sample assay and one corn sample assay from the floor of Structure 1were A.D. 1420 and A.D. 1435, respectively.

Interpretation of radiocarbon assays for the palisades is problematic. Charred corn (maize) from a postmold in the Outer Palisade yielded an assay of 230 +/- 60 BP with an intercept age of A.D. 1660. Wood charcoal from bastion post AMR in the inner palisade yielded a date of 950+/-60 BP with an intercept age of A.D. 1040. This assay is within the time frame for emergent Middle Cumberland Mississippian culture but it appears slightly too old for the archaeological deposits at Kellytown. However, two sigma results suggest the date may be 100 years off with the majority of the error range being younger than A.D. 1040. Possibly, however, the date for the inner palisade is accurate and reflects the initial settlement of the town.

Charred wood from pit Feature 15 yielded a radiocarbon determination of 3500+/-70 years BP. This dated feature and recovery from the site of five temporally diagnostic projectile points/ knives indicate an earlier site component dating to the Late Archaic Period. However, the Late Archaic use of the site appears to have been seasonal and/or of low intensity based on the frequency of features and cultural material identified at the site.

A bell-shaped pit also yielded possible evidence of pre-Mississippian cultural activity. Charred botanical remains in fill from the feature include three types of starchy seeds, smartweed or knotweed (*Polygonum*), bedstraw (*Galium* sp.) and wild bean (*Fabaceae*). Smartweed is associated with the "Eastern Agricultural Complex". The seeds suggest a Woodland Period time frame for the pit. Six diagnostic projectile points/knives from various proveniences across the site indicate Woodland Period activity also. However, like the Late Archaic, it does not appear to have been intense or sufficiently long term to have left substantial archaeological deposits.

Ceramic Chronology

Ceramic vessel forms represented in the Kellytown sample include jars, bowls, pans and possibly bottles. Plates are not evidenced in the site collection. The majority of the sample (n=78%) is Mississippi Plain while nearly all of the remainder (20 %) is Bell Plain.

The ceramic assemblage is comprised of whole and partial vessels from the floor of Structure 1 and sherds from other domestic contexts. Based on comparison with regional ceramic literature, the forms are utilitarian vessels known to be attributed to the Thruston Phase. Recent archaeological excavations provide a general framework for seriating Thruston Phase ceramics from those of the preceding Dowd Phase (ca. A.D. 1050-1250) and Spencer Phase (ca. A.D. 950-1050). For discussions of the ceramic variability attributable to these phases, see Jones 2001, Moore 2005a, Reed 1984, Smith 1992, Moore and Smith 1993, Smith and Moore 2001a, Smith and Trubitt 1998, and Trubitt 1998.

Thruston Phase ceramic assemblages can be distinguished by jar handle types, jar decoration, and the types of bowls, bottles and pans. During the Thruston Phase strap-handle jars appear to have become preferred over loop-handle jars, which are commonly represented in ceramic assemblages from the preceding Dowd Phase. Strap-handles are the most frequent jar appendage identified at Kellytown. No loop-handles are present. Recent work by Wesler (2001:99) suggests that changes in handle width and thickness are chronologically sensitive as straps appear to become wider and thinner over time. Wesler has generated a mathematical formula to test this hypothesis. Applying his formula, the strap-handles from Kellytown produced a date range of A.D. 1393 to A.D. 1464. With a mean date of A.D. 1433, the result is very comparable to the mean date of A.D. 1421 derived from the radiocarbon assays on structures.

Bifurcate lug-handles are typical on jars of the Thruston Phase, although they appear restricted to large vessels. During the preceding Dowd Phase both bifurcate lug and single lug-handles occur on jars. Bifurcate lug appendages are well represented at Kellytown and are exceeded in frequency only by strap-handles. No single lug appendages are evidenced in the site pottery collection.

One complete *Beckwith-Incised* jar and sherds from a minimum of two others were recovered at Kellytown. In the Middle Cumberland region *Beckwith-Incised* jars are consistently found on Thruston Phase sites (Jones 2001, Reed 1984, Smith 1992, Smith and Moore 2001a, Trubitt 1998). The decoration has similar chronological placement elsewhere in the Southeast (Phillips 1970).

During the Thruston Phase there is an increase in the frequency of effigy bowls and vessels with rim-riders. Hooded bottles also occur more frequently than during the preceding Dowd Phase. Five effigy bowls, a detached duck head rim-rider and a rim sherd from a possible hooded bottle were recovered from Structure 1.

Bowls with notched appliqué rim strips are also diagnostic of late Mississippian ceramic assemblages in the Middle Cumberland region. No complete bowls with notched rim strips were

found at Kellytown. However, 15 bowl sherds with notched rim strips, representing a minimum of 11 vessels, were recovered from various proveniences at the site.

Narrowing the Kellytown ceramic chronology further is a complete lack of *Kimmswick Fabric-Impressed* pans in the site collection. While *Kimmswick Fabric-Impressed* pans occur during both the preceding Spencer and Dowd Phases they are virtually absent in Thruston Phase assemblages. Apparently these were replaced by *Kimmswick Plain* pans. A single nearly complete *Kimmswick Plain* pan was found on the floor of Structure 1 and all pan rim sherds from other contexts are the plain variety.

Thruston Phase Settlement as Evidenced at Kellytown

During the Thruston Phase regional mound centers are believed to have declined in importance. This is evidenced by an increase in the number of nucleated semi-autonomous towns and villages having extensive palisades with bastions. Nucleated towns with extensive fortifications are a hallmark of the Thruston Phase in Middle Tennessee. This apparent settlement shift is thought to reflect a breakdown of regional-chiefdom level authority (Smith 1992:426-436). It marks the response of local populations to extreme stress brought on by sociopolitical and environmental change. Smith (1992) suggests that mound construction ceased by the Thruston Phase and that these centers no longer held the social and political importance as they did earlier. During the Thruston Phase many of the platform mounds previously resided upon by the religious and political elite, or used for ritual purposes, are thought to have been converted to cemeteries.

The archaeological data from Kellytown strongly support the settlement shift hypothesized for Thruston Phase communities. Kellytown is a large nucleated settlement lacking platform mounds. The presence of two palisades suggests that the population of the village increased through time to the point that it ultimately became necessary to construct the Outer Palisade. Bastions spaced along the palisades clearly indicate they were constructed for defensive purposes. Kellytown was occupied during a time of internecine warfare during which protection of the town from outside threats was of paramount importance. The burning of Structure 1 with apparent disregard for removing or retrieving the possessions in it may be a testament to social conflict.

The projected area of the outer palisade encompasses what is now a large area of private and religious property on each side of Hillsboro Road south of Old Hickory Boulevard (Barker 2002). Unfortunately much of the town was destroyed by church construction both west of Hillsboro Road and east of the Kelly tracts. Consequently, the true extent of the town will never be known. However, the population of the town had to have been quite large given the areal extent of land encompassed by the outer fortification line.

Domestic houses at Kellytown were clustered well within the confines of the outer palisade and separated from it by a large plaza area. They were all approximately the same size, orientated in similar cardinal directions and spaced closely at even distances apart. Interspersed within the residential area were granaries for food storage and outdoor pits for cooking, storing and

disposing of domestic refuse. At least one large building was within the plaza area. A lack of divisions in the floor plan of this structure suggests it served some public or communal use.

House construction and occupancy

Postmold and trench patterns reveal two types of structures at Kellytown, "single-post" and "wall trench". Burned plaster over the floors of two structures, and daub from other areas of the site, indicate the buildings were wattle and daub. Ethnographic accounts reveal Native populations continued to use this construction method long after European contact (Adair 1775, Bartrum 1909, Swanton 1946).

Eight of the identified single-post structures and the two wall trench buildings are definable as houses. As evidenced by postmold patterns all of the single-post buildings were square with rounded corners. One of the wall trench houses was square and the other was rectangular. Floor plans reveal 70% (n=7) of the dwellings were built around a primary roof support formed by four vertical posts placed in a square pattern slightly offset from the walls. Of the eight single-post-constructed houses, seven have this type roof support pattern. Archaeological data indicate the square roof support design was also used later in house construction by tribes such the Cherokee (Schroedl, ed. 1986:226).

Wattle and daub houses of both the single-post and the wall trench type have been documented archaeologically at most of the Mississippian village sites investigated in the Middle Cumberland region. In some areas of Mississippian influence, for example at Cahokia, the existence of both single-post and wall trench houses has been attributed to diachronic variability with the shift being from single-post to wall trench (Pauketat 1998:57-137). Based on local settlement data this does not appear to be the case in the Middle Cumberland region where radiocarbon assays vary widely for both structure types. In fact the temporal shift in Middle Cumberland house construction appears opposite of that reflected at Cahokia.

Wall trench houses documented in the Middle Cumberland region, and elsewhere in the Mississippi Valley (Starr 1999), are almost exclusively open cornered or "semi-open air" suggesting they may have been summer households. This interpretation is supported by ethnographic accounts of summer structures built by regional native tribes (e.g. Cherokee, Creek, Chickasaw and Choctaw) that sometimes had gable ends or portions of walls left open (Hudson 1976:216, Swanton 1946). However it is also possible that the corners of these types of structures were lashed together. This would have provided wall and roof support that is not readily apparent when looking at the architectural plan of a wall trench house.

Floor areas were estimated for all but one of the 10 houses documented at Kellytown. The exception is Structure 12, which extended under Hillsboro Road and could be only partially exposed. The house floor areas ranged from 23.73 to 45.56 square meters with a mean of 32.6 square meters. The Kellytown houses are thought to be single family dwellings with the variation in size reflecting the number of members in the household. It is suggested that the average house was inhabited by four to six people.

Kellytown Subsistence

The Kellytown botanical samples reveal that subsistence was heavily reliant on corn, particularly 10 and 12 row varieties. Beans, squash and sunflower were also grown and seasonal plant foods such as fruits, seeds and nuts were exploited. However, the latter seem to be underrepresented.

The sample of faunal material indicates a primary reliance on large mammals, particularly white-tailed deer, and possibly black bear. Wild turkey and small mammals are next in abundance. This subsistence strategy is consistent with that hypothesized for other Mississippian sites in the region (Breitburg 1998:161). While reptiles and mussels are virtually absent and there were no fish elements recovered, it is likely that these resources were exploited given the proximity of Kellytown to the Little Harpeth River, and the fact that fish and frog effigy bowls were found on the floor of Structure 1.

The botanical and faunal material indicate Kellytown was likely occupied year round. Abundant cultigens from various excavated features indicate crops were grown at or in proximity to the site through the spring and summer months and harvested in the fall. Plant remains from the burned floor of Structure 1 and other feature contexts provide evidence that settlement continued through the fall and winter months. Habitation during this time of year is also suggested by the presence of white-tailed deer in the faunal sample which is generally hunted in fall and winter.

Structure 1

Structure 1 is typical of those generally associated with Late Mississippian occupations of the Southeast (Halley 1989, Polhemus 1987). The walls were constructed of wooden posts made from locally available trees set in individual holes in the pattern of a square with rounded corners. In order to stabilize the walls, the posts were set well into subsoil and the walls were wrapped with split cane mats. Four interior roof support posts were set in a square pattern slightly offset from the walls. Additional interior posts were then added to partition the interior space into functional areas and to provide “furniture” such as benches or tables.

The roof of Structure 1 was made of wood rafters woven with cane and covered with grass thatch and bark. Daub analysis indicates the grass thatch of the roof was woven over and into the top of the wall frame. Plaster consisting of local clay mud and grass was then applied to the exterior of the walls and smoothed with trowels, grass or rags. A plastered smoke-hole was made in the top of the roof over the center of the structure and a hearth pit was excavated in the floor below it. A puddled clay rim or lip was then molded around the hearth pit.

Additional posts adjoining the four roof supports inside Structure 1 effectively divided it into four smaller activity areas and a large room. Based on the artifacts and ecofacts present, or lack there of, three of the smaller areas were for sleeping. All of these probably contained benches or platforms. The presence of a small heating or cooking facility in the forth smaller activity area, along with tools and food remains there, indicate it served some secondary cooking or heating purpose.

The large room comprised roughly one half of the interior space of Structure 1 and contained the central hearth. The size of the room and the presence of the hearth alone indicate it was the most actively used area. Of 13 ceramic containers clearly associated with the floor of the house, 11 were in room "E". These vessels, botanical and faunal remains, indicate food processing, preparation, and serving all occurred around the central hearth.

While it is not possible to determine the gender or age of the occupants of Structure 1, excavation data suggest it was a single-family dwelling. The small size of the structure and number of apparent sleeping quarters suggest three to five individuals occupied the home. A detached ceramic duck-head rim-rider found on the floor of the house and the lack of the body of the vessel from which it was derived suggest this artifact is a keepsake or toy, and that children were part of the household.

Ceramic containers clearly associated with the floor of Structure 1 represent "dishes" used by the house occupants. The set includes a large jar that was suspended over the hearth and was presumably the main cooking utensil, a large serving platter, six additional jars of various sizes, two bowls used as liquid serving containers, as indicated by the presence of pouring spouts or ladles, and three bowls. The size and composition of this "set of dishes" tends to support the estimated size of the household.

While errors are inherent in the use of mathematical formulae to estimate the number of individuals in a household based on structure area, methods have been developed to provide estimations (Castleberry 1974, Cook 1972, Hassen 1981). Using Castleberry's formula (1974), the size of the Structure 1 household is estimated to have been 4.2 individuals.

Structure 1 burned. Charred fresh and unprocessed persimmons on the floor of the house indicate the burn event occurred around the first frost. Usually the first frost in Middle Tennessee is in late October. The seasonality of the burning is further supported by the presence of fall-harvested plant and animal remains found on the structure floor. The substantial amount of food remains, domestic utensils and personal items left in Structure1 indicate the house was occupied at the time, but that it burned so quickly that its contents could not be recovered. Exactly why the house burned is unknown. An ember from the hearth could have set it ablaze accidently. Or the occupants may have intentionally burned it in preparation for moving to a new house elsewhere, leaving the belongings as an offering. Or maybe the house was set ablaze when Kellytown was attacked by hostile raiders? Though the real reason remains unknown, one thing is sure. The burning of Structure 1 was a terminal event. No new house or other structure was ever built upon its rubble.

Closing Remarks

Archaeological deposits at site 40WM10 indicate initial human use of the locality during the late Middle Archaic Period. The recovery of a "classic" Benton knife from the site suggests activity around 3,500 B.C. Other diagnostic projectile points and knives indicate sporadic use of the locality on into the Late Archaic and Woodland Periods. Evidence of these earlier cultures is

sparse and interpreted to be from seasonal encampments occupied for short durations that did not leave substantial archaeological remains.

The primary archaeological component of the site dates to the early 15th century and consists of the remains of a large town fortified by palisades with bastions. Within the village was a plaza area that contained at least one large probable public building. Domestic houses of near equal size with various cooking, storing, processing and waste disposal features were built in an organized fashion in the village. The houses were likely occupied by single families or small extended family groups.

The graves encountered at Kellytown were mostly children interred in stone boxes buried in the floors of their homes. Burial 5, however, suggests children lost at birth were sometimes placed to rest in ceramic containers buried in their homes. As evidenced by Burial 1 older pre-adults were laid to rest very near their homes. The burial of children and adolescents relative to domestic houses expresses a strong reverence for the family and after life. The lack of adult graves suggests they were buried elsewhere.

Based on the sizes and spatial relationship of the houses at Kellytown, the general picture is one of an egalitarian society. However, it is possible that the cluster of houses represents only a group of related families in a particular area of the town. Current data do not shed much light on the social, political or religious organization in and around Kellytown during the early 15th century.

Little evidence of trade was found at Kellytown. Two Dover chert tools (an adze and a uniface blade scraper) and a micaceous sandstone metate from the floor of Structure 1 are the only artifacts recovered that are clearly of non-local origin. During Mississippian times, Dover chert, most likely from quarries in Stewart County, was an important commodity in a wide ranging trade network that dispersed it across much of the Eastern Woodlands. For the most part it appears in the archaeological record as special-function tools such as knives, hoes, celts and chisels, and ceremonial items such as maces and swords. It is thought to have been traded away from the major quarry areas only in the form of finished tools.

Interestingly, no Dover chert debitage is present in the lithic sample and a uniface blade found in Structure 1 is made from what was once a hoe. The reuse or retooling of Dover chert is common at Thruston Phase sites in the Middle Cumberland region. Possibly the reworking of finished Dover chert tools reflects a cessation of access to the material resulting from the breakdown of pan-regional authority postulated for the study area.

The 1999-2002 excavations determined that a large relatively undisturbed area of the central portion of Kellytown, encompassing roughly three acres (1.2 hectares), lies within the Outer Palisade. Clearly many additional architectural features of the village remain in this area along with substantial domestic deposits. The site data also determine the potential for additional human graves in the undeveloped part of the site is high.

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APPENDIX I

Metric attributes of the postmolds and trenches of Structure 1 (Feature 2) postmolds (n=69),

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
AA	19		wall	BN	16		“
AB	13		“	BO	14		“
AC	15		“	BP	14		interior
AD	17		“	BQ	14		“
AE	17		“	BR	17		‘
AF	17		interior	BS	20		“
AG	21		“	BT	19		“
AH	18		“	BU	11		“
AI	21		wall	BV	14		“
AJ	22		“	BW	16		“
AK	20		“	BX	19		‘
AL	22		“	BY	28		“
AM	17		“	BZ	18		“
AN	16		“	CA	27		“
AO	30	52	“	CB	14		wall
AP	22		“	CC	16		“
AQ	18	51	“	CD	17		“
AR	25		interior	CE♦	23		with Feature 7
AS	22		“	CF	20		“
AT	17		wall	CG	21		wall
AU	18		“	CH	16		“
AV	20		“	CI	23		“
AX	17		“	CJ	22		“
AY	16		”	CK	14		“
AZ	18		“	CL	17		‘
BA	9		“	CM	23		“
BB	16		“	CN	17		“
BC	13		“	CO	16		“
BD	14		“	CP	21		“
BE	12		interior	CR	14		interior
BF	17		“	CS	17		“
BG	15		“	CT	22		“
BH	19		wall	CU	20		“
BI	19		“				
BJ	14		“				
BK	18		“				
BL	15		“				
BM	18		“				

♦ **For this and all subsequent tables in Appendix I, un-highlighted boxes denote postmolds not included in structure postmold count. Measurements are in centimeters below subsoil.**

Structure 2 A and B (Feature 10) postmolds (n=77).

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
A	18	24	B-wall	AQ	16		B-wall
B	19	29	"	AR	18		outside
C	17	12	"	AS	15		B-wall
D	16	15	"	AT	15		"
E	16	12	"	AU	14		"
F	18	34	"	AV	9		"
G	19	37	"	AW	18		"
H	17	15	"	AX	14		A-wall
I	16		"	AY	14		"
J	15		"	AZ	12		"
K	22		"	BA	12		"
L	14		A-wall	BB	15		"
M	17		interior	BC	18		interior
N	19		"	BD	26		support
O	16		A-wall	BE	24		"
P	15		"	BF	28		"
Q	14	6	"	BG	30		"
R	14	17	"	BH	20		interior
S	14	26	"	BI	24		"
T	14	17	interior	BJ	23		"
U	14		"	BK	16		wall? east
V	28	33	support	BL	14		interior
W	26		"	BM	16		A-wall
Y	10		?	BN	20		interior
Z	16		?	BO	13		A-wall
AA	18		B-wall	BP	14		interior
AB	12		A-wall	BQ	17		A-wall
AC	17		B-wall	BR	16		B-wall
AD	23		"	BS	17		"
AE	16		"	BT	13		interior
AF	16		"	BU	17		"
AG♦	17		outside	BV	16		"
AH	15		"	BW	12		A-wall
AI	15		"	BX	34	39	support
AJ	20		B-wall	BY	17		interior
AK	16		"	BZ	26		support
AL	15		"	CA	22	22	Feature 15
AM	18		"	CB	14		A-wall
AN	15		"	CC	15		"
AO	15		"	CD	22		B-wall
AP	14		"	CE	19		"

Structure 3 (Feature 13) Trenches (n=5), Measurements in meters.

Trench	Maximum Length	Max Width at subsoil	Max Depth from subsoil	Location
1	4.33	.21	.16	north
2	4.43	.23	.10	east
3	2.21	.18	.12	south
4	1.71	.19	.15	south
5	4.29	.19	.18	west

Structure 3 (Feature 13) postmolds (n=10).

Post	Diam.	Depth	Comments
EO	14		wall
EP	16		"
ET	18		"
EY	24		support
EZ	20		"
FB	13		next to pit (FA)
FC	10		"
FD	20		support
FE♦	13		outside wall
FF	12		"
FG	13		"
2A	13		interior
2B	15		"
FA	30	22	later determined to be a pit

Structure 4 A and B (Feature 11), postmolds (n=60).

Post	Diam.	Depth	Comments
DI	18		A-wall
DK	15		B-wall
DM	14		"
DN	25		A-wall
DQ	25		"
DR♦			tree root
DS	19		B-wall
DT	17		S/SE outside
DV	13		A-wall
DW	15		B-wall
DX	16		A-wall
DY	15		B-wall
DZ	16		A-wall
EA	15		"
EB	16		B-wall
EC	11		"
ED	16		A-wall
EE	11		B-wall
EF	15		B-wall
EG	15		east outside
EH	13		"
EI	16		"
AKJ	19		B-wall
AKK	16		"
AKL	14		"
AKM	12		"
AKN	18		A-wall
AKO	16		B-wall
AKP	15		A-wall
AKQ	17		"
AKR	15		interior
AKS	17		A-wall
AKT	18		"
AKU	11		B-wall
AKV	13		"
AKX	18		interior
AKY	25	32 cm	"
AKZ	25		"
ALA	22	13 cm	support
ALB	25	21 cm	"
AMB	17		B-wall
AMC	27		palis.? carbon

Post	Diam.	Depth	Comments
AMD	16	23	A-wall
AMF	17	12 cm	B-wall
AMG	26		A-wall
AMH	10		"
AMI	17		B-wall
AML	10		A-wall
AMM	20		B-wall
AMN	17		A-wall
AMO	20		B-wall
AMP	18		A-wall
AMQ	16		B-wall
AMU	17		interior
AMW	19		"
AMZ	14		B-wall
ANB	14		"
ANC	18		interior
AND	19		" (carbon)
ANE	27	20 cm	support
ANF	25	27 cm	"
ANL	23		"
ANP	9		interior
ANQ	30	19 cm	support (carbon)
ANS	23		"

Inner Palisade/ bastion (Feature 34) over Structure 4; n=50 postmolds; B-bastion, W-palisade wall.

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
DH	23	9	4/09/99 W	4a	19	16	7/01/02 W
DJ	20	8	" W	4b	15	10	" W
DL	24	51	" W	5	21	7	" W
DO	26		" B	6	22	16	" W
DP	25		" B	7	20	7	" W
DU	23	72	" B	8	21	14	" W
ALC	24	40	6/30 floated B	9	28	40	" W
ALD	20	15	" B	10	19	14	" W
ALE	26	27	" B	11	21	14	" W
ALG	22	18	" B	12	24	19	" W
ALQ	18		" W				
ALR	19		" W				
ALS	19		" W				
ALT	17		" W				
ALU♦	14		" inside line				
ALV	12		" "				
AME	26	22	" W				
AMJ	18		" W				
AMK	19		" W				
AMR	34	43	"(floated) W				
AMS	28	18	" W				
AMT	27	43	" B				
AMV	23	19	" W				
AMX	23	36	" W				
AMY	22	23	" W				
ANA	35	46	" W				
ANG	22	25	" B				
ANH	22	14	"(floated) B				
ANI	28	33	" B				
ANJ	20	19	" B				
ANK	19	16	" B				
ANM	25	38	" B				
ANN	18	33	" B				
ANO	27	39	" B				
ANR	25	21	" B				
ANU	28	50	"(floated) B				
ANV	11		" B				
ANW	23	15	" B				
ANX	25	9	" B				
1	17	18	7/01/02 W				
2	20	18	" W				
3	23	7	" W				

Structure 5 (Feature 16); n=37 postmolds.

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
ABX	20	50	wall	ADM	8		northeast outside
ABY	16		interior	ADN	19		interior
ABZ	15		support				
ACA	22		interior				
ACB	16		support				
ACC	15		wall				
ACD	17		"				
ACE	13		"				
ACF	14		"				
ACG	15		"				
ACH	18		"				
ACI	16		"				
ACJ	20		"				
ACK	22		interior				
ACL	16		wall				
ACM♦	14		south outside				
CAN	17		"				
ACO	14		"				
ACP	16		wall				
ACQ	17		"				
ACR	15		"				
ACS	15		interior				
ACT	25		south outside				
ACU	16		wall				
ACV	9		"				
ACW	15		"				
ACX	13		"				
ACY	13		"				
ACZ	18		support				
ADA	18		interior				
ADB	16		"				
ADC	14		wall				
ADD	12		interior				
ADE	16		wall				
ADF	20		"				
ADG	15		"				
ADH	17		"				
ADI	16		interior				
ADJ	15		wall				
ADK	14		wall				
ADL	15		northeast outside				

Structure 6 (Feature 18) n=21 postmolds.

Post	Diam.	Depth	Comments
AFT	16		wall
AFU	15		“
AFV	14		interior
AFW	23		“
AFX	13		support
AFY	23		“
AFZ	31		interior
AGB	16		support
AGC	23		interior
AGD	23		“
AGE	13		wall
AGF ♦	15		south outside
AGG	27		wall
AGH	20		“
AGI	16		‘
AGJ	13		“
AGK	14		interior
AGL	12		“
AGN	13		“
AGO	19		“
AGP	25		support
AGS	14		wall
AGT	14		south outside
AGU	16		“

Structure 7 (Feature 21); n=39 postmolds.

Post	Diam.	Depth	Comments
AED	17		interior
AEE	16		wall
AEF	13		“
AEG	15		“
AEH	12		“
AEI	16		“
AEJ	16		“
AEK	14		“
AEL	10		“
AEM	17		“
AEN	13		“
AEO	15		“
AEP	15		“
AEQ	15		“
AER	16		“
AES	13	17	“, charcoal sample
AET	16		“
AEU	16		“
AEV	15		“
AEW	14		“
AEX	14		“
AEY	15		“
AEZ	13		“
AFA	21		“
AFB	17		“
AFC	19		“
AFD	18		“
AFE	19		“
AFF	17		“
AFG	15		“
AFH	35		“
AFI	16		“
AFJ	15		“
AFK	9		“
AFL	20		“
AFM	27	18	post/ pit?, c-14 sample
AFN♦	50x28	7	double posts
AFO	22		interior
AFP	15		“
AFQ	28		central support

Structure 8 (Feature 23) trenches (n=4), measurements in meters.

Trench	Maximum Length	Max Width at subsoil	Max Depth from subsoil	Location
1	5.19	20	.18	north
2	3.54	20	.21	east
3	5.21	18	.20	south
4	3.44	21	.20	west

Structure 8 (Feature 23); n=9 postmolds.

Post	Diam.	Depth	Comments
AGM	16		Structure 6?
AGQ	24		"
AGR	17		"
AHK	20		
AHX	12		
AHY	14		outside south wall
AIJ- Fea. 39	38	20	pit
AIK-Fea. 28	37		Burial 5
8a- Fea. 40	37	19	June 27, 2002, pit
8b- " 41	36	18	" "
8c- " 42	39	22	" "
8d- " 43	36		" "
8e	14		"
8f	15		"
8g	15		"
8h	10		"

Structure 9 (Feature 30); n=21 postmolds.

Post	Diam.	Depth	Comments
APA	12		part of 3 post triangular
APB	18		corner support
APC	16		wall
APD	28		“
APE	16		“
APF	18		central support
APG	16		wall
APH	15		“
API	15		“
APJ	19		“
APK	19		corner support
APL	16		wall
APM	14		part of 3 post triangular
APN	22		wall
APO	17		“
APP	22		corner support
APQ	23		wall
APR	17		“
APS	15		part of 3 post triangular
APU	25		corner support
APV♦	25		adjacent to SW
APX	19		wall

Structure 10 (Feature 31); n=81postmolds.

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
APW	17		wall	ARL	16		“
APX	17		“	ARM	18		“
APY	16		“	ARN	17		“
APZ	14		“	ARO	15		‘
AQA	15		interior	ARP	17		“
AQB	13		“	ARQ	19		“
AQC	14		wall	ARR	15		interior
AQD	13		interior	ARS	16		“
AQE	15		wall	ART	19		support
AQF	16		interior	ARU	16		“
AQG	16		“	ARV	11		“
AQH	14		“	ARW	16		“
AQI	10		“	ARX	17		“
AQJ	19		support?	ARY	17		“
AQK	14		“	ARZ	15		“
AQL	15		wall	ASA	18		west outside
AQM	17		“	ASB	18		“
AQN	15		“	ASC	13		wall
AQO	14		interior	ASD	13		“
AQP	14		wall	ASE	18		interior
AQQ	13		interior	ASF	12		“
AQR	14		wall	ASG	11		wall
AQS	14		interior	ASH	17		“
AQT	14		“	ATQ	14		interior
AQU	15		wall	ATR	14		“
AQV	11		“	ATS	15		“
AQW	13		interior	ATT	14		interior
AQX	16		wall	ATU	10		“
AQY	12		interior	ATV	13		interior
AQZ	10		“	ATW	14		wall
ARA	17		wall	ATX	14		interior
ARB	14		interior	ATY	23		support
ARC	11		‘	ATZ	15		wall
ARD	16		“	AUA	18		interior
ARE	16		support	AUB	16		“
ARF	12		wall	AUC	29		“
ARG	12		“	AUD	15		“
ARH	15		wall	AUE	17		“
ARI	11		“	AUF	14		“
ARJ	14		“	AUG	16		“
ARK	17		“				

Structure 11 (Feature 35); n=31 postmolds.

Post	Diam.	Depth	Comments
11-1	19	30	south wall
11-2	18	26	“
11-3	21	21	“
11-4	19	27	“
11-5	19	31	“
11-6	17	32	“
11-7	17	36	“
11-8	18	34	“
11-9	14	25	“
11-10	24	35	“
11-11	25	36	support
11-12	13	19	interior
11-13	26	37	support
11-14	18	29	interior
11-15	18	26	“
11-16	28	32	support
11-17	14	38	north wall
11-18	15	29	‘
11-19	19	36	“
11-20	24	37	“
11-21	20	36	“
11-22	17	32	“
11-23	20	40	“
11-24	14	19	east wall
11-25	14	28	“
11-26	17	26	“
11-27	22	29	“
11-28	18	26	“
11-29	15	25	“
11-30	17	25	“
11-31	16	26	interior

Structure 12 (Feature 36); n=18 postmolds.

Post	Diam.	Depth	Comments
12-1	20	not recorded	south wall
12-2	19	"	"
12-3	19	"	"
12-4	17	"	"
12-5	19	"	"
12-6	15	"	in corner
12-7	19	"	east wall
12-8a	16	"	"
12-8b	20	"	"
12-9	26	"	"
12-10	20	"	"
12-11	21	"	"
12-12	20	"	"
12-13a	18	"	"
12-13b	19	"	"
12-14	20	"	"
12-15	15	"	interior
12-16	19	"	east wall
Misc1♦	21	"	south of Structure 12
Misc2	20	"	"
Misc3	22	"	"
Misc4	10	"	"
Misc5	20	"	"
Misc6	20	"	"
Misc7	22	"	"

Outer palisade and bastions (Feature 20); 1999 excavations; n=50 postmolds.

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
AAA	15		wall	ABQ	14		wall
AAB	14		“	ABR	14		“
AAC	18		“	ABS	20		bastion
AAD	14		“	ABT	30		“
AAE	18		“	ABU	25		“
AAF	17		“	ABV	30		“
AAG	12		“	ABW	25		“
AAH	11		“	20-1	13		wall
AAI	13		“				
AAJ	13		“				
AAK	14		“				
AAL	12		“				
AAM	15		“				
AAN	17		“				
AAO	11		“				
AAP	15		“				
AAQ	13		“				
AAR	11		“				
AAS	20		“				
AAT	15		‘				
AAU	17		“				
AAV	23		“				
AAW	14		“				
AAX	14		“				
AAY	18		“				
AAZ	19		“				
ABA	17		“				
ABB	16		“				
ABC	14		“				
ABD	13		“				
ABE	11		“				
ABF	10		“				
ABG	13		“				
ABH	10		“				
ABI	13		“				
ABJ	12		“				
ABK	9		“				
ABL	11		“				
ABM	15		“				
ABN	13		“				
ABO	16		“				
ABP	17		“				

Outer palisade and bastions (Feature 20); 2002 excavation; n=226 postmolds (Barker 2002).

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
1	17	7		43	13	3	
2	12	8		44	15	4	
3	18	14		45	16	7	
4	15	4		46	12	18	
5	15	4		47	15	11	
6	15	2		48	15	21	
7	14	2		49	16	6	
8	15	10		50	16	20	
9	19	2		51	33	22	
10	18	12		52	16	22	
11	15	20		53	16	11	
12	19	7		54	19	2	
13	21	12	fill removed	55	17	4	
14	17	8		56	17	2	
15	21	2		57	17	2	
16	16	10		58	15	2	
17	19	8		59	17	17	
18	19	10	fill removed	60	15	8	
19	21	40		61	20	7	fill removed
20	19	40		62	26	6	“
21	18	10		63	22	3	
22	11	2		64	17	2	
23	10	2		65	16	2	
24	10	2		66	17	2	
25	17	6		67	16	2	
26	14	6		68	21	9	
27	16	2		69	18	10	
28	18	2		70	20	10	
29	19	2		71	17	2	
30	19	12		72	16	6	
31	18	2		73	15	5	
32	17	8		74	19	2	
33	20	10		75	15	2	
34	18	2		76	17	4	
35	20	2		77	16	6	
36	16	2		78	17	5	
37	16	6		79	18	2	
38	14	2		80	16	4	
39	19	2		81	19	2	
40	19	3		82	16	7	
41	14	8		83	19	50	
42	13	3		84	18	18	

Outer palisade and bastions (Feature 20); 2002 excavation; n=226 postmolds (Barker 2002). (continued)

Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
85	16	28		127	14	6	
86	22	40		128	15	27	
87	18	40		129	21	10	
88	18	6		130	17	6	
89	17	44		131	20	6	
90	17	14	fill removed	132	15	8	
91	13	23		133	18	40	
92	13	14		134	18	8	
93	17	2		135	13	16	
94	18	6		136	15	14	
95	18	29		137	16	12	
96	18	23		138	20	15	
97	10	6		139	17	6	
98	10	6		140	17	12	
99	19	37		141	18	6	
100	21	23		142	17	10	
101	15	25		143	17	6	
102	16	25		144	13	4	
103	9	17		145	19	12	
104	9	23		146	20	6	
105	12	10		147	19	14	
106	16	32		148	18	14	
107	10	17		149	16	12	
108	19	29		150	16	6	
109	18	30		151	27	13	
110	11	30		152	28	10	
111	14	31		153	18	10	
112	8	2		154	20	15	
113	16	29		155	18	16	
114	15	26		156	18	17	
115	15	6		157	17	18	
116	24	21	fill removed	158	19	6	
117	19	6		159	23	12	
118	15	14		160	18	6	
119	16	28		161	22	15	
120	17	6		162	20	22	
121	16	17		163	19	17	
122	15	2		164	18	21	
123	11	2		165	20	8	
124	16	2		166	20	18	
125	14	18		167	13	15	
126	12	20		168	26	20	

Outer palisade and bastions (Feature 20); 2002 excavation; n=226 postmolds (Barker 2002). (continued)

Post	Diam.	Depth	Comments
169	20	14	
170	20	25	
171	21	16	
172	16	6	
173	16	6	
174	15	6	
175	18	4	
176	18	15	
177	20	6	
178	21	8	
179	18	6	
180	16	6	
181	18	6	
182	20	6	
183	26	16	
184	28	12	
185	21	12	
186	12	4	
187	24	12	
188	19	15	
189	23	18	
190	27	12	
191	22	6	
192	16	8	
193	21	17	fill removed
194	15	12	
195	15	8	
196	23	15	
197	16	6	
198	21	12	
199	16	8	
200	20	10	
201	16	16	
202	23	29	
203	16	3	
204	13	4	
205	23	8	
206	15	2	
207	15	4	
208	18	19	
209	20	20	
210	21	30	

Post	Diam.	Depth	Comments
211	21	22	
212	23	15	
213	18	20	
214	18	21	
215	16	32	fill removed
216	17	26	
217	20	28	
218	22	28	
219	25	26	fill removed
220	30	29	
221	23	19	
222	24	15	
223	25	22	fill removed
224	26	24	
225	19	28	
226	18	30	

Miscellaneous postmolds; n=101.

Between Features 20 and 21 (n=28 postmolds)							
Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
AJB	12			AJQ	14		
AJC	17			AJR	26		
AJD	16			AJS	24		
AJE	17			AJT	14		
AJF	11			AJU	14		
AJG	9			AJZ	15		
AJH	12			AKA	20		
AJI	9			AKB	15		
AJJ	18			AKC	14		
AJK	18			AKD	15		
AJL	17			AKE	10		
AJM	14			AKF	12		
AJN	20			AKG	9		
AJO	12			AFR	12		with Feature 26
AJP	12			AFS	14		“
Dipper shaped cluster north of Feature 11 and west of Feature 2 (n=10)							
Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
AOA	15			AOF	18		
AOB	16			AOG	17		
AOC	17			AOH	17		
AOD	21			AKH	27		
AOE	19			AKI	17		
Miscellaneous: between Features 10, 35 and 36 (n=21)							
Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
AOK	17			ATF	9		
AOL	14			ATG	10		
AOM	22			ATH	21		
AON	21			ATI	18		
AOO	16			ATJ	23		
AOP	18			ATK	22		
ASZ	21			ATL	18		
ATA	16		near Fea. 17	ATM	12		
ATB	15			ATN	13		
ATC	16			ATO	14		
ATD	15						

Miscellaneous postmolds; n=101 (continued).

South of Feature 23 (n=33)							
Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
AGV	18			AHO	17		
AGW	15			AHP	11		
AGX	14			AHQ	17		
AGY	32			AHR	16		
AGZ	12			AHS	23		
AHA	14			AHT	21		
AHB	15			AHU	24		
AHC	20			AHV	15		
AHD	20			AHW	20		
AHE	19			AIA	24		
AHF	15			AIB	20		
AHG	12			AIC	16		
AHH	17			AID	18		
AHI	30		east of Fea. 25	AIE	25		
AHL	25			AIF	18		
AHM	21			AIG	28		
AHN	21						
North of Feature 16 and west of Feature 13 (n=8)							
Post	Diam.	Depth	Comments	**Post**	Diam.	Depth	Comments
ASM	18			ASR	16		
ASO	17			ASS	24		
ASP	16			AST	19		
ASQ	15			ASU	15		
South of Feature 16 (n=1)							
Post	Diam.	Depth	Comments				
ADP	25						

Appendix II

Burned clay from Kellytown excavations by weight in grams.

Provenience	**Weight in grams**
Structure 1 floor level	202.7
Structure 6 hearth fill	95.3
Structure 10 hearth	219.0
Feature 26	18.2
Feature 27	327.4
Feature 40	29.2
TOTAL	891.8

APPENDIX III

40WM10 field designated floral samples from Feature 2-Structure 1.
(TDOA Accession # 99-16; sheet 1 of 2).

OFS#*	Specimen	Postmold	Comments
1-27-1	persimmon		Plotted during west floor clean-up
1-27-2	wood		Adjacent to vessel 3
1-27-3	"		Feature 6-burned concentration in structure 1
1-27-4	cane		10 cm west of potters trowel
1-27-5	seeds		Feature 6-burned concentration in structure 1
1-27-6	cane		Plotted during west floor clean-up
1-28-7	corn		Plotted during west floor clean-up
1-28-8	"		Plotted during west floor clean-up
1-28-9	"		Plotted during west floor clean-up
1-28-10	wood		Plotted during west floor clean-up
1-28-11	corn		Adjacent to vessel 3
1-28-12	wood		Adjacent to potters trowel
1-28-13	corn		Feature 6-burned concentration in structure 1
1-28-14	cane		Feature 6-burned concentration in structure 1
2-2-15	corn		Feature 6-burned concentration in structure 1
2-2-16	"		Between vessel 6 and vessel 7
2-4-17	wood		Triangulated from vessel 3 and vessel 4
2-4-18	"		Northwest corner of structure
2-4-19	"		Feature 6-burned concentration in structure 1
2-4-20	corn/cob		Feature 6-burned concentration in structure 1
2-4-21	" "		Feature 6-burned concentration in structure 1
2-4-22	wood		Southwest misc.
2-4-23	cane		Southwest misc.
2-4-24	corn		Feature 6-burned concentration in structure 1
2-4-25	cane		Triangulated from vessel 3 and vessel 4
2-4-26	corn		West side of structure misc.
2-4-27	"		Between hearth and vessel 2
2-5-28	cane		30 cm northeast of plotted duckhead
2-5-29	wood		West side of structure misc.
3-1-31-	cane		Unit 7 south 2m^2 level 1
3-2-32	cane		Unit 7 north middle 2m^2 level 1
3-4-33	wood		Unit 7 north middle 2m^2 level 1, triangulated
3-4-34	"		Unit 7 north middle 2m^2 level 1
3-4-35	"		Unit 7 south middle 2m^2 level 2
3-5-36	"		Unit 7 south middle 2m^2 level 2
3-8-38	"		Unit 7 south 2m^2 level 2
3-8-39	cane		Unit 7 south 2m^2 level 2
3-8-40	wood		Unit 7 south 2m^2 level 2
3-8-41	persimmon /wood		Unit 7 level 2, between vessel 9 and vessel 10
3-8-42	wood		Unit 7 south 2m^2 level 2
3-8-43	"		Unit 7 south 2m^2 level 2
3-8-44	"		Unit 7 south 2m^2 level 2
3-8-45	"		Unit 7 south 2m^2 level 2, vessel 11
3-10-46	"		Unit 7 north middle 2m^2 level 2
3-10-47	"		Unit 7 north middle 2m^2 level 2
3-10-48	"		Unit 7 south middle 2m^2 level 2
3-10-49	wood/cane		Unit 7 south 2m^2 level 2

Appendix III: (continued).

OFS#*	Specimen	Post	Comments
3-11-50	wood		Unit 7 south $2m^2$ level 2
3-11-51	"		Unit 7 south middle $2m^2$ level 2
3-11-52	"		Unit 7 south $2m^2$ level 2
3-11-53	cane		Unit 7 south $2m^2$ level 2
3-11-54	wood		Unit 7 south $2m^2$ level 2
3-12-55	cane		Unit 7 south $2m^2$ level 2
3-12-56	wood		Unit 7 south middle $2m^2$ level 2
3-12-59	"	BX	Post fill
3-30-60	"		West side of structure level 2
3-30-61	"		West side of structure level 2
4-1-62	"		Balk level 1 adjacent to south $2m^2$
4-7-63	corn		Balk level 2 adjacent to south $2m^2$
4-21-64	corn/cob		Plotted in balk
4-21-65	cane		Adjacent to vessel 13
4-21-66	corn		Plotted in balk
4-21-67	wood		From hearth (shown in profile)
4-21-68	corn		Plotted in balk profile
4-30-69	bean		Balk level 2 adjacent to north middle $2m^2$ south 1/2
4-30-70	corn		Balk level 2 adjacent to north middle $2m^2$ south ½
4-30-71	cob		Balk level 2 adjacent to north middle $2m^2$ south ½
4-30-72	persimmon		Balk level 2 adjacent to north middle $2m^2$ south ½
3-26-79	miscellaneous		Feature 6-burned concentration in Structure 1

*Organic field specimen

APPENDIX IV

40WM10 Field designated floral samples from features other than Structure 1.
(TDOA Accession # 99-16)

OFS#*	Specimen	Feature #	Structure #	Post	Comments
3-12-57	wood	10	2	E	Postmold fill
3-12-58	"	10	2	H	"
5-19-73	"	13	3	FA	"
6-11-74	"	21	7	AES	"
6-11-75	"	21	7	AFM	"
1-27-76	misc.	5			"
2-21-77	misc.	4			"
3-23-78	wood/misc	13	3	central	central support post from wall trench house
4-20-80	wood	10	2	V	exterior wall postmold fill
6-11-81	wood/misc	27			pit fill
6-11-82	wood	26			pit fill
7-7-83	wood/nut	29			pit fill (designated Post ADO at excavation)
7-7-84	wood			AMC	post fill
7-20-85	"	24			pit fill
1-21-86	"				$1m^2$ unit 3 level 2
Additional samples submitted for analysis in January 2002					
		Feature #	**Structure #**	**Post**	**Comments**
		11	4	ANQ	
		20	outer palisade	13	
		"	"	61	
		"	"	62	7.2 grams c-14 sample removed
		"	"	90	
		"	"	116	
		"	"	219	
		"	"	223	6.75 grams c-14 sample removed
		23	8	AIJ	
		30	9	APD	
		"	"	APF	
		"	"	API	5.2 grams c-14 sample removed
		"	"	APN	
		"	"	APX	
		34	inner palisade	ALC	
		"	"	AMR	
		"	"	ANH	
		"	"	ANO	
		"	"	ANU	

* Organic field specimen

APPENDIX V

40WM10 Field designated faunal samples (n=23 bags)
(TDOA Accession # 99-18)

Feature 2 Structure 1				
Sample #	*Provenience*	*Excavated*	*Excavator*	*Comments*
1	west ½ by V3 and V4	2/4/1999	Broster	mandible
2	west ½ clean-up	2/4/1999	Broster, Hoyal, Dowd	2 bone, 1 modified
3	Unit 7 south $2m^2$ level 1	3/2/1999	Barker	1 item
4	Unit 7 south $2m^2$ level 2	3/8/1999	"	misc.
5	Unit 7 south $2m^2$ level 2	3/8/1999	Barker, Hoyal	2 antler tines plotted on floor
6	Unit 7 south middle $2m^2$ level 2	3/10/1999	Hoyal	mandible
7	Unit 7 north middle $2m^2$ level 2	3/10/1999	Broster	misc.
8	northwest quadrant	3/26/1999	Barker, Hoyal	1 mammal foot bone
9	Unit 7 S. mid. $2m^2$ level 1 Balk	4/20/1999	Barker	misc.
10	Unit 7 S. mid. $2m^2$ level 2 Balk	4/21/1999	"	burned and modified samples
11	Unit 7 N. mid. $2m^2$ level 2 Balk	4/30/1999	"	misc.
Structures other than Structure 1, other features and arbitrary units (n=12 bags)				
Sample #	*Provenience*	*Excavated*	*Excavator*	*Comments*
12	pit Feature 4	2/2/1999	Moore	misc.
13	pit Feature 8	2/4/1999	Heinrich	misc.
14	Feature 12 (artifact concentration)	2/26/1999	Barker	ceramic concentration
15	pit Feature 15	4/20/1999	Roller	within Structure 2
16	Structure 6, Feature 18	5/26/1999	Barker	misc. bone and shell
17	Structure 5, Feature 16	6/11/999	Stripling	vicinity Burial 4
18	Structure 10, Feature 31	7/14/1999	Barker	miscellaneous
19	Structure 9, Feature 30	4/2/1999	Barker, Hoyal	Post APX
20	inner palisade, Feature 34	4/2/1999	Barker, Hoyal	Post AMR
21	Unit 8 level 1	10/8/1999	Barker	arbitrary midden
22	Unit 8 level 2	10/8/1999	"	"
23	Unit 5 level 1	2/4/1999	"	"

APPENDIX VI

40WM10 log of cultural features.

January 25-1999 ⇒ July 11-2002		
Feature #	**Discovery Date**	**Description**
1	1/25/1999	Burial 1- outside NW corner of Structure 3
2	1/26/1999	Structure 1- post house, square, intact floor and hearth.
3	1/27/1999	Ceramic cluster- southeast of Structure 4
4	1/27/1999	Pit- circular and over lapping, west/outside of Structure 2
5	1/27/1999	Pit- circular and over lapping, west/outside of Structure 2
6	1/28/1999	Pit-limestone and organic concentration inside Structure 1
7	1/28/1999	Pit- oval/ amorphous**,** outside SW corner of Structure no. 1
8	2/9/1999	Pit- oblong, west of Structure 2
9	2/9/1999	Burial 2- just within west wall of Structure 2
10	3/2/1999	Structure 2- post house, square, NE of Structure 1
11	3/2/1999	Structure 4- post house, square, SW of Structure 1
12	3/7/1999	Ceramic and burned limestone cluster- SW of Structure 3
13	3/7/1999	Structure 3- wall trench house, square
14	4/20/1999	Burial 3- just within southeast corner of Structure 2
15	4/21/1999	Pit within Structure 2, early C-14 date
16	5/12/1999	Structure 5- post house, square, southwest of Structure 3
17	5/26/1999	Pit- circular, limestone lined, located west of Structure 2
18	5/26/1999	Structure 6- post house, square, with hearth in Kelly yard
19	6/8/1999	Burial 4- within west wall of Structure 5, existing ROW
20	6/8/1999	Outer palisade/ bastion- east-west on high ground in north field
21	6/9/1999	Structure 7- post building, square, north field, exist ROW
22	6/9/1999	Pit-oval, just inside outer palisade line
23	6/9/1999	Structure 8- wall trench house, rectangular, in Kelly front yard
24	6/9/1999	Pit- oval, just inside outer palisade and adjacent to Feature 22
25	6/10/1999	Pit- circular (AHJ) just southwest of Structure 6
26	6/11/1999	Pit, burned**,** east-northeast of Structure 7
27	6/11/1999	Hearth- rectangular ,clay-lined, burned, in north field
28	6/11/1999	Pit Burial 5- prenatal in a vessel under ditch in existing ROW
29	7/7/1999	Pit-circular, west of Structure 5
30	7/13/1999	Structure 9- post outbuilding, circular, north of Structure 10
31	7/13/1999	Structure 10- post house, square, in Kelly front yard
32	7/13/1999	Burial 6- inside west wall of Structure 10
33	7/21/1999	Possible pit-west of Structure 2- *Determined to be a tree root*
34	7/24/1999	Inner palisade/ bastion- overlapping Structure 4
35	7/10/2002	Structure 11- post house, square, north of Structure 8
36	7/10/2002	Structure 12- post house, square, north of Structure 11
37	7/10/2002	Pit- oval, within Structure 12- not excavated
38	7/11/2002	Burial 7- north of Structure 12
39	6/27/2002	Pit- circular, one of 5 overlapping Structure 8

APPENDIX VII:

Pit features by artifact content.

Feature #	Mississippian Ceramics	Lithics	Organics	Bone	Other
4	X	X	X	X	
5	X	X	X		
6	X	X	X		
8	X	X		X	X
15			X	X	X
17	X				
22	X	X			X
24	X	X			X
25	X	X			
26			X		
29	X		X		X
39	X	X			
40	X	X	X		
41	X	X	X		X
42	X	X	X		

APPENDIX VIII:

Limestone collected from 40WM10 by provenience and weight.

Provenience	Weight in grams
Feature 6 (within Feature 2- Structure 1)	3,673.6
Area "D" (within Feature 2- Structure 1)	537.6
Feature 8- pit	69.0
Feature 12- artifact cluster	27.2
Feature 15- pit	189.0
Feature 17- pit	6,272.0
Feature 23- Structure 8	1,881.6
FeatFeature 29- pit	39.6
TOTAL	12,689.6

APPENDIX IX

Organic field specimen numbers (OFS #) that are combined under each heading in Table 33 (sheet 1 of 3).

OFS#	Table heading	Comments
	Corn Cluster	Corn plotted in balk profile
4-21-68		
4-21-64		
4-21-66		
4-30-69 (?)		Balk lev 2 N middle south1/2?
	wood from hearth	
4-21-67		
	Between Vessels 6&7	
2-2-16		
	Feature 6	Feature 6 Burned concentration
2-4-24		
3-26-79		
1-28-13		
2-2-15		
2-4-20		
1-27-5		
2-4-21		
1-28-14		
1-27-3		
2-4-19		
	West side floor	Plotted, West side floor cleanup
1-28-8		
1-28-7		
2-4-26 (?)		West side structure misc. ??
1-28-9		
1-28-10		
1-27-6		
1-27-1		
	Between Hearth and Vessel 2	
2-4-27		
	Balk level 2	Balk level 2 adj. North Middle-south 1/2
4-30-70		
4-30-72		
4-30-71		
4-7-63 (?)		Balk level 2 adjac. to South Middle 2m2
	Unit 7 South 2m Level 2	Unit 7 South 2m Level 2
3-12-55		
3-8-39		
3-8-43		
3-11-53		

OFS#	Table heading	Comments
	Unit 7 South 2m Level 2 *continued*	Unit 7 South 2m Level 2
3-8-38		
3-8-40		
3-10-49		
3-11-54		
3-8-44		
3-11-50		
3-8-42		
	Unit 7 South Middle Level 2	
3-11-51		
3-12-56		
3-4-35		
3-5-36		
3-11-52 (?)		Unit 7 South Level 2, 2m
3-10-48		
	Unit 7 North Middle Level 1	
3-4-33		Unit 7 North Middle triangulated
3-2-32		
3-4-34 (?)		Missing sample ?
	Unit 7 North Middle Level 2	
3-10-46		
3-10-47		
	Vessel 3	Structure 1 adjacent to Vessel 3
1-28-11		
1-27-2		
	Adjacent to trowel	
1-28-12		Adjacent to potters trowel
1-27-4		10cm west of potters trowel
	Unit 7 South 2m level 1	
3-1-31		
	West side level 2	West side of structure level 2
3-30-61		
2-5-29		
3-30-60		
	Southwest misc.	Southwest miscellaneous
2-4-23		
2-4-22		
	Triangulated from Vessels 3&4	Triangulated from Vessels 3&4
2-4-17		Ash wood
2-4-25		Cane wood

OFS#	Table heading	Comments
	Balk level 1 adjacen. to Unit 7 S. 2m	
4-1-62		
	Unit 7 Level 2 Vessels 9&10	Unit 7 Level 2 between Vessels 9&10
3-8-41		
	Unit 7 South Level 2 Vessel 11	Unit 7 South 2m Level 2 Vessel 11
3-8-45		
	NE of duck head	30cm NE of plotted duck head
2-5-28		
	NW corner	Northwest corner of structure
2-4-18		

APPENDIX X:Carbonized plant material from Structure 2 (Feature 10).

PROVENIENCE	Post H		Post BX		Post E		Post V		Structure 2 TOTAL WEIGHT	Structure 2 TOTAL NUMBER
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		9.60		128.4		2.7		4.8	145.5	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)		3.8		20		1.4			25.2	
NUTSHELL (TOTAL WEIGHT)				0.3		<0.1			0.3	
Species by Number of Fragments										
Carya sp., Hickory					1 frag.	<0.1			<0.1	1 fragment
Juglans nigra, Black Walnut			1 frag.	0.3					0.3	1 fragment
WOOD COMPOSITION- TOTAL WEIGHT		5.8		107.8		1.3		4.8	119.7	
Species by number of fragments										
Arundinaria sp., Cane			1				5			6
Acer sp., Maple										
Carya sp., Hickory			20							20
Celtis sp., Hackberry										
Cornus florida, Dogwood							3			3
Diospyros virginiana, Persimmon										
Fraxinus sp., Ash										
Gleditsia triacanthos, Honey Locust										
Juniperus virginiana, Eastern Red Cedar										
Juglans sp., Walnut/ Butternut										
Liriodendron tulipifera, Yellow Poplar										
Populus deltoides, Cottonwood							1			1
Prunus serotina, Black Cherry										
Robinia pseudoacacia, Black Locust	30		9		29		21			89
Quercus sp., Oak					1					1
Bark										
Unidentifiable										
TOTAL NUMBER OF FRAGMENTS	30		30		30		30			120
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)		<0.1		0.3				<0.1	0.3	
Chenopodium sp., Goosefoot, Chenopod seed									0.0	
Cucurbita sp., Pumpkin seed									0.0	
Diospyros virginiana, Persimmon fruit & seed									0.0	
Fabaceae, Wild Bean seed									0.0	
Galium sp., Bedstraw seed									0.0	
Gleditsia triacanthos, Honey Locust seed									0.0	
Helianthus annuus, Sunflower fruit & seed									0.0	
Iva annua, Sumpweed fruit & seed									0.0	
Passiflora incarnate, Maypop seed									0.0	
Phaseolus sp., Cultivated Bean seed									0.0	
Polygonum sp., Smartweed seed									0.0	
Zea mays, Maize/Corn, TOTAL WEIGHT		<0.1		0.3				<0.1	0.3	
Kernels			1 frag.							1 fragment
Cupules	1 whole						2 frags.			1 whole, 2 frags.
cob fragments										
cob segments										

Appendix XI: Carbonized plant material from Structure 9 (Feature 30).

PROVENIENCE	Post APN		Post APX		Post APD		Post APF		Post API		Structure 9 TOTAL WEIGHT	Structure 9 TOTAL NUMBER
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		14.6		0.7		1.1		1.2		7.7	25.3	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)		5								2.6	7.6	
NUTSHELL (TOTAL WEIGHT)											0.0	
Species by Number of Fragments												
Carya sp., Hickory											0.0	
Juglans nigra, Black Walnut											0.0	
WOOD COMPOSITION- TOTAL WEIGHT		4.6		0.7		1.1		0.8		5.1	12.3	
Species by number of fragments												
Arundinaria sp., Cane	13				5		1					19
Acer sp., Maple												
Carya sp., Hickory	2		3									5
Celtis sp., Hackberry												
Cornus florida, Dogwood												
Diospyros virginiana, Persimmon												
Fraxinus sp., Ash							1					1
Gleditsia triacanthos, Honey Locust							15		30			45
Juniperus virginiana, Eastern Red Cedar												
Juglans sp., Walnut/ Butternut												
Liriodendron tulipifera, Yellow Poplar												
Populus deltoides, Cottonwood							1					1
Prunus serotina, Black Cherry	1											1
Robinia pseudoacacia, Black Locust	13		1		7		1					22
Quercus sp., Oak	1		3		2		1					7
Bark												
Unidentifiable												
TOTAL NUMBER OF FRAGMENTS	30		7		14		20		30			101
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)		5.0						0.4			5.4	
Chenopodium sp., Goosefoot, Chenopod seed	8whole	<0.1									<0.1	8 whole
Cucurbita sp., Pumpkin seed											0.0	
Diospyros virginiana, Persimmon fruit & seed	1 frag.	<0.1									<0.1	1 fragment
Fabaceae, Wild Bean seed											0.0	
Galium sp., Bedstraw seed											0.0	
Gleditsia triacanthos, Honey Locust seed											0.0	
Helianthus annuus, Sunflower fruit & seed											0.0	
Iva annua, Sumpweed fruit & seed											0.0	
Passiflora incarnate, Maypop seed											0.0	
Phaseolus sp., Cultivated Bean seed											0.0	
Polygonum sp., Smartweed seed											0.0	
Zea mays, Maize/Corn, TOTAL WEIGHT		5.0						0.4			5.4	
Kernels	1w 1f						11 f					1 whole, 12 frags.
Cupules	3 frags											3 fragments
cob fragments	1 frag.											1 fragment
cob segments												

Appendix XII: Carbonized plant material from miscellaneous structures.

PROVENIENCE	Structure 7 Post AES		Structure 7 Post AFM		Structure 3 Post FA		Fea. 39 (AIJ) over -lapping Struc. 8		Structure 4 Post ANQ		Misc. Structures TOTAL WEIGHT	Misc. Structures TOTAL NUMBER
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		6.8		0.6		3.6		3.6		1.0	15.6	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)						1.1					1.1	
NUTSHELL (TOTAL WEIGHT)											0.0	
Species by Number of Fragments												
Carya sp., Hickory											0.0	
Juglans nigra, Black Walnut											0.0	
WOOD COMPOSITION- TOTAL WEIGHT		6.8		0.6		2.0		3.6		1.0	14.0	
Species by number of fragments												
Arundinaria sp., Cane			7		10		5					22
Acer sp., Maple												
Carya sp., Hickory					10		25					35
Celtis sp., Hackberry												
Cornus florida, Dogwood												
Diospyros virginiana, Persimmon			1									1
Fraxinus sp., Ash					1							1
Gleditsia triacanthos, Honey Locust												
Juniperus virginiana, Eastern Red Cedar					1							1
Juglans sp., Walnut/ Butternut					2							2
Liriodendron tulipifera, Yellow Poplar												
Populus deltoides, Cottonwood												
Prunus serotina, Black Cherry												
Robinia pseudoacacia, Black Locust	30		2		10				30			72
Quercus sp., Oak			3		5							8
Bark												
Unidentifiable												
TOTAL NUMBER OF FRAGMENTS	30		13		39		30		30			142
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)				<0.1		0.5				<0.1	0.5	
Chenopodium sp., Goosefoot, Chenopod seed											0.0	
Cucurbita sp., Pumpkin seed											0.0	
Diospyros virginiana, Persimmon fruit & seed											0.0	
Fabaceae, Wild Bean seed											0.0	
Galium sp., Bedstraw seed											0.0	
Gleditsia triacanthos, Honey Locust seed											0.0	
Helianthus annuus, Sunflower fruit & seed											0.0	
Iva annua, Sumpweed fruit & seed											0.0	
Passiflora incarnate, Maypop seed											0.0	
Phaseolus sp., Cultivated Bean seed											0.0	
Polygonum sp., Smartweed seed											0.0	
Zea mays, Maize/Corn, TOTAL WEIGHT				<0.1		0.5				<0.1	0.5	
Kernels					31 frags.				1 frag.			32 fragments
Cupules			1 frag.		1 frag.							2 fragments
cob fragments												
cob segments												

Appendix XIII: Carbonized plant material from the inner palisade (Feature 34).

PROVENIENCE	Post ANU		Post AND		Post ALC		Post ANH		Post AMR		Feature 34 TOTAL WEIGHT	Feature 34 TOTAL NUMBER
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		0.4		0.3		3.8		1.0		0.5	6.0	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)											0.0	
NUTSHELL (TOTAL WEIGHT)											0.0	
Species by Number of Fragments												
Carya sp., Hickory											0.0	
Juglans nigra, Black Walnut											0.0	
WOOD COMPOSITION- TOTAL WEIGHT		0.4		0.3		3.8		1.0		0.5	6.0	
Species by number of fragments												
Arundinaria sp., Cane												
Acer sp., Maple												
Carya sp., Hickory					30		30		1			61
Celtis sp., Hackberry												
Cornus florida, Dogwood												
Diospyros virginiana, Persimmon												
Fraxinus sp., Ash												
Gleditsia triacanthos, Honey Locust												
Juniperus virginiana, Eastern Red Cedar												
Juglans sp., Walnut/ Butternut	2		8									10
Liriodendron tulipifera, Yellow Poplar												
Populus deltoides, Cottonwood												
Prunus serotina, Black Cherry												
Robinia pseudoacacia, Black Locust												
Quercus sp., Oak	4								25			29
Bark												
Unidentifiable												
TOTAL NUMBER OF FRAGMENTS	6		8		30		30		26			100
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)											0.0	
Chenopodium sp., Goosefoot, Chenopod seed											0.0	
Cucurbita sp., Pumpkin seed											0.0	
Diospyros virginiana, Persimmon fruit & seed											0.0	
Fabaceae, Wild Bean seed											0.0	
Galium sp., Bedstraw seed											0.0	
Gleditsia triacanthos, Honey Locust seed											0.0	
Helianthus annuus, Sunflower fruit & seed											0.0	
Iva annua, Sumpweed fruit & seed											0.0	
Passiflora incarnate, Maypop seed											0.0	
Phaseolus sp., Cultivated Bean seed											0.0	
Polygonum sp., Smartweed seed											0.0	
Zea mays, Maize/Corn, TOTAL WEIGHT											0.0	
Kernels											0.0	
Cupules											0.0	
cob fragments											0.0	
cob segments											0.0	

Appendix XIV: Carbonized plant material from the outer palisade (Feature 20).

PROVENIENCE	Post 13		Post 219		Post 62		Post 61		Post 116	
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight
TOTAL SAMPLE WEIGHT IN GRAMS		5.9		2.2		1.0		4.8		5.3
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)										
NUTSHELL (TOTAL WEIGHT)										
Species by Number of Fragments										
Carya sp., Hickory										
Juglans nigra, Black Walnut										
WOOD COMPOSITION- TOTAL WEIGHT		5.9		2.2		1.0		4.8		5.3
Species by number of fragments										
Arundinaria sp., Cane			1							
Acer sp., Maple										
Carya sp., Hickory			2							
Celtis sp., Hackberry										
Cornus florida, Dogwood										
Diospyros virginiana, Persimmon										
Fraxinus sp., Ash			1							
Gleditsia triacanthos, Honey Locust			2							
Juniperus virginiana, Eastern Red Cedar										
Juglans sp., Walnut/ Butternut										
Liriodendron tulipifera, Yellow Poplar			4							
Populus deltoides, Cottonwood										
Prunus serotina, Black Cherry										
Robinia pseudoacacia, Black Locust			5							
Quercus sp., Oak	30		15		30		30		30	
Bark										
Unidentifiable										
TOTAL NUMBER OF FRAGMENTS	30		30		30		30		30	
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)										
Chenopodium sp., Goosefoot, Chenopod seed										
Cucurbita sp., Pumpkin seed										
Diospyros virginiana, Persimmon fruit & seed										
Fabaceae, Wild Bean seed										
Galium sp., Bedstraw seed										
Gleditsia triacanthos, Honey Locust seed										
Helianthus annuus, Sunflower fruit & seed										
Iva annua, Sumpweed fruit & seed										
Passiflora incarnate, Maypop seed										
Phaseolus sp., Cultivated Bean seed										
Polygonum sp., Smartweed seed										
Zea mays, Maize/Corn, TOTAL WEIGHT										
Kernels										
Cupules										
Cob fragments										
Cob segments										

Appendix XIV: (continued).

PROVENIENCE	Post 223		Post 90		Feature 20 TOTAL WEIGHT	Feature 20 TOTAL NUMBER
	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		34.6		3.2	57.0	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)		10.0			10.0	
NUTSHELL (TOTAL WEIGHT)					0.0	
Species by Number of Fragments						
Carya sp., Hickory					0.0	
Juglans nigra, Black Walnut					0.0	
WOOD COMPOSITION- TOTAL WEIGHT		3.3		<0.1	22.5	
Species by number of fragments						
Arundinaria sp., Cane			2			3
Acer sp., Maple						
Carya sp., Hickory	15		1			18
Celtis sp., Hackberry						
Cornus florida, Dogwood						
Diospyros virginiana, Persimmon						
Fraxinus sp., Ash						1
Gleditsia triacanthos, Honey Locust	1					3
Juniperus virginiana, Eastern Red Cedar						
Juglans sp., Walnut/ Butternut						
Liriodendron tulipifera, Yellow Poplar						4
Populus deltoides, Cottonwood						
Prunus serotina, Black Cherry	3					3
Robinia pseudoacacia, Black Locust	1					6
Quercus sp., Oak	10					145
Bark						
Unidentifiable						
TOTAL NUMBER OF FRAGMENTS	30		3			183
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)		21.3		3.2	24.5	
Chenopodium sp., Goosefoot, Chenopod seed	19 w				<0.1	19 whole
Cucurbita sp., Pumpkin seed					0.0	
Diospyros virginiana, Persimmon fruit & seed					0.0	
Fabaceae, Wild Bean seed					0.0	
Galium sp., Bedstraw seed					0.0	
Gleditsia triacanthos, Honey Locust seed					0.0	
Helianthus annuus, Sunflower fruit & seed	2w, 8f		1w	<0.1	<0.1	3 whole, 8 fragments
Iva annua, Sumpweed fruit & seed	20w 17f	0.2	1w	<0.1	0.2	21 whole, 17 fragments
Passiflora incarnate, Maypop seed	1 frag.			<0.1	<0.1	1 fragment
Phaseolus sp., Cultivated Bean seed	12 f	0.1	1f	0.1	0.2	13 fragments
Polygonum sp., Smartweed seed	1 w			<0.1	<0.1	1 whole
Zea mays, Maize/Corn, TOTAL WEIGHT		21.0		3.1	24.1	
Kernels	14w, 100+f		7w, 50f			21 whole & 150+ fragments
Cupules	1w, 2f					1 whole, 2 fragments
cob fragments						
cob segments						

Appendix XV: Carbonized plant material from miscellaneous features and other proveniences.

PROVENIENCE	Feature 12		Unit 3 Level 2		Feature 29 desig. Post ADO		Feature 27		Feature 26		Feature 5	
	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight	Num.	Weight
TOTAL SAMPLE WEIGHT IN GRAMS		8.7		0.3		12.3		70.0		70.6		0.9
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)						6.8		31.0		17.0		
NUTSHELL (TOTAL WEIGHT)		0.1										0.4
Species by Number of Fragments												
Carya sp., Hickory					60 frags.	1.5					6 frags.	0.2
Juglans nigra, Black Walnut	1 frag.	0.1			1 frag.	0.1					11 f	0.2
WOOD COMPOSITION- TOTAL WEIGHT		8.6		0.3		3.9		39.0		53.6		0.5
Species by number of fragments												
Arundinaria sp., Cane	18				3							
Acer sp., Maple	5											
Carya sp., Hickory	2								27		5	
Celtis sp., Hackberry												
Cornus florida, Dogwood												
Diospyros virginiana, Persimmon	1											
Fraxinus sp., Ash			5						3			
Gleditsia triacanthos, Honey Locust												
Juniperus virginiana, Eastern Red Cedar												
Juglans sp., Walnut/ Butternut												
Liriodendron tulipifera, Yellow Poplar												
Populus deltoides, Cottonwood												
Prunus serotina, Black Cherry												
Robinia pseudoacacia, Black Locust	5						30				1	
Quercus sp., Oak	3		4		27						3	
Bark												
Unidentifiable												
TOTAL NUMBER OF FRAGMENTS	34		9		30		30		30		9	
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)						0.1				<0.1		
Chenopodium sp., Goosefoot, Chenopod seed												
Cucurbita sp., Pumpkin seed												
Diospyros virginiana, Persimmon fruit & seed												
Fabaceae, Wild Bean seed									2 whole	<0.1		
Galium sp., Bedstraw seed									1 whole	<0.1		
Gleditsia triacanthos, Honey Locust seed												
Helianthus annuus, Sunflower fruit & seed												
Iva annua, Sumpweed fruit & seed												
Passiflora incarnate, Maypop seed												
Phaseolus sp., Cultivated Bean seed												
Polygonum sp., Smartweed seed									1w, 1f	<0.1		
Zea mays, Maize/Corn, TOTAL WEIGHT						0.1						
Kernels												
Cupules												
cob fragments					3 frags.							
cob segments												

Appendix XV (continued).

PROVENIENCE	Feature 4		Feature 24		Post AMC Str. 4/palisade ?		Misc. Features TOTAL WEIGHT	Misc. Features TOTAL NUMBER
	Num.	Weight	Num.	Weight	Num.	Weight		
TOTAL SAMPLE WEIGHT IN GRAMS		0.1		0.2		0.2	163.3	
RESIDUAL WEIGHT (1.0 & 0.25 mm screen)							54.8	
NUTSHELL (TOTAL WEIGHT)		0.1					2.2	
Species by Number of Fragments								
Carya sp., Hickory							1.7	66 fragments
Juglans nigra, Black Walnut	11 f	0.1					0.5	24 fragments
WOOD COMPOSITION- TOTAL WEIGHT		<0.1		0.2		0.2	106.3	
Species by number of fragments								
Arundinaria sp., Cane								21
Acer sp., Maple								5
Carya sp., Hickory								34
Celtis sp., Hackberry	1							1
Cornus florida, Dogwood								
Diospyros virginiana, Persimmon					6			7
Fraxinus sp., Ash			1					9
Gleditsia triacanthos, Honey Locust								
Juniperus virginiana, Eastern Red Cedar								
Juglans sp., Walnut/ Butternut								
Liriodendron tulipifera, Yellow Poplar								
Populus deltoides, Cottonwood								
Prunus serotina, Black Cherry			3					3
Robinia pseudoacacia, Black Locust	3							39
Quercus sp., Oak			1					38
Bark								
Unidentifiable								
TOTAL NUMBER OF FRAGMENTS	4		5		6			157
SEED & FRUIT (TOTAL WEIGHT), (w =Whole , f = Fragment(s)							0.1	
Chenopodium sp., Goosefoot, Chenopod seed							0	
Cucurbita sp., Pumpkin seed							0	
Diospyros virginiana, Persimmon fruit & seed							0	
Fabaceae, Wild Bean seed							<0.1	2 whole
Galium sp., Bedstraw seed							<0.1	1 whole
Gleditsia triacanthos, Honey Locust seed							0	
Helianthus annuus, Sunflower fruit & seed							0	
Iva annua, Sumpweed fruit & seed							0	
Passiflora incarnate, Maypop seed							0	
Phaseolus sp., Cultivated Bean seed							0	
Polygonum sp., Smartweed seed							<0.1	1 whole, 1 frag.
Zea mays, Maize/Corn, TOTAL WEIGHT							0.1	
Kernels								3 fragments.
Cupules								
cob fragments								
Cob segments								

Appendix XVI: Summary of maize measurements in millimeters.

Summary of Maize Measurements (millimeters)

Provenienc	total number measured	specimen ty	cupule width	cupule length	estimated cupule row number	glume width	kernel width	kernel thicknes	cob maximum diameter	cob minimun diameter	cob length millimeter	cob row number
Structure 1	n=191	kernels										
		size average					7.71	3.86				
		size range					4.4 - 10.2	1.2 - 8.0				
	n=1	cob segment										
		size average	6.70	2.70		3.3			14.00	10.40	20.20	12
		size range	6.1 - 7.3									
	n=18	cupules										
		size average	6.13	1.36	14 =10 rowed	3.53						
		size range	4.0 - 7.0	1.0 - 2.0	3 = 12 rowed							
					1 = 8 rowed							
	n=23	cob fragments										
		size average	6.20	1.4	5 = 10 rowed	3.47						
		size range	5.0 - 8.7	1.0 - 2.0	18 = 12 rowed							
	Total Structure 1				**10 rowed = 46.3%**							
					12 rowed = 51.3%							
					8 rowed = 2.4%							
Structure 2	n=1	cupule size	4.00	1.00	12							
Structure 20	n=21	kernel										
		size average					7.90	4.89				
		size range					6.0 - 9.2	4.0 - 8.0				
	n=1	cupule size	5.0	2.0	12							
Structure 9 (Feature 30)	n=1	kernel size					8.50	4.00				
	n=1	cob frag										
		size average	5.00	2.00	10							

Appendix XVII:

Calibration curves (Stuiver et al. 1998) for 40WM10 radiocarbon assays (n=9).

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-9.4:lab. mult=1)

Laboratory number: **Beta-136155**

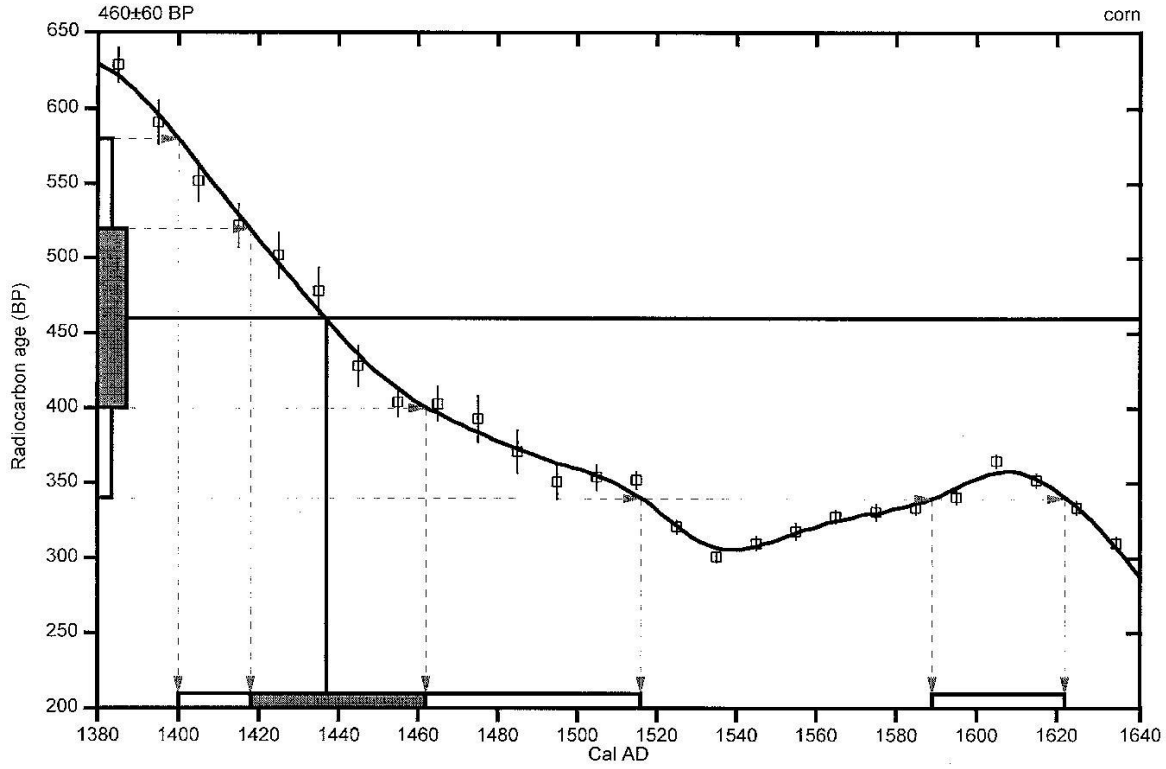
Conventional radiocarbon age: **460±60 BP**

2 Sigma calibrated results: (95% probability) **Cal AD 1400 to 1515 (Cal BP 550 to 435) and Cal AD 1590 to 1620 (Cal BP 360 to 330)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1435 (Cal BP 515)

1 Sigma calibrated result: (68% probability) Cal AD 1420 to 1460 (Cal BP 530 to 490)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-136156**

Conventional radiocarbon age[1]: **3500±70 BP**

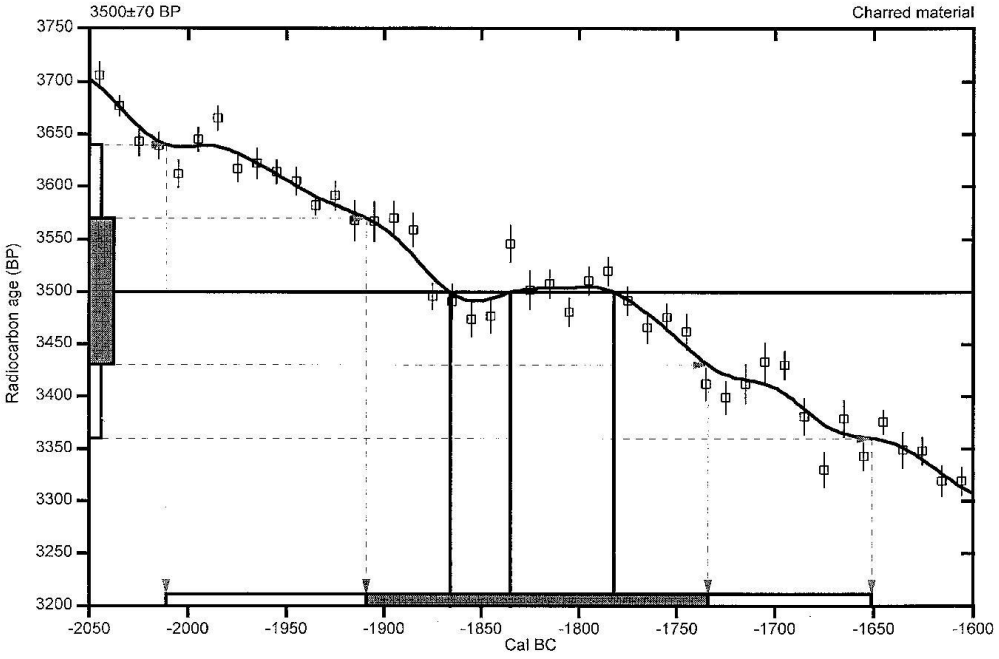
2 Sigma calibrated result: (95% probability) **Cal BC 2010 to 1650 (Cal BP 3960 to 3600)**

[1] C13/C12 ratio estimated

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal BC 1865 (Cal BP 3815) and
Cal BC 1835 (Cal BP 3785) and
Cal BC 1780 (Cal BP 3730)

1 Sigma calibrated result: (68% probability) Cal BC 1910 to 1735 (Cal BP 3860 to 3685)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-136157**

Conventional radiocarbon age[1]: **520±60 BP**

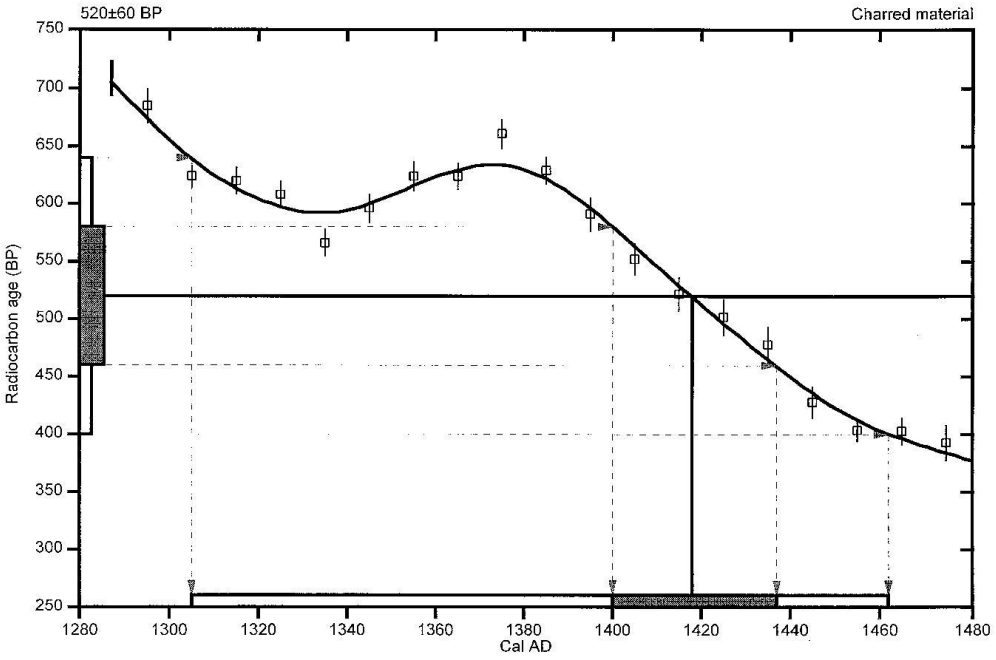
2 Sigma calibrated result: (95% probability) **Cal AD 1305 to 1460 (Cal BP 645 to 490)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1420 (Cal BP 530)

1 Sigma calibrated result: (68% probability) Cal AD 1400 to 1435 (Cal BP 550 to 515)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-173015**

Conventional radiocarbon age[1]: **950±60 BP**

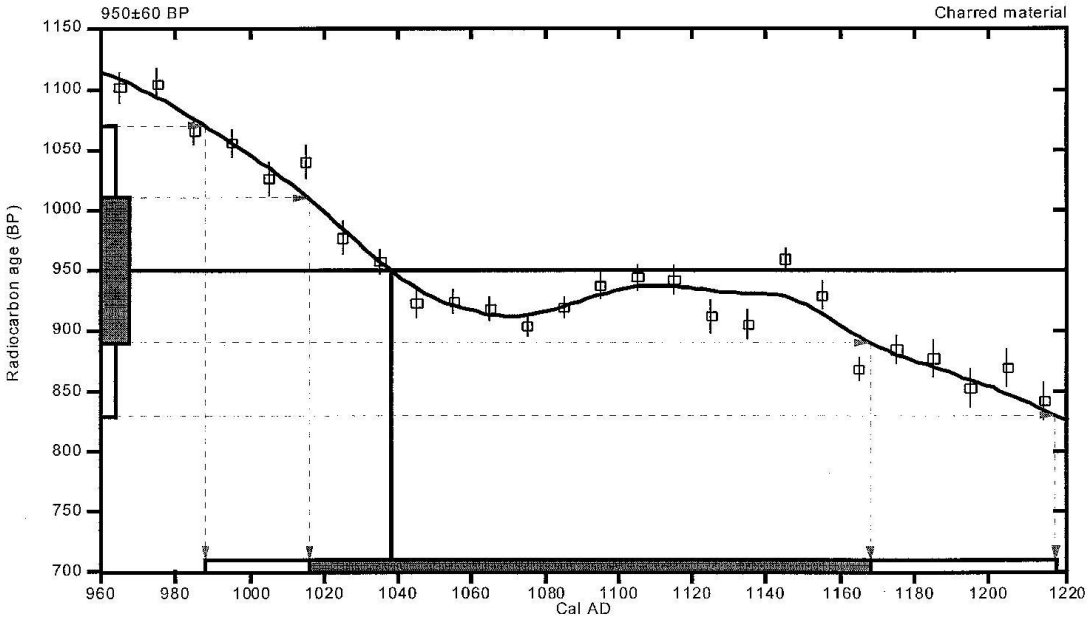
2 Sigma calibrated result: (95% probability) **Cal AD 990 to 1220 (Cal BP 960 to 730)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1040 (Cal BP 910)

1 Sigma calibrated result: (68% probability) Cal AD 1020 to 1170 (Cal BP 930 to 780)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-173016**

Conventional radiocarbon age[1]: **470±80 BP**

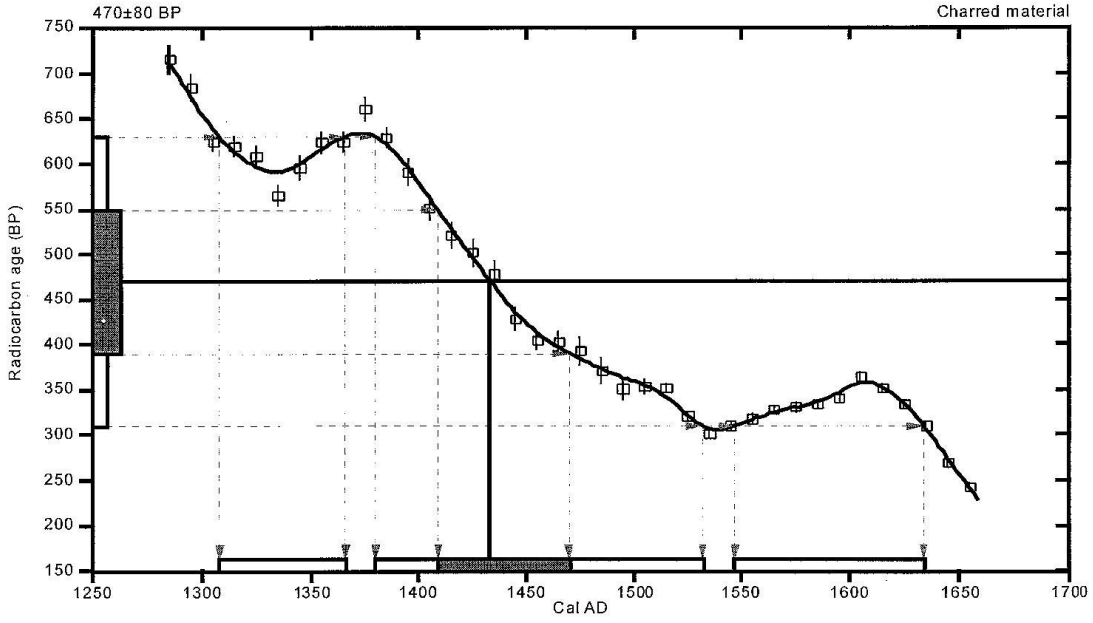
2 Sigma calibrated results: (95% probability) **Cal AD 1310 to 1370 (Cal BP 640 to 580) and Cal AD 1380 to 1530 (Cal BP 570 to 420) and Cal AD 1550 to 1630 (Cal BP 400 to 320)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1430 (Cal BP 520)

1 Sigma calibrated result: (68% probability) Cal AD 1410 to 1470 (Cal BP 540 to 480)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-173017**

Conventional radiocarbon age[1]: **580±60 BP**

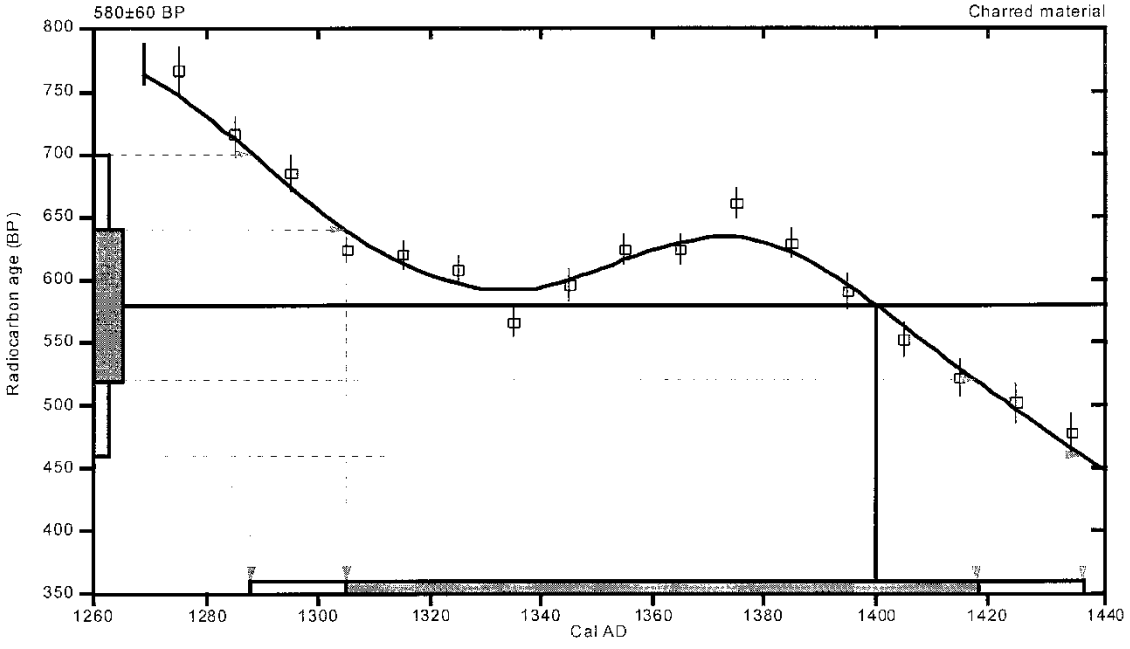
2 Sigma calibrated result: (95% probability) **Cal AD 1290 to 1440 (Cal BP 660 to 510)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1400 (Cal BP 550)

1 Sigma calibrated result: (68% probability) Cal AD 1300 to 1420 (Cal BP 640 to 530)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-173018**

Conventional radiocarbon age[1]: **230±60 BP**

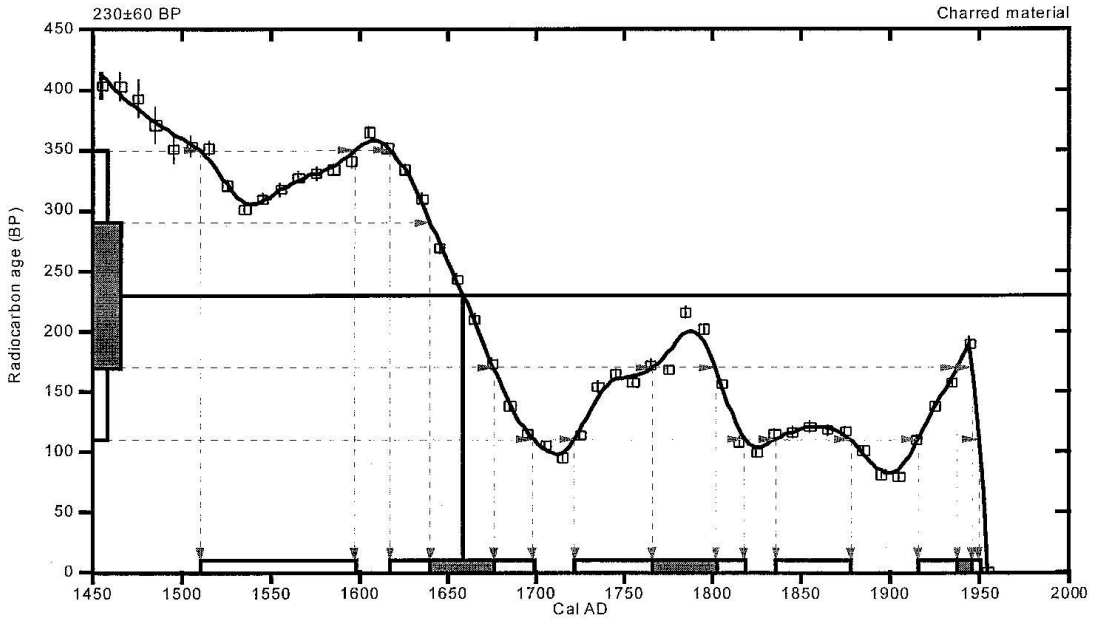
2 Sigma calibrated results: (95% probability)
Cal AD 1510 to 1600 (Cal BP 440 to 350) and
Cal AD 1620 to 1700 (Cal BP 330 to 250) and
Cal AD 1720 to 1820 (Cal BP 230 to 130) and
Cal AD 1840 to 1880 (Cal BP 110 to 70) and
Cal AD 1920 to 1950 (Cal BP 30 to 0)

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1660 (Cal BP 290)

1 Sigma calibrated results: (68% probability)
Cal AD 1640 to 1680 (Cal BP 310 to 270) and
Cal AD 1770 to 1800 (Cal BP 180 to 150) and
Cal AD 1940 to 1950 (Cal BP 10 to 0)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-173019**

Conventional radiocarbon age[1]: **710±60 BP**

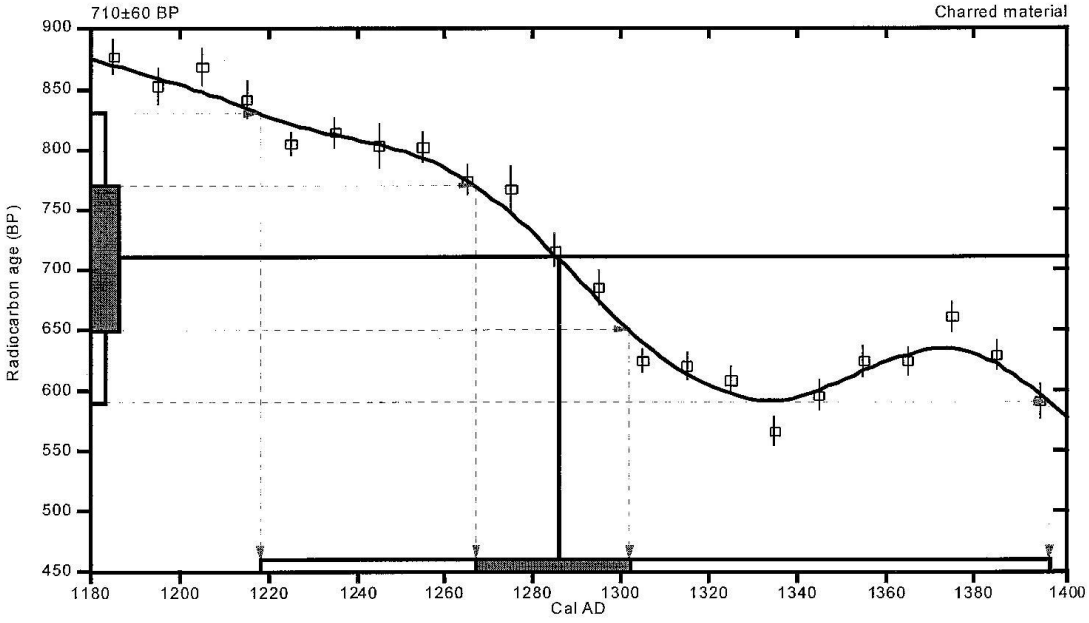
2 Sigma calibrated result: (95% probability) **Cal AD 1220 to 1400 (Cal BP 730 to 550)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1290 (Cal BP 660)

1 Sigma calibrated result: (68% probability) Cal AD 1270 to 1300 (Cal BP 680 to 650)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-173020**

Conventional radiocarbon age[1]: **500±60 BP**

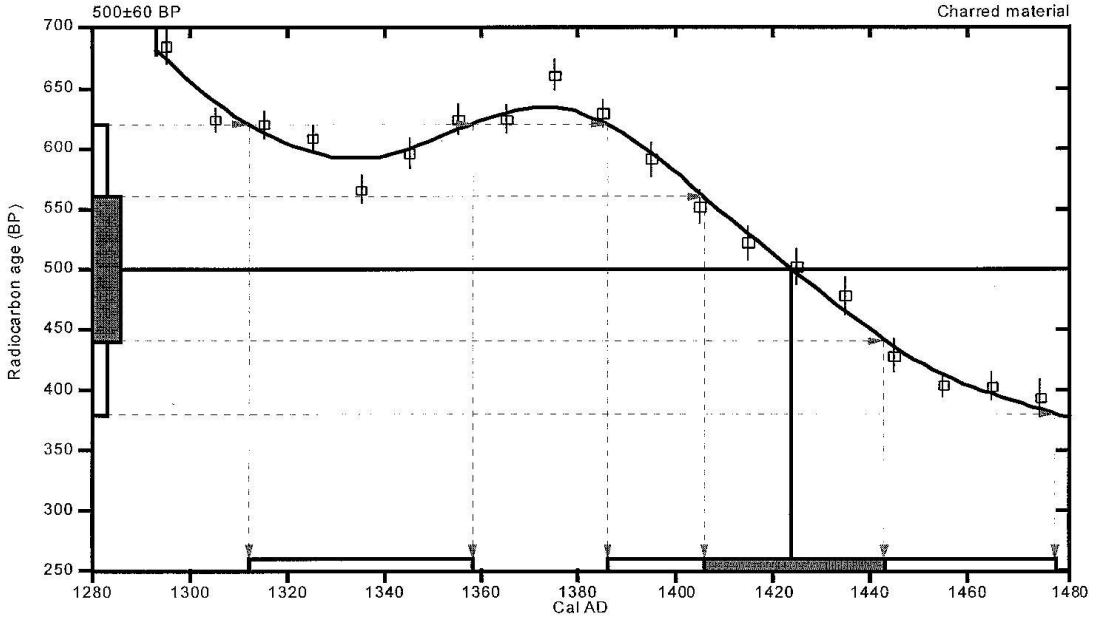
2 Sigma calibrated results: (95% probability) **Cal AD 1310 to 1360 (Cal BP 640 to 590) and Cal AD 1390 to 1480 (Cal BP 560 to 470)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1420 (Cal BP 530)

1 Sigma calibrated result: (68% probability) Cal AD 1410 to 1440 (Cal BP 540 to 510)



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Calibration Database
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