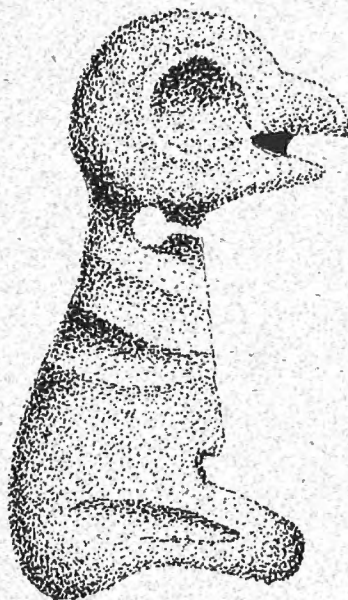


GORDONTOWN: SALVAGE ARCHAEOLOGY AT A MISSISSIPPIAN TOWN IN DAVIDSON COUNTY, TENNESSEE

Edited by:

Michael C. Moore and Emanuel Breitburg



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF ARCHAEOLOGY
RESEARCH SERIES NO. 11
1998



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TOWN IN DAVIDSON COUNTY, TENNESSEE

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This report on the 1985-1986 excavations at the Gordontown site could not have been completed without the efforts and stamina of numerous individuals. Before these people are recognized however, the initial acknowledgment must go to Edsel Charles, President of Homes by Heritage, Inc. Mr. Charles exhibited unusual concern for the site through his efforts to mitigate (and at times reduce) the impact of the subdivision development on the archaeological resources. His willingness to listen to the concerns of the archaeological and Native American communities at a time when he was under no obligation to do so is greatly appreciated.

Another person who deserves special recognition for his role at Gordontown is John Dowd, a local resident who has been conducting archaeological investigations throughout the Nashville area for many years. John's vast experience in Nashville archaeology led to his employment by Mr. Charles to oversee the removal of burials from the Gordontown site, and also act as a liaison between HHI and the Division of Archaeology.

Division of Archaeology staff members initially involved at Gordontown included John Broster, Nick Fielder, Carl Kuttruff, and Parris Stripling. Joe Benthall, Tom Bianchi, Mary Beth (Dowd) Trubitt, and Charlotte Watrin of the Division also participated in the investigation. Other individuals that donated their time during the burial removal include Marvin Duke, Susan Finger, John Froeschauer, Marvin Jeter, Jim Jones, Richard Norman, Jr., Abigayle Robbins, Steve Rogers, Andrea Shea, Ward Weems, and volunteers from the Old Stone Fort Archaeological Society.

The Gordontown artifactual material was examined by Division of Archaeology staff between 1986 and 1998. An analysis of the human skeletal remains was conducted by Susan M. (Thurston) Myser of the University of Tennessee under contract with the Division. Leslie Eisenberg also examined the skeletal assemblage. Cranial measurements from four burials (representing five individuals) were provided by Vanderbilt University students E. Boker, M. Dudgeon, A. Maratek, and A. Mullen under the direction of Brian Hemphill. Additional evaluation of selected human skeletal remains was conducted by Emanuel Breitburg. The non-human faunal remains were also evaluated by Emanuel Breitburg. Mary Beth (Dowd) Trubitt examined the ceramic assemblage shortly after the completion of the field investigations in 1986 and wrote a detailed analysis which is included in this report. An updated analysis of the fabric impressed ceramics was conducted by Suzanne Hoyal in 1998 as part of her ongoing study of Mississippian period fabrics. The lithic artifacts from Gordontown were initially evaluated by Parris Stripling after the completion of the field investigations. This assemblage was reanalyzed by Michael Moore in 1994.

Parris Stripling and Mary Beth Trubitt drafted many of the site maps and figures used in this publication. Several of these maps were partially revised by Michael Moore in 1998. The carved deer phalanx illustrations (front cover and Figure 45) were drawn by Joe Benthall. Also, Jennifer Bartlett and John Dowd provided valuable assistance with the final report.

INTRODUCTION

Michael C. Moore

This report presents the results of salvage excavations conducted at the Gordontown site (40Dv6) between the fall of 1985 and spring of 1986. Investigation of this Mississippian period village became critical after the site area was included within a tract of land sold for residential development. The Gordontown site became just one of many important archaeological resources to be affected by the construction boom seen throughout middle Tennessee during the 1980s. Unlike other sites, however, an innovative excavation plan that was beneficial to both the archaeologists and contractors was forged between the Tennessee Division of Archaeology and the developer. During this project, professional and avocational archaeologists worked together to remove vital information from the field amid the day-to-day construction activities.

In contrast to the severe looting problems experienced by most major Mississippian sites in middle Tennessee, the Gordontown site area had remained relatively undisturbed except for several investigations conducted between the late 1800s and early 1900s (Jones 1878; Myer 1928). This good fortune came to an end in early 1985 when the site area was purchased by Homes by Heritage, Inc. (HHI) for development purposes (Dowd 1986a, 1987).

Although HHI was aware of a prehistoric site on the property, the true nature and extent of the cultural deposits was not learned until after the land sale was completed. Upon learning that the Gordontown site was indeed a major prehistoric occupation containing numerous human graves, HHI (of their own accord) began to revise the original subdivision plans in an attempt to minimize their impact. This refreshing attitude included the addition of several greenspace areas within sections of the site previously designated by William E. Myer (1928) as containing human graves (Figure 1).

In October of 1985, earthmoving equipment began stripping areas outside the greenspace zones in preparation for improvements (roads, utilities) and initial house construction. The Division of Archaeology was on hand to inspect these activities and observed numerous features being exposed, including stone-box burials, refuse-filled pits, structure floors, and postmolds (Figure 2). HHI was informed that despite their conscientious planning, significant archaeological resources (including burials) would still be destroyed during construction.

Progressive discussions between HHI and the Division of Archaeology resulted in a compromise plan which provided for consideration of the archaeological resources without long-term delays in construction. Under this plan, Mr. John T. Dowd, a local and well-respected avocational archaeologist, was hired by HHI to be on-site full time and conduct emergency burial removal. In turn, the developer guaranteed the Division adequate time to expose, document, and (when feasible) remove archaeological features that would be destroyed by construction activities. Earthmoving equipment was provided by HHI to assist the Division in this endeavor.

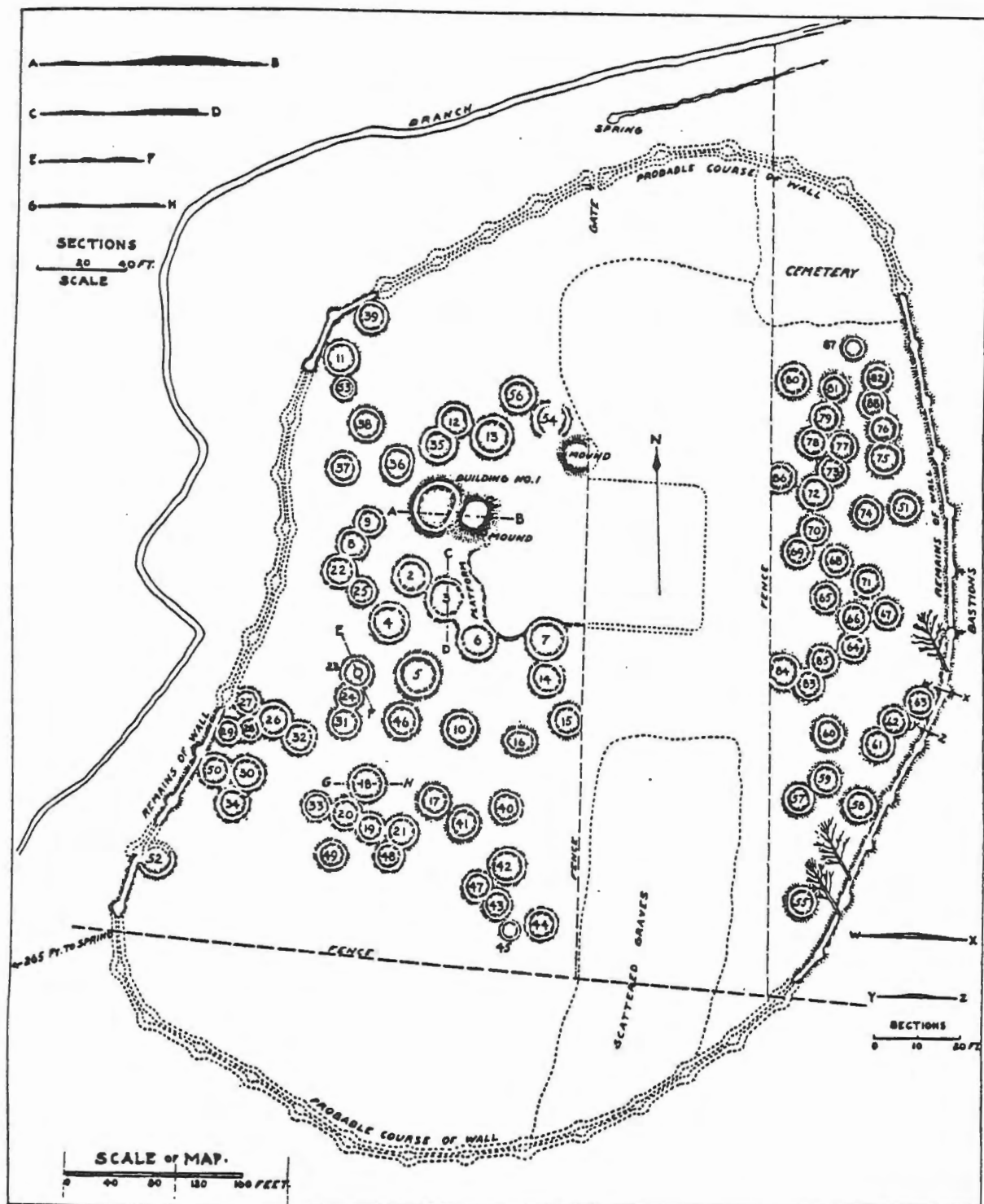


Figure 1. Map of Gordontown site prepared by William E. Myer (1928).



Figure 2. Stone-box burials uncovered during road construction (Hearthstone Lane).

HHI also consulted with the Division of Archaeology regarding the proper procedures for dealing with the human remains found at Gordontown. These questions were hard to answer at that time since the state cemetery law had just changed. Prior to 1984, the cemetery law did not provide prehistoric Native American graves the same protection that was afforded historic graves (in other words, it was not illegal to dig prehistoric Indian graves). This provision was amended by the state legislature in 1984 to include all human graves (whether prehistoric or historic) from vandalism. Despite this recent protection, there were no guidelines for dealing with prehistoric human remains under the new cemetery statute.

Unknowingly, the Gordontown project had become the focal point in deciding how the State of Tennessee would handle the remains of prehistoric Native Americans (Moore 1989:66-67). An on-site meeting between the Division of Archaeology, Tennessee Commission on Indian Affairs, state Attorney General, and state Archaeological Advisory Council was held to discuss the applicability of the new cemetery statute to the 40Dv6 burials. The end result of that meeting was that the Gordontown project should proceed as planned since everything was running smoothly. All projects in the future that necessitated the removal of prehistoric graves would be required to go through the "termination of land use as cemetery" process (TCA 46-4-101-104), which was the law used for the removal of historic cemeteries. With that meeting, more than a century after the original cemetery bill was passed, the State of Tennessee had finally established a plan for removing prehistoric Indian burials.

By the time formal excavations were concluded in June of 1986, a total of three structures, at least nine refuse-filled pits, five hearths, a palisade wall section (with a bastion), and 100 individuals (from 85 graves) had been removed or at least partially investigated. An additional 43 graves that had been exposed in one of the proposed house lots were left in place. Although identified and evaluated under salvage conditions, these features were able to yield important information on such topics as intrasite settlement pattern, mortuary practices, and ceramic chronology. In addition, this project provided a modern comparative sample with which to critically evaluate the results of previous archaeological work. The 1985-1986 project was probably the last major archaeological investigation that will ever be conducted at Gordontown. However, we should feel fortunate that portions of the site remain preserved (primarily in greenspace) as a respectful tribute to those individuals still buried there.

This Gordontown report is an edited work that presents an abundant body of site data from eight different contributors. The first section contains a brief review of the study area environmental setting by Michael Moore. Section two by Kevin Smith canvasses the Gordontown site from a historical perspective. In addition to the obligatory examination of archaeological investigations at 40Dv6 (beginning with Joseph Jones' work in the mid-19th century), this section discusses the influential role that Gordontown played in regional archaeological research beginning in 1930. Information on the 1985-1986 project methods, burial removal, and identified features is presented in the third section by Michael Moore and Parris Stripling. The results of radiocarbon tests are listed in section four by Michael Moore.

Sections five through ten of the Gordontown report provide the analyses of the recovered skeletal and cultural material. Emanuel Breitburg, Susan Myster, Leslie Eisenberg, Parris Stripling, and Michael Moore present a description and evaluation of the exhumed mortuary remains in section five. Section six consists of a detailed study of the Gordontown ceramic assemblage by Mary Beth Trubitt. This particular analysis was initiated and completed shortly following the end of fieldwork in 1986. An updated view of the Gordontown ceramics within a regional perspective is presented by Kevin Smith and Mary Beth Trubitt in section seven. A preliminary evaluation of the lithic artifacts was conducted by Parris Stripling soon after the Gordontown excavation was finished. The lithic assemblage was later reexamined by Michael Moore and is presented in section eight. Section nine contains an analysis of the vertebrate faunal remains by Emanuel Breitburg. Michael Moore presents an inventory and limited description of other artifact categories, including charred floral remains and shell, in section ten. Summary remarks regarding the Gordontown project results are made in section eleven.

Three appendices appear at the end of the report. Appendix A by Parris Stripling provides a helpful inventory of accession numbers that were assigned to the Gordontown investigations. Appendix B contains detailed descriptions of the 100 individuals (from 85 graves) removed during the 1985-1986 work. This appendix represents a compilation of data by Susan Myster, Leslie Eisenberg, Michael Moore, and Parris Stripling. For each burial there is a general description, followed by information on age, sex, stature, pathology, and anomaly. Metrical dimensions are also provided for those individuals where measurements were possible. Appendix C by Suzanne Hoyal presents a recent analysis of fabric impressions on ceramics recovered during the Gordontown project.

As a final note to this Introduction, the Gordontown project exemplifies a situation that plagues many archaeological entities (whether government, academic, or private), that is the number of past field projects that remain unanalyzed and unpublished. Numerous projects get "shelved" over the years due to severe staff and/or monetary constraints. The Division of Archaeology has been faced with this dilemma as much as the next agency. In partial response to this problem, the Middle Cumberland Mississippian Survey Project (MCMSP) was formally implemented at the Division of Archaeology by Kevin Smith and Michael Moore in 1992 (Smith 1993a). One of the primary goals of the MCMSP is to disseminate information concerning Mississippian sites in the Middle Cumberland River Valley. Over the past five years, the MCMSP has successfully generated information on a number of Mississippian sites (including Armes, Brandywine Pointe, Brick Church Business Park, DeGraffenreid, Gordontown, Hooper, Old Town, and Rutherford-Kizer) through published reports and articles, as well as conference presentations. The editors are pleased that a comprehensive Gordontown report can be added to this list.

I. ENVIRONMENTAL SETTING

Michael C. Moore

Gordontown is located in the extreme southern middle portion of Davidson County about one mile northeast of the Williamson County line (Figure 3). This site was established along a gently sloping, dissected upland ridge between two substantial springs that feed Brentwood Branch (a small headwater tributary that joins Sevenmile Creek some one and one-quarter miles to the east). Sevenmile Creek itself comprises a primary tributary of Mill Creek which eventually flows into the Cumberland River. Undoubtedly the major reliable sources of water for the Gordontown residents were several large springs located on the northern and southwestern site perimeters. Elevations within the site area range between 620 and 640 feet AMSL. However, the rugged ridge system upon which 40Dv6 occurs reaches a maximum elevation of 960 feet AMSL some three-quarters of a mile to the southwest.

Physiography

The Gordontown site occurs within the Central Basin physiographic region which consists of an elliptical depression surrounded by the Highland Rim (Miller 1974:5). This region was formed during the late Paleozoic era by the relatively rapid erosion of an uplifted portion of bedrock known as the Nashville Dome. The Central Basin extends roughly 125 miles north-south and 60 miles east-west, and is often divided into inner and outer sections (Figure 4). Site 40Dv6 is located within the outer basin which is characterized by higher elevations and more deeply dissected terrain in contrast to the generally smooth and gently rolling inner basin. Elevations in the outer basin average about 750 ft. AMSL, with some hills reaching as high as 1300 ft. AMSL. Inner basin elevations are lower, averaging around 600 ft. AMSL.

Numerous large to moderate streams meander through the Central Basin. Gordontown was established on a tertiary tributary of the generally westward flowing Cumberland River as it twists and turns across the Central Basin. Several other major streams that also have a winding course through the Basin include the Harpeth and Stones Rivers that run in a northwest direction. The Duck and Elk Rivers, although well south of the general study area, also take sinuous routes across the Basin. The Duck River flows in a west to northwest manner, whereas the Elk River takes a west to southwest route.

Underlying bedrock within the Central Basin is predominantly Ordovician limestone, shale, and dolomite (Miller 1974:9). Silurian, Devonian, and Mississippian rocks are preserved as erosional remnants. The Mississippian Fort Payne formation overlying Chattanooga Shale marks the contact between the Central Basin and Highland Rim (Wilson 1949:2). Most of the inner basin is covered with Stones River formation limestone. This section of the Central Basin also exhibits patches of bare platy rock and thin topsoil with red cedar glades. The inner basin is also characterized by such karst features as caves and sinkholes.



Figure 3. Location map of the Gordontown site.

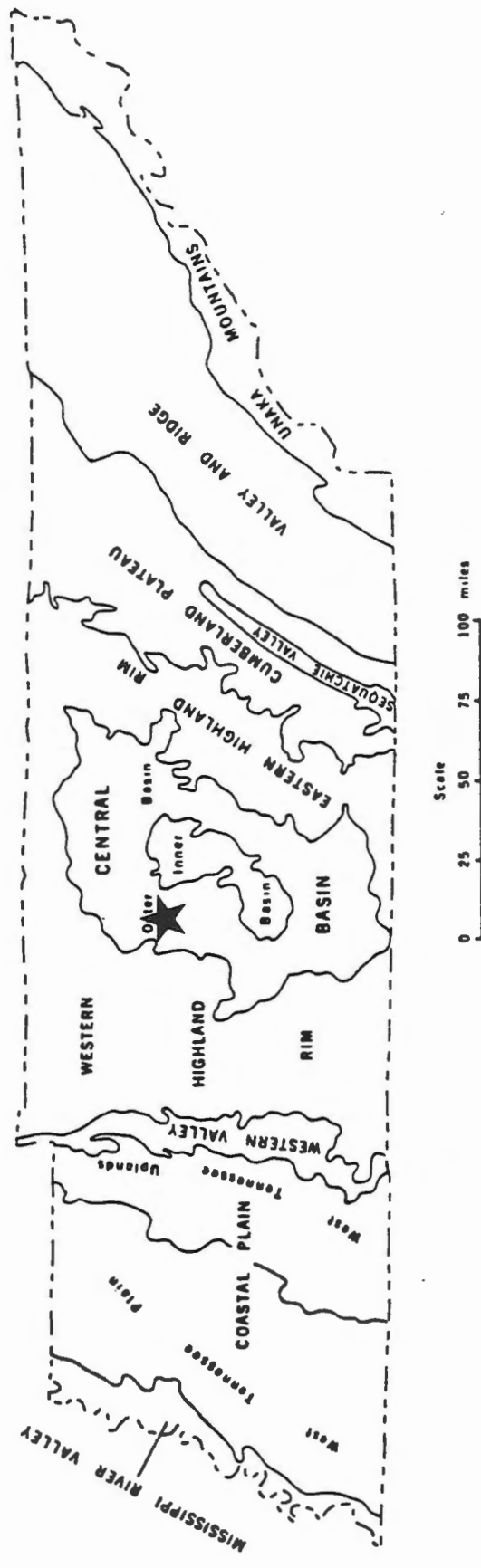


Figure 4. Physiographic map of Tennessee and Gordontown location.

Soils

Soils within the Central Basin were formed from underlying Ordovician limestone deposits. These soils have a high silt content, and are rich in calcium derived from the parent material. For the outer basin, the parent material is also exceedingly phosphatic. This high phosphate component has led to intensive mining operations across the entire outer basin area. Thick deposits of alluvium and colluvium are present in basin valley floors. Loess covers a small percentage of soils within the region.

Gordontown was established upon soils classified as Maury series with 2 to 7 percent slope (USDA 1981). This upland series consists of "...deep, gently sloping to moderately steep, well-drained soils that formed in residuum of phosphatic limestone or in old alluvium and residuum of phosphatic limestone." (USDA 1981:54). Solum thickness is usually more than 65 inches (165 cm). Soils within the Maury series are generally medium to strongly acidic silt loams and silty clay loams, and are considered good for agriculture.

Climate

The climate of middle Tennessee is best described as temperate with distinct seasonal changes (USDA 1981:2). Winters in this region are generally mild with average daily temperatures of 40 degrees F. However, cold snaps as low as -15 degrees F. do occur on occasion. Summers are often hot with temperatures in the high 90s to low 100s F. common during July and August. Relatively high humidity averages (around 60%) during these hot months combine to make summers somewhat uncomfortable.

The study area averages nearly 48 inches of annual precipitation. Most of this precipitation occurs in the form of rain as snow falls on an infrequent basis and in minimal amounts. Rainfall is heaviest between early spring and early fall, which coincides with the growing season for most crops. Thunderstorms are common during the summer months.

Flora and Fauna

Most of the Central Basin, including the Gordontown site area, occurs within the Western Mesophytic Forest Region (Braun 1950). This region originally supported upland climax communities of oak, hickory, tulip tree, beech, and chestnut. Hickory, winged elm, hackberry, and blue ash were among the species that covered the lower hills and flats. Cedar glades were (and continue to be) abundant in the inner basin.

Middle Tennessee falls within the Carolinian Biotic Province which is characterized by a rich and diverse faunal assemblage (Dice 1943). Native mammals include white-tail deer, elk, black bear, mountain lion, gray wolf, raccoon, bobcat, fox, mink, otter, skunk, weasel, muskrat, woodchuck, squirrel, cottontail rabbit, and opossum. Eagle, hawk, owl, turkey, quail, passenger pigeon, goose, duck, mallard, and teal were important bird resources for prehistoric residents of the study area. A

large number and variety of snakes, frogs, turtles, fish, and mollusks also occur within this province.

II. GORDONTOWN IN HISTORICAL PERSPECTIVE

Kevin E. Smith

Both the Fewkes Group and the Gordon site should be made national monuments

-- William Edward Myer, 1924

Located on a spring branch feeding a very minor tributary creek of the Cumberland River, Gordontown is a modest town by Mississippian standards, certainly not in the same class as Cahokia, Illinois or Moundville, Alabama. However, Gordontown has played a disproportionately important role in the history of Mississippian studies in the Cumberland River valley of Tennessee and beyond. The site was investigated by at least one and perhaps two of the more prominent nineteenth century antiquarians, but excited little of their attention because few spectacular artifacts were recovered. Gordontown then quietly vanished into relative anonymity until its "rediscovery" in the early twentieth century.

In 1920, William Edward Myer, Middle Tennessee's first "professional" archaeologist, spent about two months investigating the site under the auspices of the Smithsonian Institution's Bureau of American Ethnology. For nearly half a century, Myer's publication on Gordontown and the Fewkes site entitled *Two Prehistoric Villages in Middle Tennessee* (1928) remained the only widely available site report for the Mississippian culture of Middle Tennessee. Between 1930 and 1960, the so-called "Gordon people" were the baseline for comparative studies involving the late prehistoric cultures of the Cumberland Valley of Tennessee as large-scale federal archaeology programs created an outline for the culture history of the southeastern United States. While the Gordontown report was widely cited outside the region, the site itself returned to relative anonymity until 1985 when subdivision construction led to salvage excavations by the Tennessee Division of Archaeology.

As the preceding suggests, archaeologists returned to Gordontown several times over the past century. While scattered portions of the site remain preserved in yards, fencelines, and greenspaces, archaeologists have likely returned to Gordontown for the last time. However, as will be demonstrated below, the collections and records have been, are, and will be returned to again and again in the future. Following the suggestion of Stephen Williams (1992:193), "we must begin our approach to any archaeological question by sneaking up on it from the past..."

The Nineteenth Century Investigations

The earliest discussion of the Gordontown site appeared in the classic work of Joseph Jones on the "aboriginal remains" of Tennessee (Jones 1876:37-38). Both Joseph and his brother, Charles, "were avid collectors of antiquities who did good fieldwork as well. They knew many of the sites from direct observations..." (Williams 1994:9). Jones conducted a significant amount of archaeological exploration during his service as Health Officer of the city of Nashville from 1868-1869, and many local

Mississippian sites found their first (and sometimes only) substantial records in his work.

Among the dozens of sites described in the text, Jones mentions the "Brentwood site" as consisting of an earthwork enclosing several mounds and an extensive encampment. Unfortunately, Jones did not provide one of the excellent sketch maps of this site as he did for so many others in the region. However, his "Brentwood site" appears to be what we now call Gordontown. Jones excavated an unknown portion of one burial mound (45 feet in diameter and 12 feet in height), which he described as follows:

[the mound] contained, perhaps, one hundred skeletons, the stone graves, especially toward the centre of the mound, were placed one upon the other, forming in the highest part of the mound three or four ranges. The oldest and lowest graves were of the small square variety, whilst those near or on the summit, were of the natural length and width of the inclosed skeletons. In this mound as in other burial places, the bones in the small square stone graves were frequently found broken; and whilst some graves of this description contained only a portion of an entire skeleton, others contained fragments of two or more skeletons mingled together. These square graves were not of sufficient depth to receive the body in a sitting posture, and appeared to have been the receptacles of the bones after the flesh had been removed.... Pieces of pottery were found with the bones in the stone coffins, but no entire vase or vessel, or stone implement, or idol, was discovered in this mound. (Jones 1876:37-38).

While brief, Jones' description is the most detailed available for the mortuary mounds in the Brentwood area. Perhaps the most significant observation is the stratigraphic information suggesting small square stone-box graves are chronologically earlier than the form-fitting stone-box coffins. Of additional interest are the absence of mortuary inclusions in the graves of the mound, and the suggestion of a shift in mortuary patterning from: (a) older use of stone graves as repositories for bundle burials; to (b) more recent use of stone graves as repositories for primary interments. Each of these observations has been confirmed or suggested by more recent investigations at contemporary sites in the Middle Cumberland region.

Until 1997, this author (and various other Middle Cumberland researchers) assumed that the "Brentwood Site" investigated in 1878 by F.W. Putnam of the Peabody Museum was also probably Gordontown. Putnam reported on the investigations of "what was formerly an extensive cemetery covering several acres, at Brentwood, Tennessee" (Putnam 1883a:292). While the details of Putnam's description of the *Brentwood site* appeared to generally match Gordontown, he noted "the central portion of the farm is a natural elevation, surrounded by low land running off to the *Little Harpeth*" (Putnam 1883b:526; emphasis added). The recent rediscovery of yet another palisaded Mississippian town (40Wm210) in Brentwood during construction of a public library confirms the accuracy of Putnam's statement -- the land around the Brentwood Library site does indeed run off to the Little Harpeth River. This example serves as a reminder that modern researchers should not assume

that our site files are as accurate as the first-hand knowledge of 19th-century observers.

Gates P. Thruston, a retired Union general who conducted numerous investigations around Nashville, was reported by William Edward Myer to have partially excavated a mound at Gordontown (Myer 1928:495). However, there is no reference for this work in Thruston's famous book on Tennessee antiquities (Thruston 1890). At this time, this author presumes that Myer was mistakenly referring to the work of Jones rather than Thruston.

The Early Twentieth Century, 1920

During the late nineteenth and early twentieth centuries, the Nashville area was virtually abandoned by the developing discipline of archaeology. The major institutions of the northeast shifted their interests elsewhere, and the devoted few individuals who continued to conduct research in the southeastern United States apparently had no connections on the Cumberland River. Fortunately for the Gordontown site, William Edward Myer, a prominent businessman and philanthropist from the Middle Tennessee area was to emerge during the first decade of the twentieth century as the first "professional archaeologist" working in Tennessee.

William Edward Myer (1862-1923) was born in Kentucky on October 5, 1862, but moved at about the age of six to Carthage, Tennessee where he spent the largest portion of the remainder of his life. Myer entered Vanderbilt University in 1878 at the age of 16, and there began his lifelong interest in archaeology. As noted by Swanton (1928), "he devoted all of his vacations to [archaeological] research work, and later, while engaged in business, spent a portion of each day in archaeological studies." Myer retired from his commercial pursuits in 1915 to focus his time on the archaeological resources of the Cumberland Valley. Only two years later, he was called into the service of his adopted state during World War I as United States Fuel Administrator for Tennessee, a position he held until the end of the war.

Returning to his archaeological interests, Myer moved to Washington, DC in 1919 and became a Special Archaeologist with the Bureau of American Ethnology "in order to give his work a more thorough scientific foundation" (Swanton 1928). With the help and advice of J.W. Fewkes, Chief of the Bureau of Ethnology, and John R. Swanton, Myer pursued his research between 1919 and 1923 in the form of extensive excavations at several Mississippian period sites throughout Middle Tennessee, including Gordontown.

Myer rediscovered Gordontown as a result of his practice of visiting every potential mound in the region -- he noted that "Dr. Harry S. Vaughan... indirectly caused the discovery of the town by taking the author [Myer] to see the small mound on this site" (Myer 1928:497). Myer immediately recognized that:

the remains... were in a woodland and had never been disturbed by the plow.... [and that] a foot or so below this blue-grass sod, were the ruins of an ancient Indian town containing fragmentary remains which could

bring to light many new and interesting details of the vanished life of a long-gone-by people (Myer 1928:495).

Under the auspices of the Bureau of American Ethnology, Myer directed the first large-scale project at this site in September of 1920. In honor of the landowner at that time, H.L. Gordon, Myer formally designated the site as the "Gordon Town." Over subsequent years, the appellation was shortened to the current Gordontown.

Myer's work presented specific details about the site which had been unreported in earlier studies, including the drafting of a detailed map of the site area (see Figure 1). The map and accompanying text defined an area of 11.2 acres including at least eighty-seven "house circles" and two mounds enclosed by a palisade with bastions at 55 foot intervals. The incredible level of preservation of this village site is best expressed in Myer's own words:

The ancient Gordon inhabitants for some unknown reason had deserted the village and the site had never afterward been occupied or disturbed.... In some of these [houses] portions of beautiful, smooth, hard-packed, glossy black floors were found. In the centers were the ancient fire-bowls, yet filled with the ashes of the last fires kindled in these homes before their owners left them forever. Near these fire-bowls often could be seen the metates, mullers, and other household utensils, just as left the last time used. (Myer 1922:146).

Although Myer conducted some work upon the "central mound" (located just east of large house circle No. 1 and designated Mound A), he invested a considerable amount of time examining six of the "house circles." He interpreted these "house circles" as circular post-in-ground wattle-and-daub structures with prepared floors and interior hearths. Modern excavations throughout the Central Basin of Tennessee suggest that these structures are more likely to have been square with "open" corners, a post pattern that lends itself to interpretation as rounded. These slight distinctions of structural interpretation aside, Myer nonetheless carefully recorded and reported the provenience of a large variety of artifactual material from the structures.

Myer also identified a main stone-box cemetery and another area of scattered stone-box graves inside the palisade wall (see Figure 1). While Myer was primarily interested in structural remains, he did investigate a number of stone-box graves in these areas. He observed that adults and adolescents were generally buried in the main cemetery, whereas infants and very young children were placed beneath structure floors. Modern comparative research on Mississippian sites and cemeteries within the study area has shown such placement to be a common and consistent mortuary practice. Additionally, his records of artifacts recovered from these graves provide critical comparative data for interpretation of the site today.

The transformation of William Edward Myer from an educated but antiquarian-type scholar into a truly professional archaeologist marks the end of the antiquarian era in Tennessee, and the beginnings of professional archaeology. His research at Gordontown was an integral and significant contributor to that transformation. Unfortunately, in the midst of his work, Myer died of a heart attack on December 2, 1923 in Washington, DC (Nashville Tennessean, December 3, 1923). Fortunately for

all concerned, Myer had completed his manuscript on the Gordontown and Fewkes sites. Equally fortunately, his friend and mentor John Swanton pursued the publication of this manuscript until it eventually emerged in 1928 in the Forty-Second Annual Report of the Bureau of American Ethnology.

The Gordon Culture Found and Lost: 1930-1970

The publication of Myer's *Two Prehistoric Villages in Middle Tennessee* firmly placed Gordontown and the Cumberland Valley on the map for future studies of Mississippian cultures. Gordontown artifacts served as the primary database for researchers from other areas seeking general comparative information for testing of hypotheses about regional interaction. While many questions remain unanswered about this important Mississippian town, Gordontown has earned a place as one of the most historically significant Middle Cumberland sites. While Myer's reporting of both Gordontown and Fewkes can readily be criticized by modern standards, in comparison to other efforts to report excavations at local Mississippian sites, it served as the finest and most comprehensive example available.

Myer's reports provided the key comparative dataset for archaeology in the Lower Cumberland region of Tennessee and Kentucky beginning in the 1930s. The pioneering work of William S. Webb and W.D. Funkhouser at a number of Kentucky sites relied extensively on the Gordontown materials for comparative purposes. Using their own data in concert with that presented by Myer, Webb and Funkhouser developed the concept of the "typical Cumberland Valley stone-grave culture" which they often referred to as the "Gordon Aspect." As noted by Schwartz (1967:48), "there was frequent application of the descriptive categories, Stone Grave Culture, Gordon Culture, Fort Ancient Culture, and Tennessee-Cumberland Phase, and good use of the comparative material available from surrounding states." Schwartz (1967:110-111) further noted,

In 1928, W.E. Myer published the description of sites with houses, stockades, and pottery from near Nashville, Tennessee, to which he gave the name "Gordon Culture." This report highly influenced Webb and served as the major comparative guideline for his work in the next few years in western Kentucky on what later turned out to be late prehistoric Mississippian material. Between 1929 and 1933 Webb and Funkhouser published descriptions of five sites from western Kentucky which would currently be classified as Mississippian.... All of these were compared with the Gordon culture, and it was usually concluded that this was the "predominant culture represented."

Webb's and Funkhouser's presentation of the Gordon culture is best detailed in their report on the Tolu site (Funkhouser and Webb 1931:405-406):

It is evident that the predominant culture represented on the Tolu Site is the Gordon Culture as described by Myer. Among the outstanding cultural characters which seem to be typical of this Gordon Culture may be mentioned the following: (1) A mound erected on the site of a

building; (2) The building destroyed by fire and showing the characteristic post molds; (3) The walls built of wattlework clay plastered on cane, straw and twigs; (4) Typical shell artifacts - at least one having the four world quarters cross incised in the shell; (5) Flint hoes found on the site; (6) Textile-marked, salt-pan pottery in great abundance; (7) Double lug pots without shell tempering.

Their observations, while perhaps somewhat broad and generic by modern standards of phase designation, hold true today in the definitions of Mississippian culture in the Tennessee-Cumberland region (and beyond). As a result of a singular publication at just the right moment in time, the "Gordon site" became synonymous with Mississippian in the Cumberland Valley.

The influence of Myer on Webb and his colleagues extended well beyond western Kentucky as a result of their extensive use of his data. For example, in the classic *Kincaid: A Prehistoric Illinois Metropolis*, Faye-Cooper Cole (1951:162) makes reference to "the Gordon focus" -- made up of the Gordon, Fewkes, Williams, Duncan, and Glover sites," suggests a relationship to Kincaid, and describes it as part of the "Tennessee-Cumberland Aspect." Discussions of the Cumberland Valley in the classic Cole "festschrift" volume, *Archeology of the Eastern United States*, edited by James B. Griffin, mention that "along the Cumberland and Harpeth rivers the Gordon people built great communities with groups of substructure mounds upon which their public buildings stood" (Kneberg 1952).

And finally at the continental level, Gordon Willey (1966) adopted the same terminology in the classic two-volume *An Introduction to American Archaeology*. As Willey (1966:300) noted, "the Temple Mound II Mississippian cultures of the region -- the Duck River and Gordon phases -- emerged... to reflect predominantly Mississippian themes.... For burials, the Gordon and Duck River peoples used the 'stone-box grave', a rectangular box-like tomb of rough stone slabs laid on edge to form four upright walls which were covered with other slabs. The dead were placed full length and on their backs within the tombs."

Gordontown had experienced its Golden Age as a major and prominent type site for a "culture," "aspect," "focus," and "people." Ironically, at the local level, the site had once again vanished into anonymity as an important locus for archaeological investigations. No efforts to investigate the site are recorded between 1920 and 1965. Not even the broad reaching, generally comprehensive, and sometimes misguided efforts of members of the Tennessee Archaeological Society throughout Tennessee from the 1940s through the 1970s touched Gordontown.

Modern professional archaeology was not to reach the Nashville area until the late 1960s and early 1970s when a coalition of professional and avocational archaeologists incorporated as the "Southeastern Indian Antiquities Survey" in loose affiliation with Vanderbilt University. Although some preservation efforts were pursued by this organization, most of their time and energy were focused on salvaging sites in the process of destruction by a boom of suburban expansion around Nashville. As a result, Gordontown was virtually untouched during this period as well, although Vanderbilt University apparently sponsored some limited testing on three of the "house

circles" around 1966 (John Dowd, personal communication 1994; John Broster, personal communication 1996). The Vanderbilt investigations determined that two of the "house circles" contained no substantial archaeological remains, and that the third appeared to be more of a trash-filled pit rather than the remains of a structure. While unconfirmed at this time, it seems probable that they were excavating areas previously investigated by Myer.

As a result of the joint professional and avocational efforts in the region, local researchers shifted away from the Gordon culture appellation – preferring to use new terminology based on their more detailed salvage excavations. The local manifestation of Mississippian peoples became widely known as *The Middle Cumberland Culture* with the publication of a volume bearing that title reporting salvage archaeology at two Mississippian village sites (Ferguson 1972). Fortunately, the Southeastern Indian Antiquities Survey salvaged a considerable amount of information from many of the Mississippian sites destroyed during the late 1960s and early 1970s. Unfortunately, no group of concerned community members emerged to focus preservation efforts on Gordontown at that time.

Gordontown Rediscovered: 1985 and Beyond

The physical rediscovery of Gordontown in 1985 yielded substantive data to be presented throughout this volume. Beyond this new information, curated collections from Gordontown continue to play a disproportionately important role in specialized analyses. Myer's sample of negative painted ceramics from Gordontown provided key comparative data for Sherri Hilgeman's conclusion that "there were regular differences in the cultural significance of negative painted ceramics and thus the contexts in which those ceramics were used" (Hilgeman 1985:203; see also Hilgeman 1991). In this detailed study, Hilgeman determined through examination of Gordontown ceramics that the negative painted plates from the Nashville area "may have been inspired by Angel plates...[but were] probably not Angel Negative Painted..." (Hilgeman 1985:199).

Ceramic sherds from Gordontown were also included in the neutron activation analysis of large-scale patterns in the chemical composition of Mississippian pottery (Steponaitis, Blackman, and Neff 1996). Of the eleven sherds from the Nashville area used in the study, ten derived from Gordontown. As a result, Steponaitis et al. defined an Appalachian Rim clay province encompassing northern Alabama and the eastern two-thirds of Tennessee. The significant representation of Gordontown ceramics in this seminal work on the "large-scale patterns of chemical variation in the clays used by Mississippian potters" once again underlines the prominence of this site on the forefront of archaeological science.

Gordontown may have been a modest town by Mississippian standards, but it has played a remarkable and prominent role in the study of Middle Cumberland peoples. While the dream of a "Gordon Site National Monument" expressed in the opening epigraph was never realized, on-going and future examinations of collections from this site continue to elevate the quiet greenspaces of a residential subdivision to national prominence.

III. SALVAGE EXCAVATION OF THE GORDONTOWN SITE

Michael C. Moore and C. Parris Stripling

Salvage Methods

As previously mentioned in the Introduction, the Division of Archaeology and HHI worked out an equitable arrangement in which the subdivision project could continue on schedule, and at the same time allow the Division an opportunity to investigate the cultural resources prior to their disturbance by construction activities. A variety of realistic factors influenced this agreement, including time, respectful burial removal, and partial site preservation. The Division and HHI agreed that archaeological investigations would proceed on a lot by lot basis, with all initial topsoil removal activities monitored by an archaeologist to identify any features that might be exposed. Under this arrangement, a pan scraper and/or bulldozer would remove the upper 30 to 60 cm of soil at a deliberate pace to allow an archaeologist to examine the surface for evidence of cultural activity. All features exposed during the overburden removal would be flagged, assigned field numbers, and mapped.

The identification and removal of human burials was given priority over other features during the project. Most of the burials consisted of stone-boxes that were easily identified by the presence of limestone slabs. Standard excavation techniques were used to expose, record, and remove the skeletal remains. When the presence of a stone-box was suspected, the area was shovel-skimmed and trowelled to expose the box outline. Any soil matrix around the skeleton was carefully excavated (with trowels, dental picks, paint brushes, etc.) to avoid damage to the remains or associated artifacts. Once the burial was fully exposed, a standardized burial form noting the condition, orientation, articulation, burial method, obvious anomalies and pathologies, and associated artifacts was completed. A plan-view map of the burial was also drawn. After color slides and black and white photographs were taken, the skeletal remains were removed from the grave and placed in appropriate protective containers for transport to the Division laboratory. In some cases individual bones were wrapped and labeled to aid in laboratory processing.

Non-mortuary features exposed during the project were also shovel-skimmed and trowelled to define their limits. Each feature location was mapped and a standardized form completed. Unfortunately, not all of these features were excavated or photographed due to the priority given human burials. A number of non-mortuary features were destroyed by the sometimes rapid movement of earthmoving equipment. As much information as possible was recorded during the brief time that most of the features were exposed. In the majority of cases, however, only a sample of artifactual material was obtained from non-mortuary contexts.

Burial Identification and Removal

Most of the topsoil within the site area was subjected to some degree of displacement by heavy equipment. Overburden fill was usually removed to subsoil

which allowed for maximum exposure of any potential cultural features, especially human graves. Removal of the overburden was initiated within the southwestern site area and proceeded in a generally clockwise fashion around the site.

Three major concentrations of graves and features were revealed within the village area. The first, and most extensive, concentration was found in the southwest quadrant of the site (Figure 5, inset A). This zone appears to correspond to the area where Myer had recorded "house circles" 17, 18, 19, 20, 21, 31, 32, 33, 48, and 49 (Figure 6). In addition to burials, a variety of other features were exposed, including structures, refuse-filled pits, a hearth, and a palisade segment.

A second area of (primarily) scattered graves was identified in the east-central site area. This concentration occurs somewhat southeast of the central mounds and immediately west of "house circles" 69, 65, and 84 defined by Myer (Figure 6). Four features and nineteen graves were exposed and removed from an area void of features on Myer's map.

The third major burial concentration was recorded in the central site area during the final weeks of fieldwork. These graves first appeared as a large mass of limestone slabs (designated Feature 22) that was initially interpreted as a stockpile of stones from previous looting activities. However, continued excavation within the area revealed that this mass was actually a tremendous concentration of tightly clustered stone-box burials. Additional investigation with probes determined that there were many more stone-boxes around, as well as below, the graves already exposed (see Figure 5, inset B). Such a massive concentration of stacked stone-boxes suggested that Feature 22 could actually be the remnants of a small burial mound. The location of these graves corresponds with the area labeled "platform" on Myer's map (see Figure 1). Consultations between the Division of Archaeology and HHI determined that a considerable amount of time and labor would be required to remove these graves, and that the most feasible alternative was to discontinue excavations and incorporate this house lot as greenspace within an adjacent common ground. This decision was especially commendable since this particular lot had been selected for the home of the HHI president.

Based upon the detailed nature of Myer's site map, one must wonder why he (apparently) failed to identify this large cemetery/mound. The answer appears to be something many modern day archaeologists can sympathize with, as Myer (1928:498) states that a cultivated garden made it impossible to examine this area of the site.

Other Features

Twenty-five features were identified, mapped, and sampled during the 1985-1986 excavations. Several factors were responsible for the somewhat low incidence of recorded features. As previously indicated, burial removal was the priority activity throughout the project, and at times unattended non-mortuary features were destroyed by earthmoving equipment. Also, faint or ill-defined features may have been overlooked or removed by grading activities. However, every effort was made to identify and sample all obvious features as the overburden was removed. All identified

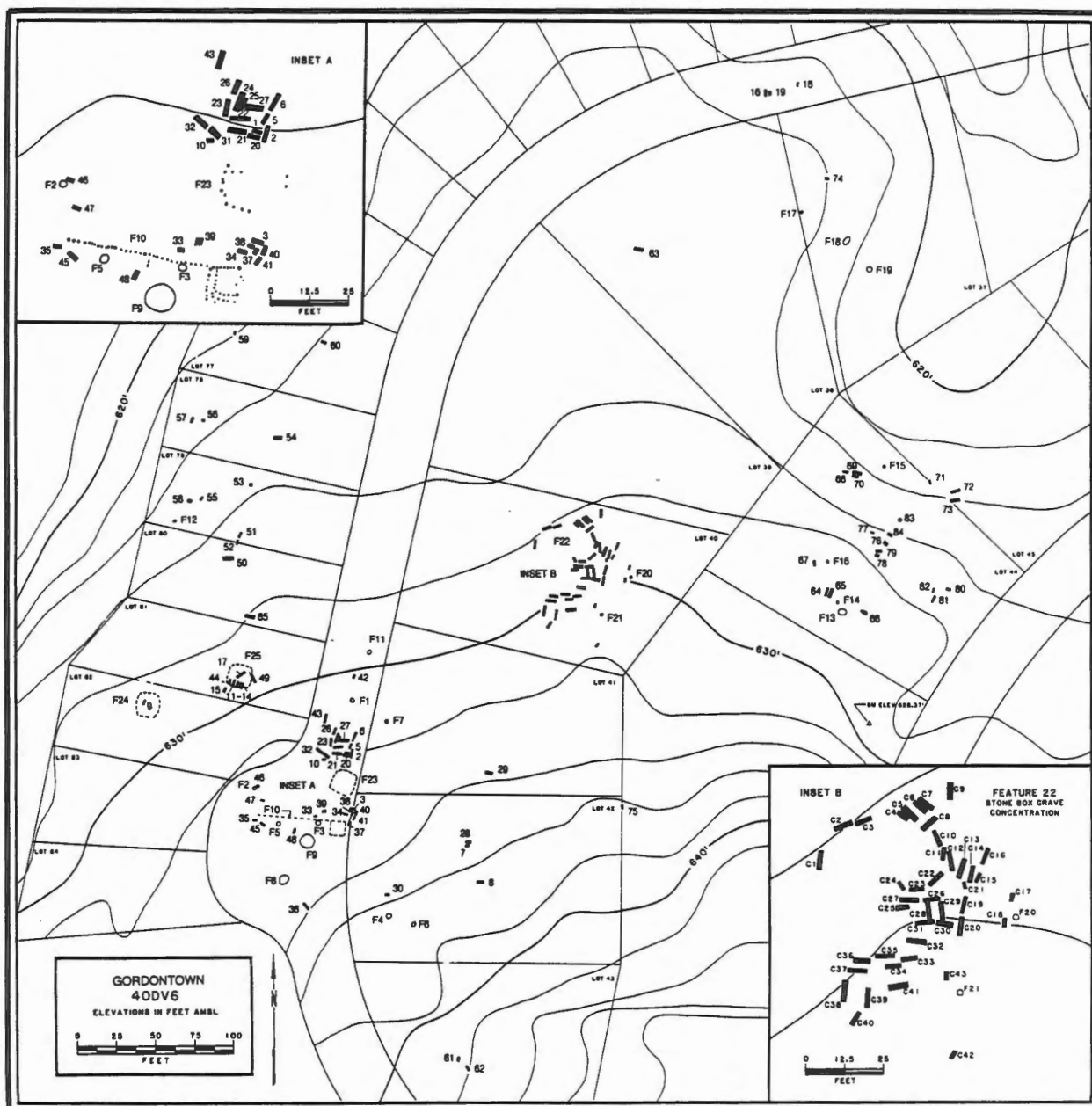


Figure 5. Lot map with burials and features identified from the 1985-1986 excavations.

features were mapped on the site plan, with photographs and drawings made on selected features.

The salvage excavations yielded no conclusive evidence of mound fill within the two areas labeled by Myer as mounds. It appears that these earthworks were effectively leveled in the past, probably during the previous investigations of Jones and Myer. In a related note, no opportunity was afforded to test within the areas identified by Myer as "probable course of wall" and "bastions" (see Figure 6). A curious elongated rise was observed, however, along the southern edge of the site which might be the remnants of the wall on Myer's map. The exposure of Feature 10 (an east-west post alignment) closer to the center of the site provided evidence of an inner wall or fortification previously unidentified by Myer.

Feature 1

Type: Refuse-filled pit.

Plan view and Dimensions: Possibly circular, estimated 1.5 meters in diameter.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell.

Remarks: This feature was only partially excavated.

Feature 2

Type: Midden and ceramic concentration.

Plan view and Dimensions: Unknown.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Ceramics.

Remarks: This feature was exposed and only partially examined.

Feature 3

Type: Hearth.

Plan view and Dimensions: Unknown.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics.

Remarks: This small area of fired yellowish-orange clay was exposed but not excavated.

Feature 4

Type: Midden remnant.

Plan view and Dimensions: Unknown.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: ceramics and faunal remains observed.

Remarks: This feature consisted of a small area of dark midden that was exposed but not excavated.

Feature 5

Type: Artifact concentration.

Plan view and Dimensions: Unknown.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell.

Remarks: This small concentration of artifacts was exposed but not excavated. Only a sample of items was removed from this feature.

Feature 6

Type: Artifact concentration.

Plan view and Dimensions: Unknown.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics and ceramics observed.

Remarks: This feature was a small, amorphous area of dark soil that was exposed but not excavated.

Feature 7

Type: Unknown.

Plan view and Dimensions: Circular, unknown dimensions.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics.

Remarks: This small feature of dark soil was exposed but not excavated.

Feature 8

Type: Refuse-filled pit.

Plan view and Dimensions: Unknown.

Profile: Unknown.

Depth: Shallow, exact depth unknown.

Associated Artifacts: Lithics, ceramics, faunal remains, floral remains.

Remarks: A portion of this pit was removed during the grading activity.

Feature 9

Type: Refuse-filled pit.

Plan view and Dimensions: Circular, 3.5 meters in diameter.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell, floral remains.

Remarks: This feature contained a large amount of cultural material. Only one-quarter of the feature was removed.

Feature 10 (Figures 7 and 8)

Type: Section of palisade and bastion.

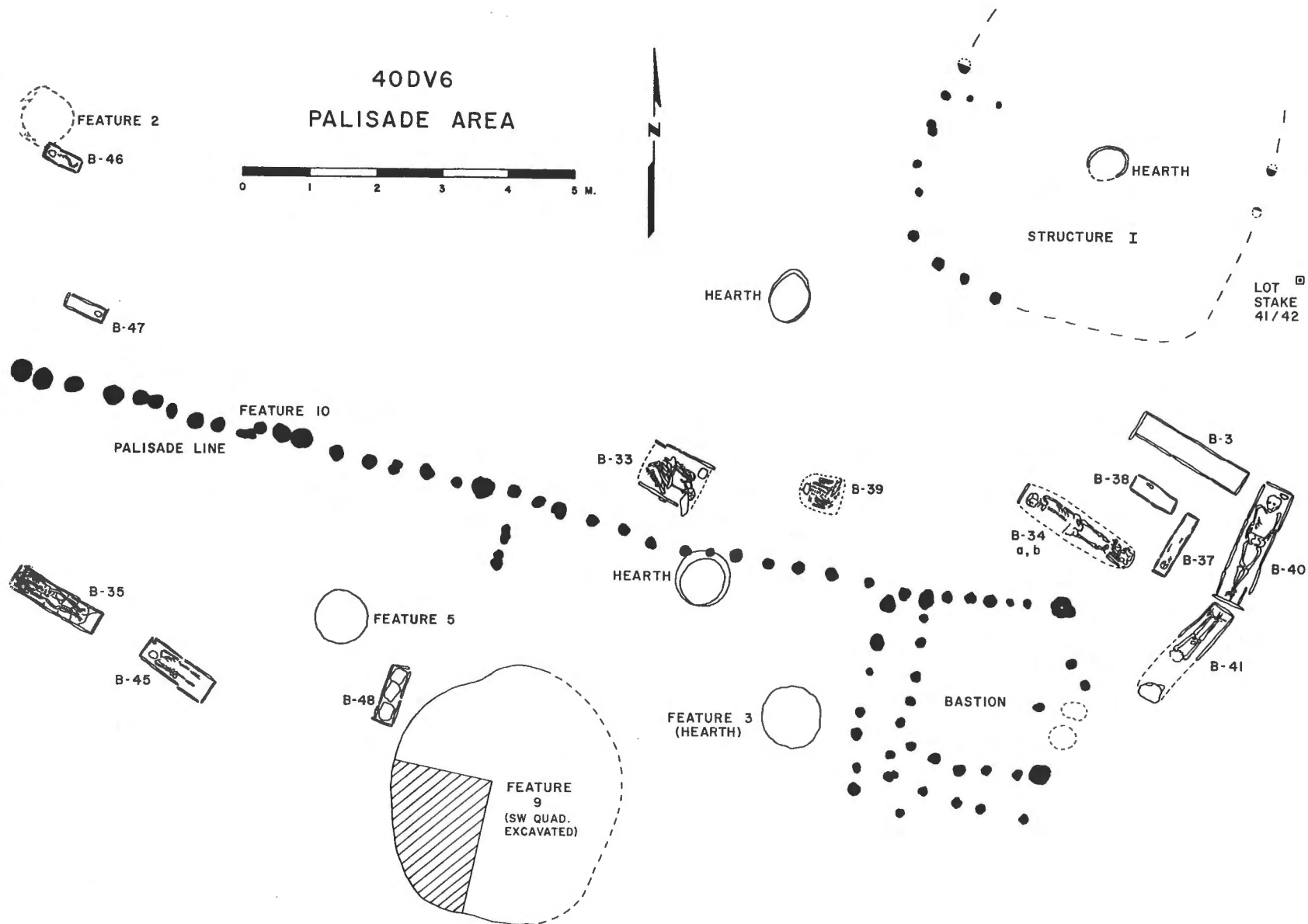
Plan view and Dimensions: Approximately 16.5 meters of the linear palisade was exposed. The bastion was square and measured about 3.3 meters on a side. The bastion walls exhibited a double row of posts.

Profile: N/A

Depth: Unknown.

Associated Artifacts: Unknown.

Figure 7. Identified section of palisade line and bastion



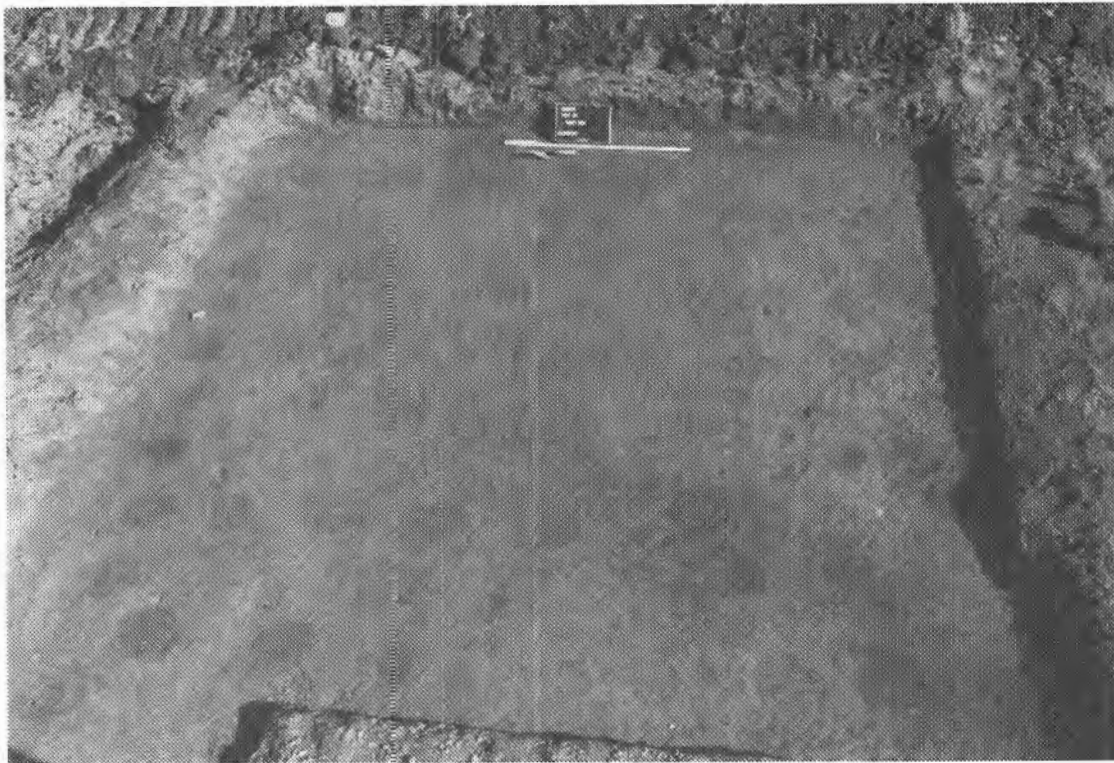


Figure 8. Bastion associated with Feature 10.

Remarks: This feature consisted of a nearly east-west alignment of 41 postmolds, associated with an additional 29 postmolds that formed a square, double-walled bastion. This bastion extended to the south. Although an estimated 16.5 meters (ca. 52 feet) of the palisade were exposed, it was quite evident that the palisade extended in either direction. This feature was found well within the southwest quadrant of the site area, with burials and features located on either side of it. Feature 10 could represent the actual southern fortification line of the town or possibly the location of an interior wall associated with a major reorganization of the town.

Feature 11

Type: Refuse-filled pit.

Plan view and Dimensions: Circular, 1.0 meters in diameter.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell, floral remains.

Remarks: This circular feature, denoted by dark soil and ash, was only minimally investigated due to time constraints. Only a sample of the artifactual material was recovered.

Feature 12

Type: Hearth.

Plan view and Dimensions: Circular, about 50 cm in diameter.

Profile: Unknown.

Depth: Approximately 8 cm.

Associated Artifacts: None.

Remarks: Feature 12 consists of a small, circular area of yellowish-orange clay. Much of this feature had been removed by the heavy machinery.

Feature 13

Type: Refuse-filled pit.

Plan view and Dimensions: Oval, 1.6 meters by 1.2 meters.

Profile: Unknown.

Depth: 20 cm.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell.

Remarks: The upper portion of this pit had been removed by heavy equipment activity.

Feature 14

Type: Ash deposit.

Plan view and Dimensions: Circular, 65 cm by 60 cm.

Profile: Unknown.

Depth: 3 cm.

Associated Artifacts: None.

Remarks: This deposit of white ash had no identifiable pit outline. The upper portion of this deposit had been removed during the grading activity.

Feature 15

Type: Hearth.

Plan view and Dimensions: Circular, about 50 cm in diameter.

Profile: Basin-shaped.

Depth: 10 cm.

Associated Artifacts: None.

Remarks: The upper portion of this orange clay hearth was scraped away. This ash-filled feature may have been originally associated with a (now) destroyed structure.

Feature 16

Type: Ash deposit.

Plan view and Dimensions: Oval?, 32 cm by 40 cm.

Profile: Unknown.

Depth: 3 cm.

Associated Artifacts: None.

Remarks: The top of this feature was removed by previous earthmoving activity.

Feature 17

Type: Refuse-filled pit.

Plan view and Dimensions: Circular, 52 cm in diameter.

Profile: Unknown.

Depth: 21 cm.

Associated Artifacts: Lithics, ceramics, mussel shell.

Remarks: All of this feature was excavated.

Feature 18

Type: Refuse-filled pit.

Plan view and Dimensions: 1.8 meters by 1.0 meters.

Profile: Unknown.

Depth: 44 cm.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell, floral remains.

Remarks: All of this feature was excavated. Several miscellaneous human skeletal elements were present in the bottom of this feature.

Feature 19

Type: Refuse-filled pit.

Plan view and Dimensions: Oval, 1.2 meters by 90 cm.

Profile: Unknown.

Depth: 25 cm.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell.

Remarks: One-half of this feature was excavated.

Feature 20

Type: Hearth?

Plan view and Dimensions: Circular, about 21.5 cm in diameter.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: None.

Remarks: This small, orange soil stain probably represents the base of a hearth.
Feature 20 was exposed but not completely excavated.

Feature 21

Type: Probable hearth.

Plan view and Dimensions: Circular, about 21 cm in diameter.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: None.

Remarks: This feature was exposed but not excavated.

Feature 22

Type: Concentration of stone-box graves, possible burial mound.

Plan view and Dimensions: see burial description on page 19.

Profile: see burial description on page 19.

Depth: see burial description on page 19.

Associated Artifacts: None.

Remarks: see burial description on page 19.

Feature 23 (Figures 9 and 10)

Type: Structure (designated Structure 1).

Plan view and Dimensions: Unknown (probably square with rounded corners), east to west measurement of 5.8 meters.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics, ceramics, faunal remains, mussel shell, floral remains.

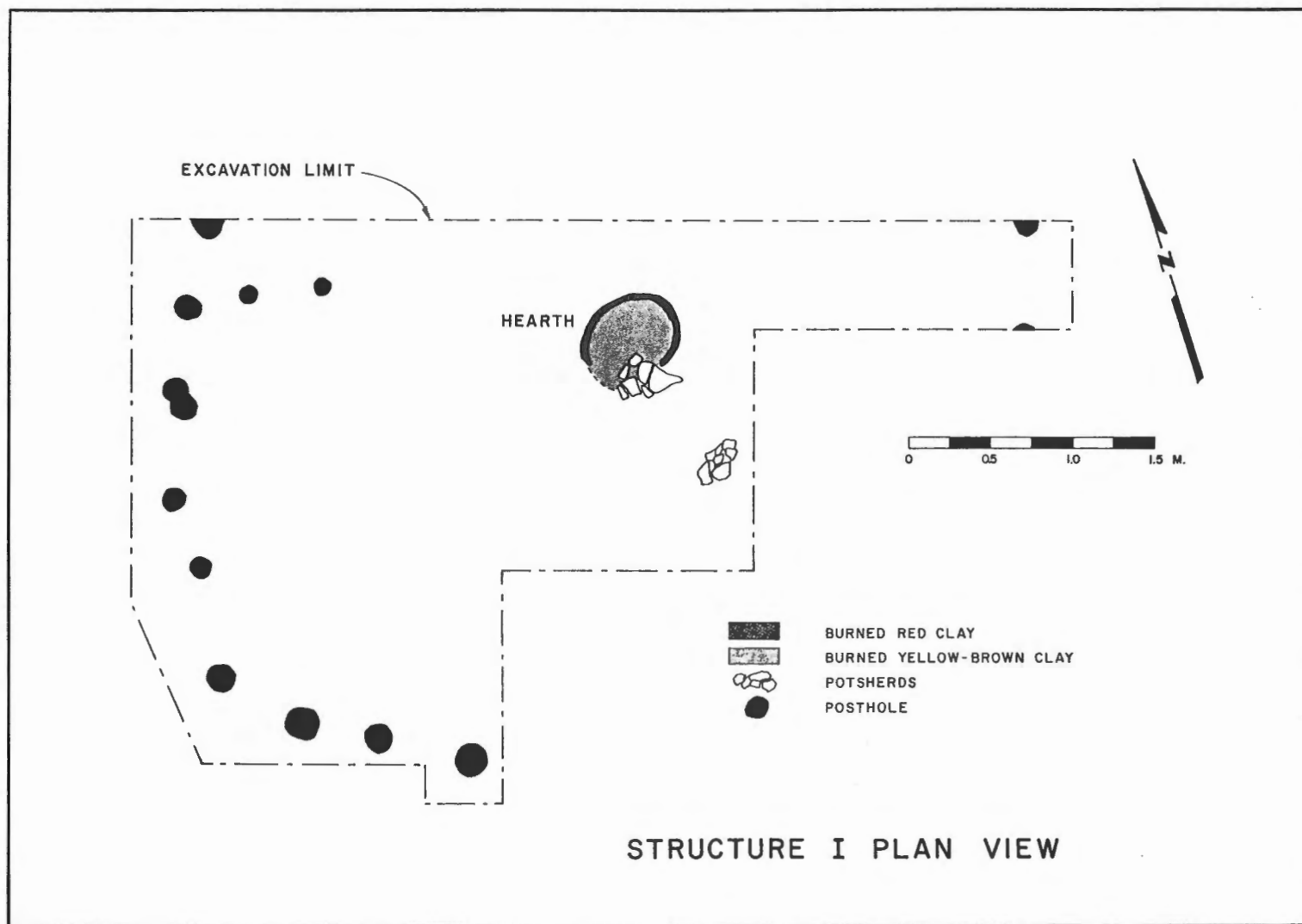


Figure 9. Plan view of Structure 1 (Feature 23).

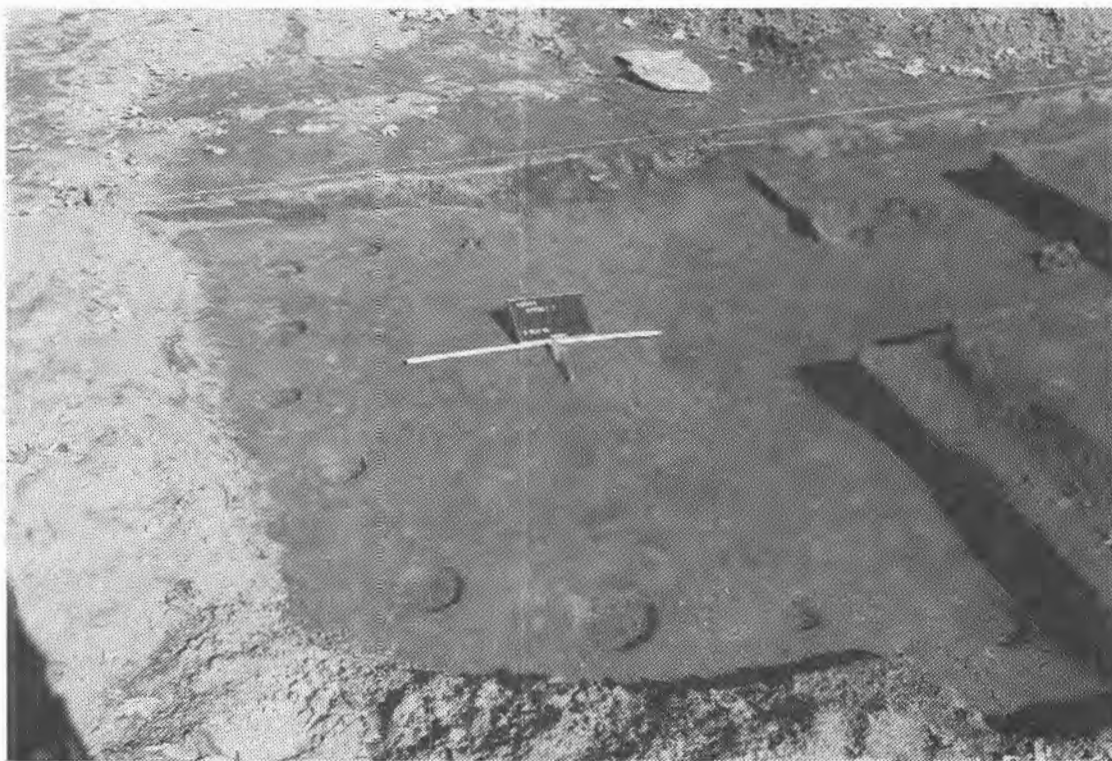


Figure 10. Excavation photograph of Structure 1 (Feature 23).

Remarks: Feature 23, designated Structure 1, was defined by a series of 14 postmolds and an interior hearth. An area of dark soil associated with 12 postmolds was exposed along the southwest portion of the feature, with another two postmolds found on the east side. Not enough of the post pattern was exposed to get a definite pattern shape, although it is suggested here that the structure is square with rounded corners. The east-west dimension of 5.8 meters compliments the measurements obtained at other Mississippian houses within the study area (Moore and Smith 1993). A circular to oval, puddled clay hearth was recorded within what appears to be the structure center. The structure fill was a homogeneous medium-brown loam that contained a dense amount of cultural material. The fragmentary remains of 20 jars and 18 bowls, including two effigy bowls, were associated with this structure.

Feature 24 (Figure 11)

Type: Structure (designated Structure 2).

Plan view and Dimensions: Poorly defined area of dark soil measuring roughly four meters by five meters.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Lithics, floral remains.

Remarks: Several burned posts and possible postmolds were observed within this feature but did not yield an identifiable post pattern. Near the center of this dark soil area was a shallow, clay-lined hearth roughly 35 cm in diameter and about 10 cm



Figure 11. Puddled clay hearth from Structure 2 (Feature 24).

deep. An (empty) infant stone-box grave (Burial 9) was also present 1.5 meters northwest of the hearth. In addition, two pieces of limestone placed in an upright position (and forming a V shape) were observed in the northeast quarter of Feature 24. These upright stones may be the remnants of another stone-box, although an unusual limestone feature with upright limestone fragments was found within the Mississippian structure at Brandywine Pointe (Moore and Smith 1993). Given the relative absence of cultural materials and the empty stone-box, it is possible that the Feature 24 area has been previously excavated (Myer's "house circle" No. 18?).

Feature 25 (Figures 12 and 13)

Type: Structure (designated Structure 3).

Plan view and Dimensions: Probably square, based upon an area of postmolds, dark soil and burned daub that extends approximately 5 meters by 5.5 meters.

Profile: Unknown.

Depth: Unknown.

Associated Artifacts: Mica, lithics, ceramics, faunal remains, mussel shell, floral remains.

Remarks: Feature 25 represents a partially defined structure floor (designated Structure 3) with a central hearth and intrusive (apparently not associated with the structure) stone-box burials. The considerable amount of burned clay and charcoal observed within the structure fill indicated that this building had burned. Also, many of the artifacts recovered from the Feature 25 area displayed signs of being burned. Thirteen postmolds recorded along the eastern edge of the feature appear to

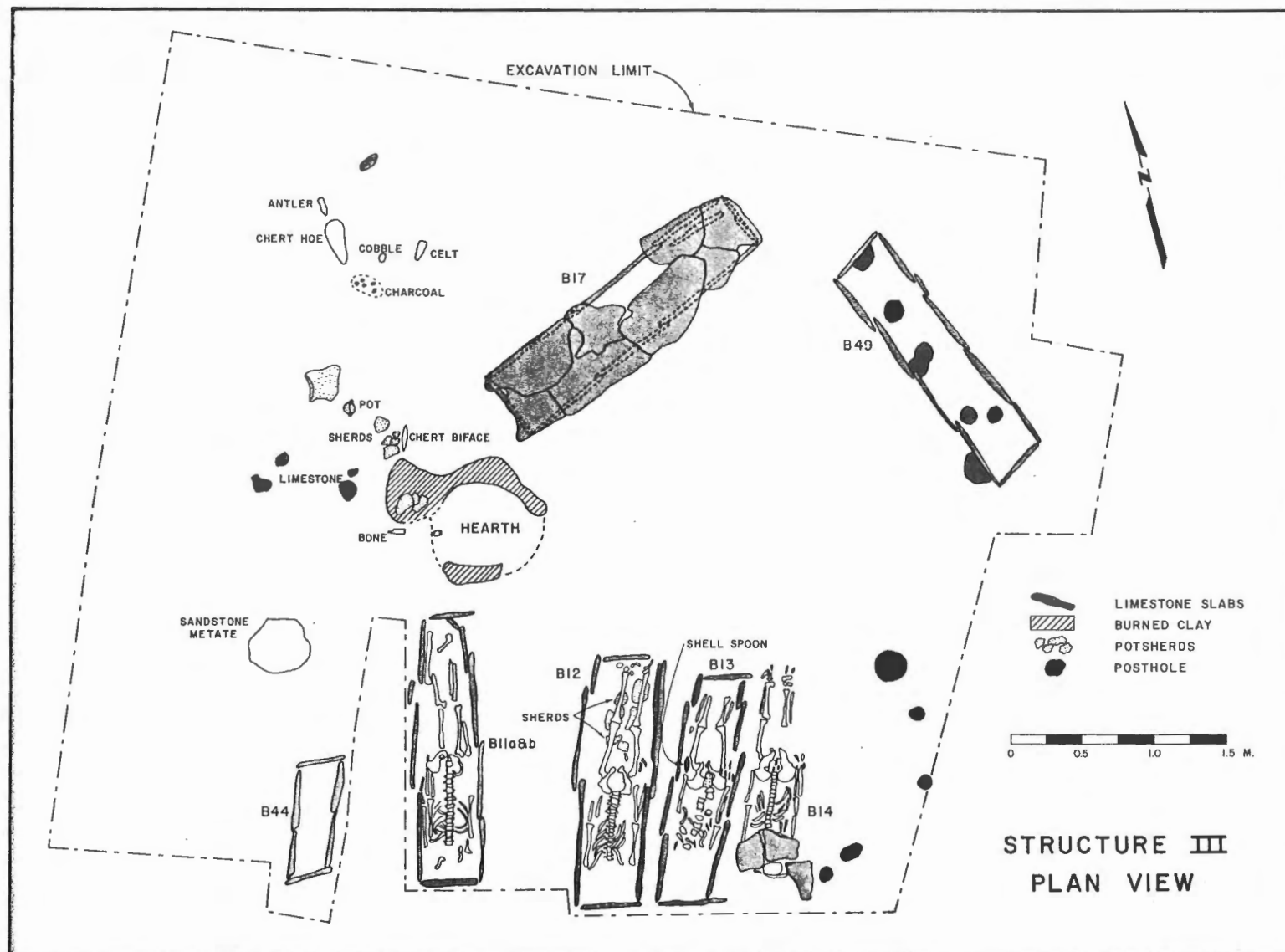


Figure 12. Plan view of Structure 3 (Feature 25).

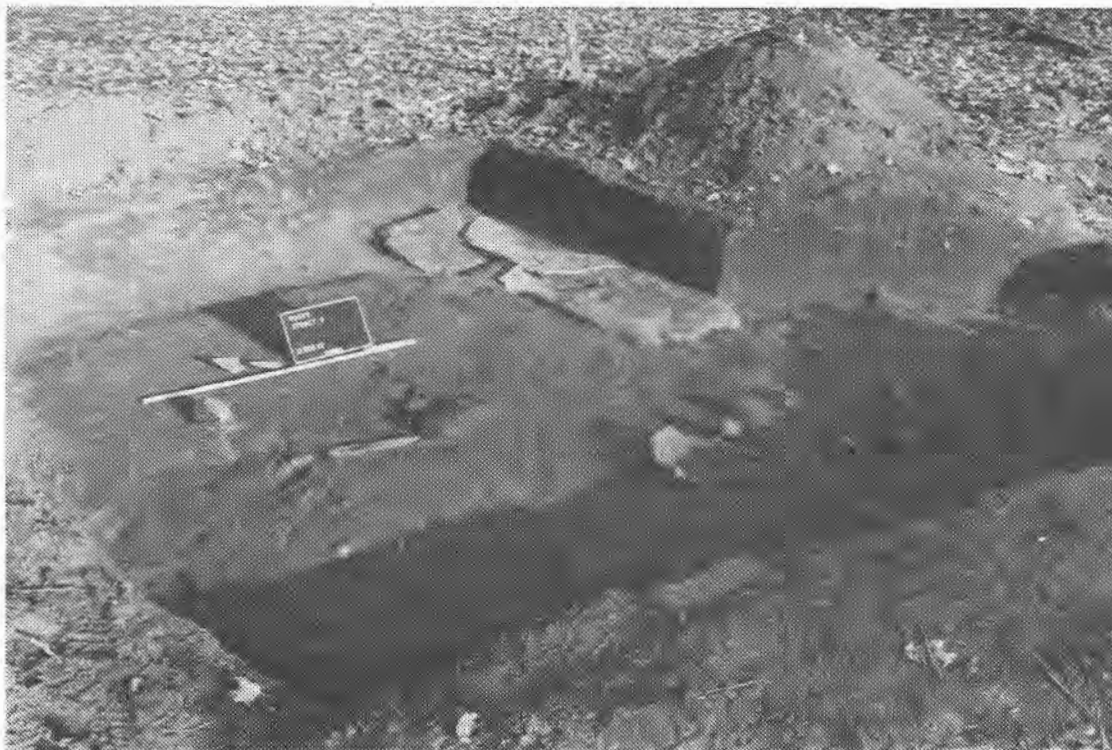


Figure 13. Excavation photograph of Structure 3 (Feature 25).

represent the corner of a square (possibly rectangular) structure. Interestingly, six of these postmolds were defined on the floor of an intrusive stone-box burial. A total of seven intrusive stone-boxes were present within or near Feature 25. Obviously the structure burned and the area was later used to bury the dead. Several fragments of mica were recovered from the vicinity of the hearth.

IV. RADIOCARBON DATES

Michael C. Moore

Two radiocarbon samples were submitted from the 1985-1986 investigations at Gordontown. One wood charcoal sample (Tx-5551) from the southeast quadrant of Structure 1 (Feature 23) yielded an uncorrected date of 640 +/- 70 BP, or AD 1310 +/- 70. A second wood charcoal sample (Tx-5550) from the floor of Structure 3 (Feature 25) produced an uncorrected date of 520 +/- 60 BP, or AD 1430 +/- 60.

Using (Stuiver and Becker 1986), corrected ages and age ranges were calculated for each of the samples:

Structure 1 sample (Tx-5551); BP 650, 577, 570; or AD 1300, 1373, 1380

one sigma BP 671 (650, 577, 570) 555
AD 1279 (1300, 1373, 1380) 1395
two sigma BP 690 (650, 577, 570) 530
AD 1260 (1300, 1373, 1380) 1420

Structure 3 sample (Tx-5550); BP 535 or AD 1415

one sigma BP 621 (535) 515
AD 1329 (1415) 1435
two sigma BP 653 (535) 497
AD 1297 (1415) 1453

A weighted average calculation of BP for these two dates yielded calibrated ages of BP 618, 607, 556; or AD 1332, 1343, 1394; and calibrated age ranges at:

one sigma BP 635 (618, 607, 556) 536
AD 1315 (1332, 1343, 1394) 1414
two sigma BP 666 (618, 607, 556) 519
AD 1284 (1332, 1343, 1394) 1431.

V. MORTUARY ANALYSIS

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C. Parris Stripling and Michael C. Moore

The following presents the results of analysis of the human skeletal material from the 85 burials encountered during the 1985-86 excavations of Gordontown. The purpose of this section is to present site-specific demographic and other relevant information that brings to light an image of the human population that resided at 40Dv6. Including Gordontown, several sites form a comparative bioarchaeological database for the region of the Nashville Basin. These sites include Arnold (40Wm1), Averbuch (40Dv60), Rutherford-Kizer (40Su15), and Moss-Wright (40Su20) as examples of other local Mississippian period skeletal populations.

The unequivocal hallmark of Mississippian period burials within the middle Cumberland region are the limestone slab-lined graves in which the dead are buried. Stone-box grave interments are part of a much broader regional pattern of Mississippian period mortuary behavior reported elsewhere in the mid-South and extreme lower Midwest (e.g., Kentucky, Ohio, Indiana, Illinois) (Brown 1981; Clay 1984a; Dowd 1986; Milner and Schroeder 1992; Putnam 1883a, 1883b; Thruston 1890).

Most of the burials excavated at 40Dv6 represented typical stone-box graves previously documented for Mississippian groups within the study area. These graves are constructed of vertically set limestone (sometimes shale) slabs and head and foot stones, and covered by horizontally placed slabs or capstones. Raw material to construct these coffins was readily available from the adjacent creeks and slopes (Figure 14). Although these relatively thin stones were at times used to line the bottom of the coffin, most floors were not lined, and ceramic sherds (from partial or whole vessels) were occasionally utilized to line these graves. Each grave was (for the most part) constructed to accommodate the size of the individual being buried; so in many cases the initial identification that the grave contained either an adult, child, or infant could be easily ascertained.

A total of 100 people was exhumed from 85 graves during the project (Table 1). Most of these individuals (n=95) were interred in stone-boxes, with the remainder placed in round to oval pits (see Appendix C). Nearly all of the remains buried in stone-boxes were placed in an extended, face up position. Several exceptions were observed, however, including one grave (Burial 79) that consisted of a stone-box that would have accommodated an extended burial but instead contained a flexed individual.

In most cases the stone-boxes contained only one individual. However, 14 graves (Burials 1, 11, 22, 24, 29, 34, 51, 54, 67, 69, 75, 77, 80, and 82) at Gordontown accommodated two or more individuals in the same box. Another burial (Burial 14) yielded the remains of a (probable) female and newborn that were possibly buried within an unlined pit grave rather than a stone-box.



Figure 14. Limestone slabs occur in abundance within Brentwood Branch.

Some variation in stone-box size was also noted within the Gordontown sample. For example, several semi-flexed to flexed individuals were placed in stone-boxes somewhat shorter and wider than a typical box. Two such burials (33 and 84) contained tightly flexed skeletons with a ceramic vessel placed behind each individual's head. Another interment of this type (Burial 76) consisted of a semi-flexed female reclining on her back with the legs drawn up and rotated to one side and the arms extended down at her sides.

Two additional stone-box graves exhibited characteristics that stand out from other graves within the site area. One grave, Burial 7, was a relatively small box that contained an adult male bundle burial. Interestingly, the cranium of the interred individual was placed in the center of the box on a deposit of small, smooth river pebbles.

By far, the most unusual grave encountered at Gordontown was Burial 10 (see Appendix C). This short and wide, but massively constructed grave was relatively deep (40 cm) with multi-layered sidewalls and capstones. Between two and three layers of limestone were visible on the box sidewalls, and up to four layers of stone were used to cap the grave. Another unusual aspect of Burial 10 was that it contained the remains of a very robust, headless male. This individual's knees abutted the west end of the box as his lower legs were flexed back toward the pelvis. The torso was placed in a chest-down position with the cervical vertebra against the east end of the box. Both arms were bent behind his back, as if this person had been bound. The cranium was not present.

Table 1. A Summary of Grave Attributes from the 1985-1986 Gordontown Excavations.

Burial	Type	Position	Bone Condition	Percent Complete	Disturbed	Orientation (E of N)	Head Facing	Grave Goods	Burial Floor	Box* Length	Box* Width	Box* Depth
1	stone-box	extended	poor	25	no	105 ⁰	W	no	ceramic	87	35	22-28
1A	stone-box	unknown	-	-	-	-	-	no	ceramic	87	35	22-28
2	stone-box	extended	good	95+	no	320 ⁰	N	no	earth	173	38	20
3	stone-box	extended	fair	70	yes	120 ⁰	W	no	earth	175	35	37
4	REASSIGNED AS BURIAL 34											
5	stone-box	extended	-	0	yes	23 ⁰	-	no	earth	130	30	-
6	stone-box	extended	-	0	yes	21 ⁰	-	no	earth	185	25-29	20-25
7	stone-box	bundle	good	59	no	94 ⁰	-	yes	earth	101	38	-
8	stone-box	extended	good	80	no	119 ⁰	W	no	earth	175	45	17-32
9	stone-box	extended	poor	< 5	yes	28 ⁰	S?	no	stone	54	35	-
10	stone-box	semi-flexed	good	100	no	87 ⁰	E	no	stone	106	80	40-42
11A	stone-box	extended	fair	90	yes	23 ⁰	S	no	earth	174	42	32-37
11B	stone-box	extended	fair	90	yes	23 ⁰	S	no	earth	174	42	32-37
12	stone-box	extended	fair	90	yes	15 ⁰	S	no	ceramic	179	42-46	34-35
13	stone-box	extended	poor	-	yes	13 ⁰	S?	yes	earth	182	33-43	27-35
14	pit?	extended	fair	80	yes	13 ⁰	S	no	earth	140	40	-
14A	pit?	unknown	poor	-	-	-	-	no	earth	140	40	-
15	stone-box	extended	good	75	no	20 ⁰	SW	no	earth	178	52	26
16	stone-box	extended?	poor	<10	yes	355 ⁰	N?	no	stone	120	53	-
17	stone-box	extended	good	100	no	47 ⁰	SW	no	earth	206	52-53	-
18	stone-box	extended?	poor	<20	yes	10 ⁰	N	no	earth	65	20	17
19	stone-box	extended?	poor	20	yes	0 ⁰	-	no	stone	70+	57	-
20	stone-box	extended	poor	<30	no	70 ⁰	W	yes	earth	130	30-35	30-35
21	stone-box	extended	poor	35	yes	121 ⁰	NW	no	earth	190	35-37	-
22A	stone-box	extended	poor	-	yes	95 ⁰	-	yes	earth	188	40	28
22B	stone-box	bundle?	poor	-	yes	95 ⁰	-	no	earth	188	40	28
23	stone-box	extended?	poor	30	yes	10 ⁰	-	no	earth	170	47	20
24	stone-box	extended	good	80	no	20 ⁰	N	no	earth	194	35-43	19-28
24A	stone-box	unknown	poor	-	-	-	-	no	earth	194	35-43	19-28
25	stone-box	extended	poor	20	yes	-	-	yes	ceramic	89	40	20
26	stone-box	extended	fair	80	no?	18 ⁰	N	yes	earth	135	45-50	25

Table 1. A Summary of Grave Attributes from the 1985-1986 Gordontown Excavations. (continued)

Burial	Type	Position	Bone Condition	Percent Complete	Disturbed	Orientation (E of N)	Head Facing	Grave Goods	Burial Floor	Box* Length	Box* Width	Box* Depth
27	stone-box	extended	fair	60	yes	74 ⁰	W	no	earth	182	54	33
28	stone-box	extended	poor	50	no	110 ⁰	-	yes	earth?	102	47	20
29A	stone-box	extended	fair	75	yes	105 ⁰	W	yes	earth	195	48	26
29B	stone-box	bundle?	fair	75	yes	105 ⁰	E	yes	earth	195	48	26
30	stone-box	extended	fair	25	-	80 ⁰	E	no	earth	60	20	20
31	stone-box	extended	fair	85	no	136 ⁰	NW	yes	earth	130	35-45	18-20
32	stone-box	extended	good	100	no	139 ⁰	E	no	earth	150	36	30-36
33	stone-box	flexed	good	100	no	116 ⁰	E	yes	earth	95	75	-
34A	stone-box	extended	fair	-	-	123 ⁰	E	no	earth?	186	50	-
34B	stone-box	bundle	fair	-	-	123 ⁰	-	no	earth?	186	50	-
35	stone-box	extended	good	100	no	120 ⁰	W	yes	stone	140	40	-
36	stone-box	extended	poor	30	yes	145 ⁰	SE	-	earth	198	40	27-28
37	stone-box	extended	poor	25	yes?	25 ⁰	S	no	earth	95	24	-
38	stone-box	extended	poor	<20	yes?	125 ⁰	E	yes	earth	70	25	-
39	pit	semi-flexed	poor	<40	yes	-	E?	-	earth	45	31	15
40	stone-box	extended	fair	80	no	30 ⁰	E	yes	earth	176	45	-
41	stone-box	extended	poor	40	yes	37 ⁰	SW	yes	earth	175	50	20-25
42	stone-box	extended	poor	<40	-	20 ⁰	SSW	no	stone	64	26	15
43	stone-box	extended	fair	75	yes	10 ⁰	S	no	ceramic	186	50	34
44	stone-box	extended	fair	45	yes	25 ⁰	-	no	earth	80	25	-
45	stone-box	extended	fair	100	no	126 ⁰	W	yes	earth	-	-	-
46	stone-box	extended	good	90	no	115 ⁰	W	no	earth	54	19	17
47	stone-box	extended	poor	20	no?	112 ⁰	E	no	earth	60	17	-
48	stone-box	extended	poor	<20	yes	20 ⁰	-	no	stone	78	32	-
49	stone-box	extended	good	80?	yes?	125 ⁰ ?	SE	no	earth	178	48	-
50	stone-box	extended	good	85	no	100 ⁰	W	no	ceramic	186	48	-
51A	stone-box	extended	poor	40-50	dozer	32 ⁰	N	yes	earth	110	35	20
51B	stone-box	extended	poor	40-50	dozer	32 ⁰	N	yes	earth	110	35	20
52	stone-box	extended	fair	65	yes	15 ⁰	N	no	earth	60	16	14
53	stone-box	extended?	poor	<10	yes	90 ⁰	-	no	earth?	50	40	18
54A	stone-box	extended	poor	<25	yes	102 ⁰	-	no	earth	180	45	26

Table 1. A Summary of Grave Attributes from the 1985-1986 Gordontown Excavations. (continued)

Burial	Type	Position	Bone Condition	Percent Complete	Disturbed	Orientation (E of N)	Head Facing	Grave Goods	Burial Floor	Box* Length	Box* Width	Box* Depth
54B	stone-box	extended	poor	<25	yes	102 ⁰	-	no	earth	180	45	26
54C	stone-box	unknown	poor	<10	yes	-	-	no	earth	180	45	26
55	stone-box	extended	fair	65	yes	35 ⁰	NE	no	earth	92	37	18-20
56	stone-box	extended	poor	30	no?	63 ⁰	NE	no	earth	49	20	15
57	stone-box	extended	poor	40	no	34 ⁰	S	no	earth	114	32	15
58	pit	flexed	fair	75	no	80 ⁰	E	no	earth	-	-	-
59	stone-box	extended	poor	< 5	yes	17 ⁰	S	yes	earth	67	30	-
60	stone-box	extended?	poor	<10	yes	115 ⁰	E?	yes	stone	85	40	20
61	stone-box	extended?	poor	< 5	yes	5 ⁰	S?	no	earth	85	38	-
62	stone-box	extended	poor	<40	no?	106 ⁰	W	yes	stone	100	34	18
63	stone-box	extended	fair	85	no	114 ⁰	W	no	earth	168	40	24
64	stone-box	extended	good	100	no	25 ⁰	S	no	earth	165	42	25
65	stone-box	extended	good	100	no	25 ⁰	S	yes	earth	182	54	30
66	pit	semi-flexed	fair	85	no	-	E	no	earth	-	-	-
67	stone-box	extended	fair	80	no	178 ⁰	S	no	ceramic	83	34	16
67A	stone-box	unknown	fair	50	-	-	-	no	ceramic	83	34	16
68	stone-box	extended	poor	40	no	100 ⁰	W	no	earth	106	40	15
69A	stone-box	extended	fair	75	-	110 ⁰	W	yes	ceramic	185	53	25
69B	stone-box	extended?	poor	-	-	110 ⁰	-	yes	ceramic	185	53	25
70	stone-box	extended	poor	<5	yes	110 ⁰	-	no	earth	-	-	-
71	stone-box	extended	poor	<15	yes	160 ⁰	-	no	earth?	85	20	22
72	stone-box	extended	good	100	no	80 ⁰	E	yes	crmc/erth	188	50	20-26
73	stone-box	extended	fair	95	no	85 ⁰	E	no	stn/crmc	190	49	17
74	stone-box	extended	fair	70	no	80 ⁰	E	yes	earth	77	48	20
75	stone-box	extended	fair	75	bhoe	-	-	no	earth	55	20	15
75A	stone-box	extended?	fair	75	bhoe	-	-	no	earth	55	20	15
76	stone-box	semi-flexed	fair	90	no	133 ⁰	SE	no	earth	98	70	33
77	stone-box	extended	poor	<20	-	105 ⁰	W	no	earth	63	35	-
77A	stone-box	unknown	-	<20	-	-	-	no	earth	63	35	-
78	stone-box	unknown	poor	<5	yes	110 ⁰	-	no	earth	80	45	28
79	stone-box	flexed	fair	70	yes?	86 ⁰	E	no	earth	118	20-25	40

Table 1. A Summary of Grave Attributes from the 1985-1986 Gordontown Excavations. (continued)

Burial	Type	Position	Bone Condition	Percent Complete	Disturbed	Orientation (E of N)	Head Facing	Grave Goods	Burial Floor	Box* Length	Box* Width	Box* Depth
80A	stone-box	extended	poor	<20	no	105 ⁰	E	no	stone	92	30	25
80B	stone-box	extended	poor	<20	no	-	W	no	stone	92	30	25
81	stone-box	extended	fair	85	no	25 ⁰	NE	no	earth	130	28	28
82A/B	stone-box	extended	poor	<20	yes	20 ⁰	-	no	earth	90	30	25
83	pit	semi-flexed	poor	<35	yes	90 ⁰	E	no	earth	-	-	-
84	stone-box	flexed	good	100	no	115 ⁰	E	yes	earth	85	46	10
85	stone-box	extended	good	90	no	120 ⁰	NW	no	stn/erth	185	45	30

* = measurements in centimeters.

The remains of three (flexed) individuals were recovered in unlined, round to oval pits. Pit burials are uncommon for Mississippian period sites, although several have been recently recorded within the study area (Moore et al. 1992; Taylor et al. 1990). Fill within two of these pits (Burials 58 and 66) yielded Mississippian period sherds. One of these graves (Burial 58) contained the remains of an individual placed in a semi-flexed (reclining) position with arms at the sides. A third pit grave (Burial 83) contained the badly damaged skeleton of a child. No temporally diagnostic artifacts were recovered from the pit fill.

Artifacts were sometimes placed within the Gordontown graves. Twenty-seven (35%) of the 85 graves contained some type of burial association. Recovered grave goods included a wide range of ceramic vessels, along with a few lithic and bone items.

Six burials (11A, 11B, 12, 13, 27, 36) from the same general area of 40Dv6 appear undisturbed except for their missing skulls. As mentioned earlier in this report, Dr. Joseph Jones conducted the earliest recorded investigation at Gordontown during the late 1860s. Dr. Jones was a medical doctor with an interest in native cranial measurements (1876: 110-127). Although speculative at this time, these graves may have been opened by Dr. Jones with their craniums removed for further study.

Demography

Accurate age and sex determination of individuals in a skeletal sample are vital to all areas of analysis (Table 2). These determinations aid in the interpretation of patterns of morphological variation between individuals and ultimately populations, thus furthering the illumination of an individual's or population's lifestyle, health status, and general quality of life. The burials from the Gordontown site were generally well preserved and at least 60% complete. Crania were present and over 50% complete for the individuals present. Jaws and teeth are also well represented. The good preservation and completeness of this sample facilitate a reliable determination of age and sex.

Numerous attempts have been made to develop an accurate method to determine the sex of immature skeletal remains less than 15 years of age; however, there has been little success. Thus sex determination of subadult skeletal material is somewhat inaccurate and unreliable at this time (Bass 1971; Krogman and Iscan 1986; Ubelaker 1978). The adult sex determination techniques applied today have been remarkably accurate in the assessment of sex for skeletal material from individuals of known sex. It is with confidence then, that these techniques are applied to prehistoric skeletal remains in order to determine the sex of an individual. Sex determination of the skeletal material in this sample was possible in most cases where skeletal remains are well preserved.

Table 3 presents the demographic profile of the Gordontown collection and further comparative demographic information is provided in the life tables (Tables 4-7) and survivorship curves (Figure 15) constructed from the demographic data available for the Moss-Wright (40Su20), Averbuch (40Dv60), and Rutherford-Kizer (40Su15) sites. As shown in Table 4, it is clear that over half (56.6%, 57 of 94 individuals) of the

Table 2. Sex, Age, and Stature Determinations per Burial from Gordontown.

Burial	Sex	Age (yrs) General	Age (yrs) Dental	Age (yrs) Long Bone/Misc	Stature (cm)	Pathologies and/or Comments
1	indeterminate	-	1.5 +/- 8 mo.	0.5 - 1.5	-	Periodontal abscesses.
1A	indeterminate	adult	-	-	-	Few remains present.
2	female	35 - 45	-	-	147.3 - 147.6 +/- 3.8	Occipital flattening; button osteoma on parietal; carious lesions on teeth; periostitis on tibiae.
3	female	50 +	-	-	157.6 +/- 3.8	Occipital flattening; plaque on teeth; hypoplasia; resorptive lesions on numerous bones; arthritic lumbar vertebrae.
4	REASSIGNED AS BURIAL 34					
5	indeterminate	-	1.5 - 2.5 yrs	1 - 3	-	Few remains present.
6	indeterminate	adult	-	-	-	Few remains present.
7	male	30 - 40	-	-	-	Occipital flattening; cut marks on temporal and occipital bones; dental caries; resorptive lesions visible on ribs and tibiae.
8	female (probable)	40 - 50	-	-	159.6 - 160.2 +/- 3.8	Periostitis on bones; alveolar abscess; possible fracture of left tibia; osteoarthritis present.
9	indeterminate	< 1	-	-	-	Few remains present.
10	male	17 - 20	-	-	167.5 +/- 3.2	Decapitated; osteoarthritis on vertebrae; periostitis on right femur.
11A	female	16 - 19	-	-	154.5 +/- 3.8	-
11B	female (probable)	20 - 24	-	-	159.3 +/- 3.5	-
12	male	30 - 40	-	-	168.3 +/- 3.3	Moderate to severe arthritis; resorptive lesions on foot bones; button osteomas on metatarsals.
13	female	35 - 39	-	-	148.9 - 149.2 +/- 3.5	Few remains present.
14	female	30 - 39	-	-	147.8 +/- 3.5	Hypoplasia; osteoarthritis visible on most bones; healed fracture of left tibia.
14A	indeterminate	fetus/nb	-	fetal	-	-
15	female (probable)	40 - 50	-	-	157.9 - 158.5 +/- 3.5	Resorptive lesions on cranium; maxillary abscesses; osteoarthritis on ribs, vertebrae and sacrum.
16	indeterminate	-	-	-	-	Few remains present.
17	male	30 - 39	-	-	173.4 +/- 3.2	Maxillary abscesses; hypoplasia; healed rib fractures; arthritic vertebrae; fracture of left fibula.
18	indeterminate	infant	-	-	-	No remains present; very small stone-box.
19	indeterminate	child?	-	-	-	No remains present; small stone-box.
20	indeterminate	-	3 - 4 +/- 12 mo.	1.5 - 2.5	-	Hypoplasia.
21	male	30 - 34	-	-	167.5 +/- 4.6	Alveolar resorption; slight osteophytosis.
22A	male	30 - 40	-	-	165.4 +/- 3.2	Cut marks on distal left ulna.
22B	female	40 - 50	-	-	148.4 - 148.9 +/- 3.8	Antemortem tooth loss; generally osteoarthritic.
23	female (probable)	25 - 35	-	-	-	Arthritic lipping on vertebrae.
24	male	40 - 44	-	-	163.0 - 163.3 +/- 3.5	Occipital flattening; button osteomas on frontal; maxillary abscesses; plaque; fractured right ribs; osteoarthritis on many bones.
24A	indeterminate	infant	-	-	-	Scapula shows active periostitis.
25	indeterminate	-	-	2.5 - 3.0 (?)	-	-
26	indeterminate	-	7 - 8 +/- 24 mo.	5.5 - 6.5	-	Occipital flattening; femora twisted medially at distal end; tibiae appear bowed anteriorly.
27	male	30 - 39	-	-	161.3 +/- 3.8	Arthritic lumbar vertebrae.
28	indeterminate	-	2 - 3 +/- 12 mo.	0.5 - 1.5	-	-

Table 2. Sex, Age, and Stature Determinations per Burial from Gordontown. (continued)

Burial	Sex	Age (yrs) General	Age (yrs) Dental	Age (yrs) Long Bone/Misc	Stature (cm)	Pathologies and/or Comments
29A	male	35 - 40	-	-	170.9 - 171.2 +/- 3.8	Cut marks on skull; possible skull fracture; open area on skull (tumor?); healed blunt trauma on left parietal; severe osteoarthritis of vertebrae.
29B	male	35 - 40	-	-	165.2 - 165.8 +/- 3.8	Severe lesions on skull; severe osteoarthritis of vertebrae (L1 and L2 are fused).
30	indeterminate	-	-	< nb - 0.5	-	Few remains present.
31	indeterminate	-	5 - 6*; 6 - 7**	3.5 - 4.5	-	-
32	indeterminate	-	9.5 - 10.5*; 12 +/- 8 mo.**	7.5 - 8.5	-	Periostitis and resorption on maxilla; infection on left ilium, lumbar vertebrae, and sacrum.
33	male (probable)	45 +	-	-	164.6 +/- 4.3	Substantial antemortem tooth loss; moderate to severe osteoarthritis present most post-cranial bone.
34A	female (probable)	40 - 44	-	-	-	Osteoarthritis on most long bones (severe on left humerus, ulna, and radius).
34B	male (probable)	18 - 21	-	-	-	-
35	indeterminate	-	8*; 7 - 9***	6.5 - 7.5; 7 - 9	-	Periostitis on mandible; hypoplasia; resorptive lesions 1st sacral element and 1st thoracic vertebrae.
36	male	45 - 50	-	-	162.9 - 163.2 +/- 3.8	Moderate to severe osteoarthritis throughout skeleton; compression fracture on L4.
37	indeterminate	-	2 +/- 8 mo.	1 - 3	-	Porotic hyperostosis present on superior orbital walls.
38	indeterminate	-	-	nb - 0.5	-	Few remains present.
39	indeterminate	-	7 +/- 24 mo.	5.5 - 6.5	-	Right ribs exhibit periostitis and resorptive lesions on internal surface.
40	female	30 - 40	-	-	155.1 +/- 3.5	Resorptive lesions on frontal endocranium; heavy calculus deposit on upper and lower teeth; osteophytic lipping on long bones.
41	male (probable)	-	-	13.5 - 15.5	-	-
42	indeterminate	-	-	nb - 0.5	-	-
43	male	30 - 40	-	-	170.1 - 170.7 +/- 4.1	Calculus buildup; possible tuberculosis; right femur head compressed with eburation.
44	indeterminate	-	-	1.5 - 3.5	-	-
45	indeterminate	-	2 - 3	1.5 - 2.5	-	-
46	indeterminate	-	2 mo.	nb - 0.5	-	-
47	indeterminate	-	nb +/- 2 mo.	nb - 0.5	-	-
48	indeterminate	-	-	nb - 0.5	-	-
49	male	45 - 55	-	-	170.4 - 170.7 +/- 3.2	Occipital flattening; button osteomas on frontal; extensive antemortem tooth loss; severe osteoarthritis on vertebrae; moderate arthritis on long bones; eburation on left radius/humerus
50	male	35 - 45	-	-	164.4 - 165.0 +/- 3.2	Mandibular abscess; osteophytosis of lumbar vertebrae; arthritic lipping on all long bones; healed periostitis on tibiae and fibulae.
51A	indeterminate	-	3 +/- 12 mo.	-	-	-
51B	indeterminate	-	1.5 +/- 6 mo.	0.5 - 1.5	-	-
52	indeterminate	-	-	nb - 0.5	-	-
53	indeterminate	young child	-	-	-	-
54A	male	< 40	-	-	170.6 +/- 4.3	Hypoplasia.
54B	male	30 - 40	-	-	165.1 +/- 3.8	Slight osteoarthritic lipping on long bones.
54C	indeterminate	infant	-	-	-	-
55	indeterminate	-	1.4 - 1.7	0.5 - 1.5	-	-
56	indeterminate	-	nb - 0.5 +/- 3 mo.	-	-	-
57	indeterminate	-	3 - 3.5*; 4 +/- 12 mo.**	2.5 - 3.5	-	-

Table 2. Sex, Age, and Stature Determinations per Burial from Gordontown. (continued)

Burial	Sex	Age (yrs) General	Age (yrs) Dental	Age (yrs) Long Bone/Misc	Stature (cm)	Pathologies and/or Comments
58	male (probable)	35 - 45	-	-	158.3 - 158.9 +/- 4.7	C2-C5 nearly fused by osteophytic growth; slight arthritic lipping on vertebrae and long bones.
59	indeterminate	-	3 mo.*; nb +/- 2 mo.**	nb - 0.5	-	Few remains present.
60	indeterminate	-	1.5	-	-	Few remains present.
61	indeterminate	-	-	< 1	-	Few remains present.
62	indeterminate	-	2 - 3*; 2 +/- 8 mo.**	1 - 3	-	Cavities on incisors.
63	female	30 - 39	-	-	-	Antemortem tooth loss; slight osteoarthritic lipping on vertebrae and long bones articular surfaces.
64	male	15 - 17	-	-	-	Impacted third molar.
65	female	30 - 40	-	-	154.3 +/- 3.5	Possible cranial deformation; button osteoma on frontal; antemortem tooth loss; osteophytic development on vertebrae; osteoarthritis on most other bones.
66	male	30 - 40	-	-	164.3 +/- 3.8	Occipital flattening; maxillary and mandibular abscesses; antemortem tooth loss; osteophytic development on vertebrae; osteoarthritic lipping on articular surfaces of long bones; periostitis on pubis.
67	indeterminate	-	1.5 +/- 6 mo.	1 - 1.5	-	Active periostitis present on most bones; discolored teeth.
67A	indeterminate	-	-	nb - 0.5	-	Active periostitis present on most bones.
68	indeterminate	-	1.3 yrs*; 1.5 +/- 6 mo.**	1 - 2.5	-	-
69A	female	40 +	-	-	152.0 +/- 3.8	Antemortem tooth loss; moderate to severe osteophytosis of vertebrae (L4 and L5 fused); slight osteoarthritis on long bones.
69B	female (probable)	30 +	-	-	-	Severe dental attrition; osteophytosis of lumbar vertebrae.
70	indeterminate	adult	-	-	-	Few remains present.
71	indeterminate	-	-	1 - 1.5	-	-
72	male	30 - 35	-	-	169.0 +/- 3.8	Moderate compression cervical vertebrae; arthritic lipping on several bones.
73	female (probable)	45 +	-	-	-	Cut mark on femoral condyle; mandibular antemortem tooth loss; osteophytosis on all vertebrae; osteoarthritic lipping on articular surfaces of long bones; distal right humerus and proximal right radius exhibit porosity and eburnation.
74	indeterminate	-	6 - 9 mo. +/- 3 mo.	nb - 0.5	-	Periostitis on cranium.
75	indeterminate	-	nb - 0.5	nb - 5 mo.	-	-
75A	indeterminate	nb - 0.5	-	-	-	-
76	female	40 - 50	-	-	146.9 +/- 147.6 +/- 3.8	Button osteoma on frontal; resorption of maxilla and mandible; abscesses visible; compression and lipping of vertebrae; arthritic lipping of long bones, hands, and feet.
77	indeterminate	-	-	nb - 0.5	-	Periostitis on cranium.
77A	indeterminate	infant	-	-	-	-
78	indeterminate	-	1.5 +/- 6 mo.	1 - 3	-	-
79	indeterminate	-	14 - 15 +/- 36 mo.	12.5 - 15.5	-	-
80A	indeterminate	-	1.5	0.5 - 1.5	-	Periostitis inside occipital and right temporal.
80B	indeterminate	-	9 - 12 mo.	0.5 - 1.5	-	Occipital flattening
81	indeterminate	-	9 - 10 +/- 24 mo.	6.5 - 7.5	-	-
82A	indeterminate	-	1.5 +/- 6 mo.	1 - 3	-	Periostitis of left radius shaft of either 82A or 82B
82B	indeterminate	-	1.5 +/- 6 mo.	1 - 3	-	Periostitis of left radius shaft of either 82A or 82B
83	indeterminate	-	6 - 8*; 8 +/- 24 mo.**	5.5 - 6.5	-	-

Table 2. Sex, Age, and Stature Determinations per Burial from Gordontown. (continued)

Burial	Sex	Age (yrs) General	Age (yrs) Dental	Age (yrs) Long Bone/Misc	Stature (cm)	Pathologies and/or Comments
84	female	30 - 40	-	-	151.4 - 152.0 +/- 3.8	Antemortem tooth loss; osteophytosis of vertebrae; osteoarthritic lipping of acetabula and long bone articular surfaces.
85	male	35 - 45	-	-	-	Extensive antemortem tooth loss; vertebrae osteophytosis; arthritic lipping on arm long bone articular surfaces; eburation visible on left humerus and radius; possible fracture of left femur head/neck.

nb = newborn

* = Moorrees, Fanning and Hunt 1963

** = Ubelaker 1978

sample is represented by subadult individuals 16 years of age or younger, with the greatest percentage represented by children in the birth to less than 5 year age category (n=42). This high frequency of subadults is greater than that seen in contemporaneous Middle Cumberland human skeletal populations excavated at the Averbuch site (48%, 426 of 886 individuals), Rutherford-Kizer (52.8%, 37 of 70 individuals), and 40Su20 (41%, 37 of 90 individuals). The highest frequency of adults fall into the 30-40 year age category (n=27). On the bases of interments identified to sex, adult males (n=24) out number adult females (n=19). Other vital statistics and comparisons are as follows.

Life expectancy at birth was 18.8 years at Gordontown, and 20.2, 20, and 24.6 years at Rutherford-Kizer, Averbuch, and Moss-Wright, respectively. The percentage of individuals dying at birth to four years was about 45% at Gordontown. In comparison, the percentage of individuals dying for the same age interval at Rutherford-Kizer, Averbuch, and Moss-Wright was 34%, 30% and 23%, respectively. The probability of dying after the 15 to 19 year age interval was significantly reduced until the 30-34 year age interval, after which the probability of life expectancy ranges from 40% to 60%. The crude mortality rate or the average number of people dying per 1000 persons at Gordontown is 53. For Rutherford-Kizer, Averbuch, and Moss-Wright, the crude mortality rate is 29, 33, and 43 people per 1000, respectively.

Table 3. Summary of the Gordontown Skeletal Sample.

Age (yrs)	Male	Female	Indeterminate	Total*	(%)	Cumulative %
Fetal	-	-	2	2	2.0	2.0
Birth-3	-	-	34	34	34.7	36.7
3-10	-	-	7	7	7.1	43.8
10-16	-	-	3	3	3.1	46.9
16-21	3	2	-	5	5.1	52.0
25-35	-	1	-	1	1.0	53.0
30-40	10	6	-	16	16.3	69.3
35-45	5	1	-	6	6.1	75.4
40-50	1	4	-	5	5.1	80.5
45-55	2	-	-	2	2.0	82.5
40+	1	4	-	5	5.1	87.6
Subadult**	-	-	7	7	7.1	94.7
Adult**	1	1	3	5	5.1	99.8
Total	23	19	56	98	99.8	

* = no material retained for Burials 18 and 19.

** = remains too fragmented to age more specifically.

Table 4. Life Table for the Gordontown Site, 40Dv6.

Age Interval (x)	Number of Deaths (Dx)	Percent of Deaths (dx)	Survivors Entering (lx)	Probability of Death (qx)	Total Years Lived (Lx)	Total Years After Lifetime (Tx)	Life Expectancy (ex)
0-4	42	44.68	100.00	0.45	388.30	1882.95	18.83
5-9	6	6.38	55.32	0.12	260.65	1494.65	27.02
10-14	4	4.26	48.94	0.09	234.05	1234.00	25.21
15-19	5	5.32	44.68	0.12	210.10	999.95	22.38
20-24	1	1.06	39.36	0.03	194.15	789.85	20.07
25-29	0	0.00	38.30	0.00	191.50	595.70	15.55
30-34	5	5.32	38.30	0.14	178.20	404.20	10.55
35-39	15	15.96	32.98	0.48	125.00	226.00	6.85
40-44	7	7.45	17.02	0.44	66.48	101.00	5.93
45-49	7	7.45	9.57	0.78	29.22	34.52	3.61
50-54	2	2.13	2.12	1.00	5.30	5.30	2.50
55+	0	0.00	0.00	0.00	0.00	0.00	0.00
Total	94						

Table 5. Life Table for the Moss-Wright Site, 40Su20.

Age Interval (x)	Number of Deaths (Dx)	Percent of Deaths (dx)	Survivors Entering (lx)	Probability of Death (qx)	Total Years Lived (Lx)	Total Years After Lifetime (Tx)	Life Expectancy (ex)
0-4	21	23.33	100.00	0.2333	441.67	2461.11	24.61
5-9	14	15.56	76.67	0.2029	344.44	2019.44	26.34
10-14	1	1.11	61.11	0.0182	302.78	1675.00	27.41
15-19	1	1.11	60.00	0.0185	297.22	1372.22	22.87
20-24	4	4.44	58.89	0.0755	283.33	1075.00	18.25
25-29	6	6.67	54.44	0.1224	255.56	791.67	14.54
30-34	4	4.44	47.78	0.0930	227.78	536.11	11.22
35-39	22	24.44	43.33	0.5641	155.56	308.33	7.12
40-44	7	7.78	18.89	0.4118	75.00	152.78	8.09
45-49	1	1.11	11.11	0.1000	52.78	77.78	7.00
50-54	9	10.00	10.00	1.0000	25.00	25.00	2.50
55+	0	0.00	0.00	0.0000	0.00	0.00	0.00
Total	90						

Table 6. Life Table for the Averbuch Site, 40Dv60.

Age Interval (x)	Number of Deaths (Dx)	Percent of Deaths (dx)	Survivors Entering (lx)	Probability of Death (qx)	Total Years Lived (Lx)	Total Years After Lifetime (Tx)	Life Expectancy (ex)
0-4	268	30.25	100.00	0.3025	424.38	1994.92	19.95
5-9	54	6.09	69.75	0.0874	333.52	1570.54	22.52
10-14	25	2.82	63.66	0.0443	311.23	1237.02	19.43
15-19	79	8.92	60.84	0.1466	281.88	925.79	15.22
20-24	152	17.16	51.92	0.3304	216.70	643.91	12.40
25-29	93	10.50	34.76	0.3019	147.57	427.20	12.29
30-34	64	7.22	24.27	0.2977	103.27	279.63	11.52
35-39	49	5.53	17.04	0.3245	71.39	176.35	10.35
40-44	30	3.39	11.51	0.2941	49.10	104.97	9.12
45-49	30	3.39	8.13	0.4167	32.17	55.87	6.88
50-54	21	2.37	4.74	0.5000	17.78	23.70	5.00
55-59	21	2.37	2.37	1.0000	5.93	5.93	2.50
60+	0	0.00	0.00	0.0000	0.00	0.00	0.00
Total	886						

Table 7. Life Table for the Rutherford-Kizer Site, 40Su15.

Age Interval (x)	Number of Deaths (Dx)	Percent of Deaths (dx)	Survivors Entering (lx)	Probability of Death (qx)	Total Years Lived (Lx)	Total Years After Lifetime (Tx)	Life Expectancy (ex)
0-4	24	34.29	100.00	0.3429	414.29	2021.43	20.21
5-9	5	7.14	65.71	0.1087	310.71	1607.14	24.46
10-14	6	8.57	58.57	0.1463	271.43	1296.43	22.13
15-19	2	2.86	50.00	0.0571	242.86	1025.00	20.50
20-24	0	0.00	47.14	0.0000	235.71	782.14	16.59
25-29	3	4.29	47.14	0.0909	225.00	546.43	11.59
30-34	12	17.14	42.86	0.4000	171.43	321.43	7.50
35-39	11	15.71	25.71	0.6111	89.29	150.00	5.83
40-44	3	4.29	10.00	0.4286	39.29	60.71	6.07
45-49	3	4.29	5.71	0.7500	17.86	21.43	3.75
50-54	1	1.43	1.43	1.0000	3.57	3.57	2.50
55-59	0	0.00	0.00	0.0000	0.00	0.00	5.00
60+	0	0.00	0.00	0.0000	0.00	0.00	0.00
Total	70						

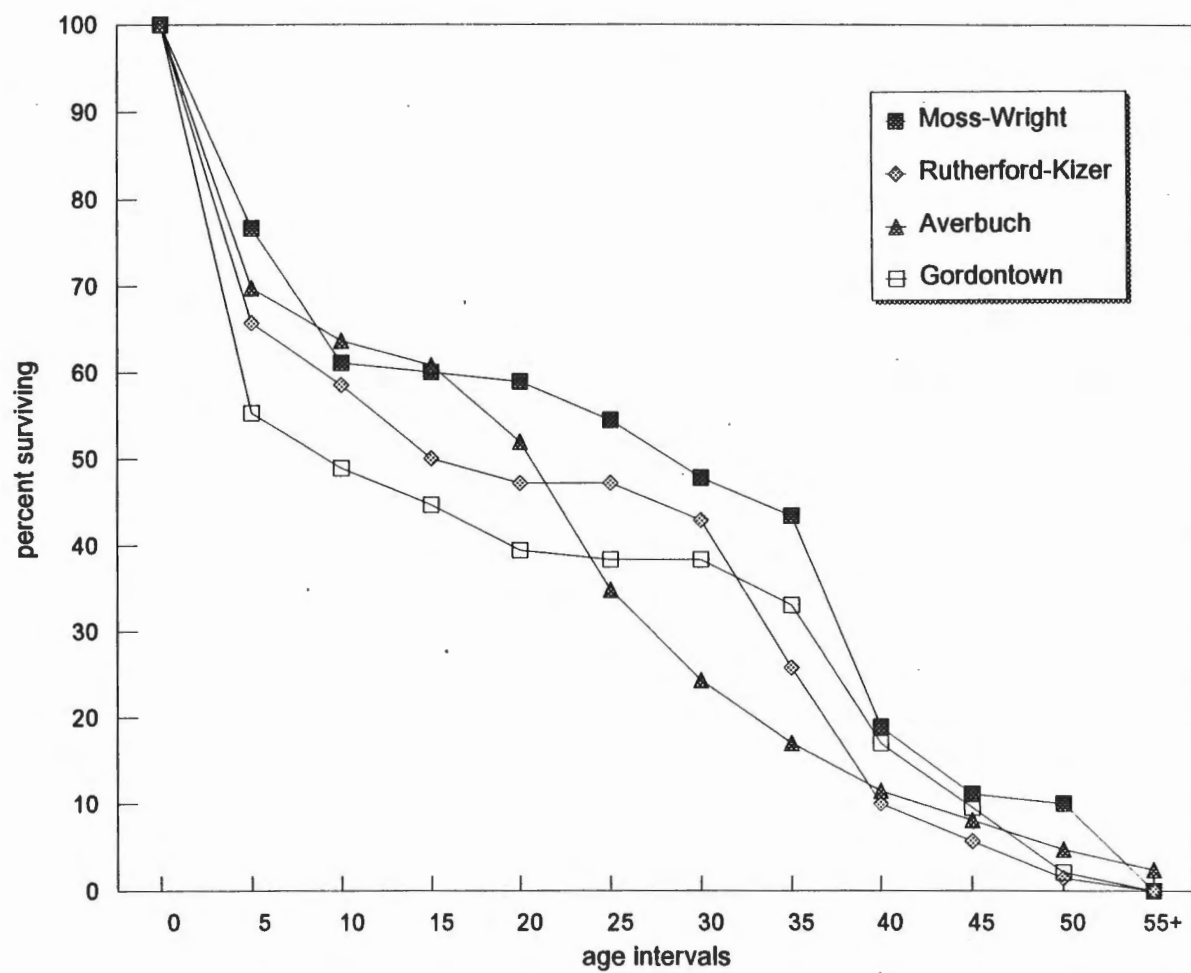


Figure 15. Mississippian survivorship.

Stature

Stature estimates for 20 males range from 173.4 cm to 158.3 cm (5'8" to 5'2") and average 166.5 cm or 5'6" (see Table 2). Thirteen females range from 159.6 cm to 146.9 cm (5'3" to 4'8") and average 152.4 cm or 5'0" in stature. Although female mean stature is one to two inches less, the average stature for both sexes compare favorably with stature estimates for the Arnold, Ganier, and Averbuch populations (Berryman 1984, Table 5.24).

Pathology

Oral and dental pathologies occur in the cases of 5 children, 12 adult females, and 11 adult males (see Table 2). Children generally exhibit little in the way of common dental diseases, whereas most adults show many pathologic oral and dental conditions. Among children, bone resorption, abscessing, and periostitis is present, but few exhibit caries. Burial 20, an individual of 3 to 4 +/-1 years of age shows signs of hypoplasia. Burial 62, 2 years +/- 8 months, exhibits cavities on the incisors. Burial 35, an individual about 8 years of age displays mandibular periostitis and hypoplasia. Burial 1, 1.5 years +/- 8 months, exhibits periodontal abscessing, and Burial 32, 12 years +/-1 month, exhibits resorption in areas of the maxilla.

Hypoplasia appears on the dentition of the following adult burials: Burial 3 Female 50 +, Burial 14 female 30-39, and Burial 54A, a male less than 40 years of age. Tooth loss was common among adult females and males over 30 years of age. Seven females and two males show partial edentulous conditions. Three females and five males display maxillary and mandibular alveolar abscesses. Burial 64, a male 15-17 years of age, exhibits an impacted third molar.

Nutritional Pathologies

Only one specimen shows the hematologic condition, cribra orbitalia. Burial 37, an infant of 2 years +/- 8 months, displays a porotic hyperostosis condition within the area of the superior orbital walls. The anemic condition may be related to a lack of good nutrition, specifically a high starch diet such as corn, where available iron absorption is poor (Steinbock 1976:244-248).

Infectious Diseases

Osteomyelitis

Evidence of nonspecific infections of bone caused by various kinds of microorganisms, include some form of osteomyelitis, usually expressed as periostitis or an inflammation of the periosteum. Three infants show evidence of cranial lesions: Burials 77 and 74, newborn to 6 and 6 to 9 months of age, respectively, display periostic lesions along the cranium; and Burial 80A, approximately one year of age, displays lesions occurring along the inner table of the occipital and right temporal bones.

Five children and infants display periostitis on the postcranial skeleton: Burial 32, 12 years +/- 1 month at the time of death, infection of left ilium, lumbar vertebra, and sacrum; Burial 35, approximately 8 years old, exhibits resorptive lesions on the first sacral and first thoracic vertebra; Burial 82 A or B, 1.5 years +/- 6 months, shows periostitis on the left radius shaft, and Burial 67, 1.5 years +/- 6 months, and Burial 67A, newborn to 0.5 years at the time of death, show active signs of periostitis on most bones.

Eight adults, three females and five males, show some sign of periostitis and osteitis at the time of death. The burials showing such pathologic conditions include: Burial 2, a female 35-45 years of age exhibits periostitis on the tibiae. Burial 3, a female 50+ years, resorptive lesions on numerous bones; Burial 8, a possible female 40-50 years, shows signs of periostitis; Burial 7, a 30-40 year old male, exhibits resorptive lesions on the ribs and tibiae; Burial 10, a male 17-20 years, periostitis of the right femur; Burial 43, a male 30-40 years, a right femur with lesions and compressed femoral head; Burial 50, a male 30-35 years, displays evidence of periostitis on the tibiae/fibulae; and Burial 66, male 30-40 years, shows periostic inflammation along the pubic bones. These lesions are almost always caused by infections; at least 90% of the infections are caused by *Staphylococcus aureus* (Steinbock 1976:60)

Tuberculosis

A noteworthy incidence of skeletal tuberculosis appears along the vertebral column of Burial 43, a male 30-40 years of age. An extensive body of literature has developed with regard to prehistoric tuberculosis in the Americas (e.g., Buikstra 1981, Ortner and Putschar 1981, Steinbock 1976). Tuberculosis is a product of a poor standard of living and lack of hygiene. Though many individuals may have suffered from tuberculosis, lasting in a chronic (but invisible or dormant) form for many years, skeletal manifestations may not appear until the adult years (Steinbock 1976:175). Skeletal tuberculosis is a secondary infection from either the lungs or lymph nodes. Among American native populations, Hrdlicka (1909) recorded an incidence of 7% skeletal tuberculosis in 1628 cases. The incidence of skeletal tuberculosis in the joints and bones of humans is about 6% or less (Steinbock *Ibid.*). Tuberculosis in human populations is caused by the nonmotile, acid-fast bacillus *Mycobacterium tuberculosis*. There is a long history of the presence of tuberculosis in human populations. As an endemic disease in human populations, tuberculosis is traceable to the Neolithic period in the Old World, 8000 years ago. The disease may have been contracted from domesticated cattle at that time. It is thought that human tuberculosis is a mutant form of bovine tuberculosis.

The lesions generally appear in the vertebra column, pelvic bones, and knee. From 25 to 50% of all tuberculosis involves the spinal column, though very similar lesions may be produced by other diseases and conditions. Compression fractures of vertebrae and a combination of pyogenic osteomyelitis and blastomycosis create conditions that are very similar to tuberculosis. Spinal tuberculosis is mainly found in the lower thoracic and upper lumbar vertebrae (Steinbock 1976).

Tuberculosis-like lesions are evident in the spinal column of Burial 43 by the presence of active bone resorption in the seventh to twelfth thoracic vertebral bodies

and the right femur head and shaft. The tenth and eleventh thoracic vertebrae show tubercular damage and destruction of the anterior portions of the vertebral body, in addition to paravertebral abscesses. Tubercle formation is present between the eleventh and twelfth thoracic vertebrae. The destruction of the vertebral bodies and collapse of the spinal column has resulted in an angular deformity in the back or kyphosis, as well as lateral curvature of the spine. Other complications of tuberculosis manifested in the skeleton include the presence of osteophytosis of the anterior superior and inferior margins of thoracic and lumbar vertebrae, bone necrosis and compression of the right femoral neck and head, and eburnation of the remnants of the femoral head. The extent of vertebral and femoral involvement is shown in Figures 16 and 17. Burial 86A at the Arnold site (40Wm5), a female, shows a similar condition in the vertebral column (Figure 18). Hunch-backed jars, common ceramic effigy jars of the period, depicting kyphotic posture may portray the real-life conditions of how some individuals looked with advanced conditions of tuberculosis, or perhaps other conditions resulting in the collapse of the vertebral column

Tumors

Osteomas are one of the most common benign bone tumors or tumor-like processes found in human populations (Steinbock 1976:325-329). They are generally characterized by raised areas of dense bone found on the cranium. They are small, solitary projections which are circular dome-shaped or flattened. Osteomas appear on the crania of three females and three males: on the parietal bone of Burial 2, a female 35-45 years; on the frontal bones of Burial 65, a female 30-40 years and Burial 76, a female 40-50 years button osteoma frontal; the metatarsals of Burial 12, a male 30-40 years male; and on the frontal bone of Burial 24, a male 40-44 years and Burial 49, a male 45-55 years.

Osteoarthritis and Osteophytosis

Osteoarthritis and vertebral osteophytosis appear in individuals from about 30 years of age and upward. Fifteen female and 16 male skeletons exhibit arthritis in both axial and appendicular skeletons, including the elbow joint (humerus, radius, and ulna), metacarpals and metatarsals, and phalanges of the hand and feet, vertebrae, costal region, sacrum, and pelvic areas. Some of the arthritic development is severe and leading to ankylosis or fusion of adjacent osteophytes. Further damage of osteoarthritis is manifested in the presence of eburnated bones. In a few cases (e.g., Burial 49, a male 40-50 years of age), eburnation appears on the articular surfaces of long bones (Figure 19). Most of the conditions are manifestations reflecting the weight-bearing stresses bones were subject to over a life time of use.

Trauma

At Gordontown the population was subject to various types of trauma including accidental fractures or the death of individuals as a result of violence which may have included scalping, decapitation or disarticulation. Evidence of bone trauma appears on the skeletons of three females and seven males. The types of trauma include the



Figure 16. Tuberculosis in vertebrae of burial 43.



Figure 17. Tuberculosis in femur of burial 43.

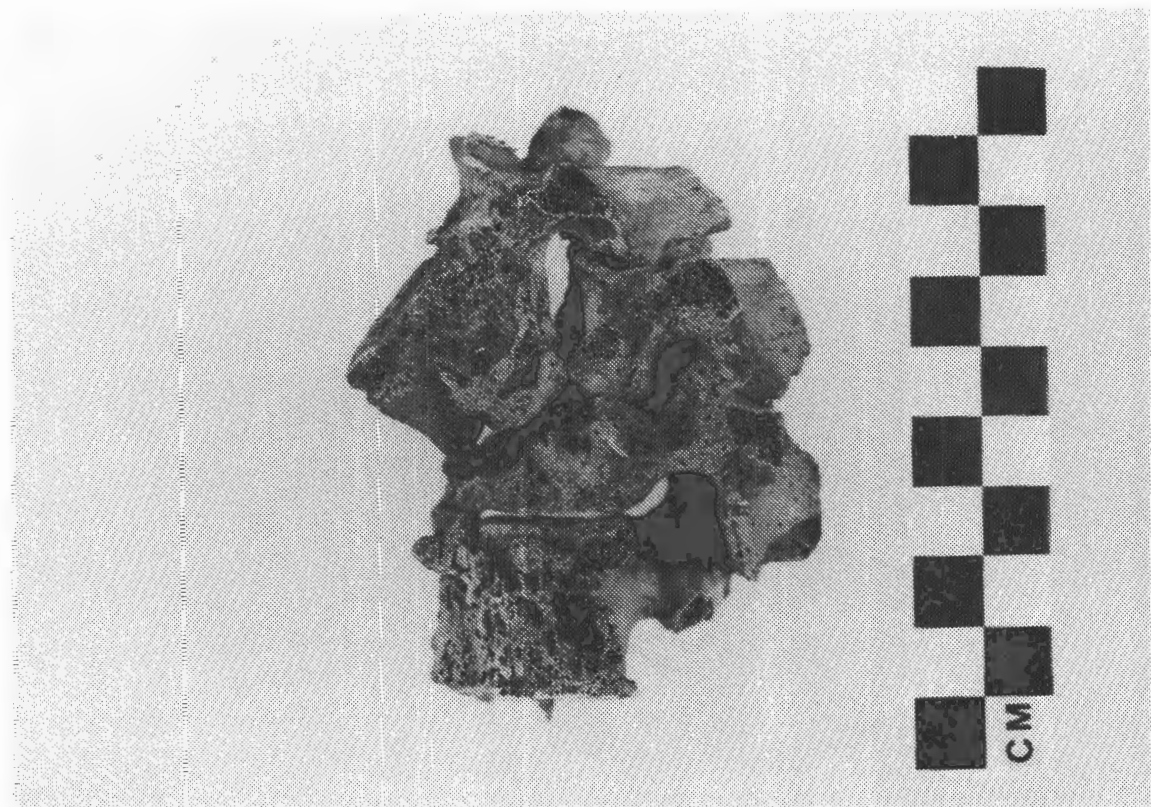


Figure 18. Tuberculosis in vertebrae of burial 86A at Arnold site, 40Wm5.



Figure 19. Eburnation in burial 49.

following: Burial 8, a probable female 40-50 years, possible fracture of left tibia; Burial 14, a female 30-39 years, healed fracture of left tibia; Burial 73, a probable female 45+ years, with cut marks on the femoral condyle implying intentional disarticulation; Burial 7, a male 30-40 years, cut marks on temporal and occipital bones suggesting the individual was scalped; Burial 10, a male 17-20 years, who was probably decapitated; Burial 17, male 30-39 years, fractured left tibia; Burial 22A, a male 30-40 years, cut marks on left distal ulna suggesting disarticulation; Burial 24, a male 40-44 years, fractured right ribs; Burial 29A, a male 35-40 years, cut marks on the skull, a possible skull fracture, and a healed blunt wound on the left parietal (Figure 20); and Burial 36, male 40-45 years, compression fracture of the fourth lumbar vertebra.

Discussion and Conclusions

The Gordontown skeletal population, composed of 100 individuals, is an additional resource to evaluate the health status and standard of living for late prehistoric populations living in the Nashville Basin. General and specific disease, nutritional deficiencies, personal injuries, and warfare describe the dimensions that affected the population in life. The most intensively studied prehistoric population in Middle Tennessee includes the Averbuch site (40Dv60), where high morbidity was documented. High infant mortality, low adult survivorship, and manifestations of infectious pathology, anemia and trauma characterize the Averbuch population (Eisenberg 1986). These same conditions appear to prevail at the Gordontown site (Figure 20). The presence of tuberculosis-like conditions suggests that the settlement

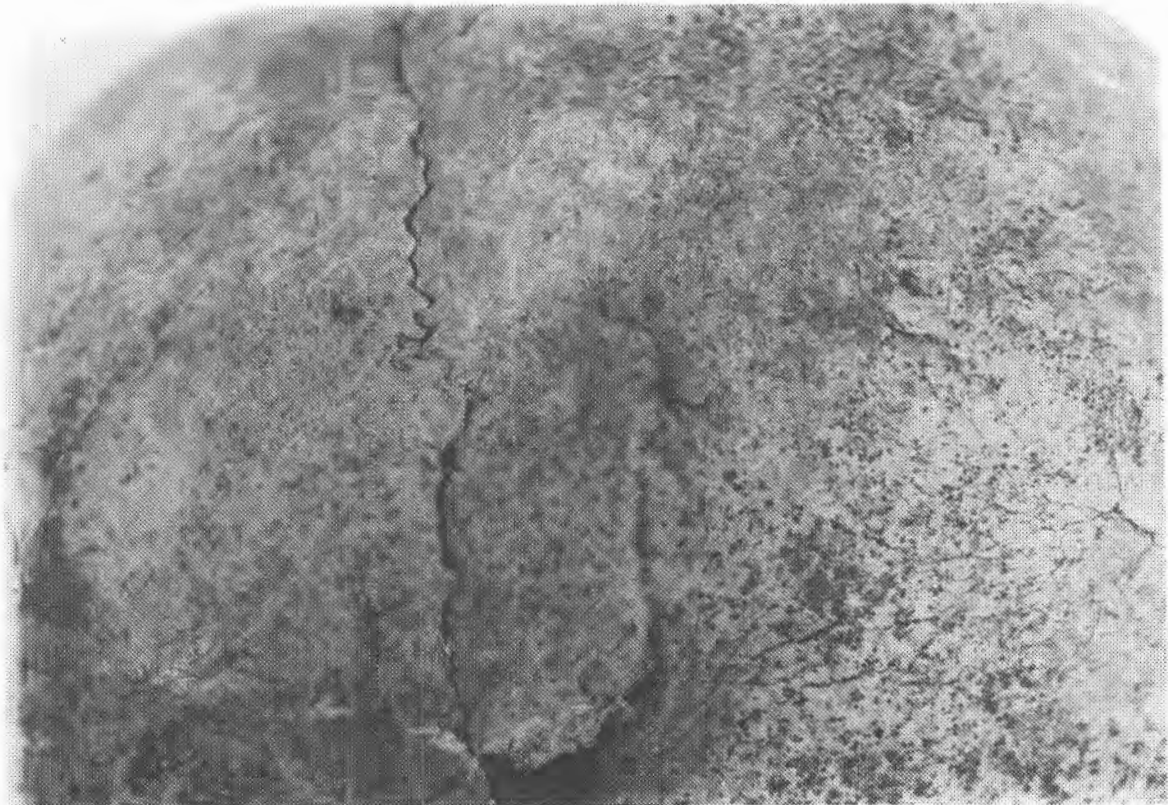


Figure 20. Healed blunt trauma wound on left parietal bone, burial 29A.

was crowded, and living standards squalid. Close human contact and unclean village areas provided many opportunities for tuberculosis to develop as an endemic condition among villagers. The Gordontown population was not only stressed by disease, but by social conflict as well. Evidence for warfare or violence, e.g., scalping, decapitation, is manifest. There is compelling information that appears at a number of Middle Tennessee Mississippian period settlements to suggest social discord: burned village areas, building and expanding palisades and village structures to accommodate growing populations (Autry 1983, Klippel and Bass 1984; Smith 1992).

All of these conditions had a severe impact on the health of the Gordontown people. Paleonutritional study (Buikstra et al. 1988) has shown that the over-reliance on maize in the diet had an impact on many Mississippian period populations and may have contributed to the ill health of the populations. Along with Averbuch, Arnold, and Moss-Wright, Gordontown peoples should show some of the highest positive values of corn consumption for Mississippian/Fort Ancient period populations in the eastern parts of the North America. Nevertheless, the human populations seemed to have been as stressed, or as less stressed, as their neighbors.

VI. CERAMIC ARTIFACT DESCRIPTIONS

Mary Beth Trubitt

A total of 5,949 ceramic artifacts was analyzed from the 1985-1986 excavations at the Gordontown site (40Dv6). This figure includes 5,926 vessel fragments, all but three sherds of which are shell tempered Mississippian wares, and 23 fragments of non-vessel ceramic objects, such as earspools, pottery disks, figurines, pottery trowels, and pipes (Table 8). Mississippi Plain (n=4,806) is the dominant ceramic type in the assemblage, with 81% of the total. Bell Plain sherds (n=760) make up 13% of the total, while Kimmswick Plain and Kimmswick Fabric Impressed (n=273) together comprise 5%. Minority types include two varieties of Matthews Incised (n=75), untyped decorated sherds on Mississippi Plain paste (n=9), limestone tempered plain sherds (n=2), and sand tempered plain ware (n=1). Negative painting is not represented in the collection from the 1985-86 excavations, but Myer (1928:533-34) found three negative painted sherds in the fill of House Circle Nos. 1, 3, and 23. The illustrations (Myer 1928:Pl. 112) are reconstructions from these single decorated sherds. Hilgeman (1985:199) notes that these plates are similar to Angel Negative Painted, based on motif and vessel form.

In Table 9, the sherd assemblage is summarized by grouping the artifacts from surface collections, artifacts from burial fill and associated with burials, and artifacts excavated from features, including structures. Fifty-two percent of the sherds were found in burial proveniences, 36% were excavated from features and structures, and 12% were recovered from surface and clearing operations. The surface and bulldozer clearing collections are skewed with a disproportionate number of decorated sherds and fabric impressed sherds. The majority of the Bell Plain sherds were found in feature and structure proveniences, while the majority of Mississippi Plain sherds came from burial proveniences.

Although there is some comparison of ceramics from various features and between burials and structures, this analysis focuses primarily on the ceramic assemblage as a whole. Some observations can be made about temporal variation in Mississippian ceramics in the Nashville area. Certain traits such as handle style on jars, decoration and effigy forms on bowls, and surface treatment of salt pans seem to differ through time. The ceramic assemblage at Gordontown is similar to those of other Mississippian or "Middle Cumberland Culture" (Ferguson 1972) sites, and differs from the early Mississippian site of Mound Bottom (O'Brien 1977).

Because the overwhelming majority of ceramic sherds at Gordontown are from undecorated, plain surfaced wares distinguished primarily by a coarse or fine shell temper, the analysis does not include a residual category. Small eroded or fragmentary sherds were generally included in one or the other of the two major types based on paste. In addition, it should be noted that the sherd count does not include small sherdlets recovered from waterscreened samples. Although larger sherds from waterscreened samples were included in the analysis, these samples were taken for recovery of botanical and faunal information rather than for ceramic data.

Table 8. Tabulation of Ceramic Sherds by Type and Provenience.

Provenience	Mississippi Plain		Matthews Incised		Mississippi Plain		Bell Plain		Kimmswick	Kimmswick	Sand	Limestone	NON-VESSEL CERAMICS					Site
	Frag	WhV	variety Beckwith	variety Manly	unid decorated	Frag	WhV	Plain	Fabric Impressed	Temper	Temper	Erpl	Fgr	Dsc	Pip	Trw	Total	
Surface 1	73	-	35	4	1	61	-	17	15	-	-	1	-	-	-	-	207	
Surface 2	17	-	-	-	-	4	-	-	1	-	-	-	-	-	-	-	22	
Surface 3	59	-	1	-	-	27	-	2	1	-	-	-	-	-	-	-	90	
Surface 4	28	-	-	-	-	16	-	12	-	-	-	-	-	-	-	-	56	
Surface 5	26	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	32	
Surface 6	17	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	20	
Surface 7	12	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	15	
Surface 9	15	-	-	4	-	5	-	-	-	-	-	-	-	-	-	-	24	
Surface 10	16	-	-	-	1	13	-	1	-	-	-	-	-	-	-	-	31	
Surface 11	18	-	-	-	-	4	-	-	-	1	-	-	-	-	-	-	23	
Surface 12	-	-	-	-	-	1	-	-	1	-	-	1	-	-	-	-	3	
Surface 13	49	-	-	-	-	18	-	1	1	-	-	-	-	-	-	-	69	
Surface 15	34	-	2	-	-	11	-	2	-	-	-	-	-	-	-	-	49	
Surface 16	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
Surface 17	68	-	-	-	-	21	-	2	1	-	-	-	1	1	-	-	94	
Subtotal	435	0	38	8	2	192	-	38	20	1	0	2	1	1	0	0	738	
Burial 1	192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	192	
Burial 3	20	-	1	-	-	1	-	1	1	-	-	-	-	-	-	-	24	
Burial 6	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3	
Burial 7	13	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	14	
Burial 8	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3	
Burial 10	15	-	1	-	-	1	-	1	1	-	-	-	-	-	-	-	19	
Burial 11	20	-	-	-	1	5	-	-	-	-	-	-	-	-	-	-	26	
Burial 12	48	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	49	
Burial 14	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	
Burial 17	7	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	10	
Burial 20	9	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	10	
Burial 21	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Burial 22	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
Burial 23	6	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	7	
Burial 24	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
Burial 25	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	
Burial 26	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	6	
Burial 27	10	-	1	-	-	5	-	-	-	-	-	-	-	-	-	-	16	
Burial 29	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Burial 30	4	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	7	
Burial 31	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Burial 32	39	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	43	

Table 8. Tabulation of Ceramic Sherds by Type and Provenience. (continued)

Provenience	Mississippi Plain		Matthews Incised		Mississippi Plain		Bell Plain		Kimmswick Plain	Kimmswick Fabric Impressed	Sand Temper	Limestone Temper	NON-VESSEL CERAMICS					Site Total		
	Frag	WhV	variety Beckwith	variety Manly	unid decorated	Frag	WhV	Erpl					Fgr	Dsc	Pip	Trw				
Burial 33	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84
Burial 34	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Burial 35	3	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	6
Burial 36	30	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	32
Burial 37	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 40	18	-	-	8	-	6	1	-	-	-	-	-	-	-	-	-	-	-	-	33
Burial 41	9	-	-	-	-	5	-	1	-	-	-	2	-	-	-	-	-	-	-	17
Burial 42	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 43	248	-	3	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	255
Burial 45	10	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	13
Burial 46	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 47	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Burial 48	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Burial 49	17	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	20
Burial 50	513	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	529
Burial 51	2	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	13
Burial 52	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 54	4	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	13
Burial 55	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Burial 56	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 57	4	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Burial 58	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Burial 59	48	-	-	-	-	-	-	134	-	-	-	-	-	-	-	-	-	-	-	182
Burial 60	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 62	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 63	31	-	-	-	-	7	-	-	-	1	-	-	-	-	-	-	-	-	-	39
Burial 64	7	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Burial 65	26	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	27
Burial 66	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Burial 67	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80
Burial 68	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Burial 69	338	-	-	-	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	343
Burial 71	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 72	144	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	147
Burial 73	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	363
Burial 74	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47
Burial 75	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51
Burial 76	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 77	10	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Burial 78	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 79	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2

Table 8. Tabulation of Ceramic Sherds by Type and Provenience. (continued)

Provenience	Mississippi Plain Frag	WhV	Matthews Incised variety Beckwith	Matthews Incised variety Manly	Mississippi Plain unad decorated	Bell Plain Frag	WhV	Kimmswick Plain	Kimmswick Fabric Impressed	Sand Temper	Limestone Temper	NON-VESSEL CERAMICS					Site Total
												Erpl	Fgr	Dsc	Pip	Trw	
Burial 80	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 81	4	-	-	-	-	47	-	-	-	-	-	-	-	-	-	3	54
Burial 84	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74
Burial 85	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Subtotal	2743	4	6	10	2	154	7	149	3	0	2	0	0	0	0	3	3083
Feature 1	78	-	1	-	1	4	-	3	-	-	-	-	-	-	-	-	87
Feature 2	2	-	-	-	-	8	-	-	-	-	-	-	-	1	-	-	11
Feature 5	17	-	-	-	-	6	-	15	-	-	-	-	-	-	-	-	38
Feature 8	115	-	-	6	1	44	-	5	-	-	-	-	-	-	-	-	171
Feature 9	194	-	-	-	-	36	-	-	-	-	-	-	-	-	-	-	230
Feature 11	63	-	-	-	-	7	-	1	-	-	-	-	-	-	-	-	71
Feature 13	31	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	33
Feature 17	13	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	15
Feature 18	32	-	-	-	-	17	-	2	-	-	-	-	-	-	-	-	51
Feature 19	58	-	-	-	-	13	-	4	-	-	-	-	-	-	-	-	75
Feature 23	561	-	5	-	1	200	-	13	-	-	-	-	-	-	-	-	780
Feature 25	459	1	1	-	2	69	-	14	5	-	-	-	-	-	15	-	566
Subtotal	1623	1	7	6	5	407	-	58	5	-	-	-	-	1	15	-	2128
TOTAL	4801	5	51	24	9	753	7	245	28	1	2	2	1	2	15	3	5949

Frag = fragment

WhV = whole vessel

Erpl = earplug

Fgr = figurine

Dsc = discoidal

Pip = pipe

Trw = trowel

Table 9. Summary of Ceramic Data by Type and Provenience.

Type	Surface/Dozer	Burials	Features	TOTAL
Mississippi Plain	435 (9.1%) 59.3%	2747 (57.1%) 89.2%	1624 (33.8%) 76.9%	4806 (100%) 81.1%
Matthews Incised, <i>variety Beckwith</i>	38 (74.5%) 5.2%	6 (11.8%) 0.2%	7 (13.7%) 0.3%	51 (100%) 0.7%
Matthews Incised, <i>variety Manly</i>	8 (33.3%) 1.1%	10 (41.7%) 0.3%	6 (25.0%) 0.3%	24 (100%) 0.4%
Mississippi Plain, unid decorated	2 (22.2%) 0.3%	2 (22.2%) >0.1%	5 (55.6%) 0.3%	9 (100%) 0.2%
Bell Plain	192 (25.3%) 26.2%	161 (21.2%) 5.2%	407 (53.6%) 19.3%	760 (100%) 12.8%
Kimmswick Plain	38 (15.8%) 5.2%	149 (61.8%) 4.8%	54 (22.4%) 2.6%	241 (100%) 4.1%
Kimmswick Fabric Impressed	20 (71.4%) 2.7%	3 (10.7%) 0.1%	5 (17.9%) 0.2%	28 (100%) 0.5%
Sand Temper	1 (100%) 0.1%	-	-	1 (100%) >0.1%
Limestone Temper	-	2 (100%) >0.1%	-	2 (100%) >0.1%

Analysis based on vessel form was feasible due to the number of whole or reconstructible vessels from burials and structures. Although collections of burial ceramics are common for this area, less is known about vessel forms from habitation features. A comparison of vessel forms from burials versus those in structures could be fruitfully undertaken due to the presence of *in situ* material on the floors of Structures 1 and 3 at Gordontown (ceramics were not recovered from Structure 2). Analysis based on vessel rather than sherd populations would also be conducive to comparisons between Gordontown and the earlier Mound Bottom site, where the ceramic description is based on minimum numbers of vessels (O'Brien 1977). O'Brien's study, as well as the analysis of ceramics from the Averbuch site (Reed 1984a), primarily a formal analysis of whole vessels from burial contexts, provided the basic comparative material. In addition, Myer's (1928) report of the 1920 excavations at Gordontown was extensively used to extend the range of forms constituting the Gordontown vessel assemblage. Finally, Smith's (1987) paper on whole vessel collections in the Nashville area and the catalog of the Thruston collection at the

Tennessee State Museum (Cox 1985) provided valuable compilations of the range of Mississippian vessel forms found in Middle Tennessee.

Grouping of sherds into vessel forms was accomplished using whole and partial vessels, and rim sherds. Among the Mississippi Plain rim sherds, 73% were assigned to vessel forms, while 83% of the Bell Plain rim sherds and 94% of the Kimmswick rim sherds could be assigned to vessel forms. The higher percentage of identifiable rims in Bell Plain can be explained by the fact that many are filleted rims from simple bowls and are readily identifiable. There is only one vessel form, a large shallow bowl or pan, identified from Kimmswick rim sherds, and those sherds not assigned were small or fragmentary.

After the description of ceramic types and vessel forms, some observations are made on the possible function of different vessel forms. Vessel forms in the Gordontown assemblage can be grouped into jars, bowls, pans, and bottles, and functional interpretations such as cooking, storage, food preparation, serving, and eating can be suggested for the different groups. Analysis of vessel function has seldom been undertaken for vessel assemblages from Middle Tennessee. This is perhaps due to the fact that many of the whole vessel collections come from burials; Reed (1984b:l.3.4) notes that the "Middle Cumberland Culture" is "best known as a mortuary complex." Analysis of ceramic assemblages excavated from habitation features is needed not only to test hypotheses of function, but also to contrast domestic and mortuary vessel types.

Methodology

In the initial cataloging of ceramic materials, sherds were classified by type (Mississippi Plain, Bell Plain, Kimmswick Plain, Kimmswick Fabric Impressed), and all diagnostics were pulled (rims, decorated sherds, whole or reconstructible vessels, ceramic disks, earpools, pipe fragments and trowel fragments). Analysis began with an examination of all ceramics from each provenience. Body sherds were recorded by ceramic type, with notations made for placement (shoulder, body, base), color, thickness, and surface treatment and finish. At the same time, rim sherds were examined, with possible vessel matches noted. Rim sherds and other diagnostics were described and recorded on index cards by type, with rim and lip shape noted, thickness measured, color described, and a profile drawn when the rim sherd was large enough to determine orientation or stance. If possible, the rim diameter was estimated, using a series on concentric circles. The percentage of the vessel orifice represented by the rim sherd was noted (Egloff 1973), which can reflect the degree of accuracy of the rim diameter estimate. Generally, rim diameters could be estimated only on sherds representing at least 10% of the orifice.

Analysis of rim sherds was used to generate minimum vessel estimates. Rim sherds from each provenience were grouped by rim form. All rims and associated body sherds from each provenience that appeared to be from the same vessel were described together. For structures, excavated in several discrete units (e.g., general feature clearing, fill in quads, floor, hearth area), the process of estimating minimum vessels was done by examining the structure as a whole. This process was not conducive to crossmending sherds between burial or feature proveniences. In only one

case was a crossmend found; a body sherd in Feature 19 matched two body sherds in Feature 18, a match noticed because these features were analyzed consecutively.

Examination of whole and partial vessels from Gordontown served as a starting point for the definition of vessel forms. After this initial grouping, rim sherds similar to these forms were sorted out, and additional minority vessel types, sometimes composed of only a few rim sherds, were added. The final typology is not intended to represent the entire range of vessel forms that were present at Gordontown, but simply the categories that could confidently be discerned from the assemblage. Thus, some forms may not be present or may be underrepresented because large rim sherds or partial vessel fragments were not found in these forms.

The grouping of some vessel forms on decorative features rather than on rim morphology represents a departure from general practice. In his analysis of ceramics from Mound Bottom, O'Brien (1977) describes bowls, jars, bottles, plates, pans, and "comals," dividing these categories into 44 forms based primarily on coarse versus fine paste, and secondarily by rim and lip shape. Reed (1984a) divided the ceramics from Averbuch into jars, bottles, and bowls described in 21 categories based on body, neck, and rim morphology. Decorative types, such as incising, filleting, and effigy appendages were described under each vessel form category. Thus, bowls with "Fillete Type I" are described under two forms, "semi-hemispherical, direct rim" bowls, and "constricted orifice, incurvate rim" bowls (Reed 1984:II.7.27-30).

The decision to categorize some vessel forms on decorative elements rather than rim morphology was based on several factors. First, it was noted that the large "standard Mississippian jars" often have variation in rim profile on the same vessel. The application of handles often warped the rim area, creating an oval orifice and causing slightly incurvate or excurvate rims on otherwise straight-rimmed jars. The "standard Mississippian jars" at Gordontown are subdivided by handle morphology, with a residual category for jar rims with no handles present. Another major vessel group is composed of Bell Plain bowls with filleted and plain rim treatments, which are found on bowls with both direct and slightly incurvate rims. Here, the primary criterion for grouping has been the presence or absence of filleting, rather than the rim profile. Likewise, effigy appliqués on bowl forms are a primary criterion for grouping rather than rim shape. With the salt pan form, the major distinction is between fabric impressed and plain pans, with rim/lip treatments being a secondary consideration.

Ceramic Type Descriptions

Mississippi Plain (Phillips 1970:130-135)

Number: 4,806 sherds (353 rim, 4322 body, 35 strap, 70 lug, 19 loop, 2 noded body sherds, 5 whole vessels)

Provenience: Surface: 435 sherds (44 rim, 354 body, 10 strap, 20 lug, 7 loop); Burials: 2747 sherds (183 rim, 2521 body, 6 strap, 27 lug, 5 loop, 1 noded body sherd, 4 whole vessels); Features: 1624 sherds (126 rim, 1447 body, 19 strap, 23 lug, 7 loop, 1 noded body sherd, 1 whole vessel)

Minimum Number of Vessels: 173 (Table 10)

Mississippi Plain sherds are characterized by a coarse paste tempered with medium to coarse crushed shell temper. The temper particle size range is often variable in any one sherd. Million (1975:204) notes that not only is burnt shell easier to crush than unburned shell for use as temper, but the volume change which accompanies chemical changes in the shell when it is heated is less destructive when the shell is burnt prior to inclusion in the paste. Mississippian Plain paste colors typically range from orange to tan to red to gray, with lighter colors predominating and color variation present on individual vessels. Although surfaces are often smoothed, tool marks are sometimes present. Sherds are not generally polished or burnished like finer Bell Plain sherds. Body sherds tend to be thicker than Bell Plain sherds, ranging from 3 to 14 mm in thickness with a mean of 7.2 mm (n=2,175). The mean thickness for Mississippi Plain body sherds from surface collections is 7.7 mm while the mean from burial proveniences is 6.8 mm. This is probably a result of disproportionately larger sherds collected from the surface, while burial fill generally contains small sherds. Mississippi Plain vessels tend to be thicker near the base and shoulder areas.

Some terminology should be clarified at this point. Neeley's Ferry Plain was the type name used by Phillips, Ford and Griffin (1951:105-110) in the Lower Mississippi Valley for Mississippian coarse shell tempered plain ware, and later adopted in the western Kentucky area (Clay 1963:227-236), West Tennessee (Smith 1972), and in Middle Tennessee (O'Brien 1977:251; Broster 1972; Ferguson 1972). Phillips (1970:130-135) describes coarse shell tempered plain ware as Mississippi Plain, with the term Neeley's Ferry restricted to a variety of Mississippi Plain. Recent reports on Mississippian sites in Tennessee use the type name of Mississippi Plain to describe this ware (Benthall 1983, 1987; Reed 1984a; O'Malley et al 1983; Schroedl et al 1985; Clay 1979). The varieties of Mississippi Plain set up by Phillips (1970:130-135) are specific to the Mississippi River area; no varieties have been established in Tennessee outside of the alluvial valley. Lumb and McNutt (1988:15-22) differentiate varieties of Mississippi Plain found at Chucalissa on the basis of paste characteristics, with *vars. Chucalissa* and *Boxtown* distinguished by the amount of coarse shell temper, and *var. Mitchell* differentiated by a temper of clay and shell. In the western Kentucky area, a Mississippian ware, formerly called Morris Plain and now included under Mississippi Plain, is tempered with crushed shell tempered sherds. A grog-tempered variety of Kimmiswick Fabric Impressed (*var. Dedmon*) is also present in the region (Clay 1984b).

A total of 4,806 specimens of Mississippi Plain was recovered from excavations at Gordontown, comprising 81.1% of the ceramic assemblage. Mississippi Plain is the dominant ceramic type in Mississippian sites in the Middle Tennessee area, making up 86.4% of the sherd sample at Averbuch (Reed 1984a:II.7.37), 77% of the sherds at the Ganier site (Broster 1972), and 89% of the sherds at the Noel Cemetery site (Benthall 1983). Mississippi Plain also dominates the ceramic assemblage at the Tinsley Hill site in Kentucky, ranging from 70 to 90% of the sherd assemblage in both the Jonathan Creek and Tinsley Hill complexes (Clay 1963:227; 1979:114-117).

Jar forms occur most frequently on Mississippi Plain paste at Gordontown. Six jar types, five bowl types, and two bottle types were defined, with 163 of the 173 identified vessels falling into jar forms. Phillips, Ford and Griffin (1951:105-106) note that jars are the most common Neeley's Ferry Plain vessel form, with bowls next in importance, and bottles and shallow flat bottomed dishes or plates more rarely found.

Table 10. Mississippi Plain: Sherd and Minimum Vessel Tabulation by Provenience.

Provenience	JARS												BOWLS						BOTTLES				Total Vssls	Total Shrds (Iden)	Total Shrds (Unid)	Total				
	Form 1		Form 2		Form 3		Form 4		Form 5		Form 6		Form 7		Form 8		Form 9		Form 10		Form 11						Form 12		Form 13	
	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S					V	S	V	S
Surface	6	10	6	14	12	28	20	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	75	360	435
Burial Fill	4	4	1	1	5	6	14	17	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	25	29	597	626
Burial 1 (floor)	-	-	-	-	1	192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	192	-	192
Burial 12 (floor)	-	-	-	-	-	-	2	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	36	4	40
Burial 22 (vessel)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1
Burial 25 (floor)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	133
Burial 29 (vessel)	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1
Burial 33 (vessel)	-	-	1	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	84	-	84
Burial 43 (floor)	-	-	-	-	1	78	-	-	-	-	1	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	126	-	126
Burial 45 (vessel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	1
Burial 50 (floor)	-	-	-	-	2	335	1	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	345	111	456
Burial 59 (sidewalls)	-	-	-	-	1	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	48	-	48
Burial 62 (vessel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	1	1	-	1
Burial 67 (floor)	-	-	-	-	-	-	1	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	80	-	80
Burial 69 (floor)	-	-	-	-	2	336	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	336	2	338
Burial 72 (floor)	-	-	-	-	1	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	115	-	115
Burial 73 (flr, vsi)	1	86	-	-	1	259	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	345	-	345
Burial 74 (vessel)	-	-	1	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	43	-	43
Burial 75 (floor)	-	-	-	-	-	-	2	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	51	-	51
Burial 84 (vessel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	67	-	-	-	1	67	-	67
Subtotal, Burials	1	86	2	127	10	1364	6	177	-	-	1	48	-	-	1	1	-	-	1	1	-	-	1	67	1	1	24	1872	250	2122
Feature 1	1	1	1	7	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	3	9	69	78
Feature 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Feature 5	-	-	-	-	-	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	14	17
Feature 8	3	3	1	1	1	1	5	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	199	96	115
Feature 9	1	1	-	-	-	-	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	7	187	194
Feature 11	1	2	-	-	1	1	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	9	54	63
Feature 13	-	-	-	-	1	1	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	28	31
Feature 17	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	11	13
Feature 18	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	30	32
Feature 19	-	-	-	-	-	-	5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	11	47	58
Subtotal, Features	6	7	4	10	3	3	19	44	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	33	65	538	603

Table 10. Mississippi Plain: Sherd and Minimum Vessel Tabulation by Provenience. (continued)

Provenience	JARS												BOWLS						BOTTLES				Total Vssls	Total Shrds (Iden)	Total Shrds (Unid)	Totals				
	Form 1		Form 2		Form 3		Form 4		Form 5		Form 6		Form 7		Form 8		Form 9		Form 10		Form 11						Form 12		Form 13	
	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S					V	S	V	S
Str I (fill)	3	7	-	-	5	7	5	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	24	197	221
Str I (SE quad)	1	1	-	-	1	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	45	29	74	
Str I (SW quad)	-	-	-	-	4	4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	214	219	
Str I (SE/hearth)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	46	
Subtotal, Str I	4	8	-	-	10	55	6	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	74	486	560	
Str III (fill)	1	5	1	1	6	6	3	8	-	-	-	-	-	-	-	-	-	-	1	8	-	-	-	-	-	12	28	178	206	
Str III (fill/floor)	1	1	1	1	1	1	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	65	70	
Str III (floor)	-	-	1	35	-	-	-	-	1	1	-	-	-	-	-	-	-	-	1	8	-	-	-	-	-	3	44	19	63	
Str III (SW quad)	-	-	-	-	1	1	3	6	-	-	-	-	-	-	1	9	-	-	1	1	-	-	-	-	-	6	17	66	83	
Str III (hearth area)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	20	
Str III (hearth)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	
Str III (Bur 11 area)	-	-	-	-	-	-	1	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9	-	-	
Subtotal, Str III	2	6	3	37	8	8	9	25	1	1	-	-	-	-	-	1	9	-	-	3	17	-	-	-	-	27	103	357	460	
TOTAL	23	121	16	189	48	1464	74	297	1	1	1	48	1	1	1	1	2	10	1	1	3	17	1	67	1	1	173	2218	2588	4806

Effigies and specialized forms are also found on Neeley's Ferry Plain paste in the Lower Mississippi Valley. The "standard Mississippi jar form" is described as a "globular or sub-globular vessel with recurved rim and vague shoulder." At Moundville, jar forms have globular bodies, wide, constricted necks, and two or more handles. The "standard jar" form has an excurve rim, "neckless jars" have an incurvate rim, and an unhandled "short-neck bowl" form has a subglobular body, constricted orifice, and short vertical neck (Steponaitis 1983:68-70, Figure 22).

At Mound Bottom, a total of 13 jar forms on coarse paste are described (O'Brien 1977:363-369). Two of these (Forms 15 and 16) are narrow necked jars or jugs (e.g., Pauketat 1987), and one is a hooded water bottle form (Form 17); the remaining 10 forms are wide-mouthed, shouldered jars with a variety of rim treatments. The most common jars forms exhibit straight to slightly excurve necks, with or without rim lugs (Form 23, MNV = 233) and with loop handles (Forms 14 and 26, MNV=69). Reed (1984a:II.7.15) describes the "subglobular jar" form from Averbuch as a "shouldered jar form ... [with] well defined rims with a distinct, although not angular, break at the neck and uniformly rounded shoulders.... Rims are generally high and straight; less common are moderately flaring and slightly inverted rim curvatures. Lips ... are generally flat." At the Ganier site, the most common Neeley's Ferry Plain vessel form is a large lug-handled jar, with some strap handled jars present as well (Broster 1972). The large jars at Sellars Farm include large narrow mouthed jars or jugs, lobed-bodied jars with incising, and wide mouthed jars with both excurve and straight-to-incurvate rims (Carl Kuttruff, personal communication, 1988).

It is often difficult to distinguish between small sized "standard" jars, narrow necked jars or jugs, and wide mouthed bottle forms on the basis of rim sherds alone. Although several small diameter rim sherds were found at Gordontown that could be assigned to any of these forms, no vessel fragments belonging conclusively to a narrow necked jar or jug form on Mississippi Plain paste were found. One partial vessel in a narrow necked jar form was found on Bell Plain paste. These jugs, found at Mound Bottom (O'Brien 1977:364-365), Sellars Farm (Carl Kuttruff, personal communication 1988), and Arnold (Ferguson 1972:23), appear to be an early Mississippian form.

Decorated types (Matthews Incised, *vars. Beckwith* and *Manly*) on Mississippi Plain paste are described later in this section. Below is a description of the thirteen vessel forms found in the 1985-1986 excavations at Gordontown.

Form 1: "Standard" jar, strap handled (MNV=23; Figure 21a)

One unreconstructed vessel composed of 86 sherds, seven rim portions with strap handles composed of 18 sherds, and 15 strap handles/fragments composed of 17 sherds make up the 23 vessels in this form. The vessel fragments with rims present (n=8) most commonly have an incurvate rim; four rims are incurving, two rims are straight, and two are indeterminate. Three of these rim portions show a flattened lip, while the others did not have enough of the rim present beyond the handle to determine lip form. Estimated rim diameters (interior) range from 8 to 30 cm, averaging 18 cm for the six vessels measured. The smallest vessel, with a rim diameter of 8 cm, is a crushed strap handled

vessel found between the knees of Burial 73. This thin-walled jar has an incurving rim, flattened lip, and rounded base. The paste is relatively fine and friable for Mississippi Plain, and color ranges from orange to dark gray.

Strap handles in this form are attached at the rim of the vessel at the lip, and are reattached at the shoulder. The shoulder attachment is appliquéd or luted, not riveted, and handle fragments are often broken at this point of attachment. Of the 23 vessels represented, all but three had measurable strap handles. Because strap handles often widen slightly at the top and bottom, measurement of strap width and thickness were made at the midsection of the handle. Strap length is a vertical measurement perpendicular to the orifice plane. Strap widths range from 29 to 67 mm, averaging 49.3 mm (n=9). Thickness range from 3 to 7 mm, averaging 5.5 mm (n=20). Lengths range from 29 to 50 mm, averaging 41.8 mm (n=6). Differentiating strap and loop handles is best done by a ratio of handle width to handle thickness (Schroedl et al. 1985:207; Jolley 1983:13). Nine strap handles could be measured for both width and thickness; width:thickness ratios ranged from 6.2:1 to 12:1. Strap handles in this sample are all undecorated.

Strap handled jars found by Myer at Gordontown include two vessels reconstructed from pottery found in the capstones of a grave in House Circle No. 79 (1928:539, Figure 152).

Form 2: "Standard" jar, loop handled (MNV=16; Figure 21b)

Two reconstructed vessels (127 sherds), three partial vessels (50 sherds), three rim sherds, and eight loop handles/fragments (nine sherds) make up the 16 vessels in this form. Intact rims on eight vessels were generally excurve; four excurve rims, two straight rims, and two indeterminate rims were found, with incurvate rims not present in this sample. The majority of these rims had a flat lip (n=5) with two rims showing a rounded lip shape. Estimated rim diameters (interior) range from 8 to 26 cm, averaging 14.3 cm (n=4). A reconstructed vessel associated with Burial 33 has a rim diameter of 15 cm and a vessel height of 13.5 cm; the reconstructed vessel associated with Burial 74 has a rim diameter of 9 cm and a vessel height of 9.6 cm (measurements of whole or partial vessels by vessel form are given in Table 11). Both have slightly everted rim profiles.

The loop handles in this form are generally round to oval to flattened oval in section, and range from "rounded loop" to "flattened loop" handles (Schroedl et al. 1985:207-216), or "round loop" to "wide loop" handles (Smith 1969:5-6). In most cases the handle pulls off the lip and is attached at the shoulder. One vessel has an elbow-shaped loop handle which extends 5 mm above the lip. A loop handle on a partial small lobed jar has a bifurcated-prong top attachment which extends slightly above the lip. There is an incised line down the middle of the handle body. Although loop handles at Martin Farm are generally riveted

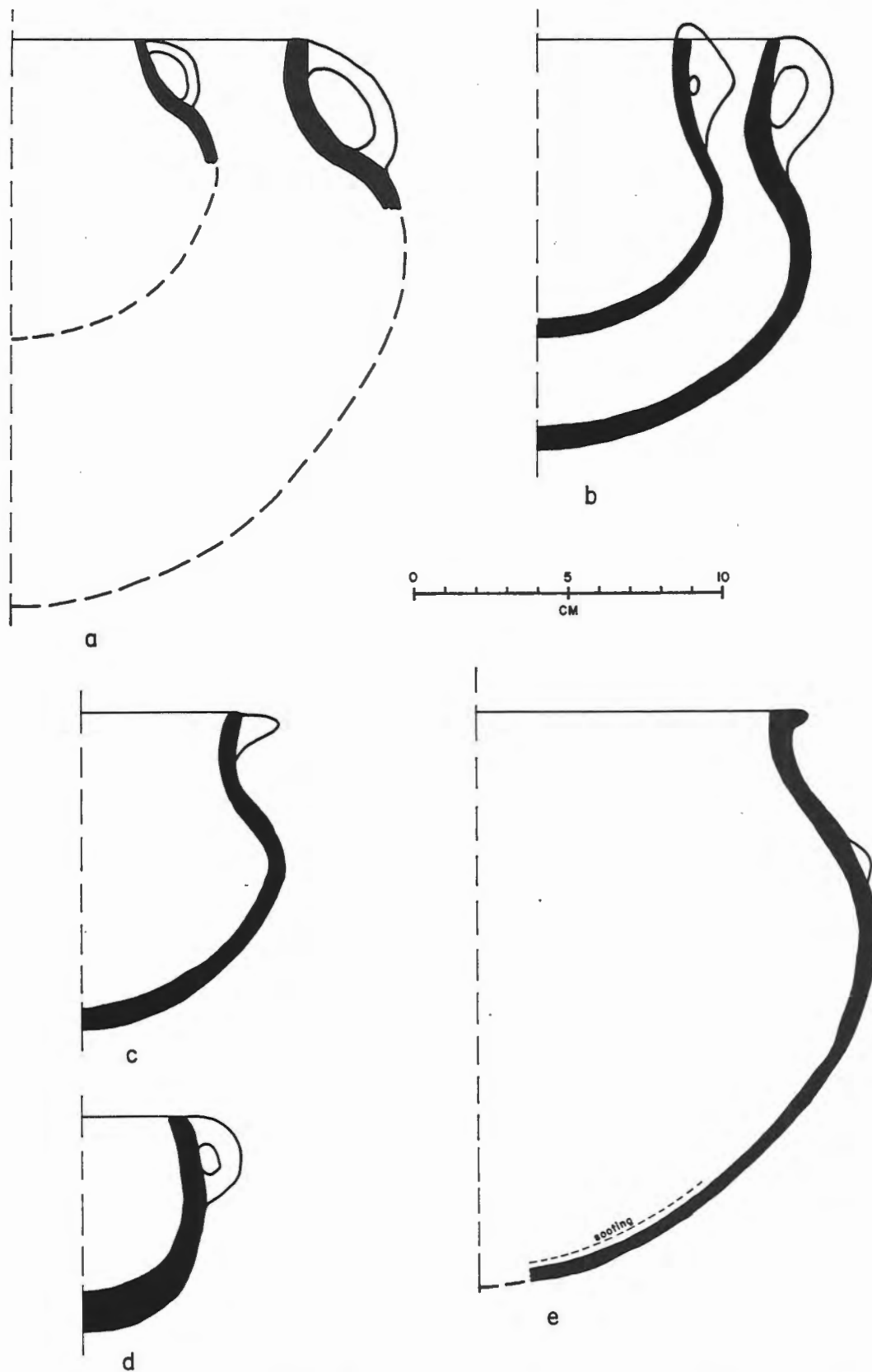


Figure 21. Mississippi Plain vessel profiles: (a) form 1; (b) form 2; (c) form 3; (d) form 5; (e) form 6.

at the lower attachment area (Schroedl et al. 1985:207), the method of attachment for the Gordontown loop handles could be discerned on only one handle. A loop handle fragment found in the general surface collection is a fragment of the lower end of the handle, broken off at the attachment to the vessel wall. The attachment area of the handle has a double-node appliqué. On the broken face of the handle there is a small hole where the rivet or plug would be inserted, for anchoring the handle to the body.

Measurements of handle length, width, and thickness were made on 14 handles. Width and thickness were measured at handle midsection, and length is a vertical measurement perpendicular to the orifice plane. Handle lengths range from 33 to 65 mm, averaging 47.2 mm (n=5). Widths range from 8 to 28 mm, averaging 19.9 mm (n=14), while thickness range from 6 to 16 mm, averaging 10.9 mm (n=14). Width:thickness ratios ranged from 1.1:1 to 3:1 on 14 handles. Seven of these handles have W:T ratios between 1.5 and 1.9:1. Loop handles in the Martin Farm assemblage were differentiated into rounded loops (W:T less than 1.3:1) and flattened loops (W:T between 1.3 and 3.0:1) (Schroedl et al. 1985:207, 216), and by this definition, there are 3 rounded loops and 11 flattened loops in the Gordontown sample. The loop handles at Gordontown did not cluster into rounded and flattened loop handles when graphed by W:T ratio (e.g. Schroedl et al. 1985: Figure 104). However, using the W:T ratio to differentiate between loop and strap handles provided definite clustering (Figure 22).

Loop handled jars found at Gordontown by Myer include a jar reconstructed from fragments from the fill of House Circle No. 3, and a mortuary vessel from a grave near House Circle No. 62 (1928:524, 541, Figure 136, Plate 113a).

Form 3: "Standard" jar, lug handled (MNV=48; Figures 21c and 23a)

One whole vessel, 10 partial vessels (1,407 sherds), 20 rims (38 sherds) and 17 lug fragments (18 sherds) make up the vessel sample for this form. Although in some cases the lug handles are fragmentary, all lugs are probably bifurcated lug handles rather than single round lugs, although semi-lunate lugs were found at the site by Myer. Two lug handles are generally set in opposition at the lip of the jar. The maximum width of the lug from the interior of the rim ranges from 16 to 32 mm, averaging 26.2 mm on 25 vessels measured.

Rim and lip form was recorded for 31 vessels; 16 have incurvate rims, nine have straight rims, one has an excurve rim, and rim form was indeterminate on five. All 18 vessels for which the lip form could be discerned had a flattened lip. Orifices were often oval in shape. On the whole and reconstructed vessels, the interior rim diameter measured from handle to handle is usually less than the interior rim diameter measured perpendicular to the handles. This has repercussions in estimating rim diameter on these jars, as an estimate based on a rim

Table 11. Measurements of Whole or Partial Vessels by Vessel Form.

Vessel	Form Number	Provenience	Interior Rim Diameter (cm)	Orifice Diameter (cm)	Max Girth (cm)	Vessel Height (cm)	Handle Width:Thick Ratio	Orifice:Height Ratio	Height: Max Girth Ratio	Comments
Mississippi Plain	2	Burial 33	15.0	13.6	17.7	13.5	1.9:1	1:1	0.8:1	loop handle jar
Mississippi Plain	2	Burial 74	9.0	8.8	12.0	9.6	1.1:1	0.9:1	0.8:1	loop handle jar
Mississippi Plain	3	Burial 1	23.0-27.0	22.4-27.0	38.8-40.3	33.3	-	0.7-0.8:1	0.8-0.9:1	lug handle jar
Mississippi Plain	3	Burial 29	9.5-10.4	9.0-10.0	13.1-13.5	10.2	-	0.9-1.0:1	0.8:1	lug handle jar
Mississippi Plain	3	Burial 72	24.4-24.8	24.2-24.4	33.3-33.5	28.0	-	0.9:1	0.8:1	lug handle jar
Mississippi Plain	5	Feature 25C	5.5	5.5	8.0	7.0	1.4:1	0.8:1	0.9:1	mini-loop handle jar
Mississippi Plain	5	Feature 25C	-	-	-	-	1.8:1	-	-	-
Mississippi Plain	6	Burial 43	19.0	19.0	26.0	18.5	-	1:1	0.7:1	lobed jar, flanged lip
Mississippi Plain	8	Burial 22	9.5	6.0	10.7	7.6	-	0.8:1	0.7:1	compound bowl
Mississippi Plain	10	Burial 62	5.4	5.4	6.4	3.3	-	1.6:1	0.5:1	simple bowl, plain
Mississippi Plain	11	Feature 25C	24.0	24.0	25.0	7.0	-	3.4:1	0.3:1	flared rim bowl
Mississippi Plain	12	Burial 84	8.0	8.0	20.0	18.5	-	-	0.4:1	wide necked bottle
Mississippi Plain	13	Burial 45	-	4.0-4.6	10.0	17.2	-	-	-	effigy water bottle
Bell Plain	1	Burial 20	10.8	10.8	12.8	6.0	-	1.8:1	0.5:1	simple bowl, filleted
Bell Plain	1	Feature 23A	34.0	34.0	36.0	12.8	-	2.7:1	0.4:1	simple bowl, filleted
Bell Plain	1	Feature 23C	18.0	18.0	19.8	8.6	-	2.1:1	0.4:1	simple bowl, filleted
Bell Plain	1	Surface 3	22.0	22.0	24.2	8.5	-	2.6:1	0.4:1	simple bowl, filleted
Bell Plain	2	Surface 4	28.0	28.0	29.4	9.5	-	2.7:1	0.3:1	simple bowl, plain
Bell Plain	2	Feature 23A	19.0	19.0	20.0	9.5	-	2:1	0.5:1	simple bowl, plain
Bell Plain	7	Burial 69	14.0	10.0	16.0	8.8	-	1.1:1	0.6:1	compound bowl
Bell Plain	8	Burial 35	9.4-11.7	9.4-11.7	12.5-16.5	8.4	-	-	-	duck effigy bowl
Bell Plain	9	Burial 35	3.4-3.7	3.4-3.7	5.7-6.6	4.9	-	-	-	fish effigy bowl
Bell Plain	9	Burial 40	6.4-7.1	6.4-7.1	11.3-12.4	7.6	-	-	-	fish effigy bowl
Bell Plain	9	Burial 60	6.4-7.2	6.4-7.2	10.3-12.7	7.1	-	-	-	fish effigy bowl
Bell Plain	13	Burial 45	-	2.0-2.3	7.0	9.5	-	-	-	effigy water bottle
Bell Plain	14	Feature 23B	7.0	7.0	28.0	-	-	-	-	partial jug
Kimmswick Plain	1	Burial 51	52.0	52.0	54.4	13.0	-	4:1	0.2:1	pan

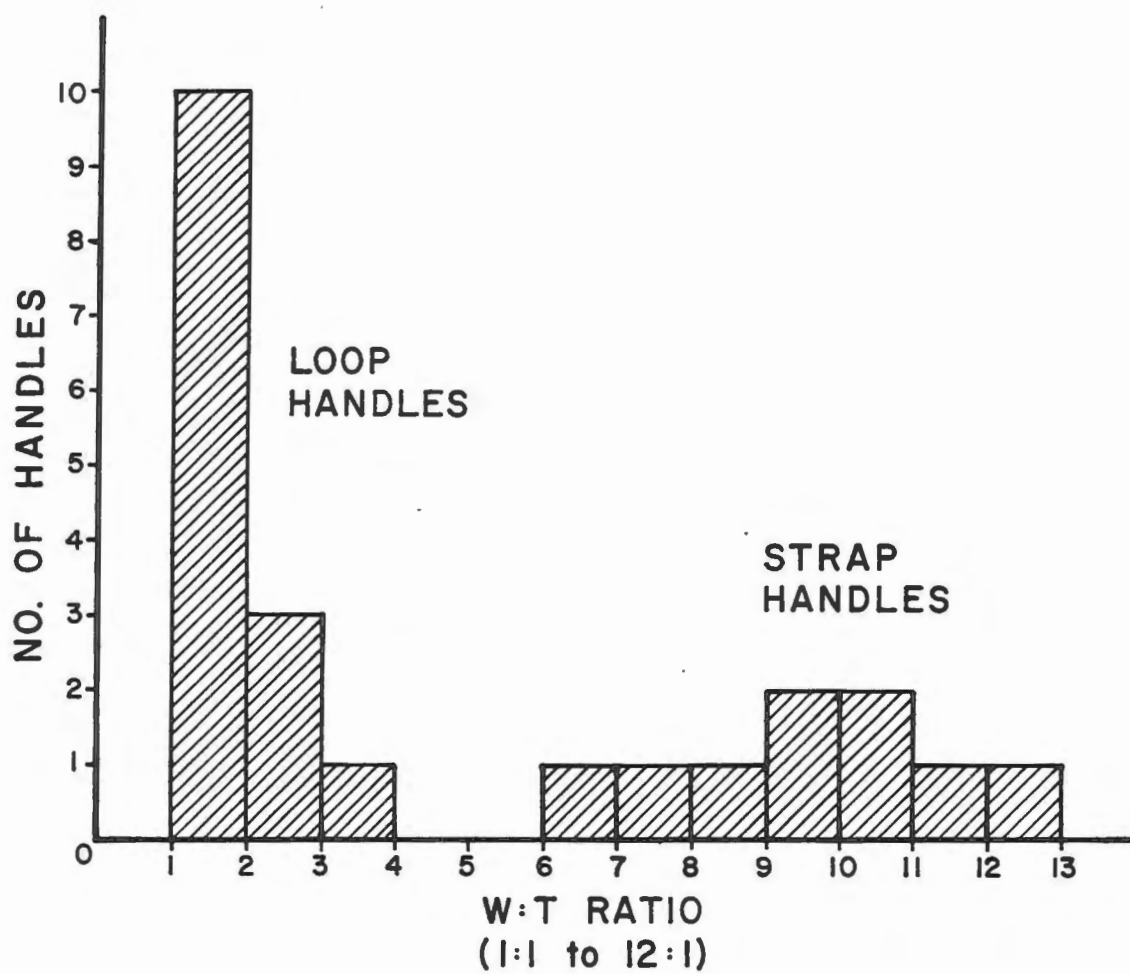


Figure 22. Comparison of width:thickness ratios for measured loop and strap handles.

sherd with a lug handle will be larger, as the rim is slightly flattened at this point. In addition, it was noted that the rim profile was not always the same on all sides of one vessel. The rim at the lug handles is often slightly incurving or excurving, while on other sides the rim is straight. The asymmetry of these large jars, noticeable especially on lug handled jars, is one reason the jars are grouped by handle type rather than rim profile.

Rim diameter (interior) estimates for this form range from 10 to 40 cm, averaging 26.7 cm (n=16). The vessel represented by the smallest rim diameter is a jar associated with a burial; the two vessels represented by the largest rim diameters are lug handled rim fragments and may be overestimates because of flattening of the orifice on the handle sides. Thirteen of the vessels have estimated rim diameters ranging from 20 to 32 cm.

It was noted during excavation that pottery floors in stone-box graves were often made from pieces of jars. A listing of the vessel forms represented by 9 pottery floors and 1 limestone-and-pottery floor (Table 12) shows that of the 17 vessels represented, 8 are lug handled jars, 7 are indeterminate handle jars, 1 is a lobed, flanged lip jar, and 1 vessel is probably a jar, although none of the rim area is present. The large jars used as pottery floors are often missing the base sections when reconstructed. The edges of the basal sherds are highly worn, with the vessel surface at that point pitted and sooted. These utilitarian vessels may have been used as burial flooring because they were worn out and discarded, not ceremonially "killed" (Dowd 1972:42; Myer 1928:530).

Lug handled jars found by Myer at Gordontown include five jars with bifurcate lug handles reconstructed from fragments in the fill of House Circle No. 3, a partial jar from the pottery floor of a grave in House Circle No. 23 with semi-lunate lug handles and fragments of three similar jars in the fill of this structure, and a partial bifurcate lug handled jar from pottery in the capstones of a grave in House Circle No. 79 (1928:524, 531, 533, 539, Figures 137, 145, 151).

Table 12. List of Pottery Floors of Burials by Vessel Form.

Burial	Vessel Form
1	One lug handled jar (Form 3).
12	Three indeterminate handled jar sections (Form 4).
25	One possible jar (no rims present).
43	One lug handled jar (Form 3); one lobed/flanged jar (Form 6).
50	Two lug handled jars (Form 3); one indeterminate handled jar section (Form 4).
67	One indeterminate handled jar (Form 4).
69	Two lug handled jars (Form 3).
72	One lug handled jar (Form 3). Sherds under body only.
73	One lug handled jar (Form 3). Pottery and limestone slab floor.
75	Two indeterminate handled jar sections (Form 4).

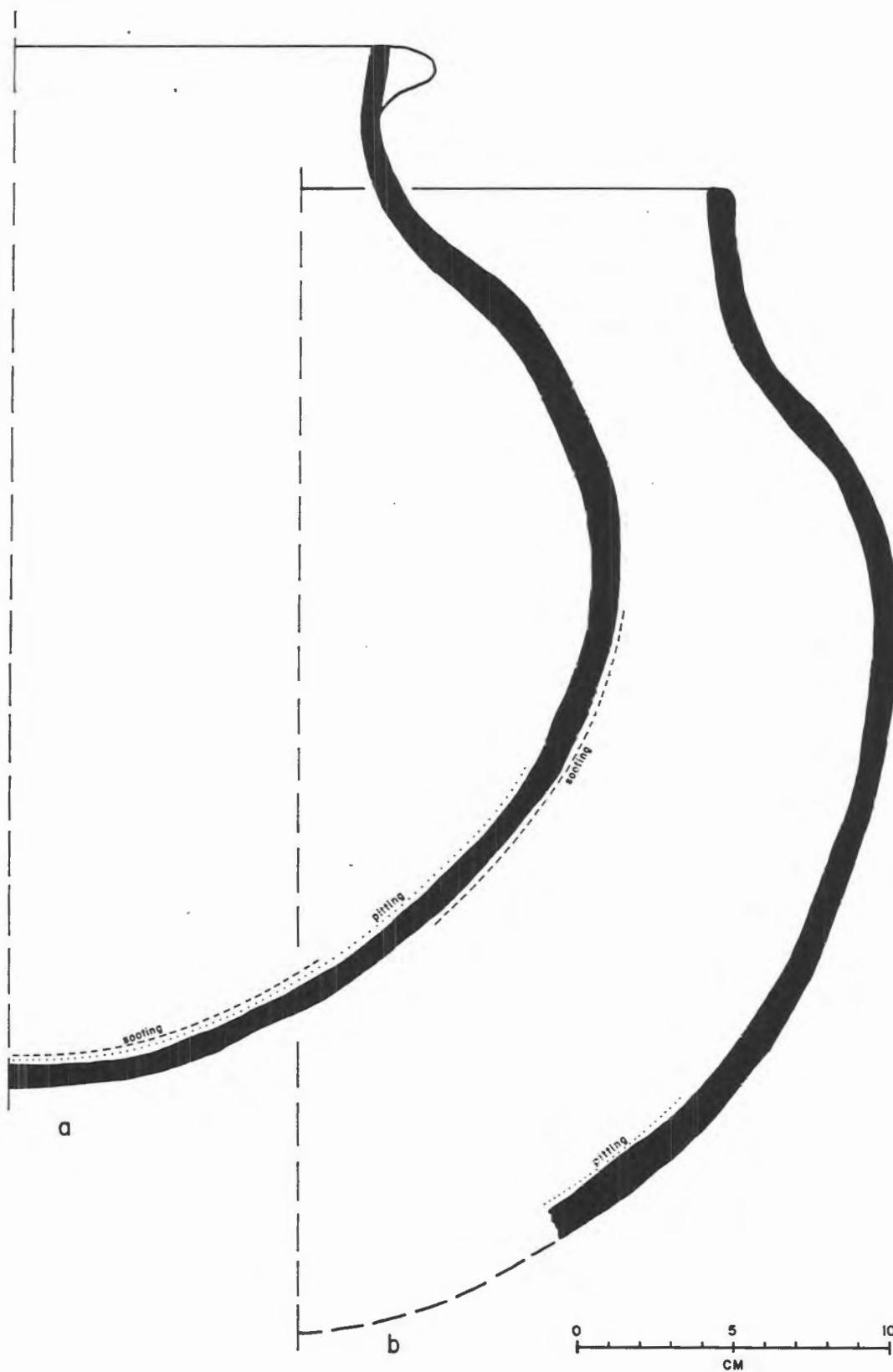


Figure 23. Mississippi Plain vessel profiles: (a) form 3; (b) form 4.

Form 4: "Standard" jar, indeterminate handle (MNV=74; Figure 23b)

This is a residual group made up of a total of six partial vessels (177 sherds) and 68 rims (120 sherds) which do not have handles present. The vessel form is a globular-bodied shouldered jar with a straight, incurvate, or rarely, excurve, rim, and generally a flattened lip. Although no complete unhandled jars were found there may be a handleless jar form in the vessel assemblage. Jars without handles found by Myer at Gordontown are reconstructed from fragments found in House Circles No. 3 and 79 (1928:523, 539, Figures 135, 153). Reed (1984a:II.7.17) notes that eight of the subglobular jars found at Averbuch lack handle appendages and surface decoration. The majority of the fragments in this form, however, are assumed to be from handled jars similar to the first three forms.

Rim profiles on these sherds are generally straight. A total of 38 vessels (51%) have straight rims, 28 vessels (38%) have incurvate rims, and eight vessels (11%) have excurve rims. Lip shape was determined on a total of 73 vessels; of these, 85% have a flattened lip, while 15% show a rounded lip. Some correlation between rim profile and handle type was sought during the analysis to aid in assigning these indeterminate jar rims to a specific form. However, while strap handles and lug handles are generally on incurvate rims (67% and 61%), and loop handles are generally on excurve rims (67%), the majority of the indeterminate jar rims are on straight rims (51%). The explanation for this may lie in the observation, previously discussed, that on some whole vessels rim profile changes from the handle area to the unhandled area of the orifice. At Mound Bottom, O'Brien (1977:367-369) included plain jar rims in the lug handled or loop handled jar forms on the basis of wall thickness, noting that loop handled vessels have wall thickness of 25 to 50 mm, while lug handled vessels have thickness ranging between 60 and 100 mm. This is not true for Gordontown, however, where vessel wall thickness was found to correlate to paste type and vessel size rather than handle form.

Interior rim diameter estimates for these indeterminate handle jars range from 8 to 30 cm, averaging 21.7 cm (n=25). While there are several vessel fragments with small estimated rim diameters, the bulk of the estimates range from 18 to 30 cm. Although no complete vessels of this form were found, the base was probably rounded like the other jar forms.

Form 5: Miniature loop handled jar (MNV=1; Figure 21d)

One whole loop handled vessel was found on the floor of Feature 25 (Structure 3). This irregular piece is a thick walled vessel with a slightly flattened base and no shoulder, apparently formed by modeling. The rim is incurving and the lip is rounded. The form may perhaps be better described as a globular bowl with handles. Vessel wall thickness ranges from 7 mm near the rim to 12 mm at the base. Rim diameter (interior) is 5.5 cm, vessel height is 7 cm, and maximum girth is 8 cm. Two oval-

sectioned loop handles are set at opposite sides of the orifice. These handles measure 29 and 27 mm in length, 10 and 11 mm in width, and 7 and 6 mm in thickness, giving W:T ratios of 1.4:1 and 1.8:1.

A small loop handled jar was found near the hearth of House Circle No. 3 by Myer (1928:520, Plate 104a), which had a fitted limestone cover. This vessel measured 3-1/2" in rim diameter and 3" in height (approximately 9 x 7.5 cm), slightly larger in size than the example described here.

Form 6: Lobed jar, flanged lip (MNV=1; Figure 21e)

A partial vessel reconstructed from sherds from the pottery floor of Burial 43 forms a jar with a lobed body and a flanged lip. Two sections of this vessel were reconstructed. The shoulder area is lobed, and undecorated except for oval-shaped nodes set at the shoulder between lobes. The rim is straight, and the lip flares out with a flattened top, 13 mm in width; the base is rounded. This vessel has an estimated rim diameter (int.) of 19 cm and an estimated vessel height of 18.5 cm. A similar flanged-lip jar was found by Myer in House Circle No. 23 at Gordontown (1928:531, Fig. 146).

Form 7: Semi-hemispherical, filleted rim bowl (MNV=1)

One rim sherd, found in the fill of Burial 14, from a filleted direct rim bowl, resembles vessels in Bell Plain Form 1 but has a paste tempered with coarse shell. Rim shape is excurve and the lip is flattened. The estimated rim diameter (interior) is 16 cm.

Form 8: Compound bowl, filleted rim (MNV=1; Figures 24a, 29b)

A compound bowl resembling the Bell Plain Form 7 bowl was found with Burial 22. This whole vessel has dark gray smoothed surfaces, but is tempered with coarse shell. It exhibits a rounded base, and is carinated at the shoulder. The rim is excurve, the lip is rounded, and there is a prominent fillet strip on the exterior of the rim set 8 mm below the lip. The pyramidal-shaped fillet nodes are 9 to 12 mm apart. Unlike the compound bowl in Bell Plain paste, this form has a single fillet strip rather than two. The upper portion is a shallow bowl form, set over an incurving lower portion. Measurements are as follows: rim diameter (interior) 9.5 cm; orifice at carination 6 cm; maximum girth at fillet strip 10.7 cm; height from lip to carination 2.0 to 2.2 cm; and vessel height 7.6 cm.

Form 9: Everted rim bowl (MNV=2; Figure 24b)

One partial vessel (nine sherds) and a rim sherd make up the sample of this vessel form. The vessels have an excurve rim with an everted, rounded lip between 70° and 90° from vertical. The partial vessel

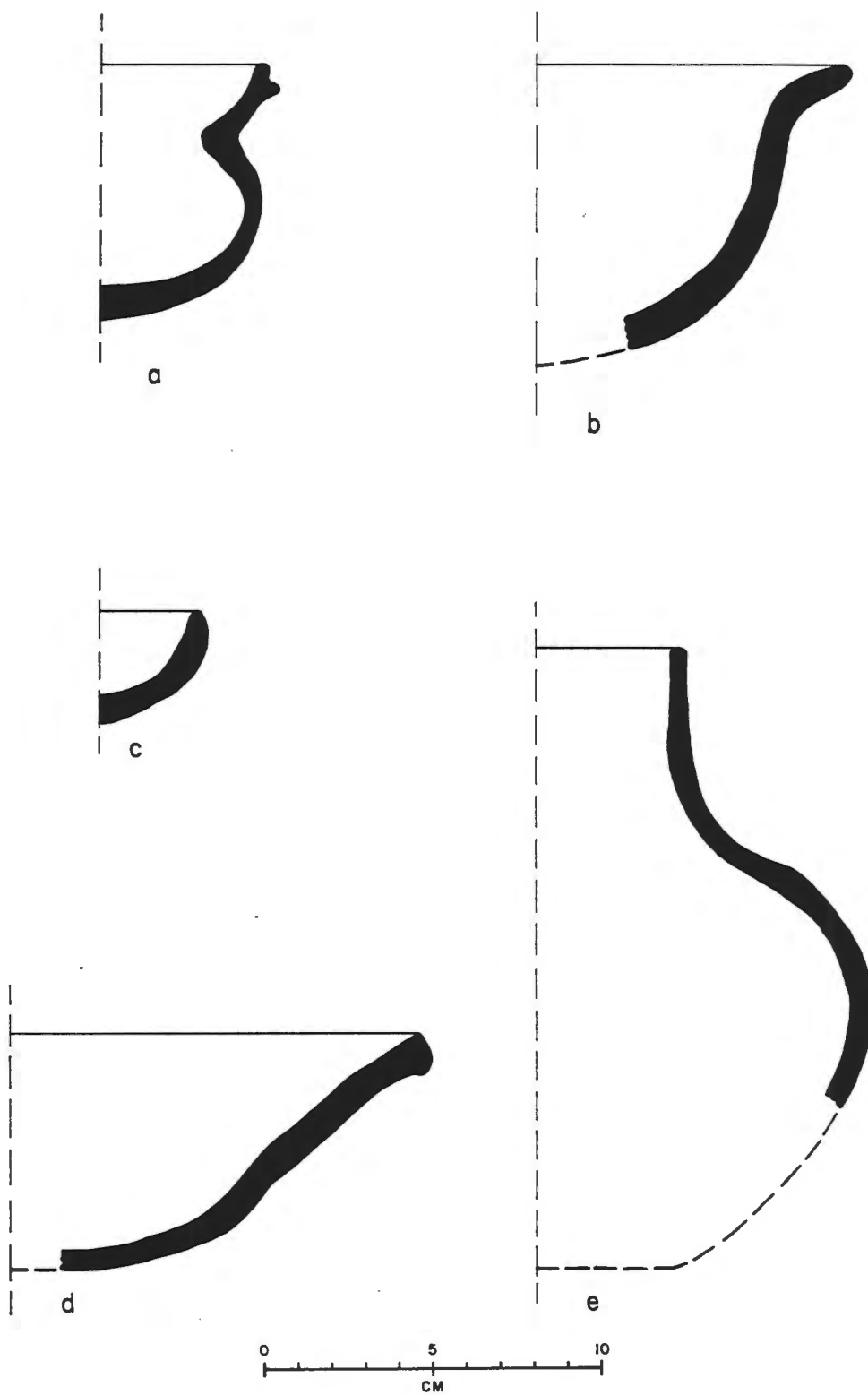


Figure 24. Mississippi Plain vessel profiles: (a) form 8; (b) form 9; (c) form 10; (d) form 11; (e) form 12.

appears to have a rounded base. Estimated rim diameters (exterior) on these two vessel fragments are 18 and 19 cm. The rim sherd was found in Feature 1, while the partial vessel was found in the fill of Feature 25 (Structure 3).

Form 10: Miniature bowl, pinch pot (MNV=1; Figure 24c)

A small, irregular pinch pot was associated with Burial 62. This vessel is a thick-walled bowl with a rounded base, excurve rim and rounded lip. The paste is sparsely tempered with shell. The rim diameter (interior) on this whole vessel is 5.4 cm, and the vessel height is 3.3 cm. Small modeled pinch pots were also found at the Martin Farm site (Schroedl et al. 1985:178).

Form 11: Shallow bowl, flaring rim (MNV=3; Figure 24d)

This form corresponds to Form 6 in Bell Plain paste, but the vessels have coarse shell tempering. Two partial vessels (16 sherds) and one rim sherd make up the sample for this form. All vessels were found in Feature 25 (Structure 3); of the three similar vessels in the Bell Plain form, one was found in Feature 25. The vessel form is a shallow, excurve rim bowl with a broad flaring rim. Two vessel fragments have a rounded lip while the third has a flattened lip with slight external thickening. All three vessel fragments have smoothed surfaces. Estimated rim diameters (exterior) range from 24 to 30 cm. A partial vessel recovered from the floor area of Structure 3 has an estimated rim diameter (exterior) of 25 cm and an estimated vessel height of 7 cm.

Form 12: Wide necked bottle (MNV=1; Figure 24e)

This vessel form includes only a partial vessel (67 sherds) associated with Burial 84. It has a flat base, globular body, and prominent shoulder. The rim is straight, and the lip is flattened. Estimated rim diameter (interior) is 8 cm, the neck height is 5 cm, the maximum body girth is 20 cm, and the vessel height is approximately 18.5 cm. The proportions of this vessel indicate that this is a wide necked bottle form rather than a narrow necked jar. A flattened base also distinguishes this vessel from the jar forms found at the Gordontown site.

Form 13: Human effigy hooded water bottle (MNV=1; Figure 25a)

Burial 45 contained two human effigy water bottles, one on Bell Plain paste and a larger example on Mississippi Plain paste. The latter vessel represents a seated or kneeling female figure, with the bottle opening (40 x 46 mm) at the back of the head. The shell tempered paste is orange in color, and has a white slip on the exterior surface that is worn or eroded in places. The arms are clasped at the waist, and the facial features, topknot, and breasts are detailed. The height of the vessel is 17.2 cm, and the maximum girth is 10 cm at the base. The base is flattened with a 7 mm kickup in the center.



Figure 25. Human effigy hooded water bottles: (a) Mississippi Plain form 13; (b) Bell Plain form 13.

Miscellaneous Vessel Fragments:

Several other vessel fragments were unassigned to specific vessel forms but should be mentioned. It was noted that the only vessel forms on Mississippi Plain paste with flattened bases are the shallow flared rim bowl (Form 11) and the bottle forms (Forms 12 and 13). In the collection of body sherds, four basal fragments were found that are from flat based vessels. A base sherd in the fill of Burial 26 has a flat bottom and the vessel wall is outleaning at an angle. A basal fragment found in the general surface collection is from a flat bottomed vessel with excurved vessel walls which curve gradually from the base. In addition, 16 body sherds found in the fill of Feature 25 (Structure III) fit together to form a base portion of a thin-walled vessel which may be a small constricted neck bowl or bottle. The base of this vessel fragment is flat, with a slight (1 mm) kickup in the center. The neck is slightly constricted. No rim sherds are present. Finally, two Mississippian Plain body sherds were found, in Feature 23 (Structure I) and Burial 7 fill, that are decorated with nodes and may be portions of effigy vessels.

Matthews Incised (Phillips 1970:127-128)

Number: 75 sherds (7 rim; 62 body; 6 strap handle fragments)

var. Beckwith: 51 sherds (5 rim, 42 body, 4 strap handle fragments)

var. Manly: 24 sherds (2 rim, 20 body, 2 strap handle fragments)

Minimum Number of Vessels: 5 (Table 13)

A total of 75 Matthews Incised sherds from Gordontown were identified, all on medium to coarse shell tempered Mississippi Plain paste. There are two main types of decoration present that correspond to existing Matthews Incised varieties. However, published descriptions of these designs vary and are often not well illustrated, resulting in a quagmire of designs and types. Here, rectilinear designs have been included with the *var. Beckwith*, and curvilinear designs of incised and/or punctated lines with *var. Manly*. Two vessel forms are identified, a strap handled jar similar to Mississippi Plain Form 1, and a jar with indeterminate handles, comparable to Mississippi Plain Form 4.

Phillips, Ford and Griffin (1951:149) describe a provisional type for the Lower Mississippi Valley called Oliver Incised, which has "incised lines of the same character described for Barton Incised, in a guilloche meander on rim, neck, or shoulder area employing two or more lines. ...the design is usually rectilinear as it is in the Nashville region. ... In eastern Tennessee this design forms a part of Dallas Incised." Clay (1963:260-264) describes the Beckwith Incised type as being synonymous with Oliver Incised, and "composed of straight lines forming combinations of parallel lines oriented in a rectilinear gillouche around the neck of the vessel." This type is associated exclusively with strap handles, and vessels are generally globular jars with flaring rims (Clay 1963:261). Phillips (1970:128) describes Matthews Incised, *var. Beckwith*, which replaces Beckwith Incised, as "incision with fine pointed implement featuring recti- and curvilinear guilloche motifs." The old Oliver Incised type, which was set up as a provisional type to keep the guilloche motif together, is eliminated under this scheme (Phillips 1970:148).

Table 13. Matthews Incised and Unidentified Decorated: Sherd and Minimum Vessel Tabulation by Provenience.

Provenience	--Matthews Incised, var Beckwith--						---Matthews Incised, var Manly---						--Mississippi Plain--		Total Number Vessels	Total Sherds Ident	Total Sherds Unident	Total
	Unid Body	Unid Rim	Form 1 V	Form 1 S	Form 4 V	Form 4 S	Unid Body	Unid Rim	Form 1 V	Form 1 S	Form 4 V	Form 4 S	Unidentified Body	Unidentified Rim				
Surface	4	-	1	34	-	-	8	-	-	-	-	-	-	2	1	34	14	48
Burial Fill	5	-	-	-	1	1	1	-	1	8	1	1	1	1	3	10	8	18
Feature 1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	2
Feature 8	-	-	-	-	-	-	6	-	-	-	-	-	1	-	-	-	7	7
Str I (fill)	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
Str I (SW quad)	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	2
Str III (fill)	-	-	-	-	1	1	-	-	-	-	-	-	2	-	1	1	2	3
TOTAL	13	2	1	34	2	2	15	-	1	8	1	1	6	3	5	45	39	84

This incised "rectilinear guilloche" design is found at Gordontown on a total of 51 sherds. The design is typically formed with three or four incised lines in a crosshatched diamond pattern around the neck area of vessels (Figure 26a and b). Two rim sherds from Burial 43 fill and Feature 25 fill are from straight to incurvate rim jars with flattened lips; no handles are present on these rim sherds. In form, these rims fit into Mississippi Plain Form 4. Body sherds with this incised decoration are found in general surface collections, fill from Burials 3, 10, 27, and 43, and Features 1 and 23. Thirty-four sherds from the general surface collection form a partial strap handled jar with incised decoration around the neck area. The rim is incurvate, and the lip is flattened; the estimated rim diameter (interior) of this vessel is 22 cm. A wide strap handle, undecorated, is set on one side of the vessel fragment, and the incising does not extend underneath the handle. An oblong node with a linear slit is set on the shoulder near the handle; this vessel fragment may be a "structural human head effigy" (Smith 1987:11-12) or "conventionalized zoomorphic" effigy (Ferguson 1972:32). The vessel form is comparable to Mississippi Plain Form 1. Two body sherds found in surface collections in the Hearthstone Lane area have circular nodes with central depressions. One of these body sherds also has three-line incised crosshatched guilloche pattern on the shoulder area next to the node. These sherds may also be from structural human effigies. Stylized zooeffigy appendages are described as "Effigy Appendage Type I" under the subglobular jar category in the Averbuch collection, where nodes representing heads, eyes, ears, and tails or hair buns are symmetrically placed on the shoulders of the jars:

Heads appear in the form of an inverted "T" composed of two thin strips of clay or a conical node with two lateral impressions on the superior margin. Eyes are typically spherical nodes with a single deep punctation at the center of the node commonly occurring. Tails or hair buns are flat, round nodes with a depressed center in all cases. Ears are represented by lunate nodes or lunate to subrectangular shaped clay wedges which are frequently accented by a short but deep incision aligned horizontally to the vessel wall (Reed 1984a:II.7.17).

While the stylized zoomorphic vessels at Averbuch on subglobular jars are apparently not incised, two lobed jars were found with nodes and single line incising (Reed 1984a:II.7.19). A large strap handled jar with an incised guilloche and nodes from the Noel Cemetery site was found by Thruston (1897:Plate 6). Five vessels found at Moundville are classified as nonlocal Matthews Incised, *var. Beckwith*; three of these jars have "stylized frog effigy features," described as "six nodes arranged around the shoulder: a triangular node representing the head, a dimpled node the rear, and four comma-shaped nodes the legs" (Steponaitis 1983:333, Figure 64j). At Toqua, modeled nodes and appendages of various types appear on conventionalized zoomorphic effigies, including rounded, elongated, dimpled, triangular, and inverted T-shaped nodes, and generally occur as six nodes on the shoulder of the jar or bowl (Reed 1987:619-620, Figure 8.31).

Three stylized zoomorphic jars were found by Myer at Gordontown. A handled jar reconstructed from a pottery floor of a grave in House Circle No. 23 (Myer 1927:Figure 144) exhibits nodes around the shoulder, and an incised and punctate wave design at the neck/shoulder area (Matthews Incised, *var. Manly*). The second

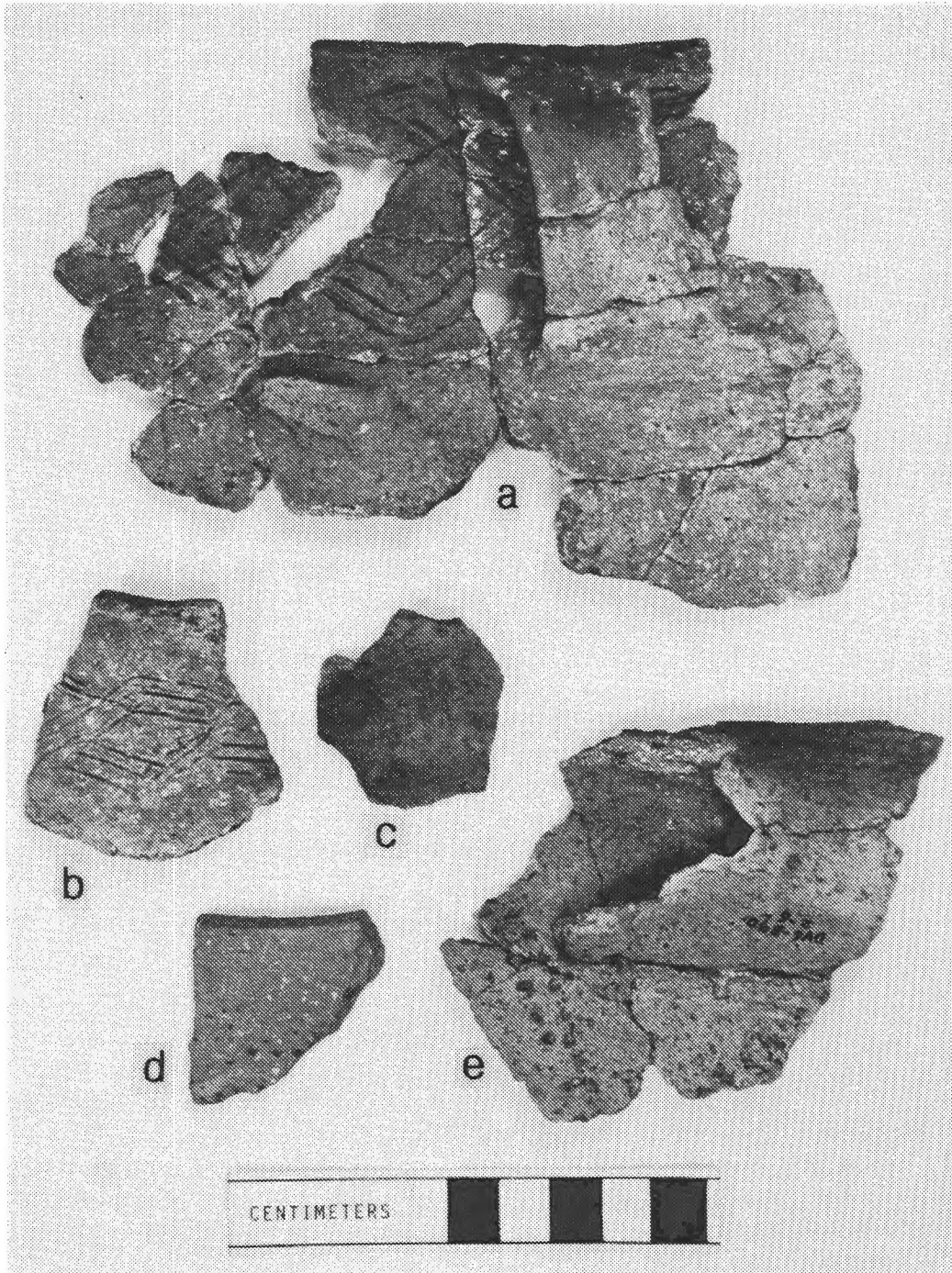


Figure 26. Matthews Incised sherds: (a-c) *variety Beckwith*; (d-e) *variety Manly*.

stylized zoomorphic jar, found by Myer outside a grave in House Circle No. 79 (1928:Plate 116), has conventionalized human feature nodes and an incised wave design (Matthews Incised, *var. Manly*); the jar has both strap handles and bifurcated lug handles. Fragments of pottery found in the capstones of this grave form a partial vessel (Myer 1928:Plate 117a) which has conventionalized human feature nodes accompanying four-line incising in the guilloche design (Matthews Incised, *var. Beckwith*). Myer notes that this incised design is not common at the site, appearing "on the rims of possibly three or four vessels found on this site" (1928:538).

Phillips (1970:128) defines Matthews Incised, *var. Matthews* by "decoration consist[ing] of running curvi- or rectilinear designs on the rim or shoulder area of standard jars," while *var. Manly* is defined as an "incised meander accompanied by punctations on shoulder of standard Mississippian jar". Perino (1966:74-78) describes the Manly Punctated design at the Banks site in Arkansas as a "meandering or angular line or lines filled with punctations, or a line or lines of punctates on the shoulders" while Matthews Incised encompasses designs "consisting of angular or meandering incised lines without the punctations." According to Clay's (1963:280, 282) definition, Matthews Incised has "an incised curvilinear meander around the neck of the vessel, composed of one or more lines" while Manley Punctate has "parallel rows of punctations ... arranged in a meander around the neck of the vessel. Variations ... include punctations bounded by a single incised line."

In the Averbuch analysis, Reed (1984a:II.7.17, 44) describes "a continuous angular guilloche pattern" on the rim of a strap handled subglobular jar, and on rim and neck sherds in the sherd collection (Incised Type I) as similar to Matthews Incised, *var. Matthews*. The rim sherds illustrated (Reed 1984a:Figure 7.7c) have a design that corresponds to the incised guilloche found at Gordontown and classified as Matthews Incised, *var. Beckwith*. Designs comparable to Matthews Incised, *var. Manly*, are described by Reed (1984a:II.7.17, 19) as composed of "one or more meandering lines at angular junctures between broad arches" on subglobular jars (Incised Type II), or "one or more lines of punctations," "a deeply incised line" or "paired lines of small, irregularly spaced punctations framing a fine incised line" which outline the lobes of lobed body jars (Punctated Type I, Incised Type II, Punctated Type I/Incised Type II). These "curvilinear meander" (Clay 1963:280) or "wave" (Smith 1987:9) designs, composed of incised lines, rows of punctations, or both, when found at Gordontown are classified as Matthews Incised, *var. Manly*.

Twenty-four sherds found at Gordontown are classified as Matthews Incised, *var. Manly*. A single row of punctations is found on the shoulder of a body sherd (with two plain body sherds fitting) from the general surface collections while a double row of punctations in a curvilinear "wave" design decorate the shoulder area of a strap handled jar fragment from the fill of Burial 40 (Figure 26d). Eight sherds form this vessel fragment, which has an incurvate rim, flattened lip, and a part of a strap handle; estimated rim diameter (interior) is 12 cm. The vessel form corresponds to Mississippi Plain Form 1. Two curvilinear rows of punctations with a single incised line in between decorate the shoulder area of a rim sherd found in the fill of Burial 34 (Figure 26c). The rim is incurvate, the lip is flattened, and the rim sherd is probably a jar rim corresponding to Mississippi Plain Form 4. A row of punctations with a deep incised line above is found on a small body sherd from Feature 8. A body sherd from the

general surface collections has a slightly different character, having three broad incised lines with large, shallow punctations below the line. The punctations on this sherd are space-filling rather than linear. Three large body sherds (and one plain body sherd fitting) from surface collections near Lot 77, and one body sherd from the fill of Burial 43, have deep, wide incised lines at the shoulder area. The single incised lines are unaccompanied by punctations, and form a curvilinear or wave design. Four body sherds (and one plain body sherd fitting) found in the fill of Feature 8 have the same design, but appear to be from a lobed-bodied jar.

Unidentified Decorated Sherds (n=9)

Eight sherds from the Gordontown excavations have incised decoration but do not fit into any of the Matthews Incised varieties, and at this point are unidentified as to type. One sherd has a brushed surface treatment. All sherds are on Mississippi Plain paste. A rim sherd from general surface collections has an incurvate rim and flattened lip. This jar rim has parallel vertical incised lines, spaced 5 to 11 mm apart, beginning approximately 5 cm below the lip at the shoulder area of the sherd. A small rim sherd found in surface collections in the Lot 81 area has an indeterminate rim profile, a flattened lip with slight external thickening, and parallel vertical incised lines, spaced 3-4 mm apart, beginning 6 to 7 mm below the lip. A body sherd from the fill of Feature 25 (Structure 3) has parallel vertical to diagonal incised lines approximately 25 mm long and 4 to 7 mm apart at the shoulder area of this jar or bowl fragment. Beneath these vertical lines is a single broad incised curved line. A small rim sherd from the fill of Burial 11 has a thick incised "X" below the lip on the exterior. The small size of the rim sherd precludes definition of the this design. Faint incised lines of unidentified design occur on body sherds from Feature 8 and Feature 23. A shoulder sherd from Feature 1 has a single line incised parallel to the rim, however, the small size of the sherd makes identification of the design untenable. Finally, a body sherd from the fill of Feature 25 is a thick orange-tan body sherd with coarse shell tempering, and parallel linear impressions on the exterior face. These impressions appear to be brushed. This type of surface treatment is not generally found in this area. At Toqua, three shell tempered brushed sherds were found and tentatively identified as McKee Island Brushed (Reed 1987:615-616).

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

Number: 760 sherds (162 rim, 541 body, 38 modeled/effigy, 12 handle, 7 whole vessels)

Provenience: Surface: 192 sherds (69 rim, 111 body, 9 modeled/effigy, 3 handle);

Burials: 161 sherds (17 rim, 122 body, 7 modeled/effigy, 8 handle, 7 whole vessels);

Features: 407 sherds (76 rim, 308 body, 22 modeled/effigy, 1 handle)

Minimum Number of Vessels: 120 (Table 14)

Bell Plain sherds are characterized by a fine paste with finely crushed shell temper generally less than 1 mm in particle size. As defined originally, temper consists of fine shell, however, finely crushed grog or fine clay particles have also been noted in Bell Plain shell tempered paste (Lumb and McNutt 1988; Million 1975; Smith 1972). Color ranges from orange-tan to reddish-gray to dark gray and black, with a preponderance of sherds exhibiting a gray core and gray to dark gray surfaces. Surfaces are generally smoothed, and often are polished or burnished. Smoothing is

Table 14. Bell Plain: Sherd and Minimum Vessel Tabulation by Provenience.

Provenience	BOWLS														EFFIGY BOWLS						Misc	BOTTLES				JAR/JUG-		Total	Total	Total				
	Form 1		Form 2		Form 3		Form 4		Form 5		Form 6		Form 7		Form 8		Form 9		Form 10		Form 11		Effg	Form 12		Form 13		Misc	Form 14		Total	Shrds		
	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	V	S	Shrd	V	S	V	S	Shrd	V	S	Vsls	(lden)	(Unid)	
Surface	31	55	12	23	1	1	1	1	2	2	1	2	-	-	1	1	-	-	-	-	-	-	13	-	-	-	-	1	-	-	49	85	107	192
Burial Fill	4	4	3	3	-	-	2	2	-	-	1	1	-	-	-	-	-	-	-	1	1	14	-	-	-	-	-	-	-	11	11	92	103	
Burial 20 (vsl)	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	
Burial 35 (vsl)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	2	
Burial 40 (vsl)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	
Burial 45 (vsl)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	-	1	
Burial 60 (vsl)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	
Burial 69 (fl;vsl)	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	4	5	
Burial 81 (cap)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	47	
Subtotal, Bur	1	1	-	-	-	-	-	-	-	-	-	1	1	1	1	3	3	-	-	-	-	-	-	-	-	1	1	-	-	-	7	7	51	58
Feature 1	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	1	4	
Feature 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	8	-	-	-	-	1	8	-	8	
Feature 5	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	3	3	3	6	
Feature 8	5	5	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	8	9	35	44	
Feature 9	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	2	2	34	36	
Feature 11	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	5	7	
Feature 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
Feature 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
Feature 18	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	1	2	15	17	
Feature 19	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	12	13	
Subtotal, Fea	12	13	5	7	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	6	1	8	-	-	-	-	-	-	20	30	108	138	
Str I (fill)	7	29	4	11	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	2	-	-	-	-	-	-	-	12	41	38	79	
Str I (SE quad)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	19	1	19	3	22		
Str I (SW quad)	4	22	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	10	-	-	3	-	-	-	-	-	-	-	-	6	33	61	94	
Str I (SE/hearth)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	
Subtotal, Str I	11	51	5	12	-	-	-	-	-	-	-	-	-	-	1	1	1	10	-	-	5	-	-	-	-	-	-	1	19	19	93	107	200	
Str III (fill)	4	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	7	7	30	37	
Str III (fill/floor)	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	22	25	
Str III (SW quad)	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	
Str III (hrth area)	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	4	
Str III (hearth)	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	
Subtotal, Str III	9	9	4	4	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	14	14	55	69	
TOTAL	68	133	29	49	1	1	3	3	2	2	3	4	1	1	2	2	5	5	1	10	2	2	39	1	8	1	1	2	1	19	120	240	520	760

generally done by wiping the surface while the clay is wet and plastic, but polishing or burnishing generally involves rubbing the surface when somewhat dryer with a hard smooth pebble to give a compacted surface finish (Steponaitis 1983:23). A total of 407 body sherds were measured for thickness and ranged from 3 to 11 mm thick with a mean of 5.9 mm. Bell Plain vessels tend to be thicker near the bases.

Plain shell-tempered ceramics in the southeast tend to be divided into a "plain" ware and a "polished," "burnished," or "smoothed" ware, and these differences "seem to be functionally significant" (Phillips 1970:58). Paste is generally considered a more reliable criterion for sorting than surface luster, dividing into a fine textured paste with finely crushed shell (Bell Plain) and a coarse paste with medium to coarse shell temper (Mississippi Plain, Matthews Incised, Kimmswick Fabric Impressed, Kimmswick Plain) (Phillips 1970:59; Reed 1984a:II.7.34-46; O'Brien 1977:350-351). Clay (1963:236) notes that this division is not distinct, "rather they grade into one another, with the majority easily divisible as to one or the other." Steponaitis (1983:305-306) uses a burnished surface finish rather than temper size as the specific sorting criterion for Bell Plain, because not all fine paste vessels are burnished nor are all coarse paste vessels unburnished, because it is not always possible to see the paste on whole vessels, and because he suspects a stronger functional relationship between burnished/unburnished wares than between fine/coarse paste wares.

A total of 753 Bell Plain sherds and seven whole vessels were found at Gordontown, comprising 12.8% of the ceramic assemblage. In contrast, at the Averbuch site, 1.62% of the sherds and 35% of the whole vessels were classified as "fine shell tempered ware" (Reed 1984a:II.7.34, Tables 7.2-7.7).

In the lower Mississippi Valley, Phillips, Ford and Griffin (1951:122) found that the "simple, curved-sided bowl" was the most common vessel form on Bell Plain paste, followed by bottles, flat bottomed bowls with flaring sides, and less commonly, "a wide variety of specialized forms closely paralleling those in Neeley's Ferry Plain but usually carried out with greater skill and finer finish." Clay (1963:237) identified four major Bell Plain vessel forms in the Tennessee-Cumberland region of West Kentucky: plain and scalloped rimmed plates; and plain and decorated rimmed bowls. At Chucalissa, Bell Plain was used for bowls and some water bottles, but jars were made on Neeley's Ferry paste (G. P. Smith 1969:5).

The seven whole vessels from the burials, combined with partial vessels and large rim sherds from the collection, served as a starting point for the breakdown of Bell Plain vessel forms. A total of 14 vessel forms were distinguished, including bowls, bottles and a jar. Bowls are the most common form on Bell Plain paste at Gordontown, and occur in plain, decorated, and effigy forms. Two vessels identified as bottles were found, including a human effigy water bottle. Although only one partial jar in Bell Plain paste was found, several small rim sherds were found with constricted necks which could not be identified as to form. Jar forms on fine paste are identified in the assemblages from Mound Bottom (O'Brien 1977:369-371) and Averbuch (Reed 1984a:II.7.18). Although no plates were identified in the Gordontown ceramic assemblage, "small fragments" of three negative-painted plates or shallow bowls and one "fine" undecorated plate or shallow bowl were found at the site by Myer in 1920 (1928:533-535).

Form 1: Semi-hemispherical, filleted rim bowl (MNV = 68; Figure 27a)

Simple bowls with excurvate vessel walls and direct or slightly constricting rims are the most common Bell Plain vessel form at Gordontown, and occur with both filleted and plain rim treatments. At Averbuch, Reed (1984a:II.7.27-31) distinguished direct rim bowls from constricted orifice bowls, but here decoration is used as the first order differentiation rather than rim shape.

Form 1 bowls have curved walls and a direct or slightly constricting rim, decorated with a filleted rim strip just below the lip on the exterior of the vessel. The fillet strip is applied on the exterior, from 4 to 14 mm below the lip. Filleting, also referred to as a "serrated, appliqué rim design" (Ferguson 1972:32), "notched rim" (Dowd 1972:46), and "beaded rim" (Myer 1928:Plate 118), ranges from roughly pinched nodes to piecrust type nodding to well-formed pyramidal shaped nodes (Figure 28a). Nodes in the fillet strip are regularly spaced and range from 5 to 14 mm apart. One rim sherd has a hole in the vessel wall just under the fillet strip for suspension.

Two rim profiles are found on these bowls. One is a direct rim, corresponding to Reed's (1984a:II.7.27-28) "semi-hemispherical, direct rim" bowl with "Fillete Type I" and "Fillete Type II." A total of 95 sherds making up a minimum number of 45 vessels was identified for direct rim filleted bowls. Vessel lips are both flattened and rounded, with flat lips more common (n=26 flat, 67%, n=13 round, 33%, of identifiable lip forms). The second type of rim profile is a slightly incurving or constricted rim, often no more than a slight lipping, that corresponds to Reed's (1984a:II.7.30) "constricted orifice, incurvate rim" bowl with "Fillete Type I." A total of 38 sherds make up a minimum of 23 vessels with this profile. Flattened lips are most common although rounded lips do occur (n=18 flat, 82%, n=4 round, 18%, of identifiable lip forms).

Form 1 bowls have rim diameters (interior measurement) ranging from 10.8 to 34 cm, averaging 18.7 cm in diameter (n=18). One whole vessel was associated with Burial 20, while partial vessels were found in Feature 23 (Structure I) and in the clearing of Lot 40 where a partial vessel was recovered from on top of a stone-box grave. These whole and partial vessels have flattened bases, and range from 10.8 to 34 cm in interior rim diameter (orifice), from 12.8 to 36 cm in maximum girth at the fillet strip, and from 6 to 12.8 cm in height.

Fragments of eight filleted rim bowls were found at Gordontown by Myer in the fill of House Circle 3; these range from 8 to 12 inches in rim diameter. Fragments of two filleted rim bowls were recovered from the fill of House Circle No. 23, and fragments of filleted rim bowls were found in pottery found in the capstones of a grave in House Circle No. 79 (1928:521, 524-5, 533, 539, Figure 138, Plate 118a, b).

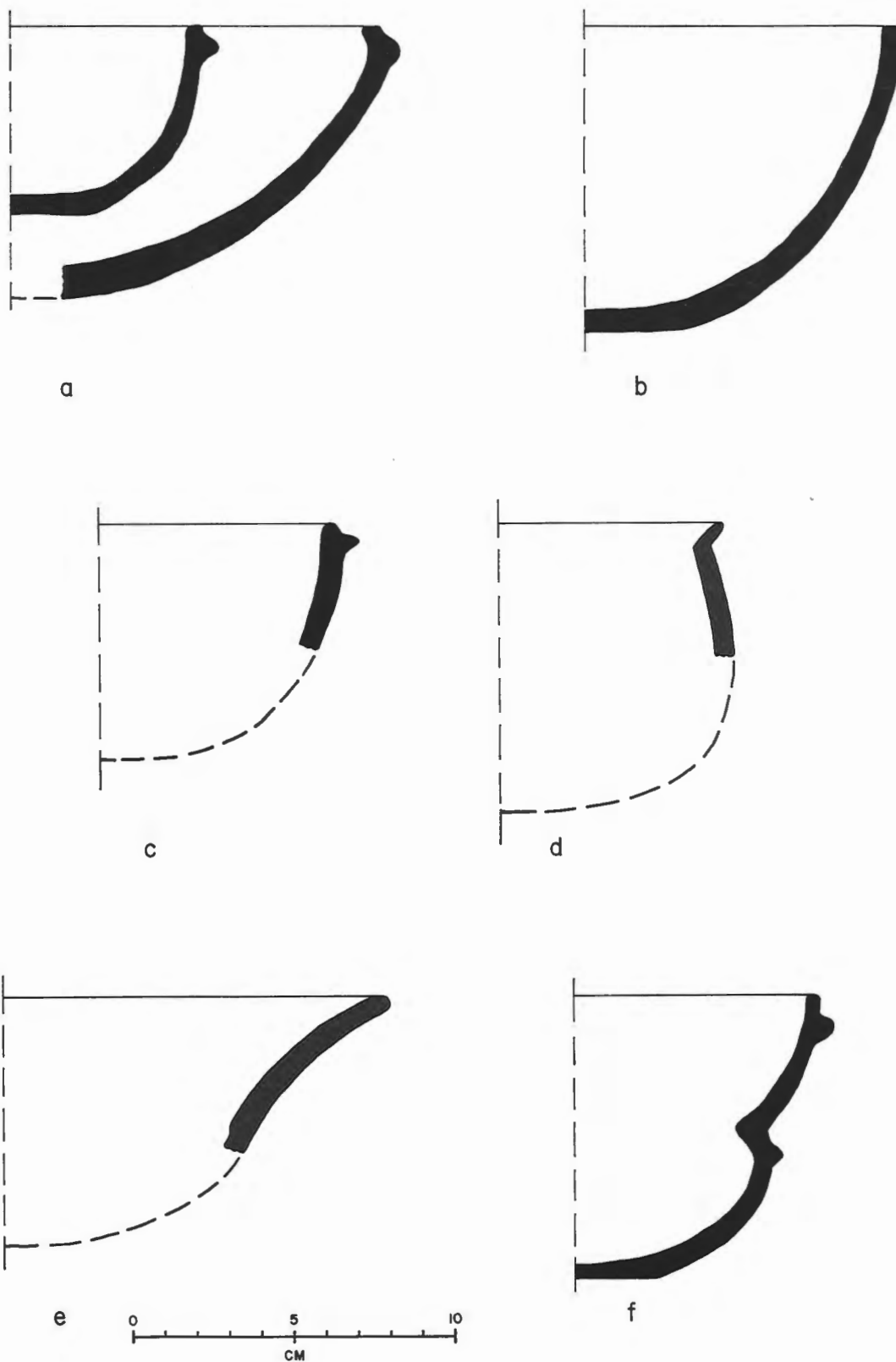


Figure 27. Bell Plain vessel profiles: (a) form 1; (b) form 2; (c) form 3; (d) form 4; (e) form 6; (f) form 7.

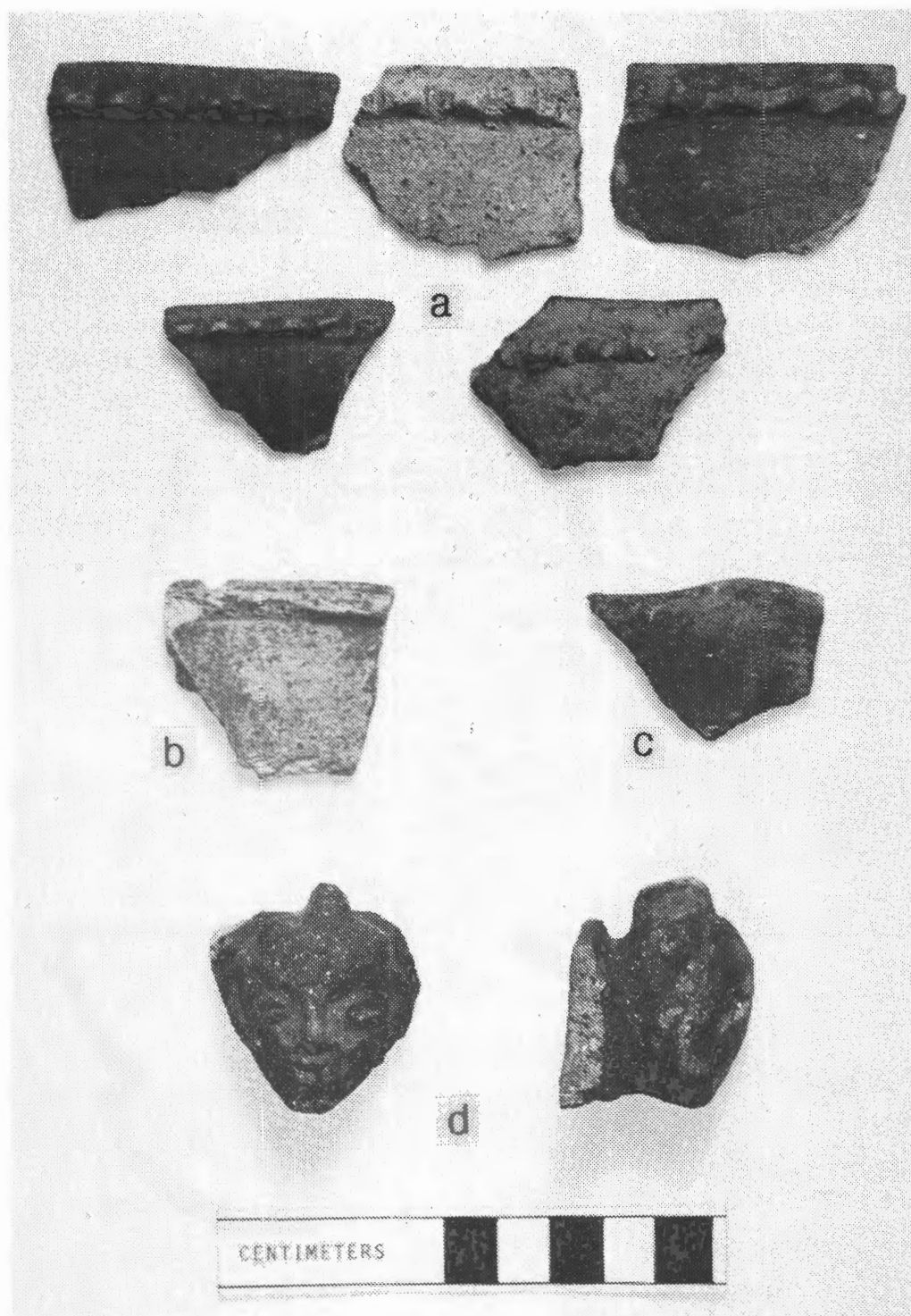


Figure 28. Bell Plain sherds: (a) examples of filleted rims; (b) form 3 rim; (c) form 5 rim; (d) modeled human heads from form 11 effigy bowls.

Form 2: Semi-hemispherical, plain rim bowls (MNV=29; Figure 27b)

Simple bowls with curved vessel walls and direct or slightly constricted rims without decoration make up the second most common Bell Plain vessel form. These are identical in shape to Form 1 bowls, but lack the filleted rim strip. A total of 49 sherds make up a minimum of 29 vessels in this form. All but two rim sherds forming a single vessel fragment have a direct rim, while this one exception has a slightly constricted rim. Lips are both flattened and rounded, with flat lips (n=20) constituting 69% of the identified lip treatments and rounded lips (n=9) making up 31%. Rim diameters (interior) measured on seven vessel fragments range from 10 to 28 cm, with an average of 17.4 cm in diameter.

While no whole vessels in this form were excavated at Gordontown, partial vessels were recovered from Lot 44 and Feature 23 (Structure 1). Both have flattened bases. Their dimensions are 19 and 28 cm in interior rim diameter (orifice), 20 and 29.4 cm in maximum girth (exterior rim diameter), and 9.5 cm in vessel height.

This vessel form corresponds to Reed's (1984a:11.7.27-28, 30) "semi-hemispherical, direct rim" and "constricted orifice, incurvate rim" undecorated bowls. Direct rim bowls in this vessel form are comparable to O'Brien's (1977:358-359) "Form 1" and "Form 2" bowls in fine paste from the Mound Bottom site (filleted rim bowls are not present at that site).

Form 3: Semi-hemispherical, direct rim bowl with applied rim strip (MNV=1; Figures 27c and 28b)

One rim sherd was found in the general surface collections that is from a bowl with curved walls, direct rim, and rounded lip. The rim strip, applied 5 mm below the lip, is similar to a filleted rim strip but is unnotched. The estimated rim diameter (interior) is 14 cm. This form represents a variant on Form 1 filleted rim bowls.

Form 4: Semi-hemispherical, incurving rim bowl with everted lip (MNV=3; Figure 27d)

Another minor bowl form is represented by 3 rim sherds found in Lots 78/79, and in Burial 50 and Burial 64 fill. These sherds have slightly incurving rims topped with everted lips which flare at 40° to 80° from vertical. No decoration is evident. The everted lips are all rounded. One rim sherd yielded an estimated rim diameter (exterior) of 14 cm. This vessel form is similar to Mississippi Plain Form 9 but has a more constricted profile.

Form 5: Shallow bowl(?), direct rim, scalloped lip (MNV=2; Figure 28c)

Two rim sherds found in surface and clearing collections of Lots 40 and 81 have direct rims with rounded lips and a wavy or scalloped lip edge. Due to the small size of the sherds and the scalloping of the lip edge, it is difficult to determine the rim stance, and these vessel fragments may be from semi-hemispherical bowls or from shallow bowls or plates. In the Cumberland-Tennessee region of western Kentucky, Clay (1963:237, Figure 12) describes a scalloped rim treatment on Bell Plain plate forms. A similar scalloped rim bowl was found at the West site (Dowd 1972:46, Plate XIX).

Form 6: Shallow bowl, flaring rim (MNV=3; Figure 27e)

This type, corresponding to Form 11 in Mississippi Plain paste, is a shallow bowl with excurve walls, which break into a wide flaring rim. Three rim sherds, one with a fitting body sherd, are assigned to this form. Two rims have flat lips while the third has a rounded lip. While not recovered, the bases are probably flattened as on the Mississippi Plain form. Two rim sherds have estimated rim diameters (exterior) of 24 cm. Rims in this form were found in the general surface collection, in Burial 40 fill, and in Feature 25 (Structure 3) fill.

Form 7: Compound bowl, filleted rim (MNV=1; Figures 27f and 29a)

One whole compound bowl-over-bowl vessel was associated with Burial 69. The vessel looks like two stacked filleted rim bowls; there is a filleted rim strip on each section and an incised scoring line at the carination. The upper portion has a flattened lip, a direct rim, and an excurve wall, while the lower portion has a constricted rim and a flattened base. Measurements of this vessel are as follows: rim diameter (interior) 14 cm; orifice at carination 10 cm; maximum girth (top fillet strip) 16 cm; girth at lower fillet 13 cm; vessel height 8.8 cm; and height of lower portion 4.6 cm.

Compound vessels are not common, but are known from a number of Mississippian sites. Several compound vessels forms, including bottle-over-bowl, jar-over-bottle, and bottle-over-jar, are illustrated from the Lower Mississippi Valley (Phillips, Ford and Griffin 1951:Figure 104). Lewis and Kneberg (1946:Plate 62F,H) illustrate two compound vessels from Hiwassee Island, both bowl-over-bowl forms in the Dallas Decorated type. A compound bowl-over-bowl with "crude rim serrations" was found at the Arnold site (Ferguson 1972:Figure 33), and a similar bowl is in the Thruston collection at the Tennessee State Museum (Cox 1985:140, item #194). These compound bowls have filleted rim strips on the upper portion of the vessel (see Figure 29a). The example from Gordontown is unusual in that filleting is present on both the upper and lower portions.

Form 8: Effigy bowl, duck (MNV=2; Figures 30a and 31a)

One whole duck effigy bowl was associated with Burial 35 and a head from a duck effigy was found in surface collections at Gordontown. This vessel form corresponds to the "asymmetrical, elongated axis, direct rim" bowl from Averbuch (Reed 1984a:11.7.31). Also termed a "lug-and-rim effigy" (Steponaitis 1983:74; Smith 1987:10), this form has a lug tail and a head at the rim area of the vessel. The vessel itself is asymmetrical in shape, elongated from head to tail. The base is flattened, the lip is flattened, and the rim is direct. A lug or tab handle, squared in shape, forms the tail of the duck. The head of the duck is attached to the rim opposite the tail, and faces out. The Burial 35 vessel has a rim diameter of 9.4 x 11.7 cm, measures 16.5 cm in maximum length, and has a vessel height of 5.7 cm and overall height of 8.4 cm.

Form 9: Effigy bowl, fish (MNV=5; Figures 30b and 31b)

Fish effigy bowls are represented by three whole vessels associated with Burials 35, 40, and 60, by a fragmentary fish head from Feature 9, and by a fragmentary double-node tail from the clearing of Feature 23 (Structure 1). The whole vessels have a constricted form with the effigy elements attached at the shoulder of the vessel, and the shape is similar to the "short neck bowl" form from Moundville (Steponaitis 1983:68). Lips are rounded on two vessels and flattened on one. These vessels are asymmetrical, with slightly oval orifices. Bases are flattened on all three intact examples. All three whole vessels have paired perforations in the upper portions of the rims on the head and tail sides of the bowls, set 5 to 8 mm from the lip.

Smith (1987:11) notes that fish effigies are usually "structural" rather than "lug-and-rim" effigies. The vessel in Burial 40 has a head to the left and tail to the right if viewed from above. The head is modeled with protruding eyes, and the tail is a double-noded tail and is solid. The top fin is represented by a serrated appliqué, while the lower fins are represented by five nodes on the side of the vessel. The vessel in Burial 60 is reversed - the head is to the right and the tail to the left as viewed from above. The head and tail are hollow rather than solid. Like the effigy in Burial 40, this bowl has a serrated top fin, but has three nodes forming the lower fins. The fish effigy in Burial 35 is a miniature bowl. The head and part of one side are broken away, but the tail and top fin are present. "Toy sunfish bowls" were found in two child's graves in the "northeastern cemetery" by Myer, which measure 1-3/4" and 2-1/2" in length (1928:548, Plate 120e). The small vessel from Burial 35 has a rim diameter of 3.4 x 3.7 cm, maximum girth of 5.7 x 6.6 cm, and measures 5.9 cm in height. The larger fish effigy bowls from Burials 40 and 60 measure between 6.4 and 7.2 cm in rim diameter, 10.3 to 12.7 cm in girth, and 7.1 and 7.6 cm in height.



Figure 29. Compound bowls: (a) Bell Plain; (b) Mississippi Plain.

Form 10: Effigy bowl, unidentified animal (MNV=1; Figure 31c)

A partial vessel from the fill of Feature 23 (Structure 1) has unidentified zoomorphic effigy appliqué. The vessel form is a constricted orifice bowl. The base is flattened, the rim incurving, and the lip shape is rounded. This vessel is apparently a "structural" effigy (Steponaitis 1983:74; Smith 1987:10). The effigy appliqué present on a reconstructed portion of the vessel shoulder include an "eye" which is oblong in shape with a central slit, and an "ear" which is a rounded protrusion. This bowl has an estimated rim diameter (interior) of 10 cm, a maximum girth of 16 cm, and a vessel height of 10 cm.

Form 11: Effigy bowl, human (MNV=2; Figure 28d)

Two modeled human heads attached to rim sherds were found in the fill of Burial 50 and in Feature 5. These probably represent "four quarters" human effigy bowls (Smith 1987:11), simple bowls with four equally spaced human heads at the rim. A "prayer bowl" found by Myer in a stone-box grave in House Circle No. 79 at Gordontown is a semi-hemispherical, filleted rim bowl with a slightly constricted orifice, and has four heads attached to the rim area (1928:527, Plate 115a). Similar "medallion bowls" with filleted and plain rims from the Noel Cemetery are illustrated by Thruston (1897:Plate VIII, Fig. 58).

The two human heads found in the excavations at Gordontown were apparently attached to plain rim bowls. The example from Feature 5 is eroded, but the topknot and most of the eyes are intact. The head from the fill of Burial 50 is in good condition, with the face, ears, and topknot represented.

Miscellaneous Effigy Fragments (n=39)

Several fragments of effigy vessels cannot be assigned to specific vessel forms, but are included in this section. Most of the effigy fragments are probably from bowls, although bottles may be present also.

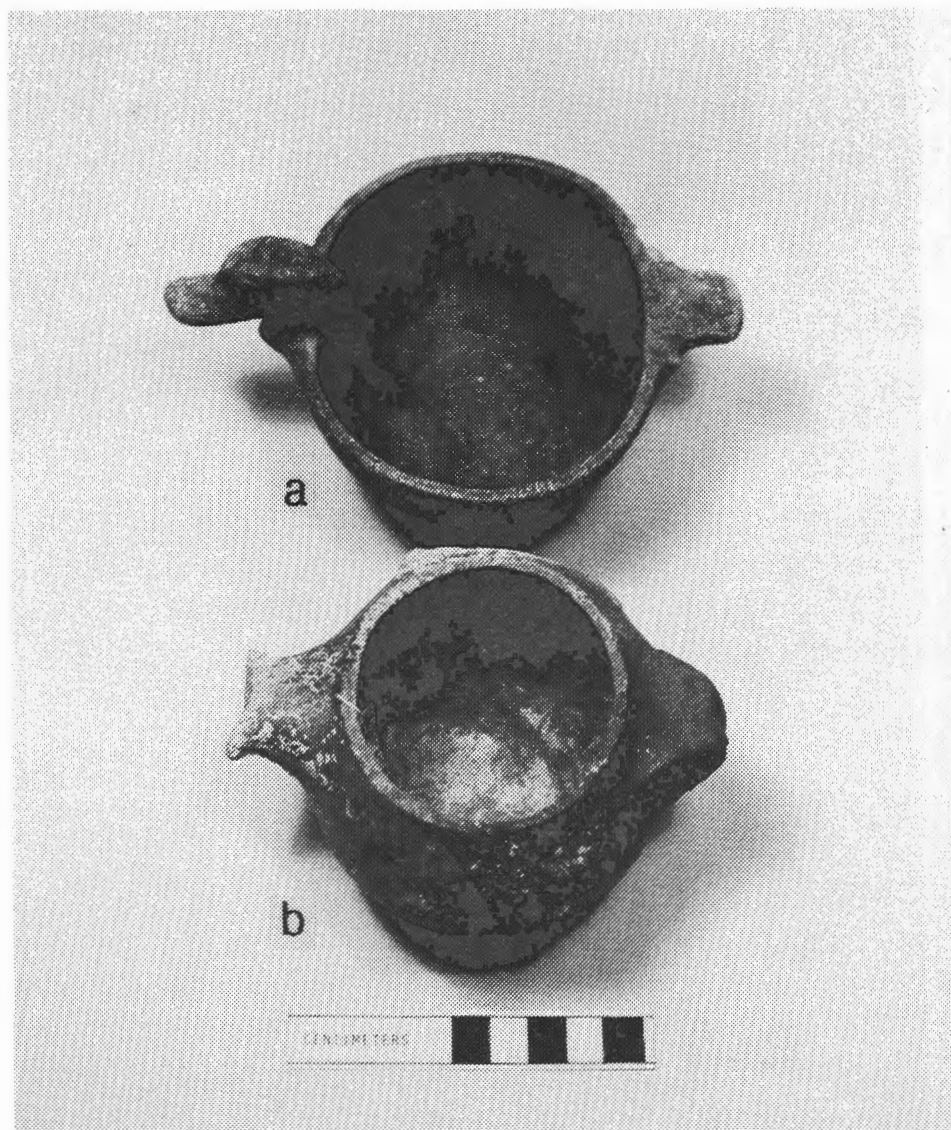


Figure 30. Bell Plain bowls: (a) duck; (b) fish.

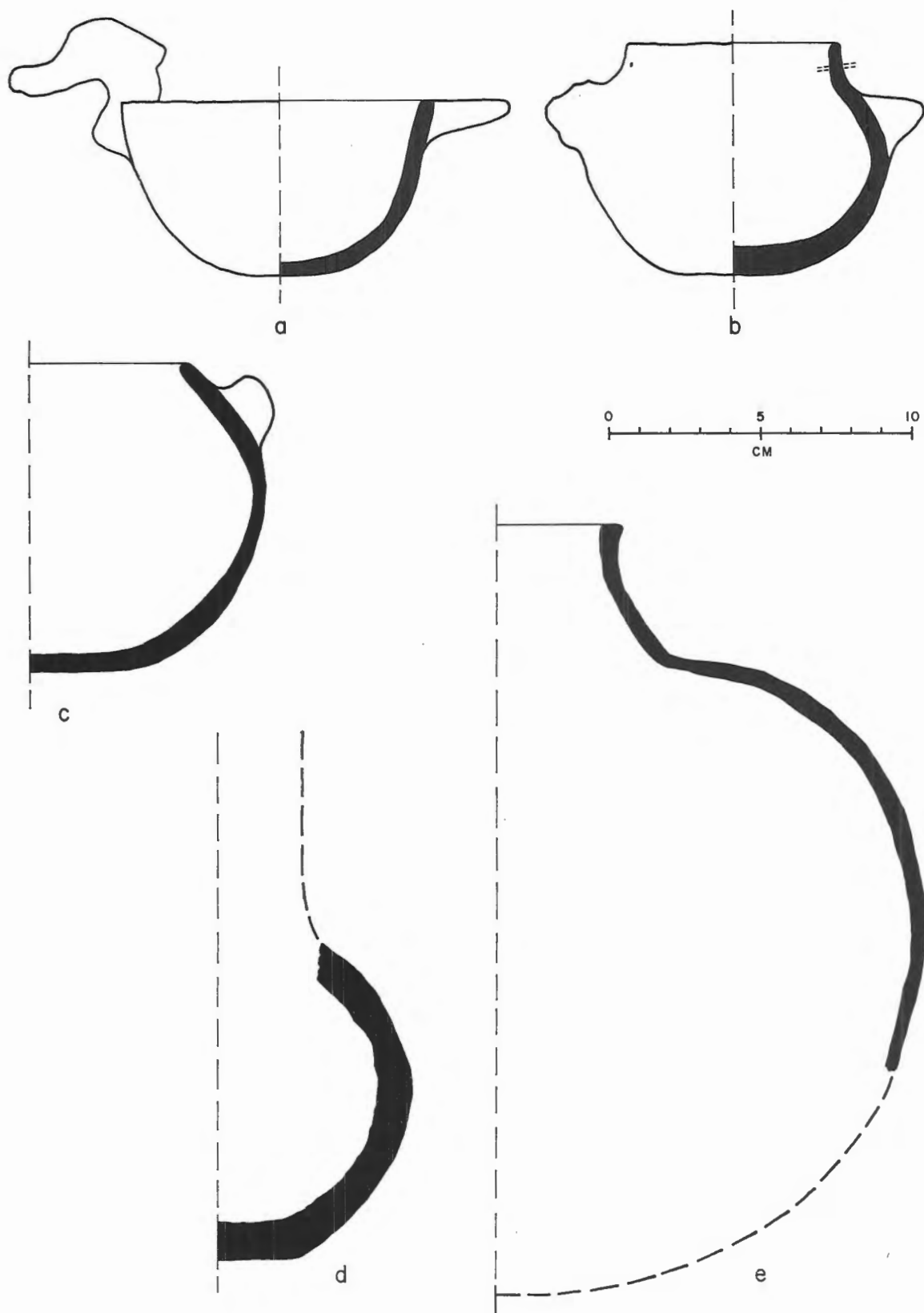


Figure 31. Bell Plain vessel profiles: (a) form 8; (b) form 9; (c) form 10; (d) form 12; (e) form 14.

Fragments of two frog effigies were found at Gordontown. A body sherd from the general surface collection has a modeled leg and foot with incised digits, probably representing a frog leg. One of the characteristics of effigy frogs is jointed legs with incised "claws" (Phillips, Ford, and Griffin 1951:Figure 108d-h). In the fill of Burial 47, six body sherds were found which form a section of an effigy vessel. A modeled "ridge" area may be a jointed frog leg.

Fragments of two dog effigies were found in the general surface collection and in the fill of Feature 18. The two fragmentary heads found represent snouted animals. Smith (1987:10, 12) notes that dog effigies are usually bottle forms, and that some vessels identified as dog effigy bottles are probably opossum effigies. Five fragments fit together to form part of a dog head from the general surface collection. The round snout has a hole in the center, and has an incised mouth line. The eye is formed with two incised circles. The head in Feature 18 is reconstructed from four fragments, and is detailed with incised lines. It has a long snout which turns up on top, a mouth and two nose punctations at the end, and has an eye formed with two incised circles.

Four lug or tab handle fragments from "lug-and-rim" effigies, are found in the general surface collections, in the Lot 81 clearing, and in Burial 54 fill. A rimsherd with a broken tab handle is from a bowl form; the shape of the tab handle resembles that on the duck effigy bowl. Another bowl rimsherd has a fragmentary handle which is a rounded lug rather than a square tab.

Ten fragments form portions of seven rims and bodysherds with unidentified nodes; these are probably from effigy vessels. A noded rimsherd from Feature 9 is from a necked bowl and may be from a fish effigy bowl. Another rimsherd, from Feature 25 (Structure 3), is from a simple bowl and has two parallel long nodes on the shoulder; this may be a stylized representation of frog legs. Two modeled sherds (one rim, one body) are unidentifiable as to vessel or effigy form. These are from surface and clearing collections in Lot 44 and in the Hearthstone Lane area. Two incised sherds on Bell Plain paste were also found. A body sherd from the fill of Feature 8 has a single line incised on the exterior surface; this may be a tool mark rather than a purposeful decoration. A small rimsherd from the surface collection in the area east of the Common Ground has a single diagonal incised line on the exterior at the rim.

Other effigy forms found by Myer at Gordontown, but not represented in the present collection, include fragments of a raccoon effigy vessel found in the pottery floor of a grave in House Circle No. 23 and an owl effigy water bottle found near House Circle No. 23 (1928:530, 541, Plate 119b). A stirruped effigy water bottle (gourd effigy) was found in a grave in House Circle No. 23 (Myer 1928:529, Plate 104d). A human "head and lug tail" bowl was found in the fill of House Circle No. 3, and on the floor of House Circle No. 79 (Myer 1928:524, 539-40, Plate 115b). The

incised decoration on this vessel is similar to Mound Place Incised (Phillips, Ford and Griffin 1951:147-148). Thruston (1897:Figure 50, Plate 8) illustrates a similar vessel.

Form 12: Indeterminate-necked bottle (MNV=1; Figure 31d)

Bottle forms are not common in the Gordontown assemblage. No Bell Plain rimsherds could be assigned to a bottle form, but eight body sherds from Feature 2 fill fit together to form the basal portion of a bottle. This vessel is made on fine shell-tempered Bell Plain paste, but the bodysherds are thicker than usual, ranging from 8 to 10 mm. The vessel has a globular body and a flat base. While the exterior is smoothed, the interior has rough tool marks, especially in the base area. Although body sections are not generally used to define vessel forms, this vessel fragment, because of the unfinished interior, can fairly confidently be assigned as a bottle form. The base diameter is 6 cm, the maximum girth is 13 cm, and the estimated diameter (exterior) at the base of the neck is 7 cm.

Form 13: Human effigy hooded water bottle (MNV=1; Figure 25b)

A complete human effigy water bottle in Bell Plain paste was associated with Burial 45, a burial that also contained a Mississippi Plain human effigy water bottle. Measuring 9.5 cm in height, this vessel represents a hunchback figure in a kneeling position. The orifice, which measures 2.0 x 2.3 cm, is at the back of the head. The figure is kneeling, with the lower legs forming the base of the vessel, and has the arms folded with hands at the stomach area. The spine and buttocks are delineated on the back. Similar water bottles from Averbuch are described as hooded, asymmetrical bottles (Reed 1984a:II.7.25-27), which are also hunchback figures; one of these was negative painted.

Miscellaneous hooded water bottle sherds (n=2)

Two rimsherds from hooded water bottles were found, in the surface and clearing of Lot 78/79, and in Feature 25 (Structure 3). The form of these bottles is unclear, but the sherds have small orifices and irregular curvatures indicative of the openings at the back of hooded water bottles.

Form 14: Globular jar, narrow orifice (MNV=1; Figure 31e)

A partial vessel from the floor of Feature 23 (Structure 1) can be classified as a jar form. It has a narrow neck and globular body; the basal portion missing. The neck is incurving, and the lip is flattened and slightly thickened. This form is similar to the narrow necked jars in coarse paste (Form 15) at Mound Bottom (O'Brien 1977:364) that are much larger than this vessel. The partial vessel has an estimated rim diameter (interior) of 7 cm, a maximum girth of 28 cm, and a neck height of 4.5 cm.

Two additional vessel fragments cannot be assigned to specific forms, yet deserve mention. The stone-box of Burial 81 was partially capped with a section of Bell Plain pottery, which, when reconstructed, formed a section of a rounded base bowl. No rim was present. In the fill of Feature 25 (Structure 3) a large, flat, basal sherd was found. This Bell Plain sherd is the base portion of a vessel of unknown form with an estimated diameter of 11 cm, and a 3 mm high kickup in the center. The walls are excurvate. This sherd may be from a bowl, although whole and partial bowls at Gordontown have flattened bases without the kickup. One bottle from Mound Bottom has a kickup base (Form 36; O'Brien 1977:372, Plate 17a), but this is not the usual base form for bottles at that site (Carl Kuttruff, personal communication, 1988).

Kimmswick Fabric Impressed (Phillips 1970:95-96)

Number: 28 sherds (6 rim, 22 body)

Provenience: Surface: 20 sherds (4 rim, 16 body); Burials: 3 sherds (3 body);

Features: 5 sherds (2 rims, 3 body)

Minimum Number of Vessels: 6 (Table 15; Figures 32a and 33)

Kimmswick Plain (Clay 1963:250-255)

Number: 245 sherds (64 rim, 181 body)

Provenience: Surface: 38 sherds (21 rim, 17 body); Burials: 149 sherds (16 rim, 133 body); Features: 58 sherds (27 rim, 31 body)

Minimum Number of Vessels: 39 (Table 15; Figure 32b and c)

Sherds in these types have a coarse paste with moderate to heavy shell temper ranging in size from 1-5 mm particles to 10-15 mm particles in the large, thick, plain fragments. Color ranges from orange to tan to gray to black, with the interior and exterior of the sherds often differing in color. A total of 23 Kimmswick Fabric Impressed body sherds measured showed a range of 6 to 15 mm in thickness, averaging 9.3 mm thick. A total of 103 Kimmswick Plain body sherds measured showed a range of 4 to 27 mm in thickness, averaging 9.9 mm thick.

Kimmswick Fabric Impressed and Kimmswick Plain sherds were identified in the Gordontown collection based on several criteria: (1) fabric impressions on sherd exterior; (2) rim and lip configuration, i.e., a thickened or folded lip on an excurvate rim of large diameter; (3) thick, flat body sherds (>15 mm) with a heavy amount of coarse shell temper; and (4) body sherds with a smoothed interior surface and a rough or coarse exterior surface. Although fabric impressed sherds are fairly easy to identify, plain surfaced sherds are more difficult to separate from other plain surfaced Mississippian ware unless they are rims or extremely thick body sherds (Kuttruff and Kuttruff 1986:5). Clay (1963:250) notes that Kimmswick Plain sherds have a coarse shell temper that is "comparable or coarser than the norm for Neeley's Ferry Plain."

Aside from fabric impressed sherds, rim sherds are most diagnostic for these ware. Although highly variable, Kimmswick rims are typically thick and excurvate in profile, with a flat or rounded lip, externally thickened (Figure 32a and b). This lip treatment is generally accomplished by folding, and may also be pinched, forming an

Table 15. Kimmswick Fabric Impressed and Kimmswick Plain: Sherd and Minimum Vessel Tabulation by Provenience.

Provenience	---Kimmswick Fabric Impressed---					-----Kimmswick Plain-----					Total Number Vessels	Total Sherds Ident	Total Sherds Unident	Total
	Unid Body	Unid Rim	Pan V	Form S	Total	Unid Body	Unid Rim	Pan V	Form S	Total				
Surface	5	-	4	15	20	6	1	17	31	38	21	46	12	58
Burial Fill	3	-	-	-	3	-	2	2	2	4	2	2	5	7
Burial 51 (cap)	-	-	-	-	-	-	-	1	11	11	1	11	-	11
Burial 59 (side)	-	-	-	-	-	-	-	1	134	134	1	134	-	134
Subtotal, Burials	-	-	-	-	-	-	-	2	145	145	2	145	-	145
Feature 1	-	-	-	-	-	1	1	1	1	3	1	1	2	3
Feature 5	-	-	-	-	-	1	-	4	14	15	4	14	1	15
Feature 8	-	-	-	-	-	4	-	1	1	5	1	1	4	5
Feature 11	-	-	-	-	-	1	-	-	-	1	-	-	1	1
Feature 13	-	-	-	-	-	-	-	1	1	1	1	1	-	1
Feature 18	-	-	-	-	-	1	-	1	1	2	1	1	1	2
Feature 19	-	-	-	-	-	-	-	1	4	4	1	4	-	4
Subtotal, Features	-	-	-	-	-	8	1	9	22	31	9	22	9	31
Str I (fill)	-	-	-	-	-	2	-	2	7	9	2	7	2	9
Str I (SW quad)	-	-	-	-	-	-	-	2	4	4	2	4	-	4
Subtotal, Str I	-	-	-	-	-	2	-	4	11	13	4	11	2	13
Str III (fill)	1	-	1	1	2	2	-	3	5	7	4	6	3	9
Str III (fill/floor)	-	-	1	1	1	3	-	-	-	3	1	1	3	4
Str III (SW quad)	-	-	-	-	-	-	-	1	1	1	1	1	-	1
Str III (hearth area)	2	-	-	-	2	2	-	1	1	3	1	1	4	5
Subtotal, Str III	3	0	2	2	5	7	-	5	7	14	7	9	10	19
TOTAL	11	-	6	17	28	23	4	39	218	245	45	235	38	273

external ridge. If fabric impressions are present, they often begin just below the thickened/folded lip on the exterior surface of the vessel. Because of this, some fragmentary rimsherds identified as plain surfaced may have been fabric impressed, but have broken above the beginning of impressions.

The vessel form for Kimmswick Fabric Impressed and Kimmswick Plain is a large, shallow bowl or pan with rounded or flat bottom, often termed "salt pans" (Phillips 1970:96; Clay 1963:242, 250). Although these vessels were originally interpreted as pans for the evaporation of salt brine, Kuttruff and Kuttruff (1986:7) compile a list of several proposed functions suggested in the literature, including the use as communal eating pans, large stationary cooking vessels, possibly for parching corn or toasting acorns, hearths for making bread, and unknown ritual functions.

O'Brien (1977:361-362, 374-377) distinguishes fabric impressed bowl and pan forms at Mound Bottom, with bowls being deeper than pans. Kimmswick Fabric Impressed bowls at Mound Bottom have estimated rim diameters of between 42 and 54 cm, estimated heights of 10 to 12 cm, and vessel walls which outlean 30° to 50° from vertical (O'Brien 1977:362). The pans, on the other hand, are "wider than bowls and not as flat as plates," and have wall angles 60° to 80° off vertical (O'Brien 1977:374). Estimated rim diameters for both plain and fabric impressed pans range from 30 to 52 cm, and while no estimated heights are given for these forms, the rim profiles show a fairly shallow form (O'Brien 1977:377; Plate 11f-h). Kimmswick Fabric Impressed and Kimmswick Plain vessels at Gordontown are not as shallow as the pans at Mound Bottom, and may fit more properly into O'Brien's bowl category.

During excavations at Gordontown conducted in 1920 by Myer, sherds from salt pans were found in the fill of House Circle No. 3 and House Circle No. 23. Sherds from a large oval-bottomed vessel were found in the fill of House Circle No. 3 "to which has been given a probable diameter of only 28 inches [71 cm], although the curve of the rim fragment indicates a diameter of about 32 inches [81 cm]" (Myer 1928:525, Figure 140). The estimated height of this vessel was 10" (25 cm), and the vessel walls were 3/8" (10 mm) thick with the rim 1/2" (13 mm) thick. This plain surfaced salt pan apparently had a slightly thickened lip and rounded bottom. Fragments of another salt pan were found in House Circle No. 23, which belonged to a large oval vessel measuring 30 x 24" (76 x 61 cm), with no fabric impressions on the exterior; the illustration indicates a thick-walled, round-bottomed vessel with an unthickened lip (Myer 1928:533, Fig. 149). Myer compares these vessels with the "large salt boiling vessels" from Kimmswick, Missouri (1928:525-527).

While Myer apparently found only plain salt pans at Gordontown, at the Fewkes site he found both plain and fabric impressed pans. Myer reconstructed the fabric impressed pans from Fewkes "Mound No. 2" as large, flat bottomed vessels with vertical side walls and thickened lips, while the plain surfaced pan has a rounded bottom and sloping side walls (1928:576-578, Figures 169-171, Plate 130). The flat bottomed pans have fabric impressions on the exterior surfaces and "finely polished" interiors (Myer 1928:576). Myer (1928:578) notes that the round bottomed plain pan at the Fewkes site is similar to ones found at Gordontown, and that "these large, round-bottomed vessels show no trace of woven fabrics on their exteriors and do not show a care and polish equal to that of the large flat-bottomed vessels."



Figure 32. Kimmswick vessel profiles: (a) Kimmswick Fabric Impressed rims; (b) Kimmswick Plain rims; (c) partial Kimmswick Plain pan.

No whole salt pans were found during the 1985-1986 excavations at Gordontown, however, portions of a pan were used as side and endstones for the grave in Burial 59. Although the 134 sherds represent one vessel, it was not reconstructable. Apparently a large shallow bowl with an excavate rim, sloping sides, and flattened bottom, this vessel has a rough tan to black exterior surface and a smoothed black interior. The lip is rounded on the top and externally thickened, producing a pinched external ridge. Maximum lip thickness is 29 mm, while body sherds range from 6 to 11 mm in thickness. A portion of a pan was used as a capstone on the stone-box grave of Burial 51, and when reconstructed formed part of a large, plain surfaced vessel with an estimated (interior) rim diameter of 52 cm and an estimated vessel height of 12 to 13 cm (Figure 32c). This vessel appears to be a large shallow bowl with excurvate rim and rounded base. The plain, rough exterior ranges from tan to gray in color; the smoothed interior varies from orange to gray. The lip is flattened and externally thickened by folding. Maximum lip thickness is 17 mm, while the body of the vessel ranges from 4 to 7 mm in thickness. The vessel walls are thinnest just below the lip, which seems to be fairly common for pan sherds at this site.

Rim diameter estimates were obtained on one fabric impressed rim and four plain rims. The fabric impressed rim has an estimated rim diameter of 46 cm, while the plain rims range from 44 to 52 cm in diameter. O'Brien (1977:374, 378) cautions that because of the unevenness of these pans, rim diameter estimates are at best rough estimates.

The Kimmswick Fabric Impressed sherds (n=28) from Gordontown were examined for fabric structure. Positive impressions made in modeling clay were used to aid in identification (King 1978:91). Both open and closed twined fabric is represented on the fabric impressed sherds in the collection. Simple twined fabric is constructed with two active cords, one passing over and one passing under each passive cord (Lewis and Kneberg 1946:107). The active cords are generally assumed to be weft cords in open or spaced twining (Kuttruff and Kuttruff 1986:12). Open or spaced twining has spaces between the weft or active cords, whereas closed or compact twining has the active cords pushed together and often touching, obscuring the passive cords (Lewis and Kneberg 1946:107; Scholtz 1975:110). The direction of the twining stitch can be determined, with S-twist stitches slanting down to the left and Z-twist stitches slanting down to the right when the weft or active cords are held horizontally (Scholtz 1975:110). Open twined fabric (Figure 33a - b, n=18) has intervals of 3-10 mm between active elements and 1-5 mm between passive cords. Close twined fabric (Figure 33d-e) has intervals of 1-3 mm between active elements while the passive elements were not visible. All of the identified sherds have an S-twist stitch. Several sherds exhibit alternate pair twining (Figure 33c), where the twining cords enclose pairs of passive cords instead of single passive cords (Kuttruff and Kuttruff 1986:13). The cordage itself can be a single yarn or a plied cord composed of multiple yarns twisted together (Kuttruff and Kuttruff 1986:10-11). Refer to Appendix C for a more detailed analysis of fabric structures.

Salt pan sherds, both plain and fabric impressed, represent 4.6% (n=273) of the Gordontown ceramic assemblage. In the features, salt pan sherds comprise 3% of the ceramics, but salt pan sherds make up 40% (n=15) of the sherds in Feature 5. This feature, located in the Hearthstone Lane area between Lots 42 and 83, was a

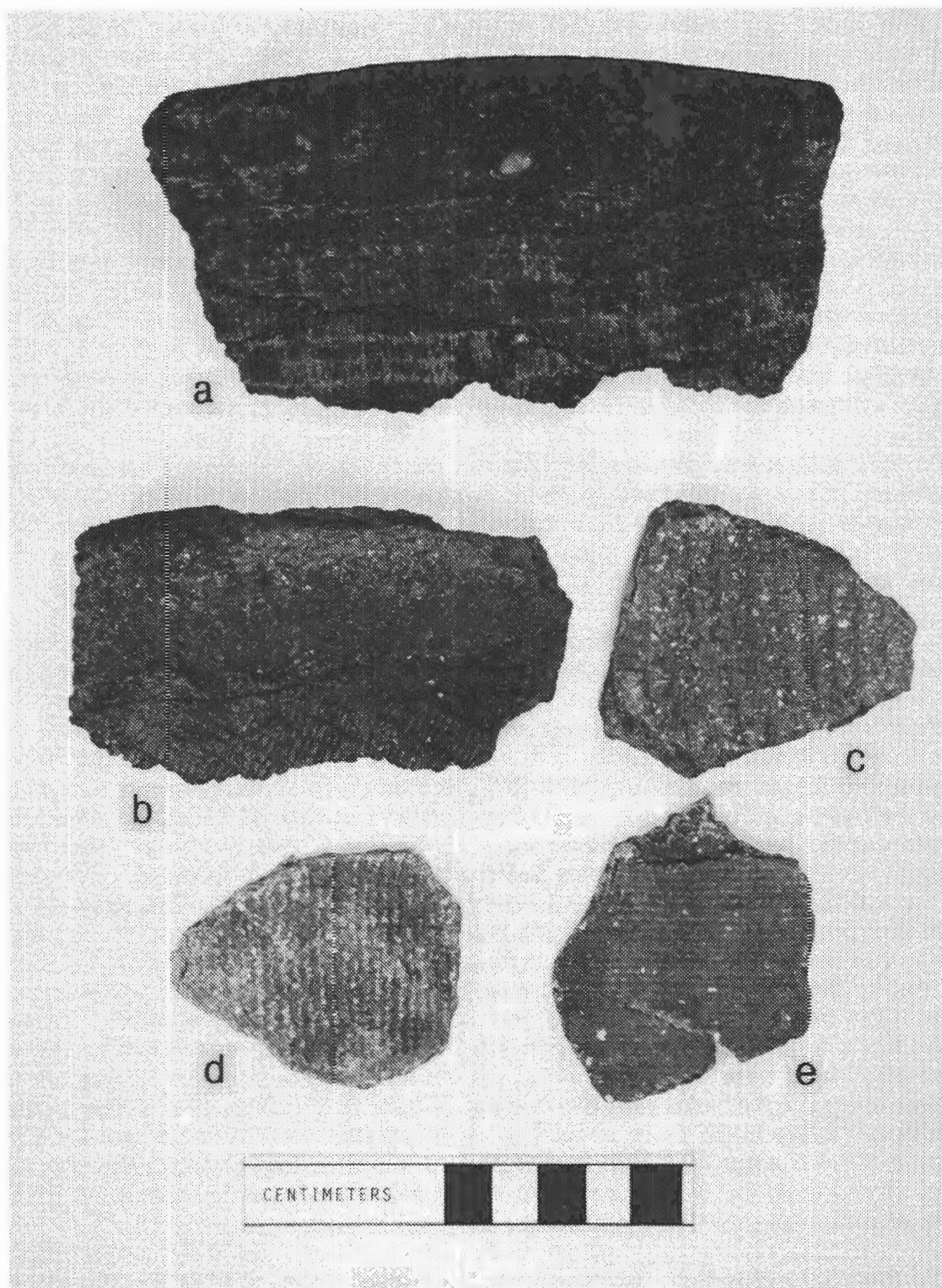


Figure 33. Kimmswick Fabric Impressed sherds: (a-b) open twining; (c) possible alternate pair twining; (d-e) close twining.

concentration of potsherds and animal bone, which was exposed and mapped, but due to time constraints was not excavated. The two structures containing excavated ceramics, Features 23 and 25, had 2% and 3% salt pan sherds respectively.

Sand Tempered Plain Ware (n=1)

One plain body sherd with a tan to gray paste tempered with sand was found in surface collections near Burials 31 and 32; this sherd is 8 mm thick. At the Hiwassee Island site in East Tennessee, sand tempered pottery in Hamilton, Hiwassee Island, and Dallas components occurs as a minority type, is usually stamped rather than plain, and is interpreted as an import from Georgia (Lewis and Kneberg 1946:87-88). At the Martin Farm site in East Tennessee, sand tempered plain ware is tentatively assigned a Middle Woodland to Early Mississippian association, although importation from North Carolina or Georgia is possible (Schroedl et al. 1985:146).

Limestone Tempered Plain Ware (n=2)

A rim and body sherd found in the fill of Burial 41 exhibit a red-gray paste tempered with coarse chunks of limestone. The rim is straight and the lip is flattened with slight external thickening. The sherds are 6 mm in thickness and have a smoothed, plain exterior surface. At Hiwassee Island, limestone tempered ceramics were the predominant ware in the Hamilton component; 30% of these were plain surfaced (Lewis and Kneberg 1946:80-83). At Martin Farm, plain ceramics are the most common limestone-tempered ware, and are assigned a Middle to Late Woodland association, although a small number of loop handles on this ware seems to indicate relationships to Early Mississippian ceramics (Schroedl et al 1985:162).

Non-Vessel Ceramic Objects

Earplugs (n=2; Figure 34a)

Two ceramic earplugs were found at Gordontown, both from surface collections. Both have a dark-gray polished surface and are apparently made on Bell Plain paste, although the fine shell temper is very sparse. These earplugs are oval in shape with a groove in the center, and a hole through the long axis. Measurements of the two specimens are as follows: length 25-26 mm; diameter 20 mm; diameter of hole 2 mm. Earplugs such as these were found at the Averbuch site, where they have been described as "cylindrical in shape with a modeled groove around the center, producing slightly bulbous ends, one of which is usually larger than the other" (Reed 1984a:11.7.48). The Averbuch earplugs were made of untempered clay. Ceramic earplugs or "hourglass shaped beads" were found at Gordontown by Myer in the fill of House Circles No. 1, 3, and 23 (Myer 1928:509, 521, 535, Plate 102a, 105, 113b).

Pottery Disks (n=2; Figure 34b)

Two ceramic disks made from Mississippi Plain body sherds were found at Gordontown, one from surface collections and one from the fill of Feature 2. These disks are orange-tan to dark gray in color, and 6 and 10 mm in thickness. Edges are slightly ground or abraded into a roughly circular shape; the disks measure 28x31 mm

and 44x46 mm. Pottery disks found at Averbuch are interpreted as gaming pieces (Reed 1984a:II.7.46).

Ceramic Figurine (n=1; Figure 34c)

A small ceramic figurine was found in surface collections at Gordontown. This solid figurine is made of tan to gray clay tempered with fine shell. It had attached arms which are no longer present, and the face has oval eyes and opened mouth, and wide flaring ears. This figurine measures 47 mm in height, 24 mm in width at the base, and 27 mm in width at the head. While Reed (1984a:II.7.46) notes that figurines found at Averbuch have features resembling those found on human effigy water bottles, the Gordontown specimen is standing, and has facial features of a different character than the effigy bottles.

Pottery Trowel (n=1)

Found in the capstones of Burial 81, three fragments fit together to form part of the base and stem of a "mushroom-shaped" pottery trowel. The base has an estimated diameter of 9 cm. Myer (1928:547, Plate 120c) found a mushroom shaped pottery trowel in the fill of House Circle No. 42 that had a 1/8" hole running through the center of the handle portion. All four pottery trowels or anvils found at Averbuch were recovered from burials; two were mushroom-shaped, while two were "stirrup-shaped" anvils (Reed 1984a:II.7.48). Pottery trowels or anvils are generally interpreted as tools to finish coiled pots with a paddle and anvil technique (Steponaitis 1983:22).

Ceramic Pipe (n=1; Figure 34d)

Fifteen fragments fit together to form part of a ceramic pipe that was recovered from the fill overlying the floor of Structure 3. This pipe is made of coarse, poorly fired, dark gray to reddish tan clay sparsely tempered with coarse shell. The form is a double bowl elbow pipe. It measures 10.3 cm in length, 6.5 cm in height, and 5.3 cm in width, with bowl diameters of approximately 5 cm. One bowl has a small hole from the base of the bowl interior through the side of the pipe; one side of the pipe is flattened. At Hiwassee Island, a biconical elbow pipe is illustrated (Plate 64B, center of lower row) which is not a common type at the site and is attributed to late Dallas or historic components (Lewis and Kneberg 1946:106).

Temporal Differences in Ceramic Assemblages

Several temporally diagnostic attributes can be discerned in Mississippian ceramics from Middle Tennessee that appear on Mississippi Plain jars, Bell Plain bowls, effigies and bottles, and Kimmswick pans. In the western Kentucky area, Clay (1979:114-115) emphasizes the simplicity of the early Mississippian Jonathan Creek ceramic complex (formerly "Tinsley Hill #1") as compared to the variety of the later Tinsley Hill ceramic complex (formerly "Tinsley Hill #3"). The Jonathan Creek complex includes Mississippi Plain, Bell Plain, Kimmswick Fabric Impressed, McKee Island Cord-marked, and Old Town Red types. Most sherds are plain surfaced and decoration is absent. Small loop handled globular jars are the typical vessel form. In the later

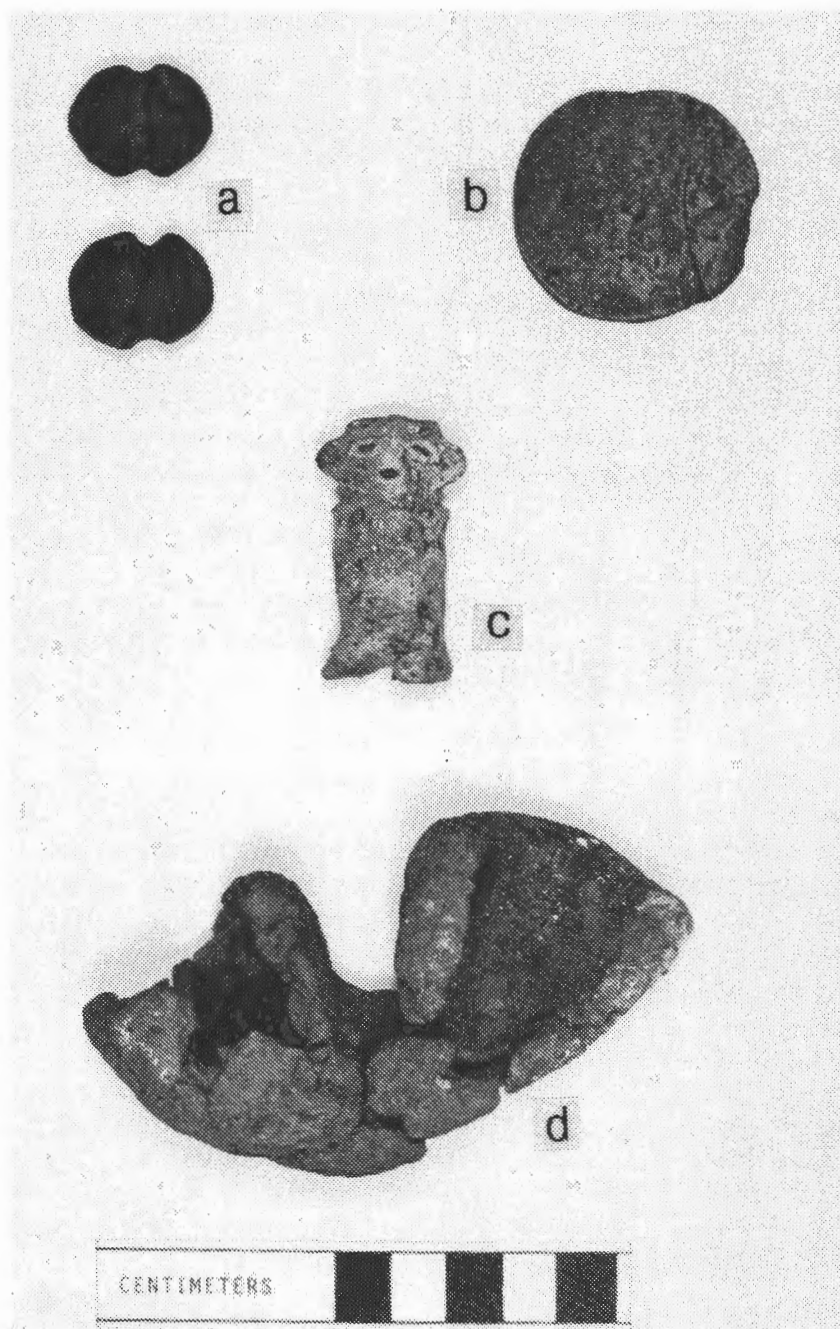


Figure 34. Non-vessel ceramics: (a) earplugs; (b) ceramic disc; (c) figurine; (d) pipe.

Tinsley Hill complex there are more types present, with Kimmswick Plain, and incised, engraved, and negative painted types found in addition to those previously mentioned. Typical vessel forms include strap handled globular jars, short and long necked bottles, and plates.

Jar characteristics that appear to be time-sensitive are related to handle type and decoration. Lewis and Kneberg (1946:90-102) note several differences between the Hiwassee Island and Dallas components at the Hiwassee Island site. Loop handles, often with knobs at the top, and flared or excurvate rim jar forms are found in the Hiwassee Island component, while broad, flat strap handles and lug handles, as well as incised decoration, appear in the Dallas component. Although loop handles are found on Dallas pottery, they are rarely embellished, and the strap and lug handles are more common. The Martin Farm site in East Tennessee has major Woodland I (Watts Bar), Mississippian I (Martin Farm) and Mississippian II (Hiwassee Island) components (Schroedl et al. 1985:iii). Loop, strap, and lug handles were found on shell tempered paste, with 84% of the handles being rounded or flattened loop handles, often associated with castellated rims and nodes or prongs embellishing the handles (Schroedl et al. 1985:209-221). The strap handles at this site are generally plain and set on unmodified rims. Lug handles are a minority form, and most of these are "semi-lunar" lugs set below the lip rather than bifurcated lug handles such as at Gordontown. At Mound Bottom, loop and lug handles are found, but strap handles are absent (O'Brien 1977:364, 367-369). The loop handles are generally plain, but sometimes have nodes or prongs (O'Brien 1977:369, Plate 16). At the Sellars Farm site, which dates to approximately A.D. 1000 to 1240 (Butler 1981:56), loop, strap, and lug handles are present. Loop handles are both plain and decorated with prongs or nodes, and lug handles are often the semicircular or "semi-lunate" form rather than the bifurcate lug form.

In contrast, a predominance of strap and lug handles and an increase in incised decoration seem to occur in later Mississippian ceramic assemblages in the Middle Tennessee area. At Ganier, lug handled and strap handled forms are most common (Broster 1972). A number of Bell Plain sherds similar to Dallas Decorated types were found, including notched and noded rims and incised decoration. Two Bell Plain vessels associated with burials are described as "curvilinear incised strap handled bowls" (Broster 1972:59). At Averbuch, subglobular jars often have strap handles, bifurcate lug handles, or a combination of both. Strap handles are also found on the lobed jars which generally have punctated/incised or effigy appendage decoration (Reed 1984a:II.7.15, 19). Strap handled jars with effigy appliqués are found at the Arnold site (Ferguson 1972). Several sherds assigned to Matthews Incised and Manley Punctate types were found in excavations at the Noel Cemetery site. On Mississippi Plain paste, strap handles, "single or double lug" handles, and "flat and wide" loop handles are found (Benthall 1983:28-29). In a whole vessel survey in the Nashville area, Smith (1987) codes a number of "secondary features" that occur on Nashville area ceramics. Design elements in the form of punctate and incised wave lines, incised crosshatching, and incised lines (secondary features #1-8) are present on jars and bowls in collections from Noel Cemetery, Ganier, Gordontown, and Bowling Farm (Smith 1987:Tables 3 and 4).

There appears to be some temporal difference between fabric impressed and plain salt pans. While fabric impressed pans are more prevalent than plain surfaced

pans at Mound Bottom (62 fabric impressed pans versus seven plain pans, O'Brien 1977:377), the reverse is true at Gordontown. Kimmswick Fabric Impressed sherds account for 10% (n=28) while Kimmswick Plain sherds make up 90% (n=245) of the total pan sherds. This proportion is similar when comparing minimum vessel numbers at Gordontown: of the estimated 45 pans, 13% are fabric impressed and 87% are plain surfaced. A similar proportion is found at Averbuch. A total of 91 pan sherds was found at that site, with 21% fabric impressed and 79% plain (Reed 1984a:11.7.45-46). At Ganier, plain salt pan sherds outnumber fabric impressed sherds by a ratio of 2 to 1, with salt pan sherds making up 4% of the total ceramic assemblage (Broster 1972:7-8). Mound Bottom is an earlier site in the Mississippian sequence, with an occupation span of A.D. 900 to A.D. 1350 (Kuttruff and Kuttruff 1986:2), while Averbuch, Gordontown, and Ganier are later sites. Averbuch appears to have been occupied during the fourteenth century A.D. (Klippel 1984:1.14.2), and Ganier occupied between 1200 and 1450 A.D. (Broster 1972), while Gordontown has radiocarbon dates of A.D. 1310 $\pm$ 70 and A.D. 1430 $\pm$ 60 (uncorrected). This temporal difference in fabric impressed versus plain salt pans has been noted in the Tennessee-Cumberland Region of western Kentucky by Clay (1963:241, 250), where Kimmswick Fabric Impressed is more prevalent in the Tinsley Hill #1 ceramic complex than in the Tinsley Hill #3 complex. In fact, Kimmswick Plain occurs only in the Tinsley Hill #3 complex. "Throughout Tinsley Hill #3 complex it [Kimmswick Fabric Impressed] is in decline, however, never quite replaced by its companion plain surface type, Kimmswick Plain" (Clay 1963:241).

There may be differences in the pan form itself which may be related to time, manufacture, or function. Too little is known about pan forms in the Nashville area because whole or partial vessels are rarely found. Myer (1928:577-578) contrasts the flat bottomed, vertical walled, fabric impressed pans common at the Fewkes site with round bottomed, plain surfaced pans such as those at Gordontown. O'Brien (1977:361-2, 377) notes the presence of both shallow bowls and flat pans with fabric impressed exteriors at Mound Bottom. Flat pans have a direct or slightly flaring rim with a plain lip, while pans at Gordontown are characterized by a thick folded lip. In the western Kentucky area, Clay (1963:242) notes differing rim/lip treatments on Kimmswick pans, and suggests a temporal differentiation. At Kincaid, there is a trend from thick walled, fabric impressed pans with thickened lips, early in the sequence, to thinner walled, beveled lipped, plain pans in the later period (Cole et al. 1951:139, 143).

Among Bell Plain vessels, filleted rim bowls appear to be a later development. Filleted rims are not present in the Mound Bottom ceramic assemblage, but are quite common at later sites. Effigy vessels with animal effigy forms appear in later "Middle Cumberland Culture" sites, but are comparatively rare at Mound Bottom. Smith (1987:27-28) suggests that if these animal effigy vessels are related to clan affiliation, one would expect a slow development of totemic clans throughout the Mississippian period as the society became more complex. Human effigy water bottles also appear to have changed over time. Blank-faced hooded water bottles are found at Mound Bottom, while at later sites, human effigy water bottles are more common.

Thus, there appear to be noticeable differences between early and later Mississippian ceramic assemblages in the Nashville area. Narrow-necked jar or jug forms found on the earlier Mound Bottom and Sellars Farm sites appear to be replaced by other storage forms on later sites. In the subglobular jar forms, loop handles are more common in earlier assemblages while strap handles, often accompanied by

incised/punctated decoration on the jar shoulders, are more common in later assemblages. Lug handled jars are common throughout the sequence, but semi-lunate lug handles occur more often at earlier sites while bifurcate lugs tend to be the dominant type on later sites. Salt pans are more often made with fabric impressed exterior surfaces on earlier sites, with plain surfaced pans in the majority at the later sites. Bell Plain forms such as filleted rim bowls, animal effigy bowls, and human effigy water bottles are hallmarks of the "Middle Cumberland Culture," while at the early Mound Bottom site, filleted rims are absent on bowls, animal effigy forms are rare, and the hooded water bottles tend to be blank-faced rather than human effigy forms. Clearly, changes occurred in the ceramic assemblages throughout the Mississippian period in the Nashville area. More work needs to be done in the area of inter-site comparison (see Section VII).

Vessel Function

In recent years there has been increased interest in vessel function in an effort to go beyond the coarse ware/utilitarian - fine ware/ritual dichotomy. Various factors have been used to postulate functional uses for specific vessels or forms, including paste characteristics, decoration and surface treatment, use-related alterations, and "mechanical performance characteristics" based on vessel morphology. Although intuitive guesses are often made for vessel function, the many factors influencing function, to say nothing of multiple use of vessels, make this a complex subject.

Hally (1986:275-6) used a total of 21 variables to analyze vessel function in a late Mississippian assemblage from northwest Georgia. These include use related alterations such as sooting and surface pitting, decoration, vessel type frequency, and morphological and physical properties such as orifice diameter, vessel capacity, temper material, and presence of handles. The Barnett vessel assemblage included eight vessel shapes, four of which occurred in distinct sizes. The functional interpretation was an assemblage containing a large jar for storage of liquids and solids, a small jar for short term storage and serving of liquids, large and small jars for boiling liquid foods and for lengthy boiling and cooking, a large and small carinated bowl for final heating and serving of liquid foods, a large and small rounded bowl for food preparation and serving solid foods, a small bowl for serving, a bottle for holding small quantities of liquids, and a small bowl for transporting coals. In the Barnett assemblage, some of the vessel forms occurred in standardized size classes with differing functions. For instance, large pinched rim jars appear to be used for storage, while medium and small pinched rim jars are cooking or heating vessels.

Pauketat (1987) examined the whole/partial vessel assemblage associated with a single house at Cahokia. He divided his five morphological categories (jugs, jars, composite/complex bowls, simple bowls, funnels) into six functional groupings (liquid storage jugs, storage jars, cooking jars, serving and eating bowls, food preparation bowls, and salt-production funnels) based on morphological characteristics, physical properties, surface alteration, and contextual information. Although morphological characteristics of vessels are important in the analysis of vessel function, Pauketat's analysis demonstrates that contextual information is also a key to interpretation. In Cahokia House 4, three large vessels apparently used as storage containers were found along the north wall, and three simple bowls interpreted as mixing vessels were

found together in an area with bone refuse and tools indicative of food preparation. In addition, several decorated vessels were found which, rather than specialized ritual functions, were assigned domestic utilitarian functions (storage and serving). Although often found in burials, Pauketat (1987:13) interpreted decorated vessels as highly visible domestic items, conveying information within the household.

Twenty-two morphological variables of vessels related to use were compiled by Smith (1985:Tables 11.1, 11.2), as well as a number of "morphological correlates of use" that suggest relationships between use and morphology. Vessels used for cooking were postulated to have morphological characteristics that allow access to the contents (orifice size), allow handling when hot or suspension over a fire (handles), promote heating (base morphology, surface treatment, temper, wall thickness), and deter content evaporation or boiling over (orifice size and area). Those used for storage may have provisions for orifice closure or a small sized orifice, a large volume compared to horizontal space utilization, and maximal vessel stability. Vessels used for serving need accessible openings, and vessels used for pouring need spouts or rim profiles which reduce dripping.

Smith (1987:13-20) used factors such as vessel stability, suspension, space utilization, and manipulation of vessel contents to hypothesize functions of various vessel forms from the Nashville area. In general, he hypothesized that bottles held liquids or gruels, various types of bowls used for serving, preparation, or storage of liquid and solid foods, and jars used for cooking, food preparation, and storage, while the function of plates and pans is more problematic.

Although vessel function was not specifically investigated in this analysis, some observations can be made based on the Gordontown ceramics and studies that have been done in the area. For purposes of functional interpretation, the vessel forms described for each ceramic type have been grouped into broader categories. Jars are "standard Mississippian jars" with a variety of handle types and decoration (Mississippi Plain Forms 1, 2, 3, 4, 5, 6, Matthews Incised Forms 1, 2). Bowls are grouped as simple/slightly constricted bowls (Mississippi Plain Forms 7, 10, Bell Plain Forms 1, 2, 3), everted rim bowls (Mississippi Plain Form 9, Bell Plain Form 4), flared rim bowls (Mississippi Plain Form 11, Bell Plain Form 6), effigy bowls (Bell Plain Forms 8, 9, 10, 11) and compound bowls (Mississippi Plain Form 8, Bell Plain Form 7). Although the effigy bowls are grouped together, they include several morphological types. Bottles include wide necked and human effigy bottles (Mississippi Plain and Bell Plain Forms 12, 13). Pans are the group of Kimmswick Plain or Fabric Impressed vessels. A single example of a narrow necked jar or jug is present as well (Bell Plain Form 14).

Figure 35 graphically represents the distribution of vessel groups by rim diameter. The rim diameters of the two largest groups, jars and simple bowls, appear to cluster into several size ranges. Jars cluster into small (6-15 cm) and large (18-32 cm) sizes, with two anomalous rims at 40 cm diameter that may be overestimates. Of the ten small jars, four are from burial contexts, while none of the large jars are grave goods (although 12 large jars are reconstructed from pottery floors of graves). As a comparison, subglobular and lobed body jars from burials at Averbuch are small, with orifice diameters ranging from 3.0 to 12.3 cm, averaging 7.8 cm (n=41) (Reed 1984a:Tables 7.2, 7.3). The simple or slightly constricted bowls at Gordontown cluster

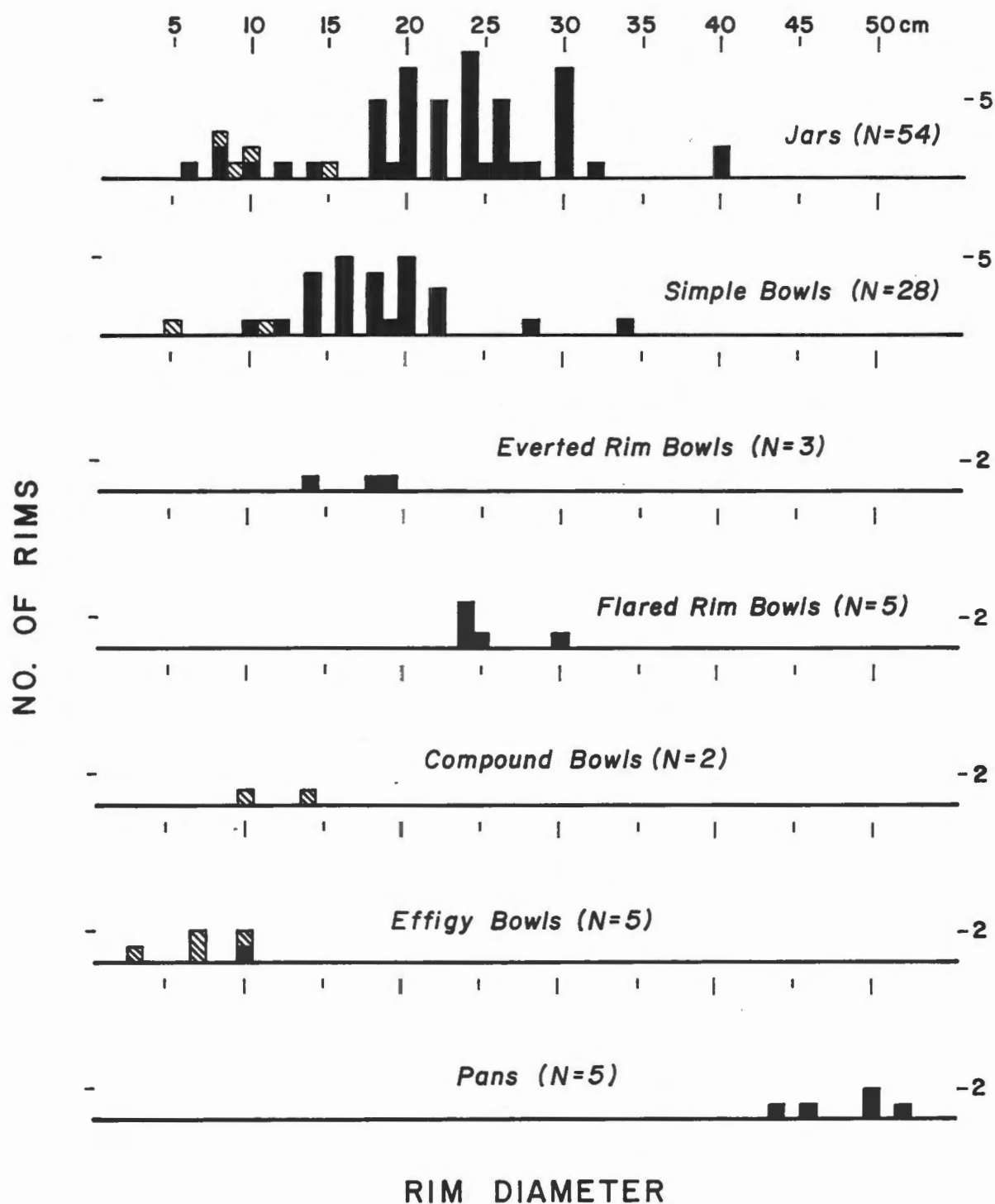


Figure 35. Distribution of measured vessel rims by rim diameter of selected vessel types. Mortuary vessels are indicated by crosshatching.

into small (5-12 cm), medium (14-22 cm) and large bowls (28-34 cm). Two small bowls were associated with burials. Most bowls fall into the medium size range. At Averbuch, semi-hemispherical bowls from burials range from 5.7 to 20.0 cm in orifice diameter, averaging 12.3 cm (n=36), while constricted orifice bowls range from 4.7 to 11.8 cm in orifice diameter, averaging 8.7 cm (n=10) (Reed 1984a:Tables 7.5, 7.6). The other vessel groups at Gordontown have few representatives. Everted rim bowls range from 14 to 19 cm in diameter, flared rim bowls range from 24 to 30 cm in diameter, compound bowls range from 10 to 14 cm in diameter, and effigy bowls range from 3 to 10 cm in diameter. Both of the compound bowls and four of the five effigy bowls are from burial associations. Five pans were measured for estimated rim diameter, and range from 44 to 52 cm in diameter. One wide necked bottle, from a burial context, has an estimated rim diameter of 8 cm, and the narrow necked Bell Plain jug has an estimated rim diameter of 7 cm. To summarize, two vessel groups (jars and simple bowls) appear to occur in multiple size groups, with mortuary vessels more common in the small sizes.

Hally (1986:279-280) notes that the relative ease of manipulation of vessel contents is determined by the size of the vessel orifice, the amount of orifice constriction, and the height of the vessel, with shallow vessels with large orifices and low orifice constriction being easiest to access. A ratio of orifice constriction can be calculated by subtracting orifice diameter from maximum vessel diameter and dividing by maximum vessel diameter (Hally 1986:276). Storage vessels would be expected to have restricted access whereas serving and food preparation vessels would have easy access, with cooking vessels falling in an intermediate area. Table 16 shows the orifice diameter, vessel height, maximum girth, and orifice constriction ratio for measurable specimens in each vessel group. Pans and flared rim bowls have the least constricted orifices, while bottles and jugs have the most constricted orifices. Manipulation of vessel contents would be relatively easy in simple bowls, while jars fall in the middle of the range.

Orifice to height and height to maximum girth ratios are plotted in Figure 36. The orifice to height ratio reflects the depth of the vessel relative to the orifice size, and can indicate ease of manipulation of vessel contents. The height to maximum girth ratio reflects vessel height, can indicate the importance of height or width as a spatial consideration, and can give an approximation of vessel stability. On this graph, pans are at one extreme while bottles are at the other extreme. Pans are shallow vessels with large orifices, and are wide in comparison to their height. Flared rim bowls, while much smaller, are also shallow, squat vessels. Bottles are relatively tall vessels in comparison to their orifice, and also have the greatest height in comparison to their maximum diameters.

Jars are the most common Mississippi Plain vessel form, and occur as "standard" jars with strap, loop, or lug handles and an indeterminate handle form, a miniature loop handled jar, and a flanged lip lobed form. Smith (1987:18) hypothesizes that the "standard Mississippian jar" was used for cooking and food preparation, citing the rounded base which allows for efficient heat absorption, handles to support the vessel from above, large orifice size allowing contents to be stirred or mixed, minimized spilling due to neck constriction, and efficient space utilization. Jars have subglobular bodies, rounded bases, constricted necks, and incurvate, straight, or excurvate rim

Table 16. Comparison of Orifice Constriction Ratio for Selected Vessel Forms.

Vessel Type	Provenience	Orifice Diameter	Vessel Height	Maximum Girth	Orifice Constriction (MG-OD/MG)
Flared Rim Bowl	Feature 25C	24.0	7.0	25.0	0.040
Pan	Burial 51	52.0	13.0	54.4	0.044
Simple Bowl	Surface 4	28.0	9.5	29.4	0.048
Simple Bowl	Feature 23A	19.0	9.5	20.0	0.050
Simple Bowl	Feature 23A	34.0	12.8	36.0	0.056
Simple Bowl	Surface 3	22.0	8.5	24.2	0.091
Simple Bowl	Feature 23C	18.0	8.6	19.8	0.091
Simple Bowl	Burial 62	5.4	3.3	6.4	0.156
Simple Bowl	Burial 20	10.8	6.0	12.8	0.156
Jar	Burial 33	13.6	13.5	17.7	0.232
Jar	Burial 74	8.8	9.6	12.0	0.267
Jar	Burial 72	24.3	28.0	33.4	0.272
Jar	Burial 29	9.5	10.2	13.3	0.286
Jar	Feature 25C	5.5	7.0	8.0	0.313
Jar	Burial 1	24.7	33.3	39.6	0.376
Compound Bowl	Burial 69	10.0	8.8	16.0	0.375
Compound Bowl	Burial 22	6.0	7.6	10.7	0.439
Bottle	Burial 84	8.0	18.5	20.0	0.600
Jug	Feature 23B	7.0	-	28.0	0.750

profiles; they generally have a large capacity. Lug handles are present on the majority of the handled forms. Sooting and interior pitting (Hally 1983) is present on a number of the reconstructed lug handled vessels. Soot deposits often occur in a band around the lower body with discoloration but no sooting on the base of the vessels. This pattern is apparently produced by placing the vessel directly above a fire (Hally 1983:10). Internal surface pitting is present on some of these lug handled jars, generally on the lower body and base. Interior pitting is thought to be produced by a combination of thermal shock, chemical corrosion, and physical abrasion (Hally 1983:18-20). Only one of the large reconstructed lug handled jars had an intact base; usually the base is missing and the lower edges of the vessel are worn. Sooting was not observed on any of the strap or loop handled jars, but the lower body and base areas are not intact on any of the strap handled jars. The miniature loop handled jar from the floor of Structure 3 lacks sooting or pitting, and the large partial loop handled jar from Structure 3 does not have a distinguishable band of sooting, although it does have fire clouds on the body. O'Brien (1977:219) notes that "Form 23" lug handled jars found on the floor of House 9 at Mound Bottom have "smudge marks" on the lower half of the bodies, and that this trait is found on many vessels of this type at the site. A lug handled jar with sooting was found in the hearth area of House 13 at Mound Bottom (O'Brien 1977:243).

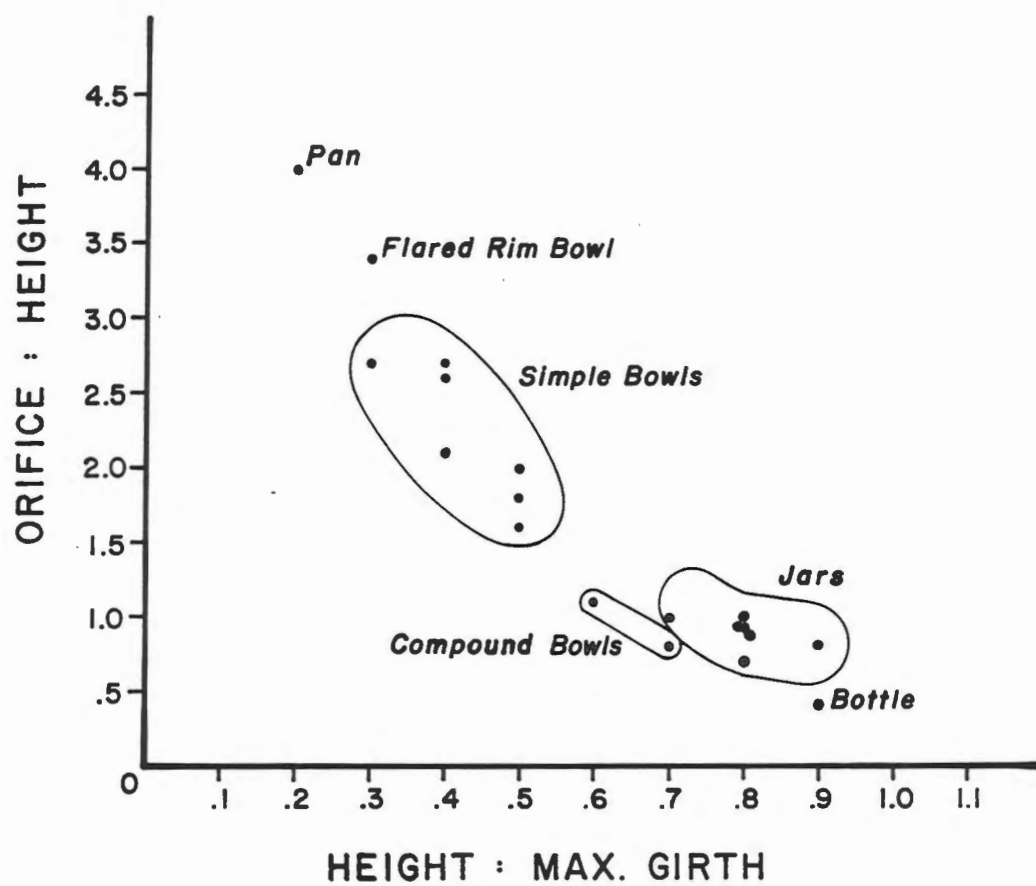


Figure 36. Orifice:height and height:maximum width ratios plotted for selected vessel forms.

Jars have a relatively constricted orifice, in the middle range of the vessel groups in this analysis. A restricted orifice is effective in decreasing vessel content heat loss through the opening and decreasing content evaporation (Hally 1986:280-81). Boiling over of contents can occur if the orifice is too narrow (Smith 1985:Table 11.2, Correlate 16). An intermediate vessel constriction allows some access for manipulation of vessel contents while minimizing spillage (Hally 1986:280). Handles on the rims of jars enables suspension of these vessels, as well as handling when hot or full. A vessel with a rounded base and sloping lower walls is more efficient in terms of heat absorption (Hally 1986:280). Thinner vessel walls improve thermal conductivity and thermal shock resistance, but thicker walls improve strength and durability, leading to a trade-off between thermal performance and durability (Braun 1987:162). Experiments in thermal shock resistance indicate that fine shell temper is more resistant than coarse shell temper (Bronitsky and Hamer 1986). However, thermal stress resistance tests conducted on material from Moundville suggests that while finely or sparsely tempered ceramics have a higher initial strength, they lose a large proportion of that strength after thermal shock. Coarsely or abundantly tempered ceramics have less initial strength but retain most of that strength even after thermal shock (Steponaitis 1983:43). At Gordontown, the thicker walled, coarse shell tempered jars appear to have been used over fire, while the thin walled, fine shell tempered bowls do not exhibit sooting. Apparently, durability was one of the most important characteristics for cooking jars.

Although large lug handled jars at Gordontown probably were used as cooking vessels, the function of strap and loop handled jars is more problematic. Because the sample of whole and partial strap and loop handled jars is smaller, there is not conclusive evidence that these jars were used over a fire for cooking. Although the vessel form is the same, strap handled jars are more often decorated than lug handled jars, and loop and strap handled jars have smaller average rim diameters (14.3 cm and 18.0 cm) than the lug handled jars (26.7 cm). Pauketat (1987:7) proposes a storage function for decorated (unhandled) jars from Cahokia House 4, while inferring a cooking function for the thicker-walled loop handled jars. A fitted limestone slab cover was found with a small loop handled jar on the floor of House Circle No. 3 at Gordontown by Myer (1928:520, Plate 104a). Another stone pot cover, found in a refuse pile on the floor of House Circle No. 84 at Gordontown, measured 3-1/2" in diameter. This indicates that there were provisions for covering jars, and they could have been used for storage. Large storage jugs like those found at Mound Bottom are not found at Gordontown. At Mound Bottom, five large, globular, narrow-necked jars or jugs and a smaller fine paste bottle were found together in the southwestern part of House 14 in what was interpreted as a storage area for food and water (O'Brien 1977:198). A partial medium sized, narrow-necked jug on Bell Plain paste (Form 14) was found on the floor of Structure 1 at Gordontown. The narrow (7 cm), constricted orifice of this vessel is not conducive to accessibility of contents, a common feature in storage containers, and would require pouring of vessel contents, rather than ladling or scooping.

Bottles are another form with possible storage functions. A wide-mouthed bottle with a constricted orifice and a flat base was found in Burial 84. Another partial bottle was found in the fill of Feature 2. Two effigy bottles were associated with Burial 45. These do not have a large capacity, and if used for storage would probably be for the short term. More likely they were used for serving liquids. Smith (1987:15) postulates

that wide-necked bottles were used for gruels or hominy, narrow-necked bottles used for water or beverages, and effigy water bottles used by higher status individuals or in ritual contexts.

At Gordontown, bowls range from compound and effigy forms (primarily from burial contexts) to simple direct rim bowls found in a wide variety of proveniences. Simple bowls (Mississippi Plain Forms 7, 10, Bell Plain Forms 1, 2, 3) are semi-hemispherical and wider than they are tall. Orifice constriction is low, indicating greater accessibility to contents and also greater possibility of spillage than the constricted orifice forms. Bases appear to be generally flattened, leading to greater vessel stability. The majority of simple bowls are on Bell Plain paste, and do not appear to have been used over fire. Most bowls are medium sized (14-22 cm diameter), but two large bowls (28 and 34 cm diameters), one in the fill of Structure 1, and four small bowls (5-12 cm diameter), two of which were grave goods, were found. Ferguson (1972:32) noted that "serrated rim" bowls were the only vessel form found in both structures and graves at the Arnold site, and that bowls from the floor of House Site No. 2 were larger than the funerary bowls.

Simple bowls are interpreted by Smith (1987:17) as serving containers for solid foods, who notes the ease of contents manipulation and spillage, the common decoration of the rim, and the standardization of vessel size. Decoration is commonly viewed as a means of communicating information, and would tend to be used in situations where they would be seen by a number of people, such as serving containers (Hally 1986:276-6; Pauketat 1987:13). In a study of vessel form and function of Overhill Cherokee ceramics, Duane King (1977) sought contemporary Cherokee names for the various ceramic forms in the assemblage. Simple round or flat bottomed plain bowls were associated with the preparation of hickory nut soup, while small to medium sized shouldered bowls, plain or with a notched rim strip, were associated with the serving of soups or other watery foods. Medium-sized hemispherical bowls with incurvate rims and notched rim strips are designated as mixing bowls (D. King 1977:155-159).

Shallow flared rim bowls are not commonly found at Gordontown, but of the six examples, four were found in Structure III. This fact argues for domestic usage. Shallow flared rim bowls (Mississippi Plain Form 11, Bell Plain Form 6) are generally medium-large in size (23-29 cm orifice diameter) with an open, unconstricted orifice and shallow in relation to height. This form is obviously not intended for storage or for the preparation of liquid foods. An open orifice, however, is desired if the vessel contents are to be served or consumed by hand or tool rather than by pouring (Smith 1985:Table 11.2, Correlates 3 and 4). Visibility and accessibility are important for serving vessels.

Effigy bowls exhibit several forms. The duck effigy bowl is an asymmetrical oval shaped, direct rim bowl with a flattened base, while fish effigy bowls have constricted orifices and short necks. The unidentified animal effigy bowl is a constricted rim bowl. Human head "medallion" bowls are simple direct rim bowls similar to the filleted or plain rim bowls on Bell Plain paste. Although the forms of the effigy bowls are sometimes similar to non-effigy bowl forms, the decoration indicates a more restricted usage. If decoration in general conveys information, then the decoration of the animal and human effigies would have conveyed even more specific information. Smith (1987:24-25) postulates a relationship between animal effigies and totemic clans, and notes that

"these effigy vessels may have been used to convey information about clan affiliation both to 'guests' in a household and to participants in burial ceremonies."

Serving vessels in Classic Mayan ceramic assemblages tend to be made with finer paste and thinner walls than utilitarian ceramics, and are more often decorated than the food preparation and storage vessels (Fry 1979:496). Although commonly found in occupation middens, these serving vessels were often used as grave goods, and may have originally come from domestic collections. At Gordontown, thin-walled, finely tempered, burnished Bell Plain vessels are found in both domestic and burial contexts, and probably functioned as serving or eating containers. The small size of many of the bowls and effigies used as mortuary vessels may indicate that these were personal-use vessels. Polhemus (1987:1226-7) suggests that vessel types not found in mortuary contexts at Toqua were used in communal activities such as group food preparation or consumption, whereas small mortuary vessels were for individual use and perhaps represent personal property.

The function of large "salt pans" has been the subject of much discussion. Use of pans for the evaporation of salt brine is proposed when the pans are found near salt springs, but many are found at sites far from salt springs (Kuttruff and Kuttruff 1986:3-4). Clay (1963:242) suggests they were used as communal eating pans. Linton (1944:376) hypothesizes the main use of salt pans was for parching corn or toasting acorns in ashes. Kuttruff and Kuttruff (1986:7) list other functions suggested in the literature such as stationary cooking vessels, hearths for bread baking, and ritual functions.

At Gordontown, these pans are found in domestic contexts rather than burial contexts, although salt pan fragments are occasionally used as sidestones or capstones for graves. No pans were found in direct association with structures, but were recovered from structure and feature fill as well as stone-box fill. At Mound Bottom, pans were also found in habitation areas and associated with domestic debris, but were not associated with any structure floors (O'Brien 1977; Kuttruff and Kuttruff 1986:4). A salt pan from Toqua was found associated with a "surface fired area on a trivet-like arrangement of stones," suggesting a cooking function (Reed 1987:647). Sooting was not noted on the bases of pan fragments at Gordontown, although a pan used in box construction of Burial 59 has a blackened interior and rim area. In the Overhill Cherokee assemblage, wide-mouthed shallow bowls and flat pans are associated with bread making activities (D. King 1977:157, 163).

In summary, the vessel assemblage at Gordontown contains forms used for cooking, storage, food preparation, and serving and eating. The large subglobular, lug handled jar was the predominant cooking vessel, as suggested by vessel morphology, presence of sooting and interior pitting, and the common occurrence of this form in the assemblage. While a storage function is proposed for the narrow-necked jar/jug form and the bottle forms, effigy water bottles appear to be used for serving rather than long term storage. Decorated strap handled jars and perhaps loop handled jars may have been used for storage of solid or cooked foods. Although the morphological characteristics are the same as for the lug handled jars, the presence of decoration argues for a non-cooking function. Food preparation, serving, and eating vessels are represented by bowl and possibly pan forms. Most bowls are made on the finer Bell Plain paste and are often decorated. Although numerous functions have been

suggested for pans, more contextual information is needed to interpret the function of these vessels.

Mortuary versus Domestic Vessels

In the Middle Tennessee region, the quantity of vessels known from burial associations and the paucity of vessels from domestic associations has led to a stereotyped view of area ceramics as an assemblage dominated by fine Bell Plain vessels decorated with filleted rims or effigy appendages that were used as mortuary vessels. Without a comparable examination of vessels associated with structures, however, this may not be a valid characterization. Comparison of the Averbuch vessel assemblage with that from Gordontown suggests that differences between mortuary and domestic vessels may be related to size rather than form.

A comparison of the Averbuch and Gordontown assemblages reveals great similarity in vessel forms, although effigy forms are more common at Averbuch. The vessel typology at Averbuch was based on whole or partial vessels from burials, but a number of these forms occur at Gordontown in both mortuary and domestic contexts. A notable difference between the collections is that the Averbuch mortuary vessels are generally smaller in size than comparable forms from domestic contexts at Gordontown. There are several possible explanations for this. One is that the vessels found in burials are smaller reproductions of standard domestic vessels produced specifically for inclusion with burials. Some "utilitarian" ceramics found in graves are loop, strap or lug handled jars that are the same in form, but smaller than those from non-burial contexts. In some cases, these small jars are poorly fired and very friable, and would not have made durable containers. Another possibility is that many of the burial ceramics may represent personal containers rather than the communal containers found in structures. Filleted rim bowls and effigies may have served the same function as larger bowls, but could be personal eating bowls rather than serving vessels.

In a recent study of burial patterns at the Arnold and Ganier sites, Broster (1988:7, 11) notes that effigy vessels are usually found in children's graves and utilitarian vessels are more often found in adult's graves at Arnold, while at Ganier, male burials have effigy ceramics, female burials have utilitarian ceramics, and children's graves contain both. At Averbuch, both effigy and plain ceramics were associated predominantly with burials of children, while female adult burials had some ceramics of both forms and male adult burials rarely contained associated ceramics (Reed 1984a:Table 7.1). At Gordontown, the association of burials ceramics is divided equally between child and adult graves, and effigy vessels are more common in the graves of children than in the graves of adults (Table 17).

About half of the vessels associated with burials at Gordontown are made on Mississippi Plain paste and half are made on Bell Plain paste. Mississippi Plain forms include Forms 1, 2, 3, 8, 10, 12, and 13, while Bell Plain types include Forms 1, 7, 8, 9, and 13. Mississippi Plain Forms 8, 10, 12, and 13 are represented in the Gordontown assemblage only by the mortuary vessels. Bell Plain Forms 7 and 13 are represented by only the mortuary vessels, and the duck and fish effigies (Forms 8 and 9) are

Table 17. Burials with Associated Ceramics at Gordontown

Burial	Age	Sex	Associated Ceramics
20	child	-	small bowl (Bell Plain Form 1)
22	adults	M, F	compound bowl (Mississippi Plain Form 8)
29	adults	M	small jar (Mississippi Plain Form 3)
33	adult	M	small jar (Mississippi Plain Form 2)
35	child	-	duck effigy bowl, mini fish effigy bowl (Bell Plain Form 8, 9)
40	adult	F	fish effigy bowl (Bell Plain Form 9)
45	child	-	human effigy water bottles (Mississippi Plain Form 13, Bell Plain Form 13)
60	child	-	fish effigy bowl (Bell Plain Form 9)
62	child	-	small "pinch" bowl (Mississippi Plain Form 10)
69	adults	F	compound bowl (Bell Plain Form 7)
73	adult	F	small jar (Mississippi Plain Form 1)
74	child	-	small jar (Mississippi Plain Form 2)
84	adult	F	bottle (Mississippi Plain Form 12)

represented by whole vessels in burials and fragments in surface or feature proveniences. Mississippi Plain Forms 1, 2, and 3, and Bell Plain Form 1 are common forms, represented by large utilitarian jars and filleted rim bowls in the structure and feature proveniences.

Table 18 shows the distribution by form of vessels from the excavated features at Gordontown. Feature 1 was a circular, trash-filled pit, the eastern one-half of which was excavated. Identified vessels include two jars, four bowls, and a plain pan. Feature 2 was composed of three charred postholes and an area of midden. This feature was exposed but not excavated; a small collection of sherds included one partial Bell Plain bottle. Feature 5 was a concentration of ceramics and animal bone in the palisade area, which was exposed but not excavated. A collection of sherds yielded nine identified vessels including two jars, three bowls, and four plain pans. A total of 40% of the sherds collected from this feature are classified as Kimmswick Plain, an unusually high proportion when compared with other features.

Features 8 and 9 were large, shallow midden-filled pits or depressions. Feature 8 was totally excavated and yielded 10 jars, eight bowls, and one pan. The southwest quadrant of Feature 9 was excavated and contained three identified jars and two bowls. Features 11 and 13 were debris and ash-filled trash pits. Feature 11 contained three jars and one bowl, while Feature 13 contained three jars and a plain pan. Features 17 and 19 were small trash pits, containing a total of seven jars, one bowl, and one plain pan. Feature 18, a large bathtub-shaped storage pit filled with refuse, bone and daub fragments, contained fragments of two loop handled jars, a plain bowl, and a plain pan. As mentioned earlier, a body sherd from Feature 19 cross-mended with two body sherds from Feature 18; these features were located approximately 20 feet apart in Lot 37. Although this may indicate the contemporaneity of these two features, it is possible that material was displaced by the bulldozer scraping.

Table 18. Distribution of Vessels by Feature and Form.

Provenience	JARS						Total Jars	SIMPLE -BOWLS-		EVERTED BOWLS MP9	FLARED -BOWLS-		-EFFIGY BOWLS-			Total Bowls	BOTTLES BP12	PANS K1	JUGS BP14	Minimum Number Vessels
	MP1	MP2	MP3	MP4	MP5	MI4		BP1	BP2		MP11	BP6	BP9	BP10	BP11					
Feature 1	1	1	-	-	-	-	2	3	-	1	-	-	-	-	-	4	-	1	-	7
Feature 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Feature 5	-	-	-	2	-	-	2	2	-	-	-	-	-	-	1	3	-	4	-	9
Feature 8	3	1	1	5	-	-	10	5	3	-	-	-	-	-	-	8	-	1	-	19
Feature 9	1	-	-	2	-	-	3	-	1	-	-	-	1	-	-	2	-	-	-	5
Feature 11	1	-	1	1	-	-	3	1	-	-	-	-	-	-	-	1	-	-	-	4
Feature 13	-	-	1	2	-	-	3	-	-	-	-	-	-	-	-	-	-	1	-	4
Feature 17	-	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
Feature 18	-	2	-	-	-	-	2	-	1	-	-	-	-	-	-	1	-	1	-	4
Feature 19	-	-	-	5	-	-	5	1	-	-	-	-	-	-	-	1	-	1	-	7
Structure I	4	-	10	6	-	-	20	11	5	-	-	-	1	1	-	18	-	4	1	43
Structure III	2	3	8	9	1	1	24	9	4	1	3	1	-	-	-	18	-	7	-	49
TOTAL	12	7	21	34	1	1	76	32	14	2	3	1	2	1	1	56	1	20	1	154
PERCENTS							49.4%									36.4%	0.7%	13.0%	0.7%	100%

Structure 1, located in Hearthstone Lane, contained 47% jars, 42% bowls, 9% pans and 2% jugs. The southwest quadrant and part of the southeast quadrant, including the hearth, were excavated. A partial lug handled jar was found on the floor of the structure near the hearth, and a partial jug was also found on the floor. A large part of Structure 3 including the posthole pattern on the east side was excavated. The fill and floor of Structure 3 contained fragments of 49 identified vessels, representing 49% jars, 37% bowls, and 14% pans. A miniature loop handled jar, a partial shallow flared rim bowl, and a partial loop handled globular jar were located on the structure floor. Lug handled jars were the dominant jar form in both structures, while filleted rim bowls were the most common bowl form.

Six "house circles" were excavated by Myer at Gordontown, although the circular pattern of postholes in his diagrams is largely conjectural. Myer (1928:515-516) notes that "there is evidence indicating the existence of the line of wall posts shown in the diagrams of circles Nos. 3, 23, 42, 79, and 84, but time and the elements have destroyed all remains of them. Only in rare instances where the wood had become charred were any traces of wooden objects found on the Gordon site." In House Circle No. 3, a small loop handled jar fitted with a limestone slab cover was found near the hearth (Myer 1928:520, Plate 104a). This vessel is similar to the Mississippi Plain Form 5 vessel found on the floor of Structure 3. In House Circle No. 79, a small lug-and-head effigy bowl with incised rim decoration was found on the floor near the eastern wall (Myer 1928:539-540, Plate 115b). This vessel contained "small portions of a lumpy black substance" analyzed as a ground maize mush (Myer 1928:540).

Information about the association of ceramics with structures from Mississippian sites in Middle Tennessee is sparse. Seventeen structures were identified at the Arnold site. House Site 2 had a burned floor with in situ artifacts, including several filleted rim bowls (Ferguson 1972:8). At Travellers' Rest, five structures were tested. In Structure 1, composed of a postmold pattern and hearth, a large filleted rim bowl filled with periwinkle shells and a strap handled jar were found (Miller 1987). At Averbuch, a total of 13 "structure loci" were excavated, resulting in 22 structure patterns, including 11 rebuilt or superimposed structures (Reed 1984b:l.3.19). Three concentrations of ceramic vessels were noted on the floors of structures. Features 12 and 13 were in situ vessels on the floor of Structure 3, while Feature 89 was an in situ vessel on the floor of Structure 12 (Reed and Klippel 1984:l.4.23, Table 4.1, Figure 4.16). Unfortunately, the vessels themselves are not identified or described in the Averbuch report.

Dowd (1974) reported on a number of small clay figurines from a structure floor at the Brick Church Pike Mound site. Four complete figurines, as well as fragments of others, ceramic sherds, animal bone, a bone hairpin and a partial plate were found on the floor of the structure by a boy digging on a rise near the main mound. Testing by Dowd revealed a partial posthole pattern and a number of artifacts including an antler, a small crushed pottery vessel with fragments of terrapin shell, a stemmed earplug, and a fragmentary figurine (Dowd 1974:94-97, Figure 1). This section of the floor was interpreted as an addition to the main structure (where the figurines were found).

At the Fewkes site, Myer excavated "Circle No. 6," and found a concentration of pottery fragments on top of and adjacent to the hearth in the center of the structure. Portions of several vessels were found, including two large lug handled jars, portions of a fine paste fish effigy bowl, fragments of a raccoon effigy, a small unhandled jar in fine

paste and fragments of a larger vessel of similar shape which had a "fire-smoked" base, and a portion of a flat bottomed globular jar or bottle, made on fine sand and shell tempered paste (Myer 1928:593-595, Figures 197, 198, 199, Plate 134b).

Mound Bottom has yielded the largest amount of information on artifact associations in structures. In House 14, cooking, food preparation, and storage activity areas were identified. Several large jugs were present in the storage area, and a large number of sherds from lug handled jars were found near the hearth in what is interpreted as a cooking area (O'Brien 1977:198-199). A scattering of sherds on the floor of House 9 contained sherds from 2 bowl forms, 4 jar forms, and a hooded water bottle form; this area was interpreted as a cooking and storage activity area (O'Brien 1977:218). Several vessel forms have widespread distribution in the domestic structures at Mound Bottom, including lug and loop handled jars, interpreted as cooking vessels, two forms of shouldered jars for various functions, plain flat "comals" used for cooking, and hooded water bottles used for water storage (O'Brien 1977:302).

The limited evidence indicates that filleted rim bowls, effigy bowls, and water bottles, as well as utilitarian bowls and jars, are found in association with domestic structures. Clearly, more attention needs to be paid to domestic habitation features in order to obtain a clearer idea of the form and function of Mississippian vessels.

Summary and Conclusions

A total of 30 vessel forms have been described for the ceramic material recovered at Gordontown, including 13 forms in Mississippi Plain, two forms in Matthews Incised, 14 forms in Bell Plain, and one form in Kimmswick Plain and Kimmswick Fabric Impressed. These vessel forms can be grouped into jar, bowl, bottle, and pan forms. Jars include large and small subglobular jars with various handle styles, occasionally decorated, an unhandled lobed jar with flanged lip, and a narrow necked jar or jug. Bowls include simple bowls, both plain and with a filleted rim, everted rim bowls, shallow flared rim bowls, shallow scalloped rim bowls, compound bowls, and effigy bowls. Bottle forms include wide necked bottles and hooded effigy water bottles. Pans are large, shallow round or flat bottomed bowls with both plain and fabric impressed exteriors.

Although functional interpretations are tentative, the large lug handled jars appear to be the dominant cooking vessel at Gordontown and other Mississippian sites in the area. Large and small loop and strap handled jars were probably used for a variety of cooking, food preparation, and storage functions. The narrow-necked jar/jug as well as the wide-necked bottle functioned as storage vessels. A probable food preparation function is hypothesized for large pans. Serving and eating vessels include a variety of bowl forms, effigy bowls, and effigy water bottles. Although small versions of utilitarian jars and filleted rim and effigy bowls are often used as mortuary vessels, it is possible that they also functioned as domestic serving or personal eating vessels.

The Gordontown ceramic assemblage is comparable to ceramics from other later Mississippian sites in the Nashville area. Characteristics such as bifurcate lug handled jars, strap handled jars occasionally decorated with incised or punctated designs on the shoulders, filleted rim bowls, animal and human effigy bowls and

bottles, and a preponderance of plain surfaced as compared to fabric impressed surfaced pans indicate a later Mississippian assemblage. Decorative patterns and vessel forms are very similar to those found at Averbuch, with differences primarily in vessel size.

Comparison between ceramics associated with burials and those found in domestic features and structures at Gordontown indicates many similarities in the types of vessels. The vessel assemblage recovered from features and structures is more varied than that from burials, and effigy vessels are more often found in burials. However, there is no evidence that fine Bell Plain wares are restricted to ritual or burial use. Although a wide range of vessel forms is found in domestic contexts, the number of vessels associated with structure floors is limited. Further investigation of Mississippian sites concentrating on habitation areas is needed to provide contextual information for interpreting the range and function of the later Mississippian vessel assemblage in the Nashville Basin.

VII. THE GORDONTOWN CERAMIC ASSEMBLAGE FROM A REGIONAL PERSPECTIVE

Kevin E. Smith and Mary Beth Trubitt

When the Gordontown ceramic analysis was completed in 1988, a handful of salvage archaeology reports provided the majority of available information on Middle Cumberland ceramics. As a result, the Gordontown assemblage was described primarily in its own terms, providing the first detailed analysis of vessel form and function for a "Middle Cumberland site." Previously published salvage information and the limited contextual data for much of the Gordontown assemblage did not permit much more than general comparisons to other sites within the region.

In 1992, an initial synthesis of the Middle Cumberland Mississippian data was completed (Smith 1992). The Gordontown ceramic assemblage was used extensively in the initial (albeit tentative) definition of phases for the region. Since that time, the Middle Cumberland Mississippian Survey has produced a series of articles and reports that have gradually expanded our understanding of the regional ceramic chronology. Rather than substantially rewrite the descriptive analysis that provided a baseline for much of the subsequent research, the authors elected to provide this interpretive section placing the assemblage within a regional context.

Over the past decade, the Mississippian stage in the Nashville region has been divided into four tentatively defined phases: (a) a currently undesignated and very poorly defined emergent or early Mississippian phase (ca. A.D. 950-1050); (b) the Dowd phase (ca. A.D. 1050-1250) encompassing the founding and growth of the majority of mound centers and towns; (c) the Thruston phase (ca. A.D. 1250-1450) reflecting a decline in the importance of regional centers and a corresponding increase in nucleated, autonomous or semi-autonomous fortified towns and villages; and (d) a currently undesignated and equally poorly defined late Mississippian or protohistoric phase reflecting the dispersal of populations into farmsteads and the site-unit intrusion of displaced populations from the Ohio valley (Smith and Moore 1996).

The Dowd phase is characterized by ceramic attributes including: undecorated coarse paste "blank-face" hooded bottles; cylindrical neck pine paste bottles; coarse-paste fabric impressed pans; fine-paste outslanting wall bowls; and medium-to-coarse paste plain surface and (occasionally) exterior fabric/cordmarked jars. Handle forms diagnostic for this period include riveted loop handles, with slightly lesser numbers of semi-lunate and double rim lugs and intermediate flattened loop handles. Relative to the subsequent Thruston phase, the assemblage is most notably marked by a general lack of decorated and effigy types.

The Thruston phase is the best characterized for the region and subsumes the peak of local population growth and density. Ceramic attributes associated with this phase include: bowls with appliqué notched-rim strips; plain and fabric impressed pans; structural effigy bowls; rim-rider effigy bowls; fine paste hooded bottles and hooded effigy bottles; carafe-necked bottles; and plain surfaced jars. Several decorated types, including all varieties of Matthews Incised and Nashville Negative

Painted have been recovered from sites associated with the Thruston phase. Loop handles are present but rare, with a predominance of double rim lugs, wide flattened loop handles, and strap handles (Smith and Moore 1996).

The presence of true loop handled vessels and a significant number of flattened loop handles suggests that Gordontown was probably initially occupied during the terminal portion of the Dowd phase. However, the preponderance of the ceramic assemblage can confidently be associated with a Thruston phase occupation. The strong dominance of Kimmswick Plain pans over Kimmswick Fabric Impressed pans places the assemblage firmly within the Thruston phase. Comparisons of assemblages from the French Lick (40Dv5) and East Nashville Mounds (40Dv4) suggest that plain-surfaced pans were entirely absent in the Dowd phase, and only slowly increased in presence throughout the Thruston phase (Walling et al 1993:10-47 - 10-51). Ceramics from the Rutherford-Kizer site (40Su15; A.D. 1300-1400) and others support the notion that plain-surfaced pans are not significantly represented until ca. A.D. 1300 and thereafter. Constricted orifice bowls, and particularly those exhibiting double opposing holes (presumably for suspension) have tentatively been proposed as a marker for Dowd phase assemblages. Their absence from the Gordontown assemblage is not compelling, but it is notable that this vessel form has only been recovered from Middle Cumberland sites with radiocarbon dates and/or diagnostic artifacts within the Dowd phase (cf. Walling et al 1993:10-60).

Equally or more compelling is the strong representation of decorated and effigy vessel forms in the Gordontown assemblage. Throughout the Mississippian region, Matthews Incised varieties are restricted to post-A.D. 1200 phases. In the Middle Cumberland region, these varieties probably appear by about A.D. 1200, but are rare in quantity and low in diversity of motifs until ca. A.D. 1300. At Gordontown, these shoulder decorative motifs are clearly associated with wide strap handled jars and are presumed to reflect a ca. A.D. 1300 temporal association.

The suite of animal effigy bowls identified in Gordontown collections, including ducks, frogs, and fish, are also limited in their distribution to post A.D. 1200 sites throughout the Central Basin of Tennessee. To date, the only effigy bowls recovered from sites with Dowd phase dates are human and (relatively simplistic) bird effigies with the heads facing the interior of the vessel. Virtually every Thruston phase site yields fragments of several different types of animal effigy bowls, and Gordontown provides a number of the classic Thruston-phase forms – but none of the inward-facing forms of the Dowd phase.

While not represented in the 1985 assemblage, the presence of several negative painted vessels in the Myer collections also supports a fairly substantial post A.D. 1250 occupation. Recent examinations of contextual information for Nashville Negative Painted vessels suggest that the type was most commonly manufactured (discarded?) in the A.D. 1300-1400 period (Smith 1998b; Hilgeman 1985, 1991).

According to Myer, the 1920 excavations yielded small fragments of three "bowls" bearing the equal-arm cross and encircling sun symbol. These sherds were found scattered through the black loam in "circles Nos. 1, 3, and 23." (Myer 1928:533). Myer presented only drawings of what he perceived to be the design elements present: "At first glance these fragments may appear too small to form a basis for the restoration

of this elaborate design. As a matter of fact, the restoration has a much large foundation; it is in reality based on several similarly decorated bowls found on various sites in Tennessee, Arkansas, and southeastern Missouri...." (Myer 1928:533). Under current terminology, these vessel forms would be termed "plates" rather than bowls, as Myer designated them.

Since he included only reconstruction drawings of the designs on these vessels and no other site yielded evidence for these vessel forms, most scholars seem to have viewed his "reconstructions" as fanciful -- lumping them with the "round house" error. The recent discovery of a small fragment of a negative painted plate rim from the nearby Travellers' Rest site (Smith 1996) supports the assertion that negative painted plates were a component of the Middle Cumberland assemblage.

The three negative painted plates from Gordontown (Myer 1928), a wide shallow bowl from Castalian Springs (40Su14; Myer 1928), a flared rim bowl from Noel Farm (40Dv3; Thruston 1897:136), and the recently recovered sherd from Travellers' Rest (40Dv11) all suggest that negative painted plate and/or bowl forms were present at several sites in the Middle Cumberland region. Hilgeman notes that the Gordontown, Castalian Springs, and Noel Farm vessels "may have been inspired by Angel plates, but [their] motifs... are atypical" (Hilgeman 1985:199).

A full consideration of these questions is beyond the scope of this presentation, but Myer appears to be vindicated on the question of negative-painted plate forms from Middle Tennessee. While still in progress, a comprehensive examination of negative-painted ceramics from the Nashville area (Smith 1998b) suggests that at least two distinctive varieties will be defined: Nashville Negative Painted variety Nashville (bottles primarily limited to mortuary contexts) and Nashville Negative Painted variety Gordontown (plates and bowls primarily limited to residential/midden contexts).

As noted elsewhere in this volume, Gordontown and its artifacts often seem to generate the seeds for new insights and new perspectives into Middle Cumberland Mississippian peoples. The original analysis of the 1985 Gordontown ceramic assemblage was the first comprehensive and detailed modern treatment of ceramics from both domestic and residential contexts at a Middle Cumberland site. At that time, the assemblage had little to contribute to a regional perspective -- there were simply too few comparative collections. A decade later, however, the chapter of analysis stands on its own merits -- with very little effort, the detailed descriptions, tables, and other data on the Gordontown ceramics can be placed within a more recent context. While salvage excavations and their reports may be limited in scope for many reasons, the presentation of data gathered from those projects can be made meaningful for future researchers.

With such a detailed presentation of ceramic data in hand, Gordontown once again becomes a novel site. Based upon a comparison of ceramic types and selected attributes with other regional sites, Gordontown was probably occupied from ca. A.D. 1200-1450. While other hypotheses can be presented, Gordontown probably originated as a small settlement around A.D. 1200, eventually growing into a large and fairly typical fortified Thruston phase town by A.D. 1300. In concert with an increasing database of radiocarbon dates and associated diagnostics, ceramics promise to hold the key to detailed understanding of Mississippian peoples in the Nashville Basin.

VIII. LITHIC ARTIFACT DESCRIPTIONS

Michael C. Moore and C. Parris Stripling

A rather small number of lithic artifacts were recovered from the burials, features, and surface during the 1985-1986 fieldwork. This assemblage of 950 items consists of a variety of chipped, ground, and pecked stone items that were placed into one of 24 lithic categories based upon distinct morphological or functional characteristics. These categories include core, thick biface, thin biface, flake, blocky/angular debris, modified/utilized flake, rejuvenation flake, projectile point, knife, drill, end scraper, hoe, chisel, celt, discoidal, nutting stone, mano, metate, pestle, abrader, unidentified groundstone, and hammerstone. Provenience and artifact counts are presented in Table 19.

Chipped Stone Artifacts

Cores (n=46)

Cores comprise those cobbles and cobble sections which exhibit regular patterns of flake removal. The objective of reducing these cobbles was the acquisition of flakes that could be further modified, rather than working the cobble itself into a tool. Most of the cores from 40Dv6 were small (probably expended) cobble fragments of local material with multi-directional flake scars. Several moderate size specimens did have flakes removed in a sequential order from a prepared platform.

Thick Bifaces (n=13)

This category includes moderate to large size cobbles that have been bifacially worked and minimally shaped. Each of these bifaces exhibit large flake scars, thick cross-sections and sinuous edges. Several specimens were obviously rejected during manufacture due to deep hinge and step fractures. A substantial (although somewhat variable) amount of cortex is still present on these artifacts.

Thin Bifaces (n=18)

Thin bifaces are the result of further reduction and shaping of large bifaces, with much thinner cross-sections and less sinuous edges. The flake scars are substantially smaller with little to no cortex left on the biface. Several of the Gordontown specimens have been shaped into lanceolate forms with rectangular bases.

Flakes (n=555)

All unmodified flakes created during the manufacture of chipped stone artifacts have been assigned to this category. These flakes were classified as primary, secondary, or blank based upon a reduction sequence and the amount of cortex remaining on the dorsal surface. Primary flakes (n=35) have cortex over their entire dorsal surface. Secondary flakes (n=126) display less than 90% cortex over their

Table 19. Provenience and Count of Lithic Artifacts Recovered From the 1985-1986 Excavations at Gordontown, 40Dv6.

Proven	Core	Thk Blfc	Thn Blfc	Prim Flake	Secd Flake	Blk Flake	Blky Debr	M/U Flake	Reju Flake	Proj Point	Knife	Drill	End Scrp	Hoe	Chsl	Celt	Ntng		Mano	Meta	Pestl	Abrd	Unid		Totals
Gen Surf	13	5	5	4	21	60	16	7	1	33	1	-	1	-	1	5	-	2	1	1	1	8	4	1	191
Feature 1	4	1	-	1	6	17	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	33
Feature 3	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Feature 5	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Feature 7	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Feature 8	1	-	1	-	-	4	-	-	-	1	-	-	-	-	-	-	1	1	-	-	-	-	-	1	10
Feature 9	1	1	2	5	15	19	7	1	-	2	-	1	-	-	-	1	-	1	-	-	-	-	-	-	56
Feature 11	1	-	-	1	3	5	5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
Feature 13	-	-	-	1	3	10	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
Feature 17	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4
Feature 18	2	-	-	3	1	3	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	12
Feature 19	2	-	-	1	4	3	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
Feature 23	5	2	3	1	10	37	15	2	-	6	-	-	-	-	1	1	-	1	-	-	-	1	1	2	88
Feature 24	-	-	-	-	1	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	16
Feature 25	2	1	3	8	21	76	22	-	-	8	1	-	-	1	1	1	1	1	1	-	2	-	-	-	150
Burial 1	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 3	1	-	-	-	2	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Burial 6	-	1	-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Burial 7	1	-	1	-	-	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	7
Burial 8	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 9	-	-	-	-	2	8	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31
Burial 10	-	-	-	-	1	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Burial 11	1	-	-	-	1	8	3	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	15
Burial 12	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 14	-	-	-	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Burial 17	-	-	-	-	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Burial 22	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Burial 23	2	-	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Burial 27	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 30	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3
Burial 32	-	-	-	1	1	13	7	1	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	26
Burial 34	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 35	-	-	-	-	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Burial 40	-	-	-	-	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Burial 41	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 43	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Burial 45	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 47	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 49	-	-	-	-	2	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Burial 50	2	-	1	2	4	31	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43
Burial 52	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

Table 19. Provenience and Count of Lithic Artifacts Recovered From the 1985-1986 Excavations at Gordontown, 40Dv6. (continued)

Proven	Core	Thk Bifc	Thn Bifc	Prim Flake	Secd Flake	Blk Flake	Blky Debr	M/U Flake	Reju Flake	Proj Point	Knife	Drill	End Scrp	Hoe	Chsl	Celt	Nttg		Mano	Meta	Pestl	Abnd	Unid		Totals
Burial 54	1	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Burial 55	-	-	-	-	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Burial 56	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 57	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 59	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 62	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 63	-	-	-	-	3	3	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
Burial 64	-	-	-	-	1	9	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
Burial 65	-	-	-	2	8	21	9	-	-	2	-	-	-	-	-	-	3	-	-	-	-	-	-	-	45
Burial 66	-	1	1	-	1	4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Burial 72	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 73	-	-	-	-	-	3	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Burial 74	-	-	-	-	1	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
Burial 76	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Burial 78	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 79	1	-	-	-	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Burial 81	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Burial 84	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Burial 85	-	-	-	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Totals	46	13	18	35	126	394	171	15	2	70	3	2	1	1	4	8	4	4	5	3	1	13	7	4	950

dorsal surface. Blank flakes (n=394) have no cortex except occasionally over their striking platform.

Blocky Debris (n=171)

Blocky debris comprises those angular and blocky fragments from the manufacture of chipped stone items. These artifacts often occur as shatter during percussion flaking.

Modified/Utilized Flakes (n=15)

These flakes exhibit intentional, consistent and even flaking along one or more edges. Two functional subcategories were identified based upon morphological and wear characteristics. Scraping tools display steep, unifacial flaking along one or more edges with fine unifacial microflaking along the same edge. Cutting tools are bifacially retouched flakes with fine bifacial retouch along the same edge.

Most (n=13) of the specimens assigned to this category were scraping tools, with two made from secondary flakes and 11 from blank flakes. The remaining two modified flakes were cutting tools made from one secondary and one blank flake.

Rejuvenation Flakes (n=2)

Both of these flakes have highly polished dorsal surfaces and likely originated from hoe and/or celt resharpening activities. One small flake of Dover chert was recovered from Feature 19. The other specimen consisted of a rather large flake of locally available material found on the surface.

Projectile Points (n=70; Figures 37 and 38)

This category includes those stemmed and unstemmed bifaces that have been interpreted as dart and arrow points. These points were classified by morphological characteristics, with previously established type names used when possible (Cambron and Hulse 1983; Justice 1987). Projectile points were recovered from a variety of proveniences, including house floors, refuse-filled pits, and stone-box grave fill (Table 20). Numerous styles were represented in the sample of 39 points that could be assigned to an identified type, including Big Sandy, Copena, Cotaco Creek, Gary, Kirk Corner-Notched (Pine Tree), Kirk Serrated, Lost Lake, Lowe Cluster, Madison, Morrow Mountain, Motley, Quad/Beaver Lake, and St. Albans-like. The remainder of the sample (n=31) consisted of unidentified midsection and tip fragments.

The identified point sample spans much of the known prehistoric sequence for the study area. In fact, the vast majority of identified points represent occupations not related to the Mississippian occupation at Gordontown, including Late Paleo-Indian, Early Archaic, Middle Archaic, Late Archaic, Early Woodland, and Middle Woodland (Figure 31). The appearance of these earlier points at Gordontown should not be viewed as an unusual occurrence since this phenomena has been well documented at other Mississippian sites within the Middle Cumberland region (Smith 1992). Several specimens exhibit evidence of having been reworked (presumably) by later site

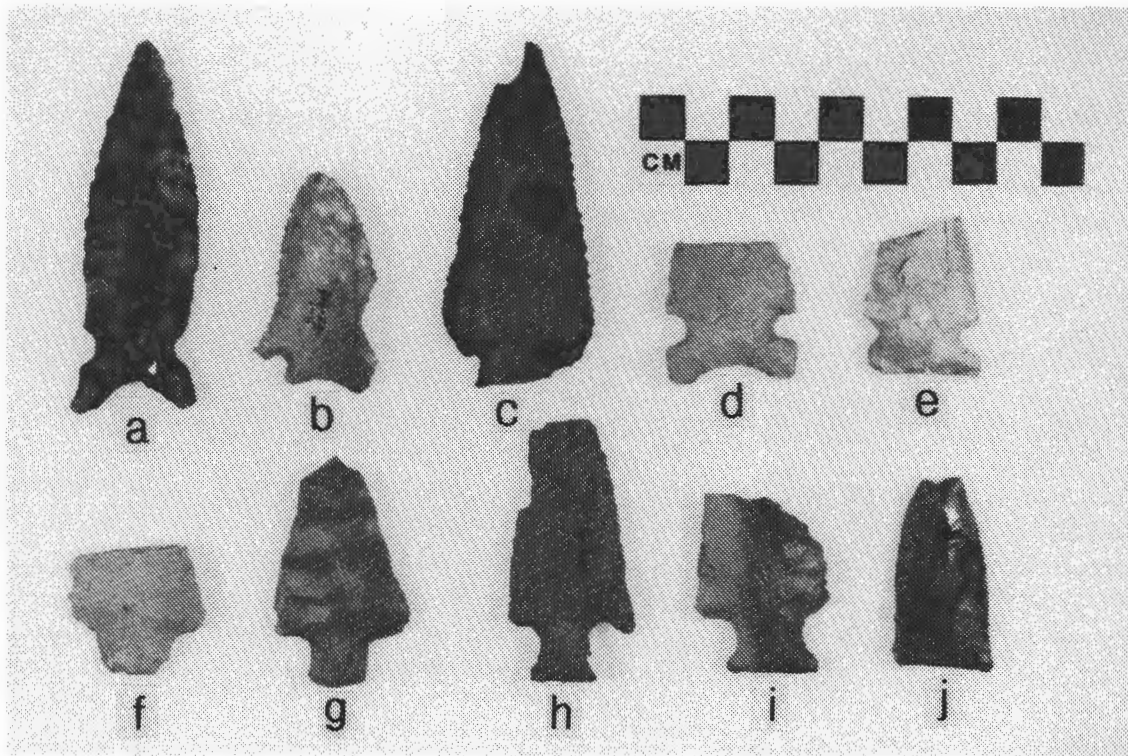


Figure 37. Dart points: (a) Quad/Beaver Lake; (b) Kirk Serrated; (c) Lost Lake; (d-e) Big Sandy; (f) Morrow Mountain; (g) Cotaco Creek; (h) Motley; (i) Lowe Cluster; (j) Copena.



Figure 38. Small triangular arrow points.

Table 20. Provenience of Identified Projectile Points from Gordontown, 40Dv6.

Projectile Point	Provenience	Number of Specimens
Big Sandy	Feature 25	1
Big Sandy	Surface	1
Copena	Surface	1
Cotaco Creek	Feature 8	1
Cotaco Creek	Feature 23	1
Gary-like	Surface	1
Gary-like	Feature 23	1
Kirk Serrated	Surface	1
Kirk Corner-Notched (Pine Tree)	Feature 9	1
Lost Lake,	Surface	1
Lowe Cluster	Surface	3
Lowe Cluster	Burial 11	1
Lowe Cluster	Burial 23	1
Lowe Cluster	Burial 30	1
Morrow Mountain	Surface	2
Motley	Surface	1
Motley	Feature 11	1
Motley	Feature 23	1
Motley	Burial 12	1
Quad/Beaver Lake	Feature 25	1
Small triangular	Surface	4
Small triangular	Feature 23	3
Small triangular	Feature 25	3
Small triangular	Burial 1	1
Small triangular	Burial 6	1
Small triangular	Burial 7	1
Small triangular	Burial 32	2
St. Albans-like	Surface	1

inhabitants. One such example is an extensively reworked Quad/Beaver Lake of Dover chert (see Figure 37) that was recovered from a Mississippian house floor (Feature 25).

A moderate sample of small triangular points (n=15) was retrieved from the site (Figure 38). These points were recovered from burials, structure floors, and the surface. Basic measurements for these specimens have been provided in Table 21.

Knives (n=3; Figure 39)

One specimen assigned to this category was an elongated, bifacially worked blade of Dover chert that was recovered from the floor of Structure 3 (Feature 25). One end of this artifact displays straight to somewhat excurvate edges that begin to constrict near the blade middle, forming weak shoulders (Figure 39). At this point, the blade

Table 21. Measurements of Small Triangular Points from Gordontown, 40Dv6.*

Provenience	Maximum Length	Maximum Width	Maximum Thickness
Surface	38.1**	20.7	8.5
Surface	18.6**	21.2	7.3
Surface	28.3	15.3	6.2
Surface	19.1**	14.7	5.2
Feature 23	22.3	13.6	5.1
Feature 23	33.1	11.5**	4.2
Feature 23	39.9	17.1	5.4
Feature 25	24.7**	17.3	6.0
Feature 25	21.7**	17.9	5.9
Feature 25	20.6**	15.3	3.0
Burial 1	22.8**	20.6	5.3
Burial 6	26.5**	21.3	6.1
Burial 7	29.8	18.4	4.7
Burial 32	31.8**	18.4	5.6
Burial 32	24.8**	15.4	5.9

* measurements in mm.

** broken.

edges become fairly straight and dramatically taper to a sharply pointed end. This item likely represents a hafted knife that would have been an effective cutting or stabbing implement. Exposure to extreme heat, most likely associated with the destruction of Structure 3, turned this artifact black and also fractured portions of the wide end. This knife had a maximum length of 173.0 mm, a maximum width of 31.5 mm, and a maximum thickness of 11.4 mm.

The other two knives consist of thin, well crafted blade sections with fine bifacial microflaking along their lateral edges. Both artifacts were manufactured from locally available cherts and neither exhibited signs of thermal alteration. One fragment was associated with Burial 40, whereas the other was recovered from the surface.

Drills (n=2)

Two drills were defined by small, bit tip fragments of locally available chert. These artifacts were recovered from Feature 9 and Burial 12.

End Scraper (n=1)

This crudely worked artifact was found on the site surface. Made of locally available chert, the distal end of this teardrop-shaped tool displays steep unifacial flaking. The lateral edges are sinuous with broad flake scars.

Hoe (n=1; Figure 40)

One spatulate hoe of Dover chert was also recovered from the floor of Structure 3 (Feature 25). This long, bifacially flaked artifact has a relatively straight body with expanding lateral edges near the bit. The bit is convex and highly polished with the opposite end still exhibiting some cortex and a minimal amount of polish. A portion of one lateral edge near the bit has broken off. This hoe does not appear to be as extensively burned (no crinkling or potlid scars) as other artifacts retrieved from Structure 3. This tool measures 300.0 mm long, 122.0 mm wide, and 28.0 mm thick.

Chisels (n=4)

Four chisel body fragments were found during the 40Dv6 investigations. Each of these bifacially flaked implements display highly polished surfaces with remnant flake scars. One large fragment found on the surface was made of Dover chert. This particular specimen had a relatively broad (29.1 mm) and lanceolate (76.2 mm, broken) plan view, with a thin (12.0 mm), somewhat semi-lunate cross-section. The remaining fragments were recovered from Burial 11, and Features 23 and 25. The Feature 25 chisel was also made of Dover.

Ground and Pecked Stone Artifacts

Celts (n=8; Figure 41)

This category includes two complete specimens of greenstone, one fragmented artifact of Dover, and another five fragments made from locally available (cherty) limestones. Both of the greenstone celts (one from Structure 3 and the other a surface find) are highly polished with straight to convex bits, and bodies that gently taper (from the bit) to a somewhat flattened end with rounded corners (see Figure 41). In addition, both celts exhibit cross-sections resembling a rectangle with rounded lateral edges. The specimen from Structure 3 (Feature 25) appears very dark in color, as if exposed to intense heat. This observation is consistent with the (heated) condition of other artifacts recovered from Structure 3. The Structure 3 celt measures 134.3 mm long, 52.0 mm wide (bit end), and 30.5 mm thick. In comparison, the surface celt measures 101.6 mm long, 48.0 mm wide, and 22.7 mm thick.

The Dover celt (surface find) consists of a polished body fragment with an ovoid cross-section. Flake scars are still visible along both lateral edges and broad surfaces. A large flake scar running parallel to most of the long axis of the fragment may be the result of an impact fracture. This celt was apparently somewhat large as the fractured specimen measures 102.0 mm long, 70.0 mm wide, and 35.0 mm thick.

Another specimen assigned to this category is represented by two highly polished (body) fragments made from a dense, black siltstone. The siltstone most likely derives from the Highland Rim area. Both fragments were recovered from the surface.

Five celts were made of a locally available, hard (cherty) limestone. One of these celts represents a highly polished bit and body fragment associated with Burial 24. This particular specimen has an ovoid cross-section, and displays parallel lateral



Figure 39. Hafted knife from floor of Feature 25 (Structure 3).

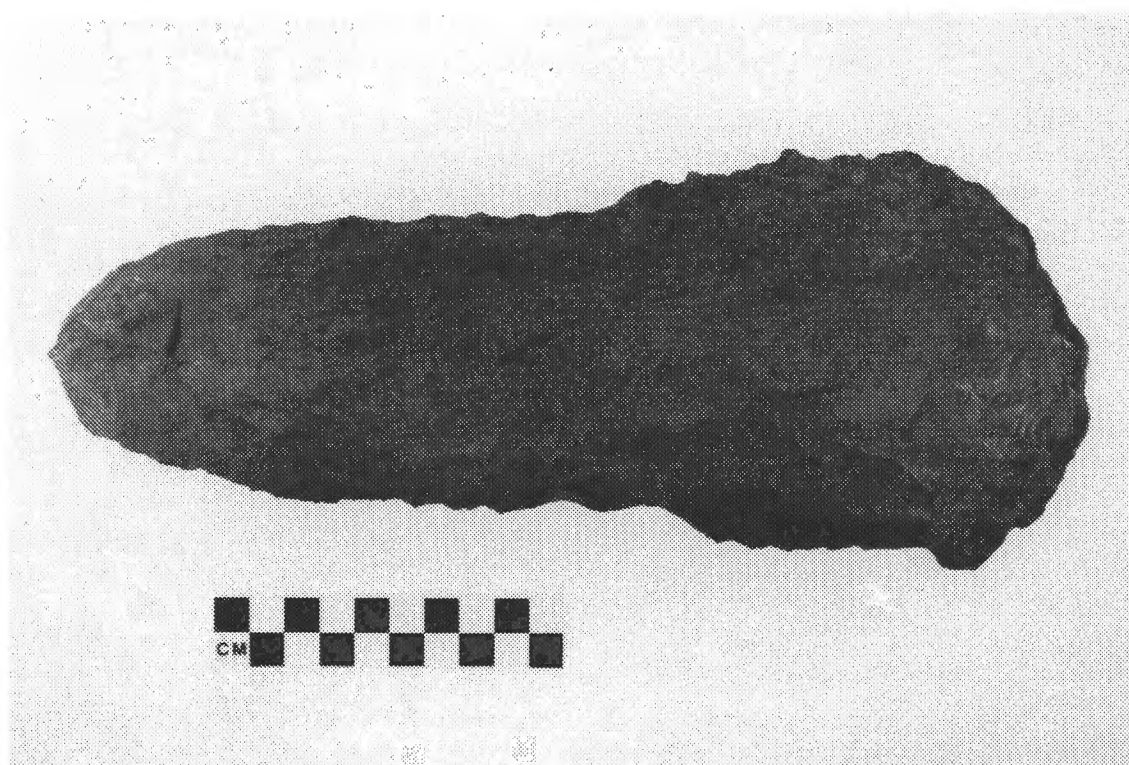


Figure 40. Dover hoe from floor of Feature 25 (Structure 3).

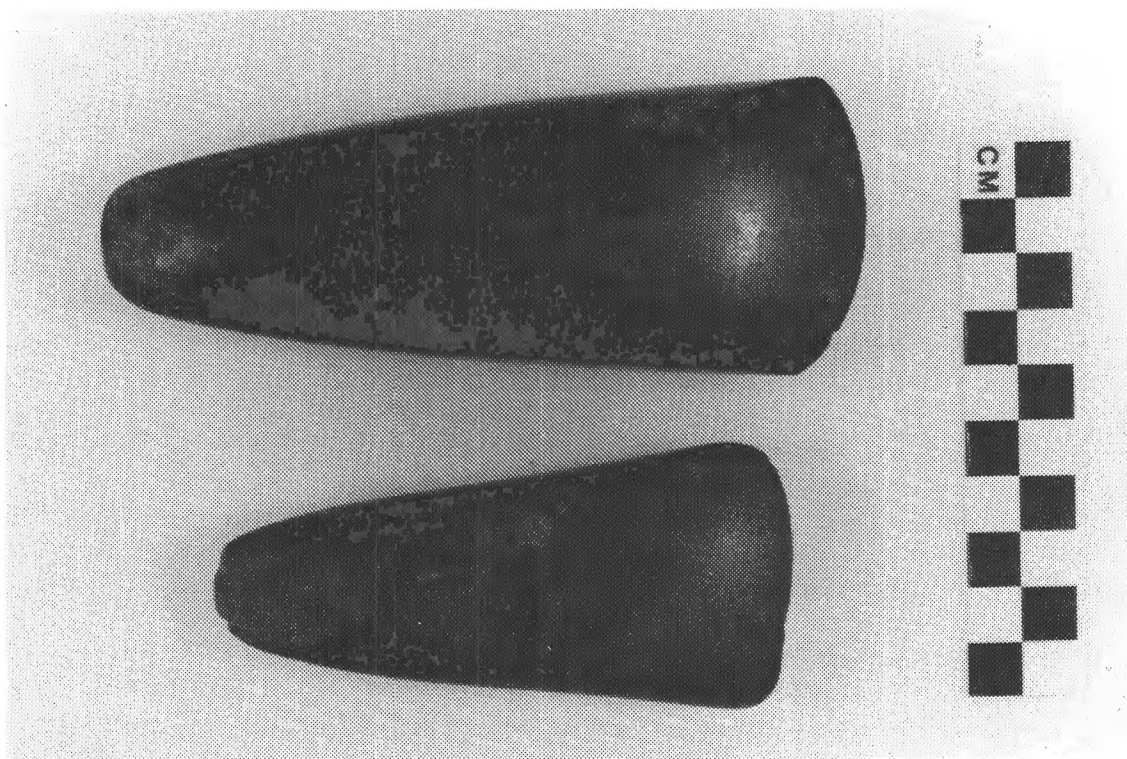


Figure 41. Greenstone celts: (top) Feature 25, Structure 3; (bottom) general surface.

edges which converge to a convex bit. The other four specimens consist of small bit or body fragments recovered from Feature 9, Feature 23, and the surface (2 items).

Discoidals (n=4)

Three discoidals (two limestone and one chert) were recovered from Burial 65 near the cranium. The largest specimen (84.3 mm in diameter and 33.5 mm thick) was made of limestone and exhibited a highly polished surface and slightly biconvex cross-section. In comparison, the second limestone discoidal was much smaller (62.0 mm in diameter and 12.9 mm thick), displayed a considerably less finished surface, and had an irregular, somewhat rectangular cross-section. The chert discoidal was pecked from a relatively small (but thick) stream pebble. Moderate grinding produced a circular artifact (41.5 mm diameter) with a thick (26.7 mm), biconvex cross-section.

A fourth specimen, made of sandstone, was recovered from Structure 3 (Feature 25). This discoidal has been roughly ground into a thick, somewhat circular disk that measures 63.2 mm in diameter and 26.5 mm thick.

Nutting Stones (n=4)

Nutting stones from 40Dv6 consist of sandstone (3) and cherty limestone (1) cobbles that vary in shape from rectangular to square to irregular. These tools each display a single pecked (generally circular) depression on one surface, with the

depressions measuring between 18.3 and 32.2 mm in diameter, and up to 13.1 mm deep. Nutting stones were found in Features 8 and 23, and on the surface (2).

Manos (n=5)

These artifacts comprise sandstone cobble fragments with one flattened, ground surface and an oval to circular plan view. Each of these tools display a distinctive semi-circular cross-section due to the flat ground surface. One oval specimen (nearly two-thirds complete) from the floor of Structure 3 (Feature 25) measures 90.0 mm long, 88.6 mm wide, 49.5 mm thick. Manos are believed to be grinding implements for preparing such products as vegetables, nuts, and berries. These tools were recovered from Features 8, 9, 18, 25 and the surface.

Metates (n=3)

Two large sandstone metates were found during the Gordontown investigations. One metate, discovered on the floor of Structure 3 (Feature 25), is heavily ground on one side and blackened from heat exposure. This somewhat oval specimen measures roughly 380 mm long, 300 mm wide, and 60 mm thick. A second large metate was displaced and fractured by heavy equipment during grading operations, and subsequently recorded as a surface find. Considerable wear is visible on both sides and the center has worn extremely thin (only 7.0 mm thick). This particular metate appears to be circular, with an estimated diameter of 270 mm.

A third specimen from the site represents a relatively thin, somewhat squarish sandstone slab with one surface heavily ground and slightly depressed. This artifact, which measures roughly 260 mm by 200 mm, was recovered as a capstone for Burial 30.

Pestle (n=1)

This large, cylindrical fragment of burned limestone was heavily ground on all surfaces. An oval cross-section was exposed along the fractured distal (grinding surface) end. This artifact was recovered from the surface and measures 145.0 mm long, 85.6 mm wide, and 62.0 mm thick.

Abraders, Type 1 (n=11)

This category contains those square to irregular sandstone fragments that exhibit generally narrow, linear U and V-shaped grooves. These grooves, which range from 1.0 mm to 7.0 mm wide and up to 5.0 mm deep, are often displayed in multiple directions. Three of these abraders were made from fragments of other (presumably discarded) groundstone tools, including a mano (Feature 25), metate (Feature 1), and nutting stone (Feature 25). The remaining specimens were recovered from Features 17 and 23, and from the surface.

Abraders, Type 2 (n=2)

These sandstone abraders were assigned to a separate category based upon the presence of much wider and deeper grooves than were exhibited in Type 1

specimens. Grooves on these two items range from 10.5 mm to 24.0 mm wide and up to 15.0 mm deep. The size and depth of these grooves suggests their use as grinding implements for large tools such as celts. Similar to the previous category, one Type 2 specimen was made on the opposing flat surface of a metate. Both abraders in this category were surface finds.

Unidentified Groundstone (n=7)

This sample contains those groundstone items that could not be assigned to a previously defined category. Four of these artifacts (from the surface) represent small to moderate size, irregularly shaped sandstone fragments with one or more ground surfaces. Functional uses of these particular items are not readily apparent, although some type of abrading action would seem likely. A fifth artifact assigned to this category consists of a rather small, rectangular piece of tabular sandstone from Feature 24 with one smoothly ground face. Suggested functions for this artifact range from light abrading to ceramic smoothing.

Another artifact assigned to this category is a thin (9.0 mm), circular (110.3 mm diameter) piece of burned sandstone with highly smoothed opposing surfaces that was recovered from Burial 7. Several unbroken sections along the lateral margins are somewhat flattened with rounded corners. The center of each opposing surface displays a somewhat circular zone that is much more polished than the surrounding area. This effect is probably the result of more concentrated grinding activity within this localized area. This artifact is suggested to be a pallet for grinding/mixing pigments (or other relatively soft materials) rather than an abrading tool or ornament.

The last specimen is a thin (6.5 mm), tabular fragment of siltstone or very fine grain sandstone that was recovered from Structure 1 (Feature 23). The smooth surfaces of this artifact appear almost polished in some places, especially away from the lateral margins. Perhaps this item was used as a tool for smoothing ceramics.

Hammerstones (n=4)

Several kinds of hammerstones were recovered from the Gordontown excavations. Two specimens comprise rectangular chert cobbles from Structure 1 (Feature 23) with extensive battering along both ends. One of these cobbles, measuring 130.4 mm long, 73.4 mm wide, and 49.5 mm thick, also displays a large amount of crushing along both lateral margins. The other chert cobble measures 104.4 mm long, 46.8 mm wide, and 30.0 mm thick.

The remaining two hammerstones are oval to rounded chert cobbles that feature moderate to extensive battering along their lateral edges. One specimen, recovered from Feature 8, measures 49.1 mm in diameter and 26.8 mm thick. The other artifact was retrieved from the surface and measures 61.1 mm in diameter and 39.7 mm thick.

Lithic Resources

Several different lithic resources (exotic as well as local) were identified within the Gordontown assemblage. Non-local materials include Dover chert and greenstone, both of which are commonly found on Mississippian period sites within the study area. Dover chert primarily derives from quarries in Stewart County, Tennessee roughly 110 km northwest of the site area. However, additional sources of Dover have been recently identified in Houston and Humphreys Counties (Kevin Smith, personal communication 1993). Dover was a popular material for the manufacture of such domestic tools as hoes, chisels/adzes, and knives; and also for specialty items like maces and "ceremonial" swords. Implements of Dover chert that were recovered during the Gordontown excavations include a hafted knife, hoe, celt, and two chisels.

Greenstone usually occurs on Middle Cumberland Mississippian sites in the form of polished celts or rejuvenation flakes. Following the pattern established at other sites, two highly polished greenstone celts were recovered from Gordontown. The probable origin of greenstone found in the study area is the Appalachian Mountain chain east of the study area, although no formal source studies for this material have been conducted to date. One outcrop of greenstone has been identified in Polk County along the Hiwassee River roughly 200 kilometers southeast of 40Dv6 (Riggs, Jefferson, and Crothers 1988).

Several groundstone artifacts (a celt and an unidentified groundstone fragment) were made of what appears to be siltstone. This material was dense, fine grained and ranged from light brown to black in color. The closest source of siltstone is probably the Pennsylvanian age deposits within the neighboring Highland Rim physiographic province.

The vast majority of recovered artifacts were made from locally available cherts, primarily Ft. Payne and St. Louis, which outcrop in the Highland Rim and also in scattered erosional remnants within the Central Basin (Amick 1987; Miller et al. 1966). However, the presence of smooth, waterworn cortex on numerous specimens indicates that site residents were probably obtaining most of their knappable material from local stream beds. These cherts were generally opaque and fine grained, with colors ranging from blue to gray to brown.

Other local resources important to the site inhabitants were limestone and sandstone. Although limestone is a plentiful resource in the area, sandstone is not particularly common. Nevertheless, sandstone was likely available from local stream beds or isolated erosional remnants. Some sandstone outcrops have been identified north of the study area (Smith and Fowler 1993).

IX. FAUNAL REMAINS

Emanuel Breitburg

During the investigation of the Gordontown site, a sample of 473 specimens of vertebrate animals was gathered by excavators. The material was recovered by surface collection of the site, and the excavation of nine features and 31 stone-box burials (Table 22). Each recovered specimen was examined and identified to the most specific taxon possible. The frequency of all the identifiable and indeterminate faunal remains is listed in Table 23. A summary of the number of specimens examined, the estimated number of individuals, the amount and percent of usable meat represented per taxon (White 1953), and the number of burned, cut, and modified specimens is shown in Table 24.

The objectives of analyzing this quantitatively small, but qualitatively diverse, sample of faunal remains include: (1) establishing a site-specific model characterizing the types of animal species exploited; (2) establishing the dietary significance and other roles animals and animal by-products played in the lives of the inhabitants; and (3) establishing a regional model of Mississippian period animal subsistence practices for the Cumberland River drainage. The latter objective is achieved by assessing the results of principal components analyses of dietary values of animal species. A regional model of Mississippian period subsistence is ascertained by assessing the faunal remains recovered from eight other large Mississippian period settlements discussed below.

Skeletal and Taxonomic Composition

Of the 473 specimens examined (Table 22), the skeletal composition by class is as follows: 80.5% (n=381) mammal, 9.3% (n=44) bird, 8.9% (n=42) reptiles, and 1.2% (n=6) fish. Approximately 7% (n=34) of the remains show some degree of burning. About 1% (n=5) exhibit tool or other marks attributable to human modification, and about 5% (n=24) of the material represents either complete or partial items of personal adornment, domestic tools, hunting or fishing equipment, and manufacturing residue.

Twenty-two species, five genera, and two families account for 95.3% of the total sample. Mammal species represent most of the taxa (15 species and 2 genera) identified from 364 specimens or about 77% of the total sample. The most common remains identified to species represent the white-tailed deer (n=278). Based on the recovery of left fibular tarsi, at least 10 mature deer are present. Black bear, represented by 25 specimens and 2 individuals, is the second most common species present, followed by squirrels (fox squirrel, n=8, MNI=3, and gray squirrel n=14, MNI=2). Other mammals include elk or wapiti (n=1, MNI=1), cougar, possibly bobcat, raccoon, muskrat, rice rat, vole, beaver, rabbit, shrew, mole, and opossum.

Of the 43 identifiable specimens of avifauna, turkey (n=34, MNI=4) remains prevail. Other identified species include cardinal, screech owl, passenger pigeon, quail, and hawk.

Table 22. Identifiable Vertebrate Fauna (Excluding Human) From the 1985-1986 Excavations at Gordontown, 40DV6.

Species	Gen	Features										Burials																												TOTAL	MNI	B	C	M					
	Surf	5	8	9	11	13	18	19	23	25	3	7	8	10	11	14	17	27	28	30	31	32	34	35	40	41	42	43	47	48	49	50	57	59	63	65	66	74	76						79	84			
MAMMALS																																																	
Cervus elaphus, Wapiti	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-		
Odocoileus virginianus, White-tailed deer	63	7	6	6	4	43	2	2	27	88	-	1	2	1	3	1	3	-	-	1	2	-	1	1	-	-	-	-	-	-	-	-	1	-	-	2	-	4	3	4	278	10	25	4	12	-			
Felis concolor, Cougar	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	1	-	-	-	-	-			
Lynx rufus, Bobcat (?)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-			
Procyon lotor, Raccoon	2	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	-	-	-	-	-	-			
Ursus americanus, Bear	7	-	3	3	-	3	-	-	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	25	2	3	-	2	-	-	-	-		
Ondatra zibethicus, Muskrat	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-			
Oryzomys palustris, Rice rat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-			
Microtus spp., Vole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	5	5	-	-	-	-	-	-	-		
Castor canadensis, Beaver	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	-	-	-	-	-	-	-			
Sciurus niger, Fox squirrel	1	-	3	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	8	3	-	-	-	-	-	-	-			
Sciurus carolinensis, Gray squirrel	-	-	4	-	-	1	-	-	2	1	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	14	2	-	-	-	-	-	-	-	-			
Sciurus spp., Squirrel species	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-			
Sylvilagus floridanus, Cottontail rabbit	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	1	-	1	-	-	-	-	-	-	8	1	-	-	-	-	-	-	-	-	-	-	-	
Blarina brevicauda, Shorttailed shrew	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-		
Scalopus aquaticus, Common mole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	3	1	-	-	-	-	-	-	-	-			
Didelphis marsupialis, Opossum	-	-	1	-	1	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	2	-	-	-	-	-	-	-	-	-		
Large mammal fragments	4	-	2	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	2	-	-	-	-	-	-	-	-	-		
Small mammal fragments	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-		
Small rodent fragments	-	-	3	-	-	-	-	-	3	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-		
BIRDS																																																	
Richmondia cardinalis, Cardinal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	
Otus asio, Screech owl	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	
Ectopistes migratorius	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-
Passenger pigeon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Meleagris gallopavo, Wild turkey	10	-	-	2	-	7	-	-	4	8	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	4	2	-	-	-	-	-	-	-	-	-	
Colinus virginianus, Bobwhite quail	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-	
Buteo jamaicensis, Red-tailed hawk	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-		
Hawk spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-		
Bird fragment	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-		
REPTILES																																																	
Chrysemys/Graptemys spp., Painted/map turtle	3	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	8	2	-	-	-	-	-	-	-	-	-	-	-	
Terrapene carolina, Box turtle	4	-	2	-	1	5	1	-	1	4	-	-	-	1	1	-	-	-	1	-	1	-	-	-	-	1	-	1	-	-	-	-	-	-	-	24	3	-	-	-	-	-	-	-	-	-	-	-	
Turtle fragment	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	
Colubridae, Non-poisonous snake	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1	-	-	-	-	-	-	-	-	-	-	-	
Viperidae, Poisonous snake	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	
FISHES																																																	
Ictalurus sp., Catfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	
Catostomid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	
Lepisosteus sp., Garfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-		
Fish fragments	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-		
TOTAL	102	7	34	12	6	60	4	2	47	118	1	1	2	5	4	1	7	1	1	2	1	6	1	3	4	1	2	1	1	4	5	2	1	3	3	2	1	4	3	6	473	55	34	5	24	-	-	-	-

B=burned; C=cut; M=modified.

Table 23. Frequency of Faunal Remains from Gordontown, 40Dv6.

TAXAELEMENT	Count	MNI	left	right	Burned	Cut	Modified
Total	473	55	-	-	34	5	24
MAMMALS	364	35	-	-	30	5	14
<i>Cervus elaphus</i> , Wapiti	1	1	-	-	-	1	-
Tc+4 arthritic	1	1	1	-	-	-	-
<i>Odocoileus virginianus</i> , White-tailed deer	278	10	84	75	25	4	12
antler	13	-	-	-	12	-	11
shed beam	4	-	1	1	1	-	1
beam	1	-	-	-	-	-	-
cranial	1	-	-	-	-	-	-
frontal unshed	1	-	-	-	-	1	-
petrous	3	-	1	1	-	-	-
basioccipital	1	-	-	-	-	-	-
premaxilla	2	-	1	1	-	-	-
maxilla w/P2-P4	1	-	1	-	-	-	-
maxilla w/M1-M3	1	-	1	-	-	-	-
ramus w/dp2-dp3	1	-	-	1	-	-	-
ramus w/P2-M1	1	-	1	-	-	-	-
ramus w/P2-M3	4	-	1	3	-	-	-
ramus w/P4-M2	1	-	-	1	-	-	-
ramus w/P4-M3	1	-	1	-	-	-	-
ramus w/M1-M3	1	-	-	1	-	-	-
ramus portion	2	-	1	-	-	1	-
mandibular condyle	1	-	-	1	-	-	-
ascending ramus	2	-	-	2	-	-	-
anterior mandibular fragment	3	-	2	1	1	-	-
mandibular fragment	1	-	-	-	1	-	-
hyoid	4	-	-	-	1	-	-
mandibular dp4	1	-	1	-	-	-	-
mandibular M3	1	-	1	-	-	-	-
dental fragments	8	-	-	-	-	-	-
atlas vertebra	3	-	-	-	-	-	-
cervical vertebra	1	-	-	-	-	-	-
thoracic vertebra	4	-	-	-	-	-	-
lumbar vertebra	5	-	-	-	-	-	-
vertebra fragment	1	-	-	-	-	-	-
rib shaft	8	-	-	-	-	-	-
scapula portion/fragment	14	-	5	7	3	-	-
distal humerus	16	-	9	7	-	-	-
proximal radius portion	10	-	7	3	-	-	-
posterior radius shaft	1	-	-	1	-	-	-
distal radius, epiphysis absent	2	-	-	2	-	-	-
proximal ulna	4	-	3	1	-	-	-
ulna shaft	3	-	-	-	-	-	-
ulnar carpal	2	-	2	-	-	-	-
radial carpal	2	-	2	-	-	-	-
second and third carpal	1	-	1	-	-	-	-
proximal metacarpal	5	-	4	1	1	-	-
metacarpal portions	8	-	-	-	2	-	-
distal metacarpal	1	-	-	-	-	-	-
innominate	8	-	4	4	2	-	-
femur shaft	8	-	3	1	-	-	-
distal femur epiphysis	1	-	-	1	-	-	-
distal femur	2	-	1	1	-	-	-
patella	1	-	-	-	-	-	-
proximal tibia	1	-	-	1	-	-	-

Table 23. Frequency of Faunal Remains from Gordontown, 40Dv6. (continued)

TAXA/ELEMENT	Count	MNI	left	right	Burned	Cut	Modified
<i>Odocoileus virginianus</i> , White-tailed deer (cont'd)							
proximal tibia absent	1	-	-	1	-	-	-
anterior tibia shaft	4	-	2	2	-	-	-
distal tibia	7	-	3	4	-	-	-
tibial tarsal	17	-	9	8	-	2	-
fibular tarsal	18	-	10	8	-	-	-
central and fourth tarsal	4	-	1	3	-	-	-
proximal metatarsal	11	-	5	6	-	-	-
anterior metatarsal	6	-	-	-	-	-	-
metapodial 2/5 epiphysis absent	1	-	-	-	-	-	-
metapodial shaft	1	-	-	-	-	-	-
distal metapodial	5	-	-	-	-	-	-
metapodial fragment	5	-	-	-	-	-	-
metapodial epiphysis 3/4	1	-	-	-	-	-	-
1st phalanx 3/4	8	-	-	-	-	-	-
2nd phalanx 3/4	11	-	-	-	1	-	-
3rd phalanx 3/4	5	-	-	-	-	-	-
sesamoid	1	-	-	-	-	-	-
<i>Felis concolor</i> , Cougar	3	1	-	-	-	-	-
ramus	1	-	-	1	-	-	-
proximal radius	1	-	1	-	-	-	-
fibular tarsal	1	-	-	1	-	-	-
<i>Lynx rufus</i> , Bobcat (?)	1	1	-	-	-	-	-
metapodial	1	-	-	-	-	-	-
<i>Procyon lotor</i> , Raccoon	5	2	-	-	-	-	-
maxilla w/M1M2	1	-	1	-	-	-	-
ramus	1	-	-	1	-	-	-
ulna	2	-	2	-	-	-	-
tibia shaft	1	-	-	1	-	-	-
<i>Ursus americanus</i> , Black bear	25	2	-	-	3	-	2
malar	↑	-	-	1	-	-	-
canine	6	-	-	-	1	-	2
mandibular M2	1	-	1	-	-	-	-
mandibular M3	1	-	-	1	-	-	-
incisor	1	-	-	-	-	-	-
maxillary molar fragment	2	-	-	-	-	-	-
ramus w/P4-M2	1	-	1	-	-	-	-
anterior ramus	1	-	-	1	-	-	-
lumbar	1	-	-	-	-	-	-
distal humerus	2	-	2	-	-	-	-
ulna shaft	1	-	-	1	1	-	-
metapodial	2	-	-	-	1	-	-
fibular tarsal	2	-	-	2	-	-	-
carpal/tarsal	1	-	-	-	-	-	-
phalanx	2	-	-	-	-	-	-
<i>Ondatra zibethicus</i> , Muskrat	1	1	-	-	-	-	-
maxilla/mandibular portion	1	-	-	-	-	-	-
<i>Oryzomys palustris</i> , Rice rat	1	1	-	-	-	-	-
innominate	1	-	1	-	-	-	-
<i>Microtus</i> spp., Vole	5	5	-	-	-	-	-
cranial	5	-	-	-	-	-	-
<i>Castor canadensis</i> , Beaver	4	1	-	-	-	-	-
molar	2	-	-	-	-	-	-
scapula	1	-	1	-	-	-	-
proximal ulna	1	-	-	1	-	-	-

Table 23. Frequency of Faunal Remains from Gordontown, 40Dv6. (continued)

TAXAELEMENT	Count	MNI	left	right	Burned	Cut	Modified
<i>Sciurus niger</i> , Fox squirrel	8	3	-	-	-	-	-
mandibular l	1	-	1	-	-	-	-
humerus	1	-	1	-	-	-	-
proximal femur	2	-	1	1	-	-	-
tibia portion	3	-	3	-	-	-	-
tibial tarsal	1	-	-	1	-	-	-
<i>Sciurus carolinensis</i> , Gray squirrel	14	2	-	-	-	-	-
maxilla l	3	-	1	2	-	-	-
humerus	4	-	2	2	-	-	-
proximal radius	1	-	-	1	-	-	-
proximal ulna	1	-	1	-	-	-	-
innominate	2	-	1	1	-	-	-
distal femur	1	-	-	1	-	-	-
proximal tibia	1	-	-	1	-	-	-
distal tibia	1	-	-	1	-	-	-
<i>Sciurus</i> spp., Squirrel species	1	-	-	-	-	-	-
cranial fragment	1	-	-	-	-	-	-
<i>Sylvilagus floridanus</i> , Cottontail rabbit	8	1	-	-	-	-	-
ramus	1	-	-	1	-	-	-
scapula	1	-	1	-	-	-	-
humerus	1	-	1	-	-	-	-
proximal ulna	1	-	-	1	-	-	-
thoracic vertebra	1	-	-	-	-	-	-
innominate	1	-	1	-	-	-	-
proximal femur	1	-	-	1	-	-	-
distal tibia	1	-	1	-	-	-	-
<i>Blarina brevicauda</i> , Short-tailed shrew	1	1	-	-	-	-	-
ramus	1	-	1	-	-	-	-
<i>Scalopus aquaticus</i> , Common mole	3	1	-	-	-	-	-
humerus	1	-	-	-	-	-	-
radius	1	-	-	-	-	-	-
sacrum	1	-	-	-	-	-	-
<i>Didelphis marsupialis</i> , Opossum	5	2	-	-	2	-	-
malar	1	-	-	1	-	-	-
maxilla	1	-	-	1	-	-	-
proximal ulna	2	-	2	-	1	-	-
humerus distal	1	-	1	-	1	-	-
BIRDS	43	10	-	-	2	-	1
<i>Richmondia cardinalis</i> , Cardinal	1	1	-	-	-	-	-
mandible	1	-	-	-	-	-	-
<i>Otus asio</i> , Screech owl	1	1	-	-	-	-	-
proximal tarsometatarsus	1	-	1	-	-	-	-
<i>Ectopistes migratorius</i> , Passenger pigeon	2	1	-	-	-	-	-
humerus	1	-	1	-	-	-	-
scapula	1	-	1	-	-	-	-
<i>Meleagris gallopavo</i> , Wild turkey	34	4	-	-	2	-	1
sternum	1	-	-	-	-	-	-
proximal scapula	2	-	1	-	-	-	-
humerus shaft	1	-	-	1	-	-	-
radius	1	-	1	-	-	-	-
ulna shaft	5	-	-	-	-	-	-
carpometacarpus portion	1	-	1	-	-	-	-
cuneiform	1	-	-	1	-	-	-
femur shaft	3	-	-	3	-	-	-
tibiotarsus portions	5	-	-	4	-	-	1

Table 23. Frequency of Faunal Remains from Gordontown, 40Dv6. (continued)

TAXA/ELEMENT	Count	MNI	left	right	Burned	Cut	Modified
<i>Meleagris gallopavo</i> , Wild turkey (cont'd)							
distal tibiotarsus	1	-	1	-	-	-	-
tarsometatarsus ports	2	-	1	1	-	-	-
tarsometatarsus shaft	1	-	-	-	-	-	-
tarsometatarsus spur	2	-	-	-	-	-	-
distal tarsometatarsus	3	-	2	1	2	-	-
pes phalanx	5	-	-	-	-	-	-
<i>Colinus virginianus</i> , Bobwhite quail	3	1	-	-	-	-	-
proximal scapula	1	-	-	1	-	-	-
coracoid	1	-	-	1	-	-	-
tarsometatarsus	1	-	1	-	-	-	-
<i>Buteo jamaicensis</i> , Red-tailed hawk	1	1	-	-	-	-	-
tarsometatarsus	1	-	-	1	-	-	-
Hawk spp.	1	1	-	-	-	-	-
proximal ulna	1	-	1	-	-	-	-
REPTILES	41	7	-	-	-	-	-
<i>Chrysemys/Graptemys</i> spp., Paint/map turtle	8	2	-	-	-	-	-
vertebra	1	-	-	-	-	-	-
carapace	2	-	-	-	-	-	-
marginal	4	-	-	-	-	-	-
plastron	1	-	-	-	-	-	-
<i>Terrapene carolina</i> , Box turtle	24	3	-	-	-	-	-
costal	4	-	-	-	-	-	-
carapace fragment	4	-	-	-	-	-	-
marginal	4	-	-	-	-	-	-
plastron ports	12	-	-	-	-	-	-
Colubridae, Non-poisonous snake	8	1	-	-	-	-	-
vertebra	8	-	-	-	-	-	-
Viperidae, Poisonous snake	1	1	-	-	-	-	-
vertebra	1	-	-	-	-	-	-
FISHES	3	3	-	-	-	-	-
<i>Ictalurus</i> sp., Catfish	1	1	-	-	-	-	-
pectoral spine 1/4 lb.	1	-	-	-	-	-	-
Catostomid	1	1	-	-	-	-	-
dentary 1 lb	1	-	-	-	-	-	-
<i>Lepisosteus</i> , Garfish	1	1	-	-	-	-	-
scale	1	-	-	-	-	-	-
INDETERMINATE	22	-	-	-	2	-	9
Large mammal	8	-	-	-	2	-	8
Small mammal	1	-	-	-	-	-	-
Small rodent	8	-	-	-	-	-	-
Bird	1	-	-	-	-	-	1
Fish	4	-	-	-	-	-	-

Table 24. Summary of Meat Yields from Gordontown (40Dv6) Faunal Remains.

TAXA	Count	MNI	Yield Meat (Kgs)	%	Burn	Cut	Mod
Total	473	55	767.5	100.00	34	5	24
MAMMALS	364	35	742.3	96.72	30	5	14
<i>Cervus elaphus</i> , Wapiti	1	1	159.0	20.72	-	1	-
<i>Odocoileus virginianus</i> , White-tailed deer	278	10	300.0	39.09	25	4	12
<i>Felis concolor</i> , Cougar	3	1	31.5	4.10	-	-	-
<i>Lynx rufus</i> , Bobcat	1	1	4.5	0.59	-	-	-
<i>Procyon lotor</i> , Raccoon	5	2	11.5	1.50	-	-	-
<i>Ursus americanus</i> , Black bear	25	2	214.4	27.93	3	-	2
<i>Ondatra zibethicus</i> , Muskrat	1	1	0.8	0.10	-	-	-
<i>Oryzomys palustris</i> , Rice rat	1	1	-	-	-	-	-
<i>Microtus</i> spp., Vole	5	5	-	-	-	-	-
<i>Castor canadensis</i> , Beaver	4	1	11.9	1.55	-	-	-
<i>Sciurus niger</i> , Fox squirrel	8	3	1.5	0.20	-	-	-
<i>Sciurus carolinensis</i> , Gray squirrel	14	2	0.8	0.10	-	-	-
<i>Sciurus</i> spp., Squirrel species	1	-	-	-	-	-	-
<i>Sylvilagus floridanus</i> , Cottontail rabbit	8	1	0.6	0.08	-	-	-
<i>Blarina brevicauda</i> , Short-tailed shrew	1	1	-	-	-	-	-
<i>Scalopus aquaticus</i> , Mole	3	1	-	-	-	-	-
<i>Didelphis marsupialis</i> , Opossum	5	2	5.8	0.76	2	-	-
BIRDS	43	10	23.6	3.07	2	-	1
<i>Richmondia cardinalis</i> , Cardinal	1	1	0.1	0.01	-	-	-
<i>Otus asio</i> , Screech owl	1	1	-	-	-	-	-
<i>Ectopistes migratorius</i> , Passenger pigeon	2	1	0.2	0.03	-	-	-
<i>Meleagris gallopavo</i> , Turkey	34	4	23.2	3.02	2	-	1
<i>Colinus virginianus</i> , Bobwhite quail	3	1	0.1	0.01	-	-	-
<i>Buteo jamaicensis</i> , Red-tailed hawk	1	1	-	-	-	-	-
Hawk spp.	1	1	-	-	-	-	-
REPTILES	41	7	0.5	0.07	-	-	-
<i>Chrysemys/Graptemys</i> spp., Map/painted turtle spp.	8	2	0.2	0.03	-	-	-
<i>Terrapene carolina</i> , Box turtle	24	3	0.3	0.04	-	-	-
Colubridae, Non-poisonous snake	8	1	trace	-	-	-	-
Viperidae, Poisonous snake	1	1	trace	-	-	-	-
FISHES	3	3	1.1	0.14	-	-	-
<i>Ictalurus</i> sp., Catfish	1	1	0.1	0.01	-	-	-
Catostomid, Sucker family	1	1	0.5	0.07	-	-	-
<i>Lepisosteus</i> sp., Garfish	1	1	0.5	0.07	-	-	-
INDETERMINATE	22	-	-	-	2	-	9
Large mammal	8	-	-	-	2	-	8
Small mammal	1	-	-	-	-	-	-
Small rodent	8	-	-	-	-	-	-
Bird	1	-	-	-	-	-	1
Fish	4	-	-	-	-	-	-

Identifiable reptile remains account for 41 specimens and 7 individuals. Vertebrae and ribs of both poisonous (either rattlesnake or copperhead) and nonpoisonous snakes represent at least one individual each. Eastern box turtle is the most common reptile present, accounting for 24 pieces and 3 individuals. Semiaquatic map/painted turtle genera represent 8 pieces and 2 individuals.

Specimens of fish are relatively rare and consist of three identifiable and four indeterminate specimens. The identified remains include a fragment of a pectoral spine identified as catfish, one catostomid dentary fragment, and one gar scale.

Cut and Modified Bone

Three specimens exhibit cut marks that imply deer carcasses were skinned and disarticulated. One frontal bone (Figure 42) displays cut marks at the base of the beams. The cut marks indicate the hide was removed from the head. Feature 25, (Structure 3), contained two tibial tarsi that display transverse cut marks across the anterior and medial sides of the element. These cuts are products of severing the ligaments at the "ankle" to remove the hind foot at the metatarsal. Other evidence of the removal of the feet of cervids during the butchering process includes an elk central and fourth tarsal that bears heavy longitudinal cutting and sawing along the lateral side (Figure 43).

Twenty-five specimens exhibit modification as a product of human use or manufacture. Evidence of antler tine stone-fabrication tools or flakers was recovered from surface deposits (n=1), burials (n=2), and structural deposits (n=4).

Two awls were associated with Feature 1. One was fabricated from a right proximal white-tailed deer ulna (Figure 44). The second specimen was made from a left mature male turkey tarsometatarsus. These types of awls were probably used for tasks that require tools for puncturing purposes. Many Mississippian sites in the region show these types of awls to be important part of the domestic tool kit.

Other specimens include bone pin or point fragments, miscellaneous pieces of polished bone, specimens of possibly polished bear canines, and fragments of bone with other types of modification.

One noteworthy specimen associated with Burial 41, a probable male, includes a 33 mm high kneeling effigy or figurine made from a second phalanx of the third or fourth digits of white-tailed deer (Figure 45). The figure was made by a combination of carving, abrading, smoothing, and polishing processes. The distal condyle has been shaped into a bird-like head with an open beak. The large circular eyes are placed at the depressions for the insertion of the lateral toe tendons. To produce an image of a kneeling figure, the legs have been fashioned so as to include the proximal rim and sides. The proximal articular surface has been smoothed to produce a relatively flat surface to rest on. Drill holes on either side of the neck or base of the head suggest that the specimen was an amulet or pendant that was probably worn around the neck.



Figure 42. Cut deer frontal bone.



Figure 43. Cut elk tarsal bone.

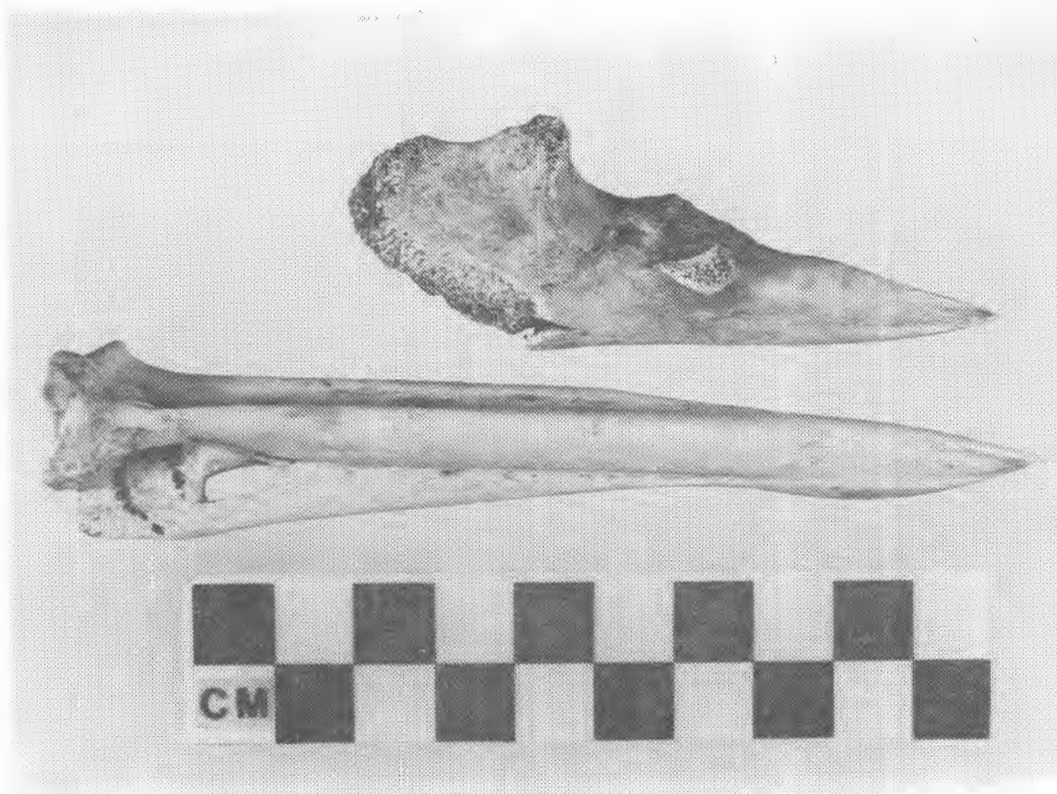


Figure 44. Bone awls: (top) deer ulna; (bottom) turkey tarsometatarsus.

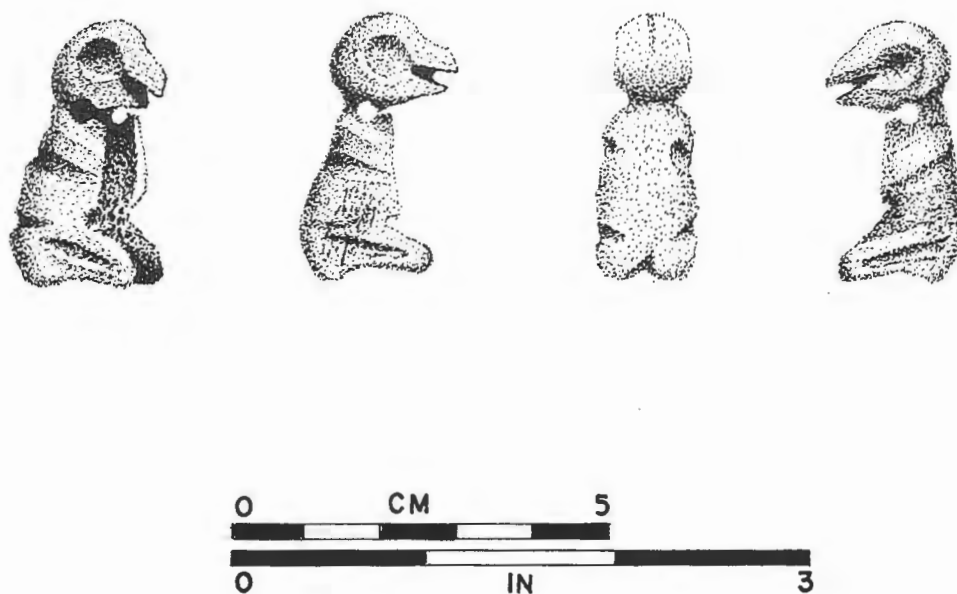


Figure 45. Carved deer phalanx, kneeling effigy.

Food Potential and Subsistence Variety

By number of specimens and meat weight, white-tailed deer was the primary source of meat, accounting for about 39% of the meat yield. Black bear was the second most important source of meat (ca 28%). Wapiti ranks third as a meat contributor (ca 21%). As a group, other mammals (cougar, possibly bobcat, raccoon, muskrat, beaver, fox and gray squirrels, cottontail rabbit, and opossum) made a relatively significant contribution to the diet (9%). Bird hunting accounts for a rather small contribution (ca. 3%), with the wild turkey being the primary species taken. Finally, fish, as a meat resource, constitutes less than 1% of the diet. The dietary values clearly show that the animal economy revolved around deer, bear, wapiti, and turkey.

All of the potentially edible animal species are associated with three primary habitats or group of habitats: forest edge or open forest, rugged forested uplands, and aquatic/riparian habitat. The combination of meat yields for animal species taken within or along these habitats suggests that forest edge and open forested area were the most significant. The species taken in these habitats include deer, fox squirrel, woodchuck, cottontail rabbit, and turkey. At least 63% of the edible meat source was acquired within forest edge and open wooded habitats.

Rugged forested uplands and denser wooded areas were a significant source of edible species. At least 35% of the useable meat was acquired from animals associated with the latter habitats. The species taken include: cougar, bobcat, black bear, gray squirrel, opossum, passenger pigeon, box turtle, and poisonous and nonpoisonous snake species. Given the upland nature of site location, distance from extensive floodplain habitats of the Cumberland River, and the heavily wooded conditions of the surrounding uplands area (Highland Rim escarpments), the significance of wooded habitat is expected.

Aquatic/riparian habitats account for less than 2% of the total meat source. The variety of animal species acquired from these habitats include beaver, muskrat, map/painted turtle species, and gar, sucker, and catfish.

Comparisons of Resource and Spatial Variety

Principal components analyses of six resources or variables (Table 25) (transformed percentages of contributed meat of deer, elk, bear, small mammals and birds as a group, and fish, respectively) show that: (1) deer are positively correlated with birds, and (2) that deer are negatively correlated with all other significant resources or resource groups (bear, wapiti, small mammals, and fish). Both small mammal and bird loadings are about equal, negative values, and positively correlated. The first three components explain 82% of the variation (Table 26).

The relationship between 40Dv6 and the other eight Mississippian faunal assemblages clearly shows that site subsistence was diverse. In the plot of principal component values (Figure 46), Averbuch (40Dv60) shows the highest use of wapiti. The grouping of 40Dv6 (Gordontown), 40Wi1 (Sellars Farm), 40Dv5 (Sulphur Dell or French Lick), and 40Su15 (Rutherford-Kizer) share in common increasing uses of bear

Table 25. Resource Diversity for Mississippian Period Sites, Cumberland River Drainage.

Site	Deer	Wapiti	Bear	Small Mammal	Bird	Fish	Diversity Index	PI	PII	PIII
15KX24 (Croley-Evans)	0.305	0.000	0.039	0.018	0.012	0.000	2.6734	-2.080	-0.684	-0.623
40CH8 (Mound Bottom)	0.631	0.003	0.006	0.001	0.002	0.000	1.5247	1.038	-1.529	0.557
40DV4 (East Nashville Mds)	0.252	0.031	0.014	0.012	0.004	0.001	3.1854	-0.449	0.107	0.498
40DV5 (Sulphur Dell)	0.375	0.000	0.059	0.005	0.002	0.002	2.2662	0.802	0.059	0.275
40DV6 (Gordontown)	0.153	0.043	0.078	0.008	0.001	0.000	3.5348	0.331	0.674	-1.026
40DV60 (Averbuch)	0.069	0.196	0.010	0.009	0.005	0.001	3.4502	-0.575	1.742	1.474
40SU15 (Rutherford-Kizer)	0.329	0.064	0.007	0.001	0.002	0.000	2.5845	0.777	-0.140	0.674
40SW23 (Stone)	0.430	0.000	0.019	0.009	0.007	0.000	2.0833	-0.513	-1.021	-0.012
40WI1 (Sellars)	0.137	0.030	0.122	0.004	0.002	0.000	3.2425	0.668	0.792	-1.816

* Square-root of species value is approximate percent of meat use

Table 26. Principal Components Analysis, Resource Breadth of Mississippian Sites in the Cumberland River Drainage.

MATRIX TO BE FACTORED

	Deer	Wapiti	Bear	Sm	Birds	Fish
Deer	1.000					
Wapiti	-0.631	1.000				
Bear	-0.442	-0.229	1.000			
Sm**	-0.312	-0.024	-0.048	1.000		
Birds	0.020	-0.095	-0.251	0.825	1.000	
Fish	-0.105	0.165	-0.070	0.007	-0.186	1.000

**Sm=Small Mammals

LATENT ROOTS (EIGENVALUES)

1	2	3	4	5	6
1.902	1.757	1.272	0.902	0.137	0.031

COMPONENT LOADINGS

	1	2	3
SM	-0.950	0.061	-0.114
Birds	-0.936	-0.255	0.005
Deer	0.251	-0.928	0.219
Wapiti	-0.079	0.767	0.502
Bear	0.198	0.361	-0.876
Fish	0.126	0.327	0.438

VARIANCE EXPLAINED BY COMPONENTS

1	2	3
1.902	1.757	1.272

PERCENT OF TOTAL VARIANCE EXPLAINED

1	2	3
31.699	29.278	21.198

FACTOR SCORE COEFFICIENTS

	1	2	3
SM	-0.499	0.035	-0.089
Birds	-0.492	-0.145	0.004
Deer	0.132	-0.529	0.173
Wapiti	-0.041	0.437	0.394
Bear	0.104	0.205	-0.689
Fish	0.066	0.186	0.345

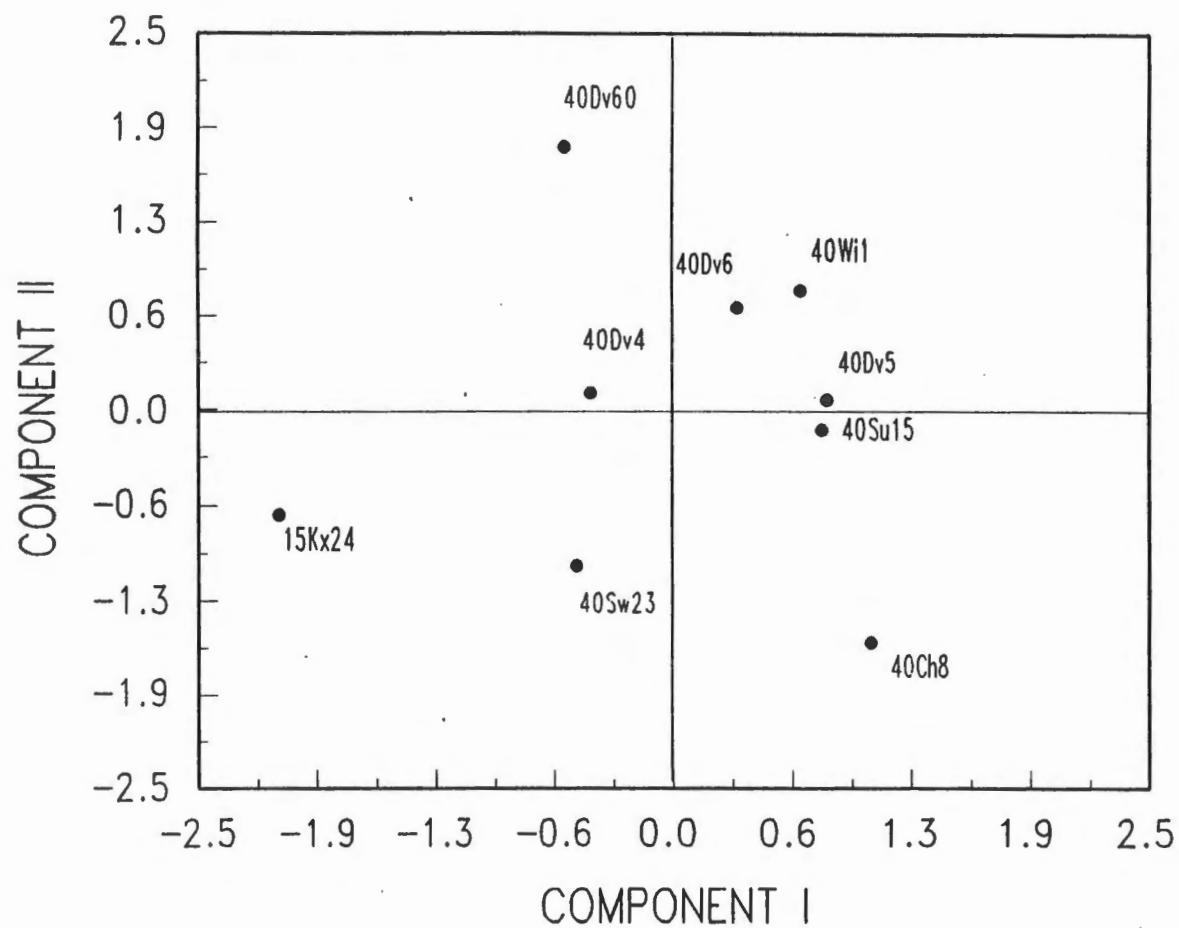


Figure 46. Resource breadth, principal component analysis plot for Mississippian site faunal assemblages in Cumberland River drainage.

as a major resource. The position of Mound Bottom (40Ch8) is due to the highest dependence on white-tailed deer (ca 79%). Finally, 40Dv4 (East Nashville Mounds) shows that a more diverse set of resources define subsistence. A dendrogram using a single linkage method, showing Euclidean distance, summarizes site hierarchy by resource use (Figure 47). The tree tends to confirm the relationships shown in the principal components plot of resource values. Both 40Dv6 and 40Wi1 (Sellars) cluster. Notably, linkage between the two sites is due to similar resource use patterns, and the sharing of high econiche breadth values (ca 3.50). While wapiti is present at 40Dv4, it is absent at 15Kx24, and while birds are a significant resource at 15Kx24 (ca 11%), it is of less importance at 40Dv4 (ca 6%).

The principal components analysis of three habitat groups include species associated with forest edge/open wooded, rugged wooded uplands, and aquatic/riparian habitats (Table 27). Analysis essentially shows that the first two components explain nearly all of the variation (Table 28). Forest edge environments are negatively correlated with rugged upland forested areas and aquatic/riparian habitats. That is, as forest edge use decreases in significance, upland forested habitats and aquatic/riparian habitats increase in importance.

The principal components plot exemplifying spatial variety is shown in Figure 48. As shown, one cluster includes 40Dv4, 40Dv60, and 40Sw23. These sites show a strong inclination toward forest edge margins and open forested habitats and are augmented by a significant use of rugged upland habitats (ca 15%). Both 40Su15 and 40Ch8 show the greatest dependence on forest edge and open wooded habitats. 40Wi1 and 40Dv6 show the greatest effects of more rugged upland forest habitats. The loose clustering of 15Kx24 and 40Dv5 represents a vector of slightly decreasing forest edge use at 15Kx24 and increasing use of rugged upland habitat and aquatic/riparian habitats at 40Dv5. The accompanying dendrogram shows the linkage between sites (Figure 49).

To briefly summarize the findings of principal components analyses, it is clear that the analysis of animal resource use depicts an ecologically distinctive subsistence pattern comparable to other major Mississippian sites appearing within the Cumberland River drainage. The pattern may be summarized as one that is built around the use of white-tailed deer, presence of wapiti and bear, and some dependence on small mammal and bird (especially turkey) resources. The difference, compared to the average Mississippian condition (Figure 50), is further represented as lower reliance on white-tailed deer, birds, and fish; and greater reliance on elk, bear, and small mammals. Finally, Figure 51 shows how Gordontown resource value compares in resource variety in the late prehistoric Mississippian and Fort Ancient landscape. As shown, Gordontown and other sites occupying the Interior Low Plateau physiographic province show a high resource value as compared to sites occupying the surrounding physiographic provinces.

In conclusion, resource and spatial use at 40Dv6 can be seen as providing a new set of information defining the varying nature of Mississippian exploitation of faunal resources and spatial use. This is certainly due to the location of the site in the Central Basin of the Cumberland River where enough forest edge environment existed to support a relatively abundant deer population and also provided an excellent habitat for

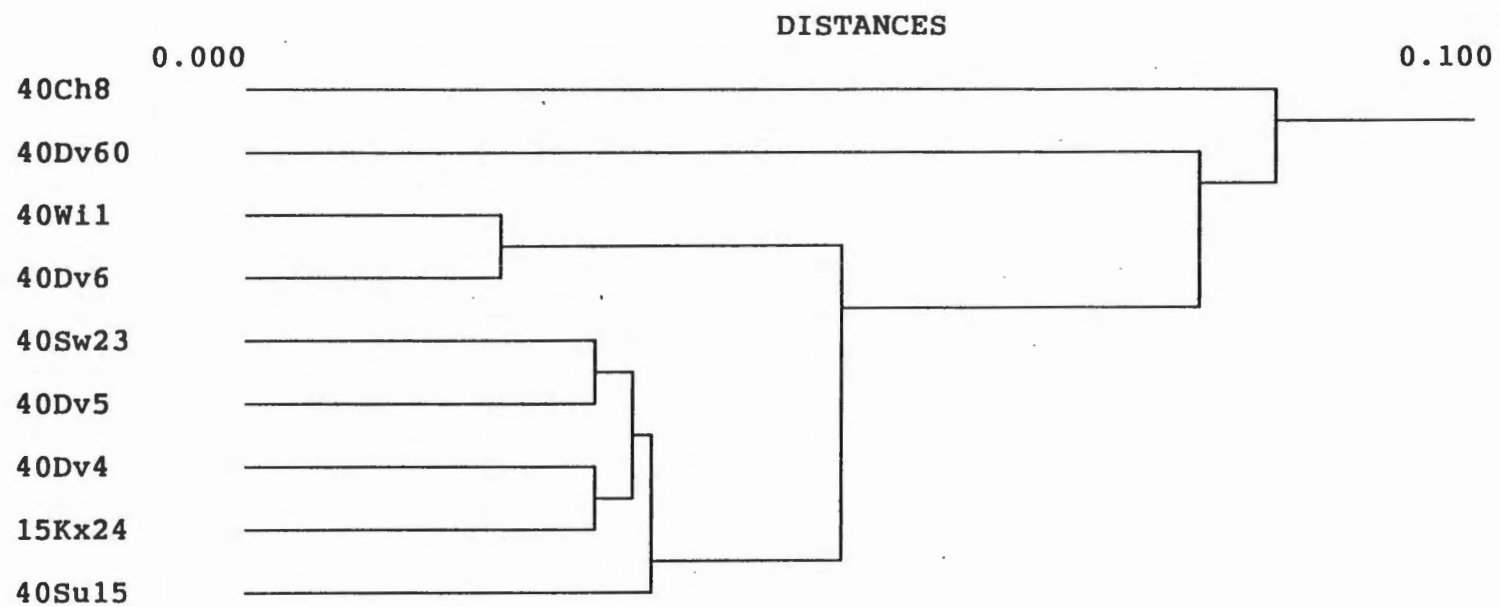


Figure 47. Tree diagram of resource breadths for Cumberland River drainage Mississippian period sites, single linkage method (nearest neighbor).

Table 27. Spatial Breadths and Principal Components Scores for Mississippian Sites, Cumberland River Drainage.

Site		Forest Edge	Rugged Upland Forest	Aquatic/ Riparian	Diversity Index	PI	PII
15Kx24	(Croley/Evans)	0.456	0.069	0.003	1.8619	0.439	-0.500
40Ch8	(Mound Bottom)	0.811	0.007	0.000	1.2114	-1.396	0.880
40Dv4	(East Nashville Mds)	0.574	0.034	0.003	1.6351	-0.291	-0.558
40Dv5	(Sulphur Dell)	0.421	0.073	0.006	1.9985	0.668	-1.910
40Dv6	(Gordontown)	0.399	0.123	0.000	1.9164	1.102	1.058
40Dv60	(Averbuch)	0.616	0.025	0.003	1.5421	-0.518	-0.562
40Su15	(Rutherford-Kizer)	0.767	0.009	0.001	1.3421	-1.215	0.525
40Sw23	(Stone)	0.578	0.037	0.002	1.5932	-0.298	-0.074
40Wi1	(Sellars)	0.354	0.149	0.000	2.0180	1.510	1.140

* square-root of spatial value is approximate percent of use by meat weight

** Autry 1983; Breitburg 1976, 1977; Jefferies et al. 1996; Klippel and Bass 1984; TDOA 1995; Walling et al. 1993

wapiti and bear populations in both dense forest and forest openings. It is noteworthy that this pattern is the exact opposite condition predicted by the prevailing Mississippian model of animal exploitation proposed by Smith (1975). The model predicts primary dependence on white-tailed deer, migratory avifauna, and seasonal fish use. The present analysis clearly shows that Mississippian populations in the mid-latitudes of the eastern woodlands were oriented toward an animal exploitation pattern of large game mammals and turkey. Whereas black bear and wapiti are of little or no importance within the Mississippi River Valley, the species were important players and accounted for a substantial part of subsistence in the Cumberland River drainage.

Table 28. Principal Components Analysis, Spatial Breadth of Mississippian Period Sites in the Cumberland River Drainage.

MATRIX TO BE FACTORED

	FE	RUF	AQR
FE	1.000		
RUF	-0.899	1.000	
AQR	-0.242	-0.161	1.000

FE=Forest Edge
RUF=Rugged Upland Forest
AQR=Aquarian/Riparian

LATENT ROOTS (EIGENVALUES)

1	2	3
1.903	1.079	0.018

COMPONENT LOADINGS

	1	2
FE	-0.984	0.156
RUF	0.963	0.254
AQR	0.092	-0.995

VARIANCE EXPLAINED BY COMPONENTS

1	2
1.903	1.079

PERCENT OF TOTAL VARIANCE EXPLAINED

1	2
63.436	35.977

FACTOR SCORE COEFFICIENTS

	1	2
FE	-0.517	0.145
RUF	0.506	0.236
AQR	0.048	-0.922

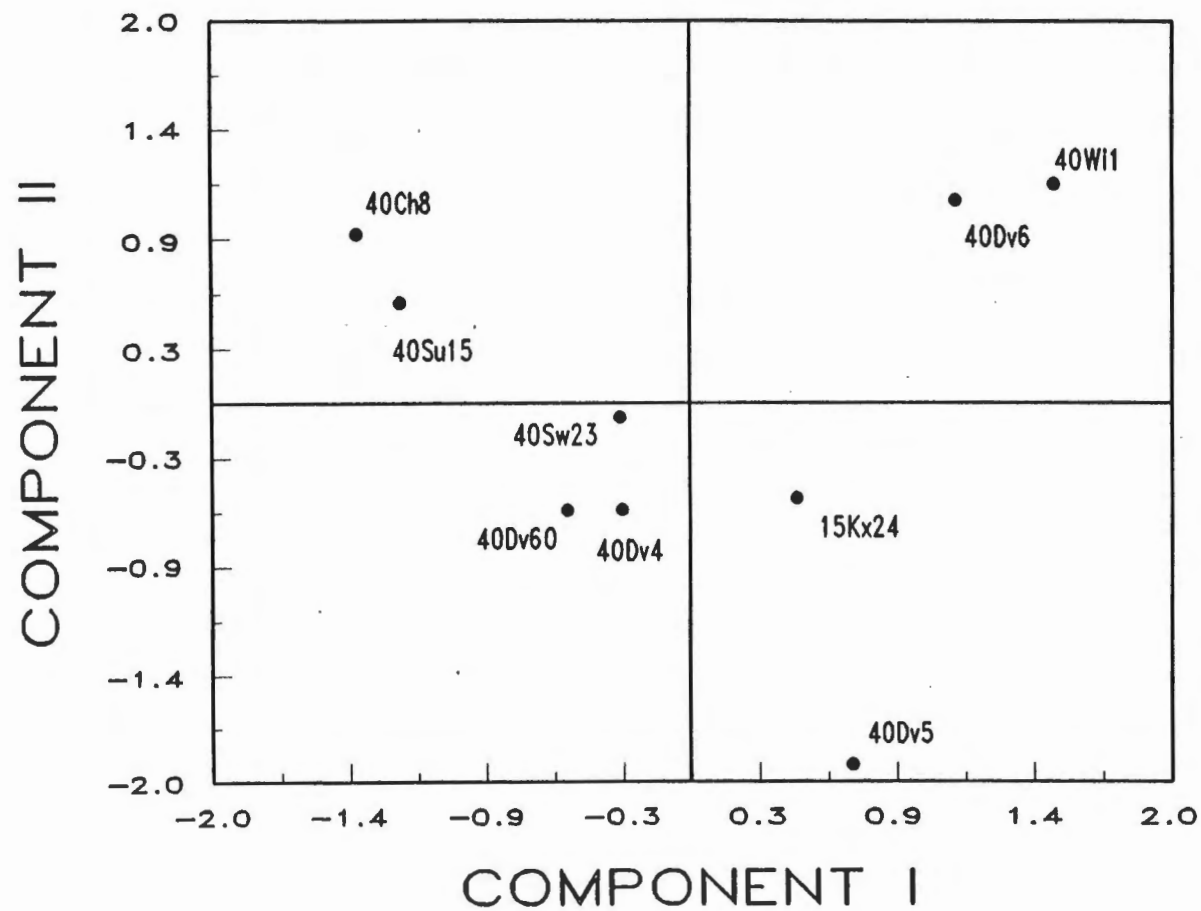


Figure 48. Spatial breadth, principal component analysis plot for Mississippian site faunal assemblages in Cumberland River drainage.

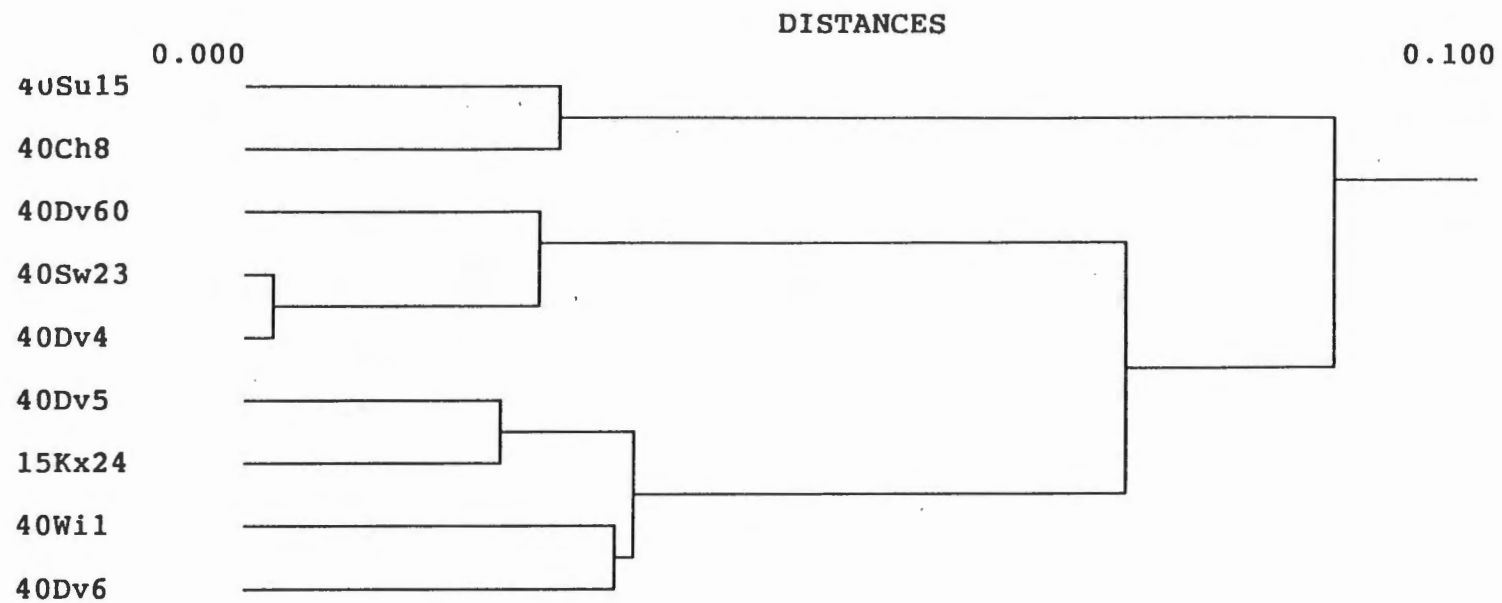


Figure 49. Tree diagram of spatial breadth for Cumberland River drainage Mississippian period sites, single linkage method (nearest neighbor).

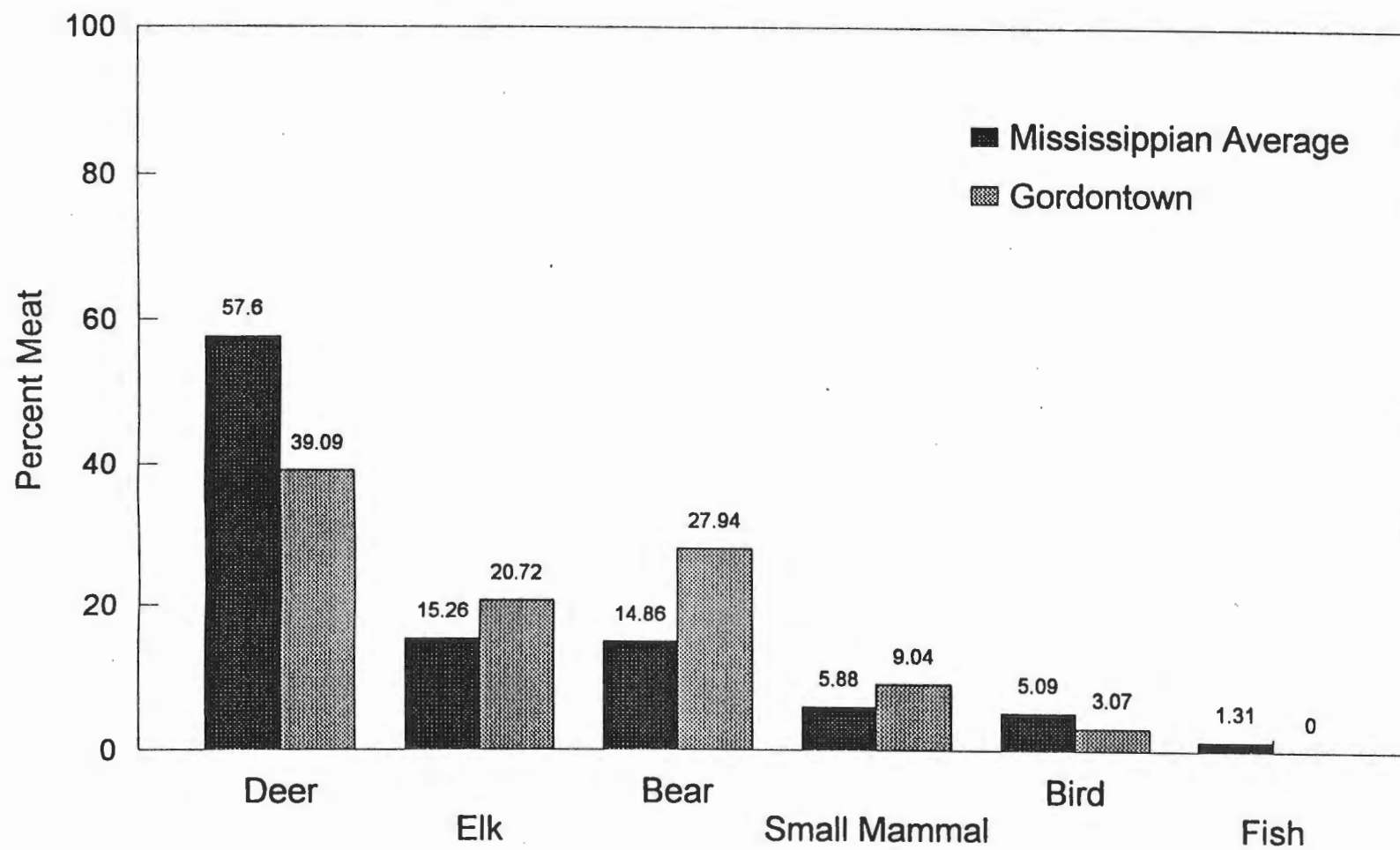


Figure 50. Mississippian period vs. Gordontown faunal resource use.

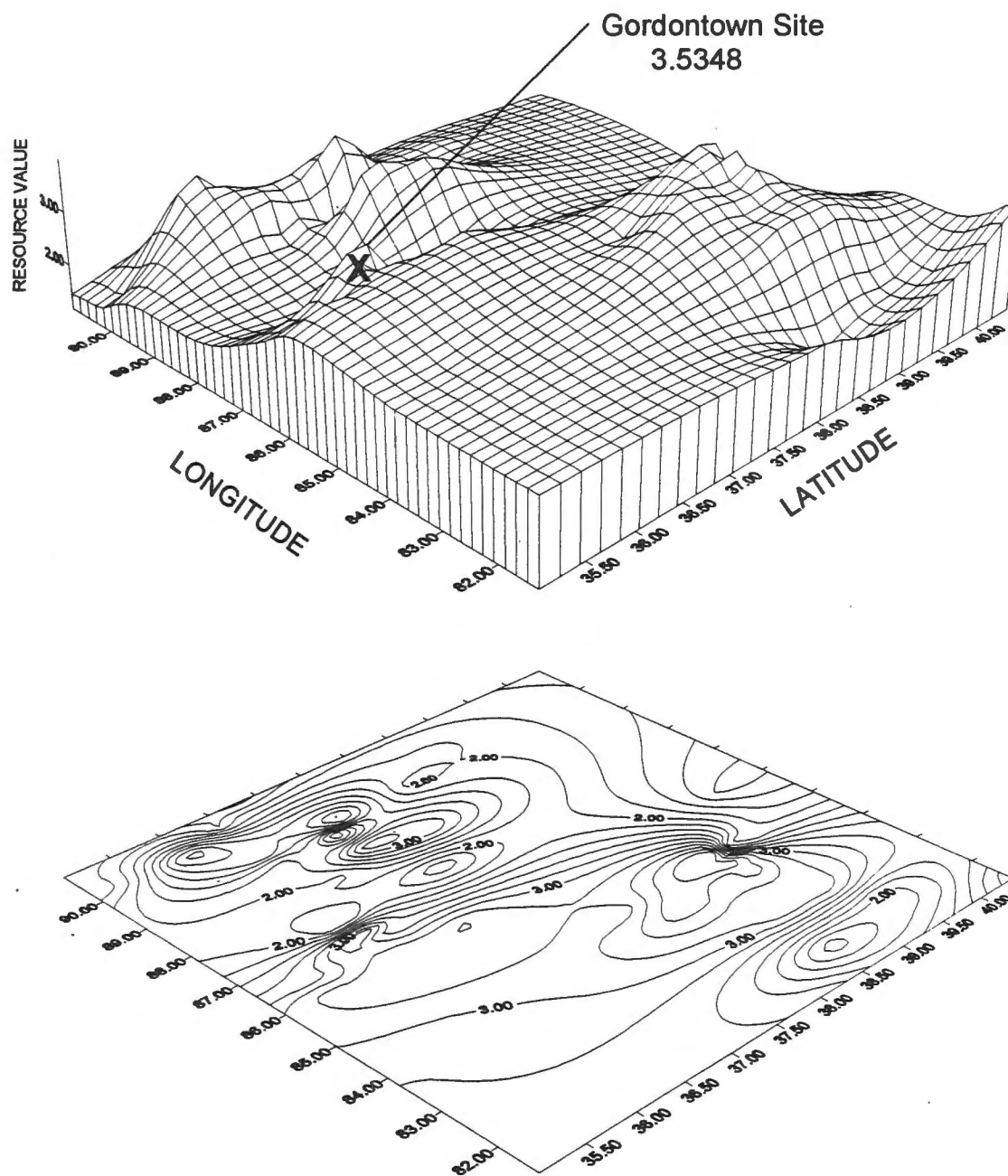


Figure 51. Mississippian and Fort Ancient patterns for resource breadth.

X. OTHER ARTIFACTS

Michael C. Moore

Mica

Several small fragments of mica (the largest roughly 22 mm long by 18 mm wide) were found adjacent to the hearth of Structure 3 (Feature 25). Mica is a non-local mineral that primarily derives from the mountainous regions of western North Carolina. One commercial mica mine briefly operated in east Tennessee from 1956-1961 at Davy Crockett Lake in Greene County (Floyd 1965:87-88).

This mineral has been recovered in small quantities from very few sites within the study area, including Sellars (40Wi1), DeGraffenreid (40Wm4), and Rutherford-Kizer (40Su15). However, a local collector reported that in the 1960s he found a stack of mica sheets on the surface of the Rutherford-Kizer site. This report has been substantiated by other collectors, but to date none of the material has been retrieved.

Charred Botanical Remains

An informal analysis of the charred botanical remains recovered from the 40Dv6 feature and burial excavations revealed the presence of corn, nutshell, cane and wood. An inventory of the botanical assemblage is presented in Table 29 for the reader's information.

Shell (Figure 52)

The recent Gordontown investigations retrieved a modest amount of worked and unworked shell items. Both freshwater and marine shell are represented, as well as a rather small number of gastropods. As with the botanical sample, a cursory analysis of these remains was conducted. Table 30 provides an inventory of the shell assemblage for the reader's information.

Marine shell beads were observed in five child burials (Burials 1, 28, 45, 51, and 60). Beads from Burials 1, 28, and 45 were not available for analysis. The four "disc" beads (probably whelk) recovered from Burial 51 are rather delicate, as the largest bead has a diameter of 6.9 mm, and measures 3.1 mm thick. In contrast, the 32 "barrel" type beads (also whelk) from Burial 60 are much larger in size (Figure 52). These artifacts range in length from 6.5 mm to 9.8 mm, and 7.0 mm to 10.1 mm in diameter.

Shell spoons were initially identified in the field records of Burials 13, 38, 41, and 65. However, an inspection of these particular specimens determined they were complete or nearly complete freshwater bivalves that had not been cut or otherwise modified in any fashion. Whether or not they were considered to be spoons by the Gordontown residents is problematic.

Table 29. An Inventory of Charred Botanical Remains Recovered from the 1985-1986 Excavations.

Provenience	Corn	Nutshell	Cane	Wood
Lot 44 area	-	-	-	x
Feature 8 fill	-	-	-	x
Feature 9 fill	-	-	-	x
Feature 11 fill	-	-	-	x
Feature 18 fill	-	-	-	x
Feature 23 fill	-	-	x	x
Feature 23 SE quad fill	-	-	-	x
Feature 23 SE quad fill (hearth)	x	-	-	x
Feature 23 SE quad floor	-	-	x	-
Feature 23 SW quad fill	-	-	-	x
Feature 24 fill	-	?	-	x
Feature 25 fill	-	-	-	x
Feature 25 floor	-	-	-	x
Feature 25 SW quad fill	-	-	-	x
Burial 1 fill	-	-	-	x
Burial 2 fill	x	-	-	-
Burial 3 fill	-	-	-	x
Burial 8 fill	-	x	-	x
Burial 9 fill	x	x	-	x
Burial 10 fill	-	-	-	x
Burial 20 fill	-	-	-	x
Burial 22 fill	-	-	-	x
Burial 27 fill	-	-	-	x
Burial 30 fill	-	-	-	x
Burial 35 fill	-	-	-	x
Burial 36 fill	-	-	-	x
Burial 45 fill	-	-	x	x
Burial 46 fill	-	-	-	x
Burial 50 fill	-	-	-	x
Burial 55 fill	-	-	x	x
Burial 63 fill	-	-	-	x
Burial 64 fill	-	-	-	x
Burial 69 fill	-	x	-	x
Burial 71 fill	-	-	-	x
Burial 73 fill	-	-	-	x
Burial 76 fill	x	x	-	-
Burial 80 fill	-	-	-	x

Table 30. An Inventory of Shell Recovered from the 1985-1986 Excavations.

Provenience	Weight (g)	Comments
General surface	141.2	2 complete bivalves, fragments
General surface, lot 40	25.3	bivalve fragments
General surface, lot 44	15.5	1 bivalve fragment
General surface, lot 45	18.6	bivalve fragments
Feature 1	555.0	complete bivalves and fragments
Feature 5	4.1	1 bivalve fragment
Feature 9	3.4	bivalve fragments
Feature 11	37.2	bivalve fragments
Feature 13	41.8	bivalve fragments
Feature 17	28.1	bivalve fragments; gastropods
Feature 18	8.8	bivalve fragments
Feature 19	39.4	bivalve fragments
Feature 23 SW quad	27.0	bivalve fragments
Feature 25	94.9	bivalve fragments; gastropods
Burial 1	?	beads
Burial 8	10.7	gastropods
Burial 11	10.5	bivalve fragments; gastropods
Burial 13	33.4	bivalve fragments
Burial 14	24.3	1 partial bivalve; gastropods
Burial 17	15.2	gastropods
Burial 20	8.2	bivalve fragments; gastropods
Burial 21	6.4	bivalve fragments; gastropods
Burial 24	5.0	bivalve fragments
Burial 26	45.0	bivalve fragments
Burial 27	6.2	gastropods
Burial 28	?	beads
Burial 29	27.1	1 complete bivalve
Burial 30	16.5	bivalve fragments
Burial 32	143.3	bivalve fragments; gastropods
Burial 34	44.9	bivalve fragments; gastropods
Burial 35	16.9	bivalve fragments; gastropods
Burial 36	7.1	gastropods
Burial 40	27.9	1 complete bivalve; gastropods
Burial 41	47.0	bivalve fragments
Burial 43	11.2	gastropods
Burial 45	?	beads
Burial 45	33.8	bivalve fragments; gastropods
Burial 49	19.0	bivalve fragments; gastropods
Burial 50	296.3	primarily gastropods; bivalve fragments
Burial 51	0.7	4 disc beads (conch)
Burial 56	9.0	bivalve fragments
Burial 57	7.5	bivalve fragments
Burial 60	16.5	32 barrel beads (conch)
Burial 63	90.2	primarily gastropods; bivalve fragments
Burial 64	14.0	bivalve fragment; gastropods
Burial 65	31.2	bivalve fragments
Burial 65	243.5	primarily gastropods; bivalve fragments
Burial 76	28.5	1 bivalve fragment
Burial 77	4.9	gastropods
Burial 82	32.8	bivalve fragments
Burial 85	33.0	1 partial bivalve; gastropods



Figure 52. Marine shell beads (necklace?) from burial 60.

XI. SUMMARY REMARKS

Michael C. Moore

Salvage archaeology generally conjures an image of harried archaeologists and volunteers using expedient recovery techniques to retrieve as much artifactual material as possible within a limited time frame. The ability of these excavations to successfully yield insightful information can vary greatly from project to project. Thanks to the cooperation of HHI, the Division of Archaeology efforts at Gordontown yielded significant amounts of cultural information during the excavation. Through analysis of the recorded data and recovered artifacts, we can begin to reconstruct the character and lifestyle of the Mississippian population that occupied the site area. In addition, this information was comprehensive enough to allow comparative studies with other Mississippian communities within the Middle Cumberland region.

Comparisons with the Myer Investigation

William E. Myer (1928) described Gordontown as a fortified Indian town over eleven acres in size, with two mounds and numerous houses enclosed by a palisade that had regularly spaced bastions. He precisely defined areas containing human graves, including a main cemetery along with a sizable area of scattered graves. Results from the 1985-1986 excavations were successful in corroborating several aspects of Myer's observations, particularly the presence of human burials and structures. One notable exception was the lack of evidence for mounds A and B noted by Myer (1928:499-510) in the northwestern quarter of the site. This is a common problem for many modern-day researchers attempting to investigate well-known sites with previously visible earthworks. Both of these mounds (or their remnants) were likely deflated by a combination of previous archaeological research (Jones and Myer) along with clearing and/or farming activities prior to subdivision construction.

The only potential mound documented during the recent excavation was a concentration of stone-box graves labeled Feature 22. These burials were primarily recorded within an area marked "platform" by Myer just southeast of Mound A (see Figures 1, 4, and 5). Unfortunately, Myer did not discuss the nature or dimensions of the "platform" in his 1928 report. The high density of graves in Feature 22, combined with the presence of stacked stone-boxes, strongly supports an argument that the "platform" documented by Myer was actually a burial mound. Two other grave concentrations were found by the Division in the east-central and southwest site areas. The east-central graves were found in a previously undesignated section of the site, whereas the southwest concentration occurred in an area marked by Myer as house circles.

Also defined in the southwest site area was Feature 10 which consists of a palisade section with a square, substantially reinforced bastion. The position of this feature poses some interesting questions when compared with Myer's location of the town wall. Does Feature 10 constitute an interior wall separate from the palisade drawn by Myer? The presence of more than one fortification line has been

documented at several Middle Cumberland Mississippian sites, including Brentwood Library (40Wm210), Moss-Wright Park (40Su61) and Rutherford-Kizer (40Su15). If so, was this wall part of a major reorganization of the town plan? An equally plausible alternative is that Myer's palisade route marking the southern site boundary was incorrect. Myer notes on his site map that the direction of the southern palisade wall was "probable", which one assumes to mean that he could not actually see it, but inferred its path from the direction of the sections he thought he could see. A strong possibility exists that the southern fortification ran further north than originally mapped; and that the recent Division excavations uncovered a portion of the actual southern palisade route. Interestingly, the Myer map illustrates a sizable zone devoid of features inside the southern (especially southwestern) wall boundary.

Limited test trenches by Myer (1928:549) of the fortification wall near "house circle" No. 58 (southeast site area) was unsuccessful in defining any postholes or trenches. Despite the lack of explicit evidence, he defined the bastions as "semicircular" (1928:495, 550) which sharply contrasts with the Division results of a square framework. Recent work at the Brentwood Library, Moss-Wright Park, and Rutherford-Kizer sites have firmly documented square bastions (TDOA 1994, 1996, 1997). Myer's definition of the Gordontown bastions as semicircular appears to have come from surface observations as well as comparative information from other southeastern sites.

Myer (1928:495) also identified the Gordontown structures as circular and denoted their location as "house circles" on his site map. Five structure illustrations show a perfect circular post pattern with an opening (doorway/entrance) on the east side. Interior features of these houses included central (prepared clay) hearths, upright limestone slabs, and child (stone-box) graves. The circular outline of the houses could not be confirmed in his report photographs since they focused upon interior features (such as the prepared clay hearths) rather than exterior post patterns. Myer also left portions of the structures unexcavated for the benefit of future researchers. This author suggests that Myer concluded the structures were circular based upon surface appearance, his incomplete excavation, and his knowledge of circular structures from other sites in the southeastern United States.

Whatever the reason, this circular structure interpretation must be challenged given the benefit of an additional 70+ years of archaeological research in the study area. Mississippian house patterns recently recorded at such contemporaneous sites as Brandywine Pointe, Brick Church Business Park, Ganier, Rutherford-Kizer, and Brentwood Library are exclusively square, or square with rounded corners (Broster 1972; Moore and Smith 1993, 1994; Smith and Moore 1994; Smith, Stripling and Moore 1993; TDOA 1997). Information recorded from the 1985-1986 excavations may help clarify Myer's circular structure interpretation. Of the three structures (Features 23-25) defined during the recent work, only one yielded the clear outline of an exterior wall. However, this particular example (Feature 23) appears rounded, but not from a circular structure. The pattern favorably compares with rounded corners on square structures recorded at several of the Mississippian sites mentioned above. A strong possibility exists that Myer mistook exposed rounded corners (from incompletely excavated structures) for evidence of circular structures.

Conclusions

Extensive research efforts within the Middle Cumberland region over the last decade have led to a hypothesized cultural chronology that illustrates changing cultural patterns within the Middle Cumberland region during the late prehistoric period, circa A.D. 1000-1450 (Smith 1992; Smith and Moore 1996a, 1996b). Our current understanding of the initial (or emergent) development of Mississippian societies within the study area is lacking. However, recent efforts have successfully defined two distinct phases of Mississippian occupation, the Dowd (A.D. 1000-1250) and Thruston phases (A.D. 1250-1450). Briefly, the Dowd phase represents an initial mound building period during which most of the Mississippian support population were dispersed into small farmsteads and hamlets. The Thruston phase denotes a time, beginning around A.D. 1250, in which the area populations began moving away from dispersed sites and settling into larger villages/towns. Some Dowd phase mound centers appear abandoned during this time, whereas others were converted into settlements functionally the same as newly founded villages. The larger, nucleated Thruston phase settlements often built substantial palisades (with bastions) around their perimeters. The Thruston phase lasts until circa A.D. 1450, at which time most of the Middle Cumberland area was (apparently) abandoned by the native inhabitants.

Gordontown has been confidently documented as a fortified Mississippian town despite some differences in interpretation between the 1920 and 1985-1986 excavation results. Two corrected radiocarbon dates of A.D. [1300, 1373, 1380] and A.D. 1415 place 40Dv6 within the Thruston phase. Artifactual material recovered from both excavations compliment the Thruston phase designation. The ceramic assemblage consists of shell-tempered wares dominated by strap and lug handles which are considered later Mississippian traits. Also, notched-rim bowls, Matthews Incised (*vars. Beckwith and Manly*) jars, carafe-necked bottles, hooded effigy bottles, and rim-rider effigy bowls are additional Thruston phase markers recovered from 40Dv6 (Smith 1992; Smith and Moore 1996b). Dover chert chisels, hoe, and hafted knife were among the classic Mississippian stone tools recovered during the Division work (Smith and Moore 1995). Small triangular arrow points were also found, yet over half (63%) of the identified projectile point sample consisted of earlier Archaic and Woodland dart points.

One question that must be asked is how a town as large as Gordontown could sustain itself along an upland ridge over a mile away from any primary streams and the accompanying fertile floodplain soils? Perhaps William Myer was on the right track when he stated

“...the causes of the selection of this site were the two large bold springs indicated on the map (pl 95), the fertility of the soil, and the natural adaptability of the site to fortification.” (1928:496)

Although these reasons were presented over seventy years ago, they continue to be valid avenues of inquiry in current archaeological research.

Reliable water sources have long been recognized as a basic necessity for more permanent late prehistoric site locations. Significant sites throughout the Middle

Cumberland drainage were often established on landforms adjacent to rivers and primary streams with a substantial flow of water (Broster 1972, 1988; Dowd 1972; Ferguson 1972; Jolley 1978, 1980; O'Brien 1977; Smith 1993b, 1994). Recent research within the study area has also identified a somewhat contrasting pattern with the presence of settlements within the dissected uplands away from the rivers and large tributaries (Klippel and Bass 1984; Moore and Smith 1994; Smith 1992; Smith and Moore 1996a, 1996b). Springs within these upland areas offered prehistoric inhabitants a reliable water source away from the larger streams. At Gordontown, the two large springs present on the northern and southwestern site perimeters would have provided site residents with a suitable water supply for daily consumption and use.

The Central Basin has long been recognized for its rich soils (Edwards et al. 1974; Fenneman 1938; Springer and Elder 1980; Vanderford 1897). Underlying Ordovician formations of phosphatic limestone make this part of middle Tennessee (especially the outer basin) one of the most productive locations within the Interior Low Plateau. The presence of fertile (phosphate-enriched) soils available within upland settings substantially increased the area available to native inhabitants for farming. Previous research has defined a statistically valid relationship between Mississippian period site locations and the fertile outer Basin soils (Klippel and Reed 1984; Smith 1992). Gordontown exemplifies this relationship as a town established on fertile upland soils where residents could successfully raise their crops within or adjacent to the immediate site area.

Another factor not mentioned by Myer but certainly a positive influence was the physical position of Gordontown along the western margin of the outer Central Basin near its border with the Western Highland Rim. The availability and exploitation of diverse animal and plant species living within these two geographic provinces must have been recognized by the prehistoric populations. Breitburg (this volume) identified a reliance of the Gordontown residents upon animal species from forest edge/open forest as well as rugged forested upland habitats. Aquatic/riparian resources comprised a very small percentage of the total meat source, which given the placement of the Gordontown site is to be expected. Information concerning the floral resources used and consumed by the Gordontown population (except corn, nuts, and cane) is lacking at this time.

During the analysis of the human skeletal remains, demographic data revealed that the population was both socially and physically stressed. While archaeologists cannot specify a primary cause for abandonment of the Middle Cumberland region and settlements like Gordontown, we are certain that high infant mortality, over reliance on maize as a food staple, overcrowded settlement conditions leading to an endemic incidence of infectious diseases like tuberculosis, and evidence of social conflict had an impact on settlement stability and population recruitment.

In conclusion, artifacts recovered from the excavations attest to human use of the site area as far back as (possibly) 10,000 years, with the primary occupation some 550 to 650 years ago. To this day, the Gordontown site continues to be occupied by human beings concerned with survival and quality of life. Although modern brick houses have displaced the wattle and daub structures of Mississippian times, the link with the prehistoric past has not been completely erased. Due in part to the efforts of

the developer, the remains of past Gordontown inhabitants continue to co-exist with the new residents of Gordontown.

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APPENDIX A

TENNESSEE DIVISION OF ARCHAEOLOGY ACCESSION NUMBERS FOR THE GORDONTOWN SITE, 40Dv6

C. Parris Stripling

Provenience	Accession Number	Comments
Surface	86-5-1	General surface
Surface	86-5-2	Lot 37 dozer scraping
Surface	86-5-3	Lot 40 dozer scraping
Surface	86-5-4	Lot 44 dozer scraping
Surface	86-5-5	Lot 45 dozer scraping
Surface	86-5-6	Lots 78 and 79 dozer scraping
Surface	86-5-7	Dozer scraping between Lots 78 and 79
Surface	86-5-8	Lot 41
Surface	86-5-9	Artifacts near stake for Lot 77
Surface	86-5-10	Lot 81
Surface	86-5-11	Around Burials 31 and 32
Surface	86-5-12	Road cut east of Lot 79
Surface	86-5-13	Road cut east of Lots 82 and 83
Surface	86-5-14	Historic house site
Surface	86-5-15	Hearthstone Lane between Lots 82 and 41
Surface	86-5-16	Area west of main common ground
Surface	86-5-17	Area east of main common ground
Feature 1	86-5-86	
Feature 2	86-5-87	
Feature 5	86-5-88	
Feature 8	86-5-89	
Feature 9	86-5-90	
Feature 11	86-5-91	
Feature 13	86-5-92	
Feature 17	86-5-93	
Feature 18	86-5-94	
Feature 19	86-5-95	
Feature 23	86-5-98	
Feature 24	86-5-99	
Feature 25	86-5-100	
Burial 1	86-5-18	
Burial 2	86-5-19	
Burial 3	86-5-20	
Burial 4		No number, see Burial 34
Burial 5	86-5-101	
Burial 6	86-5-21	

Provenience	Accession Number	Comments
Burial 7	86-5-22	
Burial 8	86-5-23	
Burial 9	86-5-96	
Burial 10	86-5-24	
Burial 11	86-5-25	
Burial 12	86-5-26	
Burial 13	86-5-27	
Burial 14	86-5-28	
Burial 15	86-5-29	
Burial 16	86-5-102	
Burial 17	86-5-30	
Burial 18	86-5-103	No material retained
Burial 19	86-5-104	No material retained
Burial 20	86-5-31	
Burial 21	86-5-32	
Burial 22	86-5-33	
Burial 23	86-5-34	
Burial 24	86-5-35	
Burial 25	86-5-36	
Burial 26	86-5-37	
Burial 27	86-5-38	
Burial 28	86-5-39	
Burial 29	86-5-105	
Burial 30	86-5-40	
Burial 31	86-5-41	
Burial 32	86-5-42	
Burial 33	86-5-43	
Burial 34	86-5-44	
Burial 35	86-5-45	
Burial 36	86-5-46	
Burial 37	86-5-47	
Burial 38	86-5-106	
Burial 39	86-5-107	
Burial 40	86-5-48	
Burial 41	86-5-49	
Burial 42	86-5-50	
Burial 43	86-5-51	
Burial 44	86-5-108	
Burial 45	86-5-52	
Burial 46	86-5-53	
Burial 47	86-5-54	
Burial 48	86-5-55	
Burial 49	86-5-56	
Burial 50	86-5-57	
Burial 51	86-5-58	
Burial 52	86-5-59	
Burial 53	86-5-109	

Provenience	Accession Number	Comments
Burial 54	86-5-60	
Burial 55	86-5-61	
Burial 56	86-5-62	
Burial 57	86-5-63	
Burial 58	86-5-64	
Burial 59	86-5-65	
Burial 60	86-5-110	
Burial 61	86-5-111	
Burial 62	86-5-66	
Burial 63	86-5-67	
Burial 64	86-5-68	
Burial 65	86-5-69	
Burial 66	86-5-70	
Burial 67	86-5-71	
Burial 68	86-5-72	
Burial 69	86-5-97	
Burial 70	86-5-112	
Burial 71	86-5-73	
Burial 72	86-5-74	
Burial 73	86-5-75	
Burial 74	86-5-76	
Burial 75	86-5-77	
Burial 76	86-5-78	
Burial 77	86-5-79	
Burial 78	86-5-80	
Burial 79	86-5-81	
Burial 80	86-5-82	
Burial 81	86-5-83	
Burial 82	86-5-84	
Burial 83	86-5-113	
Burial 84	86-5-85	
Burial 85	86-5-114	

APPENDIX B

BURIAL DESCRIPTIONS

Susan M.T. Myster, Leslie E. Eisenberg, Michael C. Moore, and C. Parris Stripling

Included in this appendix are the results of an analysis conducted upon the remains of 100 individuals removed from 85 graves. A general description of each burial is provided first, followed by information on such variables as age, sex, stature, pathology, and anomaly. Age and sex determinations of the Gordontown population were made using established techniques and information from a variety of sources (Bass 1987; Black 1978; Ditch and Rose 1972; Dittrick and Suchey 1986; Dwight 1894; Flanders 1978; France 1983; Giles 1964; Krogman and Iscan 1986; Moorrees et al. 1963; Steele 1976; Stewart 1979; Symes and Jantz 1983; Ubelaker 1978). Cranial measurements were taken for a selected sample of the Gordontown population and are presented with the specific description (see Burials 2, 24, 29A, 29B, and 35). In addition, the anthropometric dimensions of postcranial elements are included when measurements were possible.

Nine graves yielded multiple bodies that were each labeled with a number and letter during the excavation (for example Burial 11A and 11B). Thus, burial references that use these designations represent graves that were recognized in the field to contain more than one person. Although this labeling scheme seems obvious, there were another six burials with multiple interments that have only a number for one body, and a number and letter for the second individual (for example Burial 1 and Burial 1A). Burials with these particular designations indicate that only one individual was recognized during the field removal, and that subsequent laboratory analysis of the skeletal remains identified an additional body. All of the newly identified individuals (often newborns or infants) were given the letter "A" label to maintain consistency with the excavation field notes and burial forms.

Burial 1

Description: Burial 1 consisted of the poorly preserved remains of an infant that had been placed in an extended position within a rectangular stone-box. The floor was lined with broken pottery sherds (later reconstructed as a lug-handled jar). This burial was undisturbed (capstones in place) but no grave goods were apparent. During cleaning of the skeletal material, two shell beads were recovered.

Age: 1.5 years +/- 8 mo. (dental); 0.5-1.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Two periodontal abscesses observed; periosteal reactive bone observed on long bones.

Anomaly: Teeth mottled grayish-brown; yellow stain midway across enamel.

Metrics:

Left humerus:

maximum length

100.0 mm

Right femur:
maximum length 127.0 mm

Burial 1A

Description: This individual was minimally represented by several phalange and a rib fragment. These remains were identified during the analysis of Burial 1.

Age: adult

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 2

Description: The undisturbed and well preserved remains of this individual were buried in an extended position inside a rectangular stone-box. A floor of earth was observed and no grave goods were recovered. This person exhibited cranial deformation (occipital flattening).

Age: 35-45 years

Sex: female

Stature: 147.303 cm to 147.603 cm +/- 3.816

Pathology: Small button osteoma on parietal; hypoplasia; five of 16 teeth exhibit carious lesions; mandibular alveolar resorption; mild to severe osteoarthritis throughout body; symmetrical areas of healed, raised periostitis bone on medial midshaft of tibiae.

Anomaly: none noted

Metrics:

Cranial measurements

maximum cranial breadth	145.0 mm
transverse biauricular arc	344.0 mm
biauricular breadth	112.0 mm
biasterionic breadth	18.0 mm
mandibular symphyseal height	39.0 mm
mandibular corpus height at symphysis	30.5 mm
mandibular alveolar height at symphysis	8.5 mm
mandibular vertical height at M2	33.0 mm
mandibular maximum projective length	71.5 mm
mandibular minimum a-p diameter of ramus	31.0 mm
mandibular maximum a-p diameter of ramus	44.0 mm
mandibular condylo-symphyseal length	100.0 mm
mandibular bigonial breadth	83.5 mm
mandibular foramen mentalia breadth	43.0 mm
mandibular coronoid height	59.0 mm
mandibular height of ascending ramus	51.0 mm
mandibular angle	123°

Postcranial measurements

Sternum:

manubrium length	47.0 mm
corpus length	74.0 mm
maximum manubrial breadth	47.0 mm

breadth of 1st sternebra	29.5 mm
breadth of 3rd sternebra	31.0 mm
Right clavicle:	
height of curvature	21.0 mm
Sacrum:	
maximum breadth	105.0 mm
auricular surface breadth (right)	26.0 mm
external s1 transverse diameter	45.5 mm
internal s1 transverse diameter	30.5 mm
external s1 a-p diameter	28.0 mm
internal s1 a-p diameter	21.3 mm
Right scapula:	
glenoid fossa height	34.0 mm
Left humerus:	
minimum a-p shaft diameter	14.5 mm
maximum diameter at deltoid	19.5 mm
olecranon fossa height	16.5 mm
olecranon fossa breadth	25.5 mm
olecranon fossa depth	10.0 mm
Right humerus:	
minimum a-p shaft diameter	14.5 mm
minimum m-l shaft diameter	16.5 mm
minimum shaft circumference	52.5 mm
maximum diameter at deltoid	19.5 mm
capitulum breadth	20.0 mm
olecranon fossa height	16.0 mm
olecranon fossa breadth	24.0 mm
olecranon fossa depth	10.5 mm
Left radius:	
minimum a-p shaft diameter	9.5 mm
minimum m-l shaft diameter	11.5 mm
minimum shaft circumference	35.0 mm
Right radius:	
minimum a-p shaft diameter	9.0 mm
minimum m-l shaft diameter	11.5 mm
minimum shaft circumference	35.0 mm
Left ulna:	
a-p subsigmoid diameter	25.0 mm
m-l subsigmoid diameter	16.0 mm
Right ulna:	
olecranon height	17.5 mm
olecranon breadth	17.5 mm
Left innominate:	
lower iliac height	49.0 mm
auricular surface length	31.0 mm
Right innominate:	
auricular surface length	37.0 mm
acetabulum vertical diameter	47.0 mm
Left femur:	
maximum length	375.0 mm

bicondylar length	370.5 mm
a-p minimum shaft diameter	21.0 mm
minimum shaft circumference	75.0 mm
a-p subtrochantric diameter	21.5 mm
m-l subtrochantric diameter	27.5 mm
a-p midshaft diameter	23.0 mm
m-l midshaft diameter	25.0 mm
midshaft circumference	76.0 mm
vertical head diameter	37.5 mm
a-p neck diameter	20.0 mm
vertical neck diameter	29.0 mm
neck circumference	77.0 mm
Right femur:	
maximum length	380.0 mm
bicondylar length	375.0 mm
a-p minimum shaft diameter	21.5 mm
m-l minimum shaft diameter	22.5 mm
minimum shaft circumference	73.5 mm
a-p subtrochantric diameter	21.5 mm
m-l subtrochantric diameter	28.5 mm
a-p midshaft diameter	22.0 mm
m-l midshaft diameter	25.0 mm
midshaft circumference	76.5 mm
vertical head diameter	37.5 mm
a-p neck diameter	19.5 mm
neck circumference	74.5 mm
Left patella:	
maximum height	37.0 mm
maximum breadth	37.5 mm
maximum thickness	15.0 mm
medial facet breadth	16.0 mm
lateral facet breadth	20.5 mm
Right patella:	
maximum thickness	14.5 mm
medial facet breadth	16.0 mm
lateral facet breadth	23.0 mm
Left tibia:	
a-p nutrient foramen diameter	27.5 mm
m-l nutrient foramen diameter	20.0 mm
nutrient foramen circumference	77.0 mm
a-p minimum shaft diameter	21.0 mm
m-l minimum shaft diameter	18.0 mm
minimum shaft circumference	69.0 mm
Right tibia:	
maximum length	316.0 mm
distal epiphysis breadth	47.0 mm
a-p nutrient foramen diameter	28.0 mm
m-l nutrient foramen diameter	22.0 mm
nutrient foramen circumference	80.5 mm
a-p minimum shaft diameter	21.0 mm

m-l minimum shaft diameter	17.5 mm
minimum shaft circumference	67.5 mm
a-p midshaft diameter	24.5 mm
m-l midshaft diameter	19.0 mm
midshaft circumference	72.0 mm
Left fibula:	
maximum shaft circumference	39.5 mm
Right fibula:	
maximum shaft circumference	41.0 mm
Left talus:	
maximum length	48.5 mm
maximum breadth	40.0 mm
body height	27.0 mm
trochlea length	29.5 mm
trochlea breadth	28.0 mm
posterior cal facet length	20.5 mm
posterior cal facet breadth	30.5 mm
Right talus:	
maximum length	48.0 mm
maximum breadth	41.0 mm
body height	27.0 mm
trochlea length	29.0 mm
trochlea breadth	27.5 mm
posterior cal facet length	20.0 mm
posterior cal facet breadth	30.5 mm
Left calcaneus:	
maximum length	72.0 mm
minimum breadth	23.5 mm
corpus height	38.0 mm
sust tali length	30.0 mm
sust tali breadth	14.5 mm
load arm length	43.0 mm
load arm breadth	38.5 mm
Right calcaneus:	
maximum length	70.5 mm
corpus height	38.0 mm
sust tali length	31.0 mm
sust tali breadth	14.5 mm
load arm length	44.0 mm
load arm breadth	39.0 mm

Burial 3

Description: Burial 3 was represented primarily by the lower extremities of the individual within a rectangular stone-box. Capstones on the west (head) side of the grave had been previously removed, with the bones of the upper body displaced outside the box in the vicinity of Burial 34. The floor was earth and no grave goods were recovered. This individual exhibited cranial deformation (occipital flattening).

Age: 50+

Sex: female

Stature: 157.581 cm +/- 3.816

Pathology: Large piece of plaque on maxillary right incisor; incisor also exhibits slight hypoplastic defects; left shoulder joint very porous with periostitis at humeral head and glenoid fossa; both humeri very osteoporotic; most of cortical bone in left glenoid fossa is eroded away, with just a few small patches of eburnated cortical bone remain on articular surface; 3rd cuneiforms and metatarsals with resorptive lesions where they articulate; resorptive lesions on sacral SI articular; resorptive area on inferior surface of three middle thoracic vertebrae; osteoarthritis present on L1-L5; superior and anterior knee margins with moderate osteophytosis development.

Anomaly: none noted

Metrics:

Right humerus:

maximum length	306.5 mm
epicondylar breadth	54.0 mm
maximum vertical diameter of head	41.0 mm
maximum diameter at midshaft	23.0 mm
minimum diameter at midshaft	13.9 mm
midshaft circumference	61.5 mm

Right radius:

maximum length	223.5 mm
sagittal diameter at midshaft	11.0 mm
transverse diameter at midshaft	14.0 mm

Right ulna:

maximum length	247.5 mm
minimum circumference	32.0 mm

Left femur:

maximum length	421.0 mm
bicondylar length	419.0 mm
epicondylar breadth	75.2 mm
maximum diameter of head	40.1 mm
sagittal diameter at midshaft	24.1 mm
transverse diameter at midshaft	26.0 mm
circumference at midshaft	80.0 mm

Right femur:

maximum diameter of head	40.0 mm
sagittal diameter at midshaft	26.0 mm
transverse diameter at midshaft	25.0 mm
circumference at midshaft	79.1 mm

Left tibia:

condylo-malleolar length	352.1 mm
maximum diameter at nutrient foramen	33.5 mm
transverse diameter at nutrient foramen	19.9 mm
circumference at nutrient	88.5 mm

Right tibia:

condylo-malleolar length	348.0 mm
maximum diameter at nutrient foramen	33.1 mm
transverse diameter at nutrient foramen	20.9 mm
circumference at nutrient	87.0 mm

Left fibula:

maximum length	335.0 mm
maximum diameter at midshaft	12.0 mm

Burial 4 (recataloged as Burial 34)

Burial 5

Description: Burial 5 consisted of fragmented remains recovered from a rectangular stone-box with an earth floor. This burial was disturbed prior to excavation and no grave goods were recovered.

Age: 1.5-2.5 years (dental); 1-3 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 6

Description: Previous looting activity had severely damaged this burial. Few remains were recovered from this rectangular stone-box with an earth floor. No grave goods were present.

Age: adult

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 7 (Figure 53)

Description: This grave comprised a secondary bundle burial in a relatively small, rectangular stone-box with an earth floor. The cranium had been placed in about the center of the grave, with the long bones deposited in the east end of the box. This individual exhibited cranial deformation (occipital flattening). In addition, cut marks were visible on the temporal and occipital bones. The long bones were set parallel to the long dimension of the box. Small river pebbles were observed above, below, and around the remains. A deer longbone (pin) was located under the right occipital.

Age: 30-40 years

Sex: male

Stature: indeterminate

Pathology: Mild, healed periostitis at bregma which may be related to scalping but is not associated with any cut marks; small, healed depression on frontal bone; dental health was poor with three of 24 teeth exhibiting caries; one observable abscess; severe attrition (incisors ground down to secondary dentin); plaque on teeth; small, resorptive lesion (healed) on internal surface of one right rib; left innominate (?) with resorptive lesion; small (healed) swollen areas proximal one-third of tibiae; two resorptive lesions on anterior midshaft of right tibia.

Anomaly: none noted

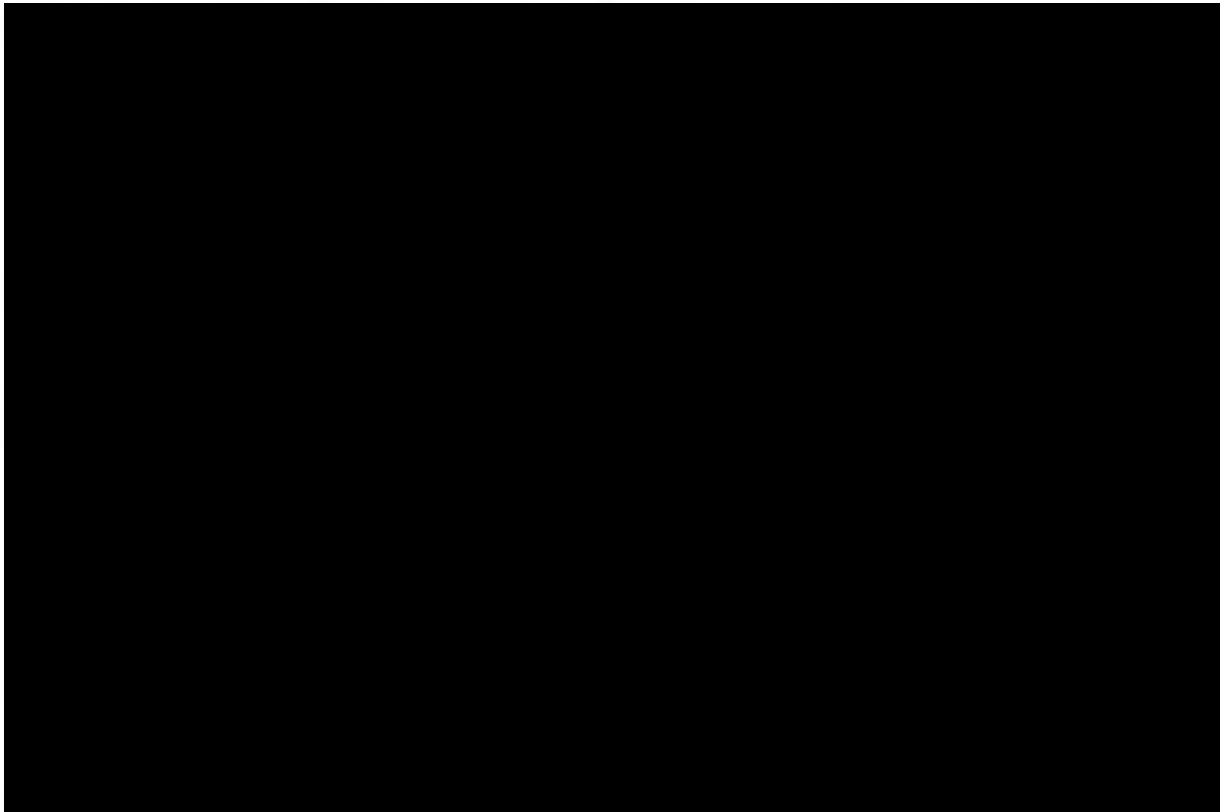


Figure 53. Burial 7, facing west.

Metrics:

Left femur:	
midshaft circumference	85.0 mm
Right femur:	
midshaft circumference	85.0 mm

Burial 8

Description: This individual was placed in an extended position on an earth floor within a rectangular stone-box. Lithic debitage and gastropods were recovered from the grave fill. There is minimal evidence of rodent disturbance.

Age: 40-50 years

Sex: female (probable)

Stature: 159.63 cm to 160.23 cm +/- 3.816

Pathology: Periostitis was observed on the skeletal remains; most of frontal bone is present exhibiting punched-out looking lesions (the lesion past the left temporal line looks postmortem); dental health was moderate with four teeth exhibiting carious lesions and one observable alveolar abscess; anterior teeth well worn; moderate osteoarthritis present on patella; healed fracture (?) anterior and medio-distal of left tibia shaft; arthritic lipping observed on long bones; long bones very osteoporotic.

Anomaly: none noted.

Metrics:

Left femur:	
maximum length	428.9 mm

maximum diameter of head	43.9 mm
circumference at midshaft	89.0 mm
Right femur:	
maximum diameter of head	43.2 mm

Burial 9

Description: Burial 9 consisted of an infant interred in an extended position within Structure 2, (Feature 24). This previously looted stone-box was nearly square and displayed a floor lined with stone. No grave goods were recovered.

Age: < 1 year

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 10 (Figure 54)

Description: This undisturbed burial contained an apparently decapitated male that was placed in a heavily capped, double-walled stone-box with a stone lined floor. The body position indicated that this person had been placed on his stomach with the arms apparently bound behind the back. In addition, the knees of this individual were against the west end of the box and his lower legs bent back behind the pelvis. The cervical vertebrae (C3-C7 present) were against the east end of the box. No cranium was recovered from this grave.

Age: 17-20 years

Sex: male

Stature: 167.474 cm +/- 3.18

Pathology: Some osteoarthritis noted in upper cervical and lower lumbar vertebrae; areas of periostitis and bone proliferation on right femur.

Anomaly: none noted

Metrics:

Left humerus:

maximum vertical diameter of head	44.5 mm
-----------------------------------	---------

Right humerus:

maximum vertical diameter of head	46.9 mm
-----------------------------------	---------

Left femur:

maximum length	445.0 mm
----------------	----------

bicondylar length	447.9 mm
-------------------	----------

maximum diameter of head	45.5 mm
--------------------------	---------

a-p subtrochantric diameter	29.2 mm
-----------------------------	---------

transverse subtrochantric diameter	33.0 mm
------------------------------------	---------

sagittal diameter at midshaft	27.5 mm
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transverse diameter at midshaft	27.0 mm
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circumference at midshaft	86.9 mm
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Right femur:

maximum length	449.0 mm
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bicondylar length	450.0 mm
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maximum diameter of head	46.1 mm
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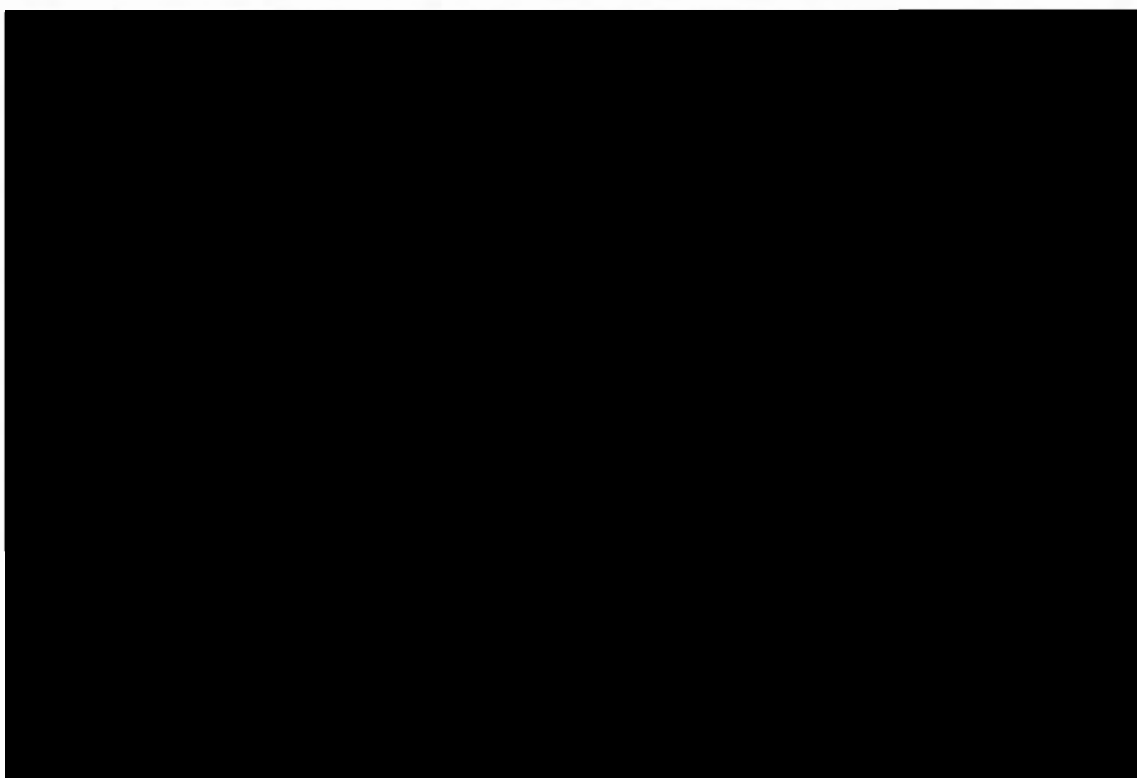


Figure 54. Burial 10.

a-p subtrochantric diameter	25.0 mm
transverse subtrochantric diameter	32.1 mm
sagittal diameter at midshaft	28.6 mm
transverse diameter at midshaft	27.3 mm
circumference at midshaft	87.0 mm
Left tibia:	
condylo-malleolar length	373.0 mm
maximum diameter at nutrient foramen	34.0 mm
transverse diameter at nutrient foramen	23.9 mm
circumference at nutrient	91.5 mm
Right tibia:	
condylo-malleolar length	371.0 mm
maximum diameter at nutrient foramen	37.0 mm
transverse diameter at nutrient foramen	27.0 mm
circumference at nutrient	98.5 mm
Right fibula:	
maximum length	348.0 mm
maximum diameter at midshaft	16.3 mm

Burial 11A

Description: This rectangular stone-box contained a double burial of two young adults in an extended position on an earth floor. Individual A was laid on top of individual B (each face up), with both heads to the south. The southern end of the grave had

been previously disturbed in the past and both skulls were missing. This grave was one of several that intruded into the southern edge of Structure 3 (Feature 25).

Age: 16-19 years

Sex: female

Stature: 154.507 cm +/- 3.816

Pathology: none noted

Anomaly: none noted

Metrics:

Left humerus:

maximum length	278.5 mm
maximum diameter of midshaft	17.5 mm
minimum diameter of midshaft	14.0 mm
maximum diameter of head	34.5 mm
least circumference of the shaft	49.0 mm

Left femur:

maximum length	404.5 mm
a-p diameter of midshaft	25.0 mm
m-l diameter of midshaft	21.0 mm
circumference of midshaft	72.0 mm
a-p subtrochantric diameter	22.9 mm
m-l subtrochantric diameter	25.1 mm

Right femur:

maximum length	399.0 mm
bicondylar length	396.0 mm
a-p diameter of midshaft	24.5 mm
m-l diameter of midshaft	22.0 mm
maximum diameter of head	36.5 mm
circumference of midshaft	72.5 mm
a-p subtrochantric diameter	23.0 mm
m-l subtrochantric diameter	26.0 mm

Burial 11B

Description: This rectangular stone-box contained a double burial of two young adults in an extended position on an earth floor. Individual A was laid on top of individual B (each face up), with both heads to the south. The southern end of the grave had been previously disturbed in the past and both skulls were missing. This grave was one of several that intruded into the southern edge of Structure 3 (Feature 25).

Age: 20-21 years

Sex: female (probable)

Stature: 159.253 cm +/- 3.513

Pathology: none noted

Anomaly: none noted

Metrics:

Left humerus:

maximum length	301.2 mm
maximum diameter of midshaft	20.0 mm
minimum diameter of midshaft	16.1 mm
maximum diameter of head	39.0 mm
least circumference of the shaft	53.0 mm

Right humerus:	
maximum length	309.0 mm
maximum diameter of midshaft	19.0 mm
minimum diameter of midshaft	15.7 mm
maximum diameter of head	39.2 mm
least circumference of the shaft	52.5 mm
Right femur:	
maximum length	423.0 mm
bicondylar length	417.5 mm
a-p diameter of midshaft	28.1 mm
m-l diameter of midshaft	21.5 mm
maximum diameter of head	40.5 mm
circumference of midshaft	78.1 mm
a-p subtrochantric diameter	27.1 mm
m-l subtrochantric diameter	23.8 mm
Left tibia:	
maximum length	347.0 mm
a-p diameter at nutrient foramen	32.0 mm
m-l diameter at nutrient foramen	20.0 mm
Right tibia:	
maximum length	351.0 mm
a-p diameter at nutrient foramen	33.8 mm
m-l diameter at nutrient foramen	19.1 mm

Burial 12

Description: A relatively intact adult skeleton (without the skull which had been previously removed by looters) was recovered within a rectangular stone-box. This box, which had a pottery floor, was intrusive into the south side of Structure 3 (Feature 25).

Age: 30-40 years

Sex: male

Stature: 168.324 cm +/- 3.27

Pathology: Varying degrees of arthritic lipping on long bones (humeri and femora most severe), hands, scapulae, vertebrae, patellae, and feet; right cuboid and 1st cuneiform with resorptive lesions; resorptive lesions on metatarsals; button osteomas on three metatarsals.

Anomaly: none noted

Metrics:

Left humerus:	
maximum diameter of head	46.3 mm
Right humerus:	
maximum length	315.0 mm
maximum diameter of midshaft	24.1 mm
minimum diameter of midshaft	23.8 mm
least circumference of the shaft	70.0 mm
Left femur:	
a-p diameter of midshaft	33.5 mm
m-l diameter of midshaft	27.9 mm
circumference of midshaft	100.0 mm

Right femur:	
a-p diameter of midshaft	35.0 mm
m-l diameter of midshaft	27.5 mm
circumference of midshaft	97.0 mm
Left tibia:	
maximum length	364.0 mm
a-p diameter at nutrient foramen	39.1 mm
m-l diameter at nutrient foramen	22.5 mm
Right tibia:	
maximum length	366.0 mm
a-p diameter at nutrient foramen	39.5 mm
m-l diameter at nutrient foramen	24.0 mm

Burial 13

Description: Burial 13 contained the remains of an adult female that was interred in an extended position within a rectangular stone-box. This person was laid on an earth floor with a mussel shell placed near the left hand. As with Burial 12, the skull had been previously removed by looters. In addition, this burial extended into the southern edge of Structure 3 (Feature 25).

Age: 35-39 years

Sex: female

Stature: 148.9754 cm to 149.2154 cm +/- 3.513

Pathology: Slight osteoarthritis observed on virtually all long bones; arthritic lipping visible on vertebrae (especially lumbar); some activity (trauma?) on anterior surface of pubic bone.

Anomaly: none noted

Metrics:

Right humerus:	
maximum length	284.0 mm
maximum diameter of midshaft	21.1 mm
minimum diameter of midshaft	16.9 mm
least circumference of the shaft	60.0 mm
Right radius:	
maximum length	214.1 mm
Left femur:	
maximum length	385.1 mm
bicondylar length	384.5 mm
a-p diameter of midshaft	27.0 mm
m-l diameter of midshaft	24.5 mm
maximum diameter of head	41.0 mm
circumference of midshaft	82.0 mm
a-p subtrochantric diameter	23.8 mm
m-l subtrochantric diameter	29.5 mm
Right femur:	
maximum length	380.0 mm
bicondylar length	377.5 mm
a-p diameter of midshaft	27.0 mm
m-l diameter of midshaft	25.9 mm
maximum diameter of head	41.1 mm
circumference of midshaft	82.0 mm

a-p subtrochantric diameter	23.1 mm
m-l subtrochantric diameter	29.9 mm
Right tibia:	
maximum length	315.2 mm
a-p diameter at nutrient foramen	31.1 mm
m-l diameter at nutrient foramen	20.9 mm

Burial 14

Description: This grave contained the remains of an adult female and a full-term or near full-term fetus. Interestingly, this individual was not buried in a stone-box, but was placed in an extended position immediately east of (and parallel to) Burial 13. There is no mention of a burial pit in the excavation notes, so it is assumed this person was laid on an unprepared ground surface next to Burial 13. Several stone slabs did cover the crania and upper torso of Burial 14, but these represent displaced slabs from adjacent looted graves. This burial also intruded slightly into Structure 3 (Feature 25).

Age: 30-39 years

Sex: female

Stature: 147.833 cm +/- 3.513

Pathology: Periosteal reaction observed in superior orbits; hypoplastic lines of maxillary and mandibular anterior teeth; slight arthritic lipping visible on most bones; healed fracture midshaft of left tibia.

Anomaly: Unusual (jagged) wear on two central maxillary incisors (possibly filed?).

Metrics:

Left radius:	
maximum length	211.0 mm
Left ulna:	
maximum length	227.0 mm
least circumference of shaft	30.0 mm
Right ulna:	
maximum length	227.0 mm
least circumference of shaft	31.5 mm
Left femur:	
maximum length	395.0 mm
bicondylar length	390.0 mm
a-p diameter of midshaft	27.5 mm
m-l diameter of midshaft	20.5 mm
maximum diameter of head	39.2 mm
circumference of midshaft	75.5 mm
a-p subtrochantric diameter	23.9 mm
m-l subtrochantric diameter	22.8 mm
platymetric index	21.0 mm
Right tibia:	
maximum length	311.0 mm
a-p diameter at nutrient foramen	28.5 mm
Right fibula:	
maximum length	298.0 mm

Burial 14A

Description: Burial 14A consists of the full-term or near full-term fetus present with the adult female in Burial 14. These fragmentary and poorly preserved remains were not recognized in the field, but were identified during the laboratory analysis.

Age: fetus/newborn

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 15

Description: This rectangular stone-box contained the remains of an adult that was placed in an extended position. Primary damage to this heavily capped burial was the collapse of several capstones around the torso. Burial 15 was located south of Structure 3 (Feature 25).

Age: 40-50 years

Sex: female (probable)

Stature: 157.917 cm to 158.517 cm +/- 3.513

Pathology: Resorptive lesion on left parietal and occipital, three maxillary abscesses; mandibular molars lost antemortem; arthritic lipping visible on ribs, vertebrae (severe), and sacrum.

Anomaly: none noted

Metrics:

Cranial measurements

mandibular angle (left) 131°

Postcranial measurements

Right humerus:

maximum length 307.0 mm

maximum vertical diameter of head 44.1 mm

maximum diameter at midshaft 23.0 mm

minimum diameter at midshaft 19.3 mm

Left ulna:

maximum length 252.0 mm

minimum circumference 33.0 mm

Right femur:

maximum diameter of head 42.5 mm

a-p subtrochantric diameter 24.9 mm

circumference at midshaft 87.5 mm

Left tibia:

condylo-malleolar length 350.5 mm

maximum diameter at nutrient foramen 33.1 mm

transverse diameter at nutrient foramen 21.5 mm

circumference at nutrient 88.0 mm

Burial 16

Description: Most of the skeletal remains were severely disturbed by heavy equipment activity. The floor of this rather small, rectangular stone-box consisted of stone slabs.

Age: adult
Sex: indeterminate
Stature: indeterminate
Pathology: none noted
Anomaly: none noted
Metrics: none taken

Burial 17

Description: Burial 17 comprised a heavily-capped stone-box that contained the remains of a very robust, adult male. The body was laid in an extended position on an earth floor. This particular grave intruded into and below the floor of Structure 3 (Feature 25). At over two meters in length and one-half meter wide, this rectangular stone-box was the largest encountered on the site.

Age: 30-39 years

Sex: male

Stature: 173.4202 cm +/- 3.24

Pathology: Right occipital condyle very arthritic (flattened); right maxillary abscesses; hypoplasias visible; three left ribs with healed breaks at distal end; slight to moderate arthritic lipping on cervical and thoracic vertebrae; moderate to severe arthritic lipping on lumbar vertebrae; semi-healed fracture of left fibula.

Anomaly: Unusual wear pattern on maxillary incisors.

Metrics:

Left clavicle:	
maximum length	171.0 mm
Right clavicle:	
maximum length	165.9 mm
Left humerus:	
maximum length	336.2 mm
epicondylar breadth	67.1 mm
maximum diameter of midshaft	23.0 mm
minimum diameter of midshaft	17.1 mm
circumference at midshaft	69.1 mm
Right humerus:	
maximum vertical diameter of head	47.1 mm
maximum diameter of midshaft	24.0 mm
minimum diameter of midshaft	17.1 mm
Left radius:	
maximum length	253.5 mm
sagittal diameter at midshaft	14.1 mm
transverse diameter at midshaft	17.0 mm
Right radius:	
maximum length	254.0 mm
sagittal diameter at midshaft	12.9 mm
transverse diameter at midshaft	16.2 mm
Left femur:	
maximum length	459.1 mm
bicondylar length	456.0 mm
maximum diameter of head	46.9 mm
sagittal diameter at midshaft	32.9 mm

transverse diameter at midshaft	26.8 mm
circumference of midshaft	95.1 mm
Right femur:	
maximum length	456.2 mm
bicondylar length	454.1 mm
maximum diameter of head	47.2 mm
sagittal diameter at midshaft	33.0 mm
transverse diameter at midshaft	27.9 mm
circumference of midshaft	98.5 mm
Left tibia:	
condylo-malleolar length	384.2 mm
maximum proximal epiphyseal breadth	78.1 mm
maximum distal epiphyseal breadth	56.5 mm
maximum diameter at nutrient foramen	39.8 mm
transverse diameter at nutrient foramen	23.0 mm
circumference at nutrient	102.2 mm
Right tibia:	
condylo-malleolar length	390.0 mm
maximum proximal epiphyseal breadth	77.0 mm
maximum distal epiphyseal breadth	55.0 mm
maximum diameter at nutrient foramen	40.1 mm
transverse diameter at nutrient foramen	29.0 mm
circumference at nutrient	104.0 mm

Burial 18

Description: This stone-box was severely impacted by the same heavy equipment activity as Burial 16. No skeletal remains were present in this grave as only the earth floor and several sidestones were left intact. The small size of the stone-box indicates this was an infant burial. Some mussel shell fragments were present in the remaining grave fill.

Age: infant

Sex: indeterminate

Stature: indeterminate

Pathology: no remains

Anomaly: no remains

Metrics: no remains

Burial 19

Description: As with Burial 16 and 18, most of this interment was damaged by heavy machinery. The only part of this stone-box left intact was the stone floor. No skeletal remains were recovered. Burial 19 may comprise a child burial, but the grave was too damaged to make an accurate assessment.

Age: child?

Sex: indeterminate

Stature: indeterminate

Pathology: no remains

Anomaly: no remains

Metrics: no remains

Burial 20

Description: Burial 20 represents an undisturbed stone-box that contained the poorly preserved remains of a young child. This individual was buried in an extended position with a small filleted rim bowl placed under the left side of the cranium. One interesting observation about this grave is that the body was placed deeper than the bottom of the sidestones.

Age: 3-4 years +/- 12 months (dental); 1.5-2.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Hypoplasia on unerupted tooth buds (also exhibit brown-gray mottling in enamel).

Anomaly: none noted

Metrics:

Right femur:	
maximum length	167.0 mm
Left fibula	
maximum length	133.0 mm
Left humerus:	
maximum length	128.0 mm
Left ulna:	
maximum length	111.0 mm
Right ulna:	
maximum length	113.0 mm
Left radius:	
maximum length	97.0 mm
Right clavicle:	
maximum length	74.0 mm

Burial 21

Description: This rectangular stone-box initially appeared undisturbed based upon the presence of intact capstones. However, when the capstones were removed, an upper disturbed level of jumbled bone was observed. A lower level of in situ skeletal remains (vertebrae, arms, right leg) was recorded toward the bottom of the box. Apparently the capstones were replaced after the grave had been looted in search of relics. This individual was placed in an extended position on an earth floor.

Age: 30-34 years

Sex: male

Stature: 167.46 cm +/- 4.6

Pathology: Alveolar resorption; slight osteophytosis.

Anomaly: none noted

Metrics:

Right radius:	
maximum length	242.1 mm
Left femur:	
maximum length	440.0 mm
circumference at midshaft	85.5 mm
Right femur:	
maximum diameter of head	41.1 mm
a-p subtrochantric diameter	27.5 mm

transverse subtrochantric diameter	26.9 mm
sagittal diameter at midshaft	26.5 mm
transverse diameter at midshaft	26.0 mm
circumference at midshaft	85.0 mm

Burial 22A

Description: Burial 22 consisted of a rectangular stone-box with the remains of two adult individuals. This grave originally contained the remains of a male (Burial 22A) that were apparently buried in an extended position on an earth floor. At a later time, these bones were pushed aside to make way for the bundle(?) burial of an adult female (Burial 22B). A notched rim bowl was found in the center of the grave and is believed to be associated with Burial 22B. Cut marks were observed on the distal left ulna of Burial 22A.

Age: 30-40 years

Sex: male

Stature: 165.418 cm +/- 3.24

Pathology: Some antemortem tooth loss on mandible; possible healed fracture of right scapula; some arthritic lipping on vertebrae

Anomaly: none noted

Metrics:

Cranial measurements

mandibular angle (left)	125.5°
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Postcranial measurements

Left femur:

maximum length	432.0 mm
sagittal diameter at midshaft	31.0 mm
transverse diameter at midshaft	27.5 mm

Right femur:

maximum length	427.0 mm
sagittal diameter at midshaft	32.0 mm
transverse diameter at midshaft	27.9 mm

Right tibia:

condylo-malleolar length	357.0 mm
maximum diameter at nutrient foramen	38.0 mm
transverse diameter at nutrient foramen	23.1 mm
circumference at nutrient	98.5 mm

Burial 22B

Description: As mentioned before, Burial 22 consisted of a rectangular stone-box with the remains of two adult individuals. This grave originally contained the remains of a male (Burial 22A) that were apparently buried in an extended position on an earth floor. At a later time, these bones were pushed aside to make way for the bundle(?) burial of an adult female (Burial 22B). A notched rim bowl was found in the center of the grave and is believed to be associated with Burial 22B.

Age: 40-50 years

Sex: female

Stature: 148.392 cm to 148.992 cm +/- 3.816

Pathology: Antemortem tooth loss; general osteoarthritis.

Anomaly: none noted

Metrics:

Left humerus:	
maximum length	272.0 mm
maximum diameter at midshaft	20.0 mm
minimum diameter at midshaft	16.0 mm
Right humerus:	
maximum vertical diameter of head	38.0 mm
Left femur:	
maximum length	385.5 mm
bicondylar length	377.0 mm
maximum diameter of head	40.5 mm
sagittal diameter at midshaft	24.0 mm
transverse diameter at midshaft	24.2 mm
circumference at midshaft	75.0 mm

Burial 23

Description: Fragmented pieces of bone were recovered from this previously disturbed burial. The body was laid on a floor of earth within this rectangular stone-box, although the position could not be accurately determined.

Age: 25-35 years

Sex: female (probable)

Stature: indeterminate

Pathology: Slight arthritic lipping visible on vertebrae.

Anomaly: none noted

Metrics:

Left femur:	
circumference at midshaft	78.5 mm

Burial 24

Description: This burial consisted of a rectangular stone-box that contained the remains of two individuals. The primary burial (Burial 24) was an adult male that was laid on an earth floor in an extended position. Cranial deformation (occipital flattening) was observed for this individual. Virtually all of the skeletal remains were intact with good preservation. No mention of a second body was made in the field record. However, the fragmentary and incomplete remains of an infant (Burial 24A) were identified during the laboratory analysis. Whether or not this second individual was interred with the adult male, or is an intrusive burial, cannot be answered at this time.

Age: 40-44 years

Sex: male

Stature: 163.037 cm to 163.277 cm +/- 3.513

Pathology: Button osteomas on frontal bone; left maxillary abscess; caries in mandibular M3; plaque on teeth, two fractured right ribs (one healed, the other exhibited poorly healed woven bone); slight to moderate osteoarthritis.

Anomaly: Two mandibular supernumary third premolars (permanent).

Metrics:

Cranial measurements	
maximum cranial length	159.0 mm
maximum cranial breadth	153.0 mm
maximum auricular height	128.0 mm

vertical auricular height	130.0 mm
porion bregma height	128.5 mm
frontal chord	113.0 mm
parietal chord	100.5 mm
occipital chord	91.0 mm
frontal arc	130.0 mm
parietal arc	125.0 mm
occipital arc	103.0 mm
sagittal arc	355.0 mm
horizontal circumference	570.0 mm
horizontal circumference above browridges	508.0 mm
biauricular breadth	134.0 mm
biasterionic breadth	111.5 mm
mastoid height	35.0 mm
upper facial height	72.5 mm
bizygomatic breadth	146.0 mm
minimum frontal breadth	98.0 mm
bimaxillary breadth	104.0 mm
nasal height	52.0 mm
nasal breadth	24.0 mm
orbital breadth	42.0 mm
orbital height	33.0 mm
biorbital breadth	99.0 mm
interorbital breadth	20.0 mm
simotic chord	5.06 mm
inferior malar length	32.0 mm
maximum malar length	59.5 mm
external palatal length	56.0 mm
external palatal breadth	71.5 mm
internal palatal length	53.0 mm
internal palatal breadth	38.0 mm
palatal depth	17.0 mm
mandibular symphyseal height	40.0 mm
mandibular corpus height at symphysis	34.5 mm
mandibular alveolar height at symphysis	5.5 mm
mandibular vertical height at M2	28.0 mm
mandibular maximum projective length	80.0 mm
mandibular minimum a-p diameter of ramus	35.5 mm
mandibular maximum a-p diameter of ramus	76.0 mm
mandibular condylo-symphyseal length	107.0 mm
mandibular bigonial breadth	105.0 mm
mandibular foramen mentalia breadth	44.5 mm
mandibular coronoid height	65.5 mm
mandibular bicondylar breadth	120.0 mm
mandibular height of ascending ramus	62.0 mm
Postcranial measurements	
Left clavicle:	
maximum length	160.0 mm
a-p midshaft diameter	11.0 mm
s-i midshaft diameter	11.5 mm

Right clavicle:	
maximum length	153.0 mm
height of curvature	33.0 mm
a-p midshaft diameter	12.0 mm
s-i midshaft diameter	12.5 mm
Left scapula:	
maximum breadth	115.0 mm
spine length	144.0 mm
acromion length	54.0 mm
acromion breadth	30.0 mm
corocoid length	43.5 mm
glenoid fossa height	38.0 mm
glenoid fossa breadth	26.0 mm
Right scapula:	
acromion length	56.0 mm
acromion breadth	28.0 mm
corocoid length	45.0 mm
glenoid fossa height	38.0 mm
glenoid fossa breadth	26.0 mm
Left humerus:	
maximum length	326.0 mm
minimum a-p shaft diameter	17.0 mm
minimum m-l shaft diameter	18.0 mm
minimum shaft circumference	58.0 mm
vertical head diameter	46.0 mm
maximum diameter at midshaft	21.0 mm
minimum diameter at midshaft	23.0 mm
midshaft circumference	69.0 mm
maximum diameter at deltoid	23.5 mm
trochlear breadth	21.5 mm
olecranon fossa height	17.5 mm
olecranon fossa breadth	23.0 mm
olecranon fossa depth	10.5 mm
Right humerus:	
maximum length	324.0 mm
physiological length	321.0 mm
epicondylar breadth	57.0 mm
minimum a-p shaft diameter	17.0 mm
minimum m-l shaft diameter	16.0 mm
minimum shaft circumference	60.0 mm
a-p head diameter	39.5 mm
vertical head diameter	38.0 mm
head circumference	140.0 mm
maximum diameter at midshaft	19.0 mm
minimum diameter at midshaft	22.0 mm
midshaft circumference	56.0 mm
maximum diameter at deltoid	23.0 mm
trochlear breadth	19.0 mm
olecranon fossa height	17.0 mm
olecranon fossa breadth	23.0 mm

olecranon fossa depth	9.0 mm
Left radius:	
maximum length	237.0 mm
physiological length	227.0 mm
transverse diameter distal epiphysis	31.0 mm
minimum a-p shaft diameter	11.0 mm
minimum m-l shaft diameter	12.5 mm
minimum shaft circumference	37.0 mm
m-l midshaft diameter	13.5 mm
midshaft circumference	37.0 mm
Right radius:	
minimum a-p shaft diameter	10.5 mm
minimum m-l shaft diameter	12.5 mm
minimum shaft circumference	37.0 mm
Left ulna:	
maximum length	253.0 mm
physiological length	226.0 mm
a-p minimum shaft diameter	10.5 mm
m-l minimum shaft diameter	12.0 mm
minimum shaft circumference	43.0 mm
a-p midshaft diameter	16.0 mm
m-l midshaft diameter	15.0 mm
midshaft circumference	50.0 mm
a-p subsigmoid diameter	20.0 mm
m-l subsigmoid diameter	17.5 mm
olecranon height	30.0 mm
olecranon breadth	24.0 mm
olecranon depth	10.0 mm
Right ulna:	
a-p subsigmoid diameter	19.0 mm
m-l subsigmoid diameter	16.0 mm
olecranon depth	11.0 mm
Left inominate:	
sciatic notch width	39.0 mm
Right inominate:	
auricular surface length	58.0 mm
Left femur:	
epicondylar breadth	78.5 mm
a-p diameter lateral condyle	67.0 mm
a-p minimum shaft diameter	29.5 mm
m-l minimum shaft diameter	27.0 mm
minimum shaft circumference	92.0 mm
a-p subtrochantric diameter	31.0 mm
m-l subtrochantric diameter	32.5 mm
a-p midshaft diameter	32.5 mm
m-l midshaft diameter	28.5 mm
midshaft circumference	95.0 mm
Right femur:	
epicondylar breadth	77.5 mm
a-p diameter lateral condyle	68.0 mm

a-p minimum shaft diameter	30.0 mm
m-l minimum shaft diameter	27.5 mm
minimum shaft circumference	92.0 mm
a-p subtrochantric diameter	31.0 mm
m-l subtrochantric diameter	33.5 mm
a-p midshaft diameter	31.5 mm
m-l midshaft diameter	27.5 mm
midshaft circumference	93.0 mm
Left patella:	
maximum height	42.5 mm
maximum breadth	40.5 mm
maximum thickness	19.0 mm
medial facet breadth	24.0 mm
Left tibia:	
maximum length	367.0 mm
physiological length	350.0 mm
proximal epiphysis breadth	74.5 mm
distal epiphysis breadth	52.0 mm
a-p nutrient foramen diameter	37.5 mm
m-l nutrient foramen diameter	28.5 mm
nutrient foramen circumference	102.0 mm
a-p minimum shaft diameter	26.5 mm
m-l minimum shaft diameter	26.0 mm
minimum shaft circumference	79.0 mm
a-p diameter proximal epiphysis	57.0 mm
a-p midshaft diameter	31.0 mm
m-l midshaft diameter	29.0 mm
midshaft circumference	88.0 mm
Right tibia:	
maximum length	374.0 mm
physiological length	356.0 mm
proximal epiphysis breadth	73.0 mm
distal epiphysis breadth	51.0 mm
a-p nutrient foramen diameter	39.5 mm
m-l nutrient foramen diameter	26.5 mm
nutrient foramen circumference	98.0 mm
a-p minimum shaft diameter	28.0 mm
m-l minimum shaft diameter	28.5 mm
minimum shaft circumference	78.0 mm
a-p diameter proximal epiphysis	60.0 mm
a-p midshaft diameter	32.5 mm
m-l midshaft diameter	28.5 mm
midshaft circumference	87.0 mm
Left fibula:	
maximum length	357.0 mm
minimum shaft circumference	37.0 mm
a-p midshaft diameter	13.5 mm
m-l midshaft diameter	13.0 mm
midshaft circumference	41.0 mm
maximum shaft circumference	44.0 mm

Right fibula:	
maximum length	354.0 mm
minimum shaft circumference	37.0 mm
a-p midshaft diameter	15.0 mm
m-l midshaft diameter	14.0 mm
midshaft circumference	46.5 mm
maximum shaft circumference	46.0 mm
Left talus:	
maximum length	58.0 mm
maximum breadth	41.0 mm
body height	33.0 mm
trochlea length	36.0 mm
trochlea breadth	17.0 mm
posterior cal facet length	21.0 mm
posterior cal facet breadth	33.0 mm
Right talus:	
maximum length	57.5 mm
maximum breadth	41.5 mm
body height	33.0 mm
trochlea length	34.0 mm
trochlea breadth	17.0 mm
posterior cal facet length	22.0 mm
posterior cal facet breadth	33.0 mm
Left calcaneus:	
maximum length	79.5 mm
minimum breadth	28.0 mm
corpus height	47.0 mm
sust tali length	36.5 mm
sust tali breadth	15.0 mm
load arm length	49.0 mm
load arm breadth	41.0 mm
Right calcaneus:	
maximum length	79.5 mm
minimum breadth	27.0 mm
corpus height	47.0 mm
sust tali length	37.0 mm
sust tali breadth	14.0 mm
load arm length	49.0 mm
load arm breadth	42.0 mm

Burial 24A

Description: Burial 24 A represents the fragmentary and incomplete remains of an infant that were identified during the laboratory analysis. Whether or not this individual was interred with the adult male (Burial 24), or is an intrusive burial, cannot be answered at this time.

Age: infant

Sex: indeterminate

Stature: indeterminate

Pathology: Scapula shows active periostitis.

Anomaly: none noted

Metrics: none taken

Burial 25

Description: This previously disturbed infant grave yielded just a few poorly preserved and fragmented remains. Although the capstones were missing from this stone-box, the sidestones and pottery floor were intact.

Age: 2.5-3.0 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 26

Description: The relatively intact remains of a child were fairly preserved inside a rectangular stone-box. This individual was placed in an extended position on an earth floor. Cranial deformation (occipital flattening) was observed on this person. A number of mussel shells were observed below and to the left of the cranium.

Age: 7-8 years +/- 24 months (dental); 5.5-6.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Both femora twisted medially at distal end; both tibia appear bowed anteriorly.

Anomaly: none noted

Metrics:

Right humerus:

maximum length	176.0 mm
epicondylar breadth	36.0 mm
maximum diameter of midshaft	11.5 mm
minimum diameter of midshaft	12.0 mm

Right radius:

maximum length	139.5 mm
sagittal diameter at midshaft	7.2 mm
transverse diameter at midshaft	8.2 mm

Right ulna:

maximum length	157.0 mm
dorso-volar diameter	10.0 mm
transverse diameter	9.1 mm
minimum circumference	23.0 mm

Left innominate:

iliac breadth	89.1 mm
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Right innominate:

iliac breadth	91.0 mm
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Left femur:

maximum length	247.0 mm
a-p subtrochantric diameter	13.0 mm
transverse subtrochantric diameter	19.5 mm
sagittal diameter at midshaft	14.0 mm
transverse diameter at midshaft	15.2 mm

circumference of midshaft	46.5 mm
Right femur:	
maximum length	247.1 mm
a-p subtrochantric diameter	14.0 mm
transverse subtrochantric diameter	17.1 mm
sagittal diameter at midshaft	14.1 mm
transverse diameter at midshaft	15.2 mm
circumference of midshaft	48.0 mm
Left fibula:	
maximum length	220.0 mm

Burial 27

Description: This rectangular stone-box contained the extended remains of an adult male that had been placed on an earth floor. Except for looting activity around the head and upper chest area, the remains of this individual were relatively intact. No cranium was recovered from this burial.

Age: 30-39 years

Sex: male

Stature: 161.28 cm +/- 3.8

Pathology: Arthritic lipping visible on lumbar vertebrae.

Anomaly: Prominent interosseous crest on both radii.

Metrics:

Right humerus:

maximum length	317.0 mm
maximum vertical diameter of head	441.0 mm
maximum diameter of midshaft	21.0 mm
minimum diameter of midshaft	19.9 mm

Left femur:

maximum length	415.1 mm
maximum diameter of head	439.0 mm
a-p subtrochantric diameter	27.1 mm
transverse subtrochantric diameter	29.3 mm
sagittal diameter at midshaft	28.1 mm
transverse diameter at midshaft	25.3 mm
circumference of midshaft	86.0 mm

Right femur:

maximum diameter of head	440.0 mm
a-p subtrochantric diameter	25.1 mm
transverse subtrochantric diameter	29.0 mm
sagittal diameter at midshaft	28.5 mm
transverse diameter at midshaft	25.2 mm
circumference of midshaft	84.0 mm

Burial 28

Description: Burial 28 comprised a capped, infant stone-box that was hastily excavated in front of earth-moving equipment. A scattering of shell beads was recovered from the neck of this individual.

Age: 2-3 years +/- 12 months (dental); 0.5-1.5 years (other)

Sex: indeterminate

Stature: indeterminate
Pathology: none noted
Anomaly: none noted
Metrics: none taken

Burial 29A (Figure 55)

Description: Burial 29 comprised a rectangular stone-box that contained the disturbed remains of two adult males placed on an earth floor. The disturbance appears to be the result of animal burrowing activity based upon the recovery of a striped skunk skeleton within the stone-box. Burial 29A represented the primary burial and consisted of an extended individual with the cranium to the west. The second interment (Burial 29B) was a (probable) bundle burial represented mainly by a cranium and long bones placed along the eastern edge of the box. A lug-handled jar was recovered against the north sidewall of the grave on the knees of Burial 29A. Animal burrowing probably moved the vessel from its original location, but is all likelihood was associated with Burial 29A.

Age: 35-40 years

Sex: male

Stature: 170.87 cm to 171.17 cm +/- 3.8

Pathology: Skull may have been fractured as a healed, raised periostitis area is present; left side of skull shows an open area (tumor?); blunt force trauma (fracture) in advanced stage of healing on left parietal; vertebrae exhibit severe lipping, with rim and body surface deterioration.

Anomaly: none noted

Metrics:

Cranial measurements

maximum cranial length	168.0 mm
maximum cranial breadth	145.0 mm
frontal chord	110.5 mm
parietal chord	113.0 mm
frontal arc	133.0 mm
parietal arc	139.0 mm
transverse biauricular arc	330.0 mm
horizontal circumference	304.0 mm
biauricular breadth	133.0 mm
mastoid height	33.0 mm
upper facial height	59.0 mm
bizygomatic breadth	131.0 mm
minimum frontal breadth	126.0 mm
bimaxillary breadth	115.5 mm
nasal height	45.0 mm
nasal breadth	25.0 mm
orbital breadth	41.0 mm
orbital height	31.0 mm
biorbital breadth	103.0 mm
inferior malar length	32.0 mm
maximum malar length	52.0 mm

Postcranial measurements

Left clavicle:

maximum length	161.5 mm
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sagittal diameter at midshaft	10.9 mm
vertical diameter at midshaft	11.7 mm
Left humerus:	
maximum vertical diameter of head	48.0 mm
Right humerus:	
maximum length	331.5 mm
maximum vertical diameter of head	49.5 mm
maximum diameter of midshaft	26.1 mm
minimum diameter of midshaft	18.5 mm
circumference at midshaft	74.0 mm
Left radius:	
maximum length	247.0 mm
sagittal diameter at midshaft	15.0 mm
transverse diameter at midshaft	15.9 mm
Left femur:	
maximum length	460.0 mm
bicondylar length	457.0 mm
epicondylar breadth	84.1 mm
maximum diameter of head	48.5 mm
a-p subtrochantric diameter	30.0 mm
transverse subtrochantric diameter	35.8 mm
sagittal diameter at midshaft	33.5 mm
transverse diameter at midshaft	29.8 mm
circumference of midshaft	98.0 mm
Right femur:	
maximum length	456.0 mm
bicondylar length	453.5 mm
maximum diameter of head	48.2 mm
a-p subtrochantric diameter	30.5 mm
transverse subtrochantric diameter	33.1 mm
sagittal diameter at midshaft	31.9 mm
transverse diameter at midshaft	29.8 mm
circumference of midshaft	96.0 mm

Burial 29B (Figure 55)

Description: As mentioned above, Burial 29B consists of a (probable) bundle burial placed on an earth floor along the east edge of a rectangular stone-box. Burrowing activity caused some displacement of the bones.

Age: 35-45 years

Sex: male

Stature: 165.1735 cm to 165.7735 cm +/- 3.8

Pathology: Severe lesions present on skull; vertebrae exhibit extreme lipping with ring and body surface deterioration; L1 and L2 are fused; overall osteoarthritis is slight..

Anomaly: none noted

Metrics:

Cranial measurements	
maximum cranial length	162.0 mm
maximum cranial breadth	144.0 mm
basion-bregma height	154.0 mm

maximum auricular height	115.0 mm
basion porion height	25.0 mm
porion bregma height	109.0 mm
frontal chord	110.0 mm
parietal chord	116.0 mm
occipital chord	102.0 mm
frontal arc	125.0 mm
parietal arc	131.0 mm
occipital arc	113.0 mm
sagittal arc	369.0 mm
transverse biauricular arc	332.0 mm
horizontal circumference	332.0 mm
biauricular breadth	126.0 mm
biasterionic breadth	125.0 mm
mastoid height	30.0 mm
basion nasion length	101.0 mm
basion prosthion length	96.0 mm
upper facial height	69.0 mm
bizygomatic breadth	136.0 mm
minimum frontal breadth	99.0 mm
bimaxillary breadth	101.0 mm
nasal height	50.0 mm
nasal breadth	25.0 mm
orbital breadth	37.0 mm
orbital height	32.0 mm
biorbital breadth	96.0 mm
interorbital breadth	23.0 mm
simotic chord	14.5 mm
inferior malar length	34.0 mm
maximum malar length	49.0 mm
external palatal length	55.5 mm
external palatal breadth	61.0 mm
internal palatal length	52.0 mm
internal palatal breadth	35.5 mm
palatal depth	10.0 mm
foramen magnum length	37.0 mm
foramen magnum height	30.0 mm
mandibular symphyseal height	28.5 mm
mandibular corpus height at symphysis	19.0 mm
mandibular alveolar height at symphysis	7.5 mm
mandibular vertical height at M2	28.5 mm
mandibular maximum projective length	74.0 mm
mandibular minimum a-p diameter of ramus	34.5 mm
mandibular bigonial breadth	84.0 mm
mandibular foramen mentalia breadth	43.4 mm
mandibular angle	123°
Postcranial measurements	
Right femur:	
maximum length	434.9 mm

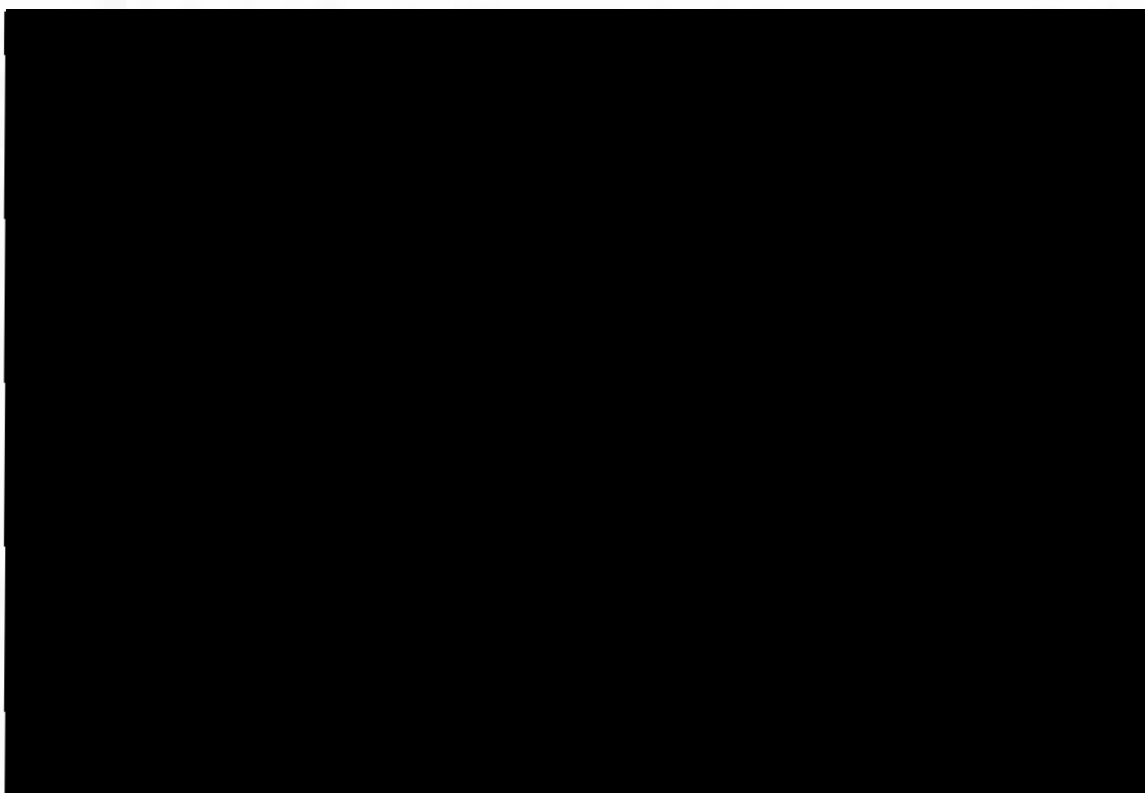


Figure 55. Burial 29 (A and B), facing east.

maximum diameter of head	48.0 mm
a-p subtrochantric diameter	21.8 mm
transverse subtrochantric diameter	30.1 mm
sagittal diameter at midshaft	27.0 mm
transverse diameter at midshaft	27.2 mm
circumference of midshaft	81.5 mm

Burial 30

Description: The poorly preserved remains of an infant (probably newborn) were present inside this small, rectangular stone-box. This individual had been placed in an extended position on an earth floor. One of the capstones was a sandstone slab that had been previously utilized as an abrader (possibly a metate).

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 31

Description: Burial 31 contained a child in an extended position within a rectangular stone-box. These remains were rather well-preserved and had been placed on an earth floor. The distal section of a deer femur was recovered directly under the skull.

Age: 5-6 years, 6-7 years (dental); 3.5-4.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: Supernumary tooth on right maxilla.

Metrics: none taken

Burial 32

Description: This capped, rectangular stone-box contained the well-preserved remains of a child that was placed on an earth floor in an extended position. Two Madison projectile points were associated with this individual. One point was recovered against the first and second vertebrae, while the second was found under the right scapula.

Age: 9.5-10.5 years, 12 years +/- 8 months (dental); 7.5-8.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Periostitis and resorption on maxilla at M3 alveolar bone; infection on left ilium, lumbar vertebrae, and sacrum.

Anomaly: none noted

Metrics:

Left humerus:	
maximum length	201.0 mm
Right humerus:	
maximum length	202.0 mm
Left femur:	
maximum length	286.9 mm
Right femur:	
maximum length	280.0 mm
Left tibia:	
maximum length	234.0 mm
Right tibia:	
maximum length	232.1 mm
Left fibula:	
maximum length	229.3 mm

Burial 33 (Figure 56)

Description: Burial 33 comprised a flexed adult that was laid on an earth floor within a nearly square stone-box. This somewhat preserved individual was resting on their left side with the head to the east. A loop handled jar was placed in the northwest corner of the box, just behind the person's head.

Age: 45+ years

Sex: male (probable)

Stature: 164.834 cm +/- 4.25

Pathology: About two-thirds of teeth lost antemortem; moderate to severe arthritis present in most post-cranial bone; right ribs with healed periostitis

Anomaly: none noted

Metrics:

Right clavicle: -	
maximum length	141.0 mm

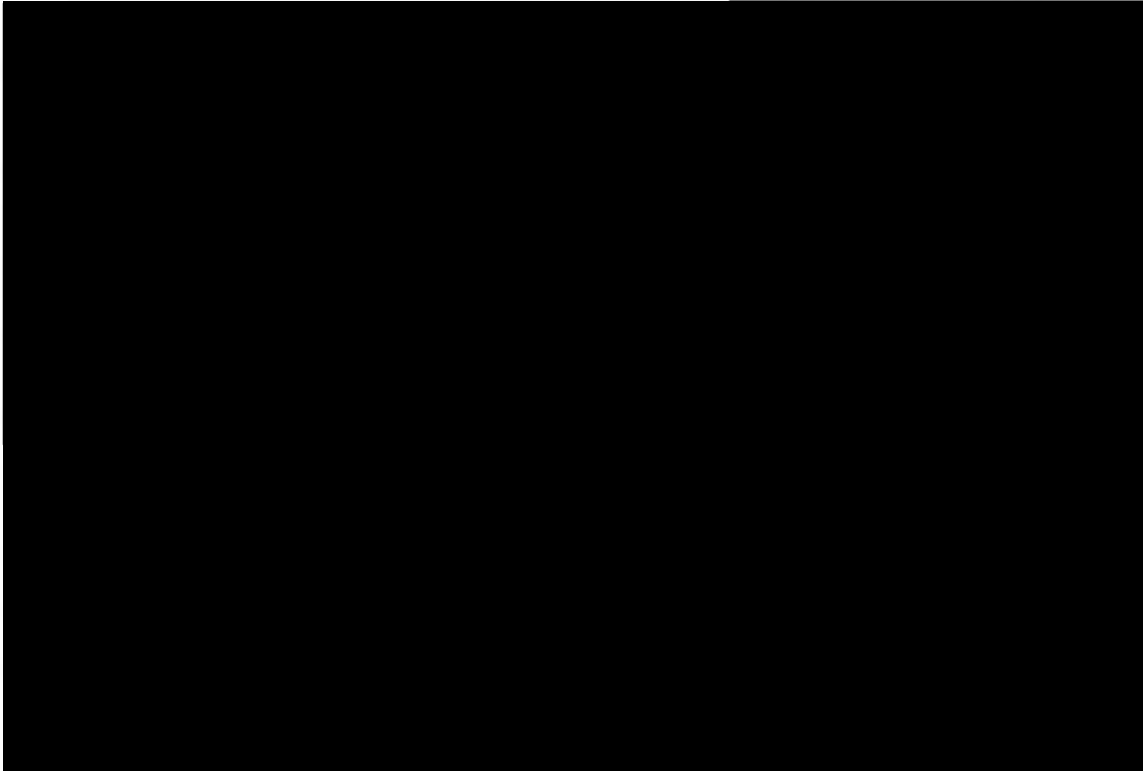


Figure 56. Burial 33, facing east.

Right humerus:

maximum length	308.0 mm
epicondylar breadth	54.9 mm
maximum vertical diameter of head	39.0 mm
maximum diameter of midshaft	22.5 mm
minimum diameter of midshaft	17.1 mm
circumference at midshaft	68.0 mm

Left femur:

maximum diameter of head	41.0 mm
sagittal diameter at midshaft	24.9 mm
transverse diameter at midshaft	27.0 mm
circumference of midshaft	83.0 mm

Right femur:

sagittal diameter at midshaft	24.1 mm
transverse diameter at midshaft	25.9 mm
circumference of midshaft	78.5 mm

Burial 34A

Description: The rather poorly preserved remains of two adults were recorded inside this rectangular stone-box. Burial 34A was an adult female (probable) that was placed in an extended position on an earth floor. The second individual (Burial 34B) comprised a bundle burial that was placed on the lower legs of Burial 34A. Whether or not these

people were buried at the same time, or if Burial 34B represents a reuse of the stone-box cannot be answered.

Age: 40-44 years

Sex: female (probable)

Stature: indeterminate

Pathology: Majority of long bones slightly affected by osteoarthritis; left humerus, ulna, and radius severely affected with lipping, facet involvement, and osteoblastic activity.

Anomaly: none noted

Metrics:

Right clavicle:

maximum length	148.0 mm
sagittal diameter at midshaft	8.1 mm
vertical diameter at midshaft	11.0 mm

Left ulna:

maximum length	239.5 mm
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Left femur:

maximum diameter of head	425.0 mm
a-p subtrochantric diameter	22.6 mm
transverse subtrochantric diameter	30.0 mm

Right femur:

sagittal diameter at midshaft	22.9 mm
transverse diameter at midshaft	25.1 mm
circumference of midshaft	77.0 mm

Left calcaneus:

maximum length	73.0 mm
middle breadth	46.1 mm

Right calcaneus:

maximum length	72.2 mm
middle breadth	44.0 mm

Burial 34B

Description: This individual represented a bundle burial that was placed on the lower legs of Burial 34A.

Age: 18-21 years

Sex: male (probable)

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 35 (Figure 57)

Description: This rectangular stone-box contained a child that was buried in an extended position on a stone floor. The skeletal remains of this individual were intact and well-preserved. Two effigy bowls (duck and fish) had been placed at the right shoulder of the individual. A mussel shell was observed on the individual's left shoulder.

Age: 8 years, 9 years +/- 24 months (dental); 6.5-7.5 years, 7-9 years (other)

Sex: indeterminate

Stature: indeterminate

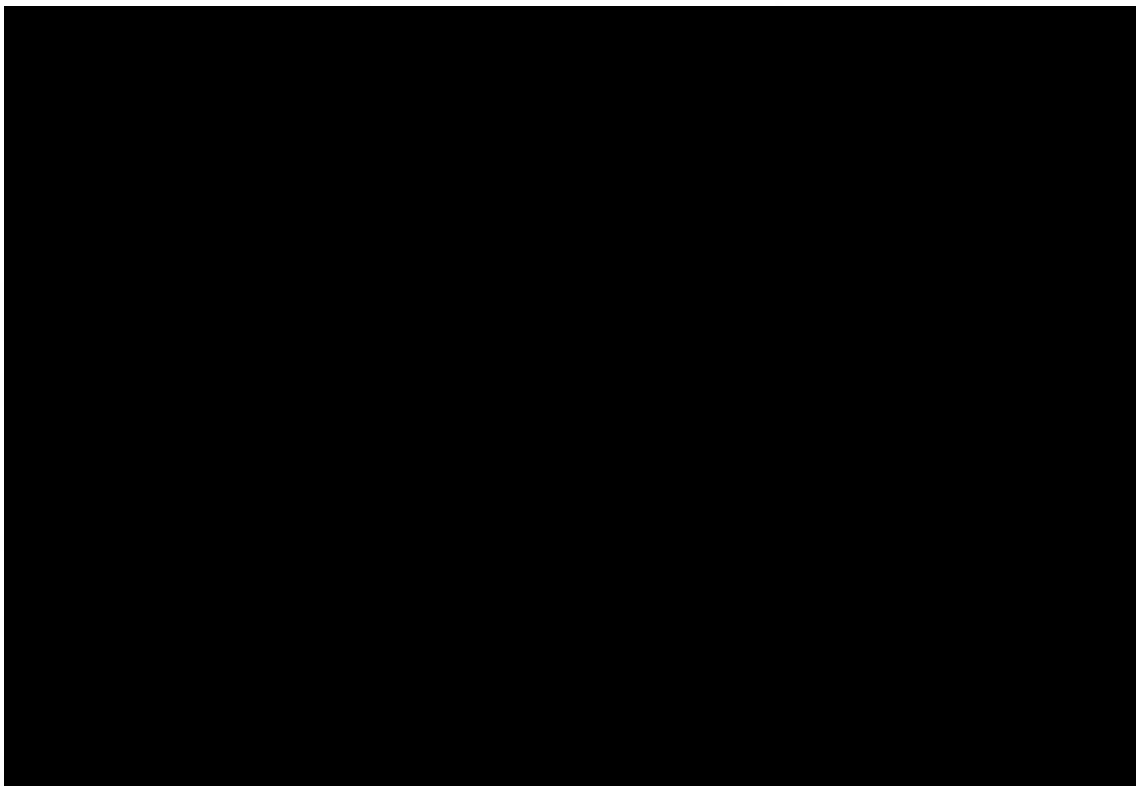


Figure 57. Burial 35, facing northwest.

Pathology: Mandible exhibits periostitis on left exterior and right interior; hypoplasia; resorptive lesions on each inferior side of 1st sacral element; small resorptive lesion on left ventral transverse process of 1st upper thoracic vertebra; periostitis on left proximal interior ribs.

Anomaly: none noted

Metrics:

Cranial measurements

upper facial height	59.0 mm
nasal height	41.0 mm
nasal breadth	23.0 mm
orbital breadth	37.5 mm
orbital height	32.0 mm
biorbital breadth	81.0 mm
interorbital breadth	14.0 mm
simotic chord	6.4 mm
external palatal length	44.0 mm
external palatal breadth	48.0 mm
internal palatal length	33.0 mm
internal palatal breadth	9.0 mm
mandibular symphyseal height	26.0 mm
mandibular corpus height at symphysis	20.0 mm
mandibular alveolar height at symphysis	6.0 mm
mandibular vertical height at M2	23.0 mm

mandibular maximum projective length	54.0 mm
mandibular minimum a-p diameter of ramus	28.0 mm
mandibular maximum a-p diameter of ramus	55.0 mm
mandibular condylo-symphyseal length	83.0 mm
mandibular bigonial breadth	90.0 mm
mandibular foramen mentalia breadth	42.0 mm
mandibular coronoid height	49.0 mm
mandibular bicondylar breadth	95.0 mm
mandibular height of ascending ramus	47.0 mm
mandibular angle	136°
Postcranial measurements	
Sternum:	
manubrium length	3.78 mm
maximum manubrial breadth	3.8 mm
breadth of 1st sternebra	18.0 mm
breadth of 3rd sternebra	15.0 mm
Sacrum:	
maximum breadth	84.0 mm
external s1 transverse diameter	42.0 mm
internal s1 transverse diameter	25.0 mm
external s1 a-p diameter	24.0 mm
internal s1 a-p diameter	15.0 mm
Left scapula:	
axillary margin length	71.0 mm
glenoid fossa height	23.0 mm
glenoid fossa breadth	9.0 mm
Left humerus:	
maximum length	205.0 mm
epicondylar breadth	33.0 mm
minimum a-p shaft diameter	10.5 mm
minimum m-l shaft diameter	11.0 mm
minimum shaft circumference	41.0 mm
maximum diameter at midshaft	13.0 mm
minimum diameter at midshaft	10.5 mm
midshaft circumference	42.0 mm
maximum diameter at deltoid	13.5 mm
olecranon fossa height	14.5 mm
olecranon fossa breadth	20.0 mm
Right humerus:	
maximum length	193.0 mm
epicondylar breadth	33.0 mm
minimum a-p shaft diameter	10.0 mm
minimum m-l shaft diameter	11.0 mm
minimum shaft circumference	40.0 mm
maximum diameter at midshaft	14.5 mm
minimum diameter at midshaft	9.5 mm
midshaft circumference	43.0 mm
maximum diameter at deltoid	15.0 mm
olecranon fossa height	14.0 mm

olecranon fossa breadth	19.0 mm
Left radius:	
maximum length	147.0 mm
transverse diameter distal epiphysis	17.0 mm
minimum a-p shaft diameter	6.0 mm
minimum m-l shaft diameter	9.0 mm
minimum shaft circumference	30.0 mm
m-l head diameter	12.5 mm
Right radius:	
minimum a-p shaft diameter	6.0 mm
minimum m-l shaft diameter	7.0 mm
minimum shaft circumference	28.0 mm
a-p head diameter	14.0 mm
m-l head diameter	12.0 mm
Right ulna:	
a-p subsigmoid diameter	12.0 mm
m-l subsigmoid diameter	9.0 mm
olecranon height	21.0 mm
olecranon depth	4.0 mm
Left iliac crest:	
maximum iliac breadth	92.0 mm
upper iliac height	48.0 mm
minimum iliac breadth	64.0 mm
auricular surface height	24.5 mm
auricular surface length	36.0 mm
Right iliac crest:	
maximum iliac breadth	93.0 mm
upper iliac height	47.0 mm
sciatic notch width	20.0 mm
minimum iliac breadth	66.0 mm
auricular surface height	25.0 mm
auricular surface length	35.0 mm
Left femur:	
maximum length	273.0 mm
bicondylar length	271.0 mm
a-p minimum shaft diameter	15.0 mm
m-l minimum shaft diameter	14.0 mm
minimum shaft circumference	49.0 mm
a-p subtrochantric diameter	22.0 mm
m-l subtrochantric diameter	20.0 mm
a-p midshaft diameter	16.0 mm
m-l midshaft diameter	15.0 mm
midshaft circumference	50.0 mm
a-p head diameter	28.0 mm
vertical head diameter	28.5 mm
head circumference	90.0 mm
trochanteric length	276.0 mm
a-p neck diameter	19.0 mm
vertical neck diameter	21.5 mm
neck circumference	73.0 mm

upper femoral breadth	55.0 mm	
Right femur:		
maximum length	289.0 mm	epiphyseal plates attached
bicondylar length	285.0 mm	epiphyseal plates attached
epicondylar breadth	48.0 mm	
a-p diameter lateral condyle	39.0 mm	
a-p minimum shaft diameter	15.0 mm	
m-l minimum shaft diameter	14.0 mm	
minimum shaft circumference	50.0 mm	
a-p subtrochantric diameter	22.0 mm	
m-l subtrochantric diameter	20.0 mm	
a-p midshaft diameter	16.0 mm	
m-l midshaft diameter	15.0 mm	
midshaft circumference	50.0 mm	
a-p head diameter	28.0 mm	
vertical head diameter	28.5 mm	
head circumference	90.0 mm	
trochanteric length	276.0 mm	
width of greater troch	25.0 mm	
a-p neck diameter	19.0 mm	
vertical neck diameter	22.0 mm	
neck circumference	73.0 mm	
upper femoral breadth	55.0 mm	
Left patella:		
maximum breadth	26.0 mm	
maximum thickness	10.0 mm	
medial facet breadth	11.0 mm	
lateral facet breadth	16.0 mm	
Right patella:		
maximum height	27.0 mm	
maximum breadth	26.0 mm	
maximum thickness	10.5 mm	
medial facet breadth	13.0 mm	
lateral facet breadth	16.0 mm	
Left tibia:		
maximum length	241.0 mm	
physiological length	235.0 mm	
distal epiphysis breadth	31.0 mm	
a-p nutrient foramen diameter	21.0 mm	
m-l nutrient foramen diameter	14.0 mm	
nutrient foramen circumference	62.0 mm	
a-p minimum shaft diameter	16.5 mm	
m-l minimum shaft diameter	13.5 mm	
minimum shaft circumference	50.0 mm	
a-p midshaft diameter	18.0 mm	
m-l midshaft diameter	16.0 mm	
midshaft circumference	52.0 mm	
Right tibia:		
maximum length	240.0 mm	
physiological length	235.0 mm	

distal epiphysis breadth	31.0 mm
a-p nutrient foramen diameter	22.0 mm
m-l nutrient foramen diameter	14.0 mm
nutrient foramen circumference	62.0 mm
a-p minimum shaft diameter	16.0 mm
m-l minimum shaft diameter	13.0 mm
minimum shaft circumference	50.0 mm
a-p diameter proximal epiphysis	30.0 mm
a-p midshaft diameter	18.0 mm
m-l midshaft diameter	14.0 mm
midshaft circumference	51.0 mm
Left fibula:	
maximum length	214.0 mm
minimum shaft circumference	27.0 mm
a-p midshaft diameter	9.0 mm
m-l midshaft diameter	6.0 mm
midshaft circumference	30.0 mm
maximum shaft circumference	32.0 mm
Left talus:	
maximum length	37.0 mm
maximum breadth	30.0 mm
body height	20.0 mm
trochlea length	29.0 mm
trochlea breadth	22.0 mm
posterior cal facet length	15.0 mm
posterior cal facet breadth	22.0 mm
Right talus:	
maximum length	37.0 mm
maximum breadth	30.0 mm
body height	20.0 mm
trochlea length	29.0 mm
trochlea breadth	22.0 mm
posterior cal facet length	15.0 mm
posterior cal facet breadth	22.0 mm
Left calcaneus:	
maximum length	79.5 mm
minimum breadth	28.0 mm
corpus height	47.0 mm
sust tali length	36.5 mm
sust tali breadth	15.0 mm
load arm length	49.0 mm
load arm breadth	41.0 mm
Left calcaneus:	
maximum length	48.0 mm
minimum breadth	18.0 mm
corpus height	31.0 mm
sust tali length	19.0 mm
sust tali breadth	10.0 mm
load arm length	35.0 mm
load arm breadth	32.0 mm

Right calcaneus:	
maximum length	48.0 mm
minimum breadth	18.0 mm
corpus height	31.0 mm
sust tali length	19.0 mm
sust tali breadth	10.0 mm
load arm breadth	32.0 mm

Burial 36

Description: Previous looting activity had severely jumbled the adult remains within this rectangular stone-box. The floor of this box was earthen. No cranium was recovered from this grave. However, the head was assumed to be oriented to the southeast as the stone-box was slightly wider at this end.

Age: 45-50 years

Sex: male

Stature: 162.85 cm to 163.15 cm +/- 3.8

Pathology: Moderate to severe expressions of osteoarthritic lesions observed throughout skeleton (long bones, metatarsals, metacarpals, tarsals, carpals, scapulae, patellae, and clavicles); compression fracture on L4 with bony bridging.

Anomaly: Frontal and parietal fragments thick and heavy; vascular channels very thick and grooved into endocranial surface.

Metrics:

Left humerus:	
maximum vertical diameter of head	41.5 mm
Right humerus:	
maximum vertical diameter of head	41.0 mm
maximum diameter of midshaft	22.5 mm
minimum diameter of midshaft	20.1 mm
circumference at midshaft	67.5 mm
Left radius:	
maximum length	231.9 mm
sagittal diameter at midshaft	11.8 mm
transverse diameter at midshaft	17.1 mm
Left femur:	
maximum length	427.1 mm
bicondylar length	423.5 mm
maximum diameter of head	43.1 mm
transverse subtrochantric diameter	30.9 mm
sagittal diameter at midshaft	29.0 mm
transverse diameter at midshaft	26.9 mm
circumference of midshaft	92.5 mm
Right femur:	
maximum length	425.5 mm
bicondylar length	423.0 mm
maximum diameter of head	43.0 mm
a-p subtrochantric diameter	29.9 mm
transverse subtrochantric diameter	29.1 mm
sagittal diameter at midshaft	32.0 mm

transverse diameter at midshaft	26.9 mm
circumference of midshaft	93.5 mm

Burial 37

Description: Burial 37 contained the poorly preserved remains of an infant. Only the cranial bones and fragments of long bones were recovered from this rectangular grave. Enough of the skeleton was present to determine that this individual was placed in an extended position on an earth floor.

Age: 2 years +/- 8 months (dental); 1-3 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Porotic hyperostosis present on superior orbital walls.

Anomaly: none noted

Metrics: none taken

Burial 38

Description: Bone fragments from a very young infant were present within this small, rectangular stone-box. The body was apparently laid in an extended position on an earth floor.

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 39

Description: This child burial was severely disturbed as the cranium and portions of the lower legs were removed by heavy equipment activity. The individual appears to have been placed within a pit in a flexed position on the right side. No stone slabs were present or observed during the removal of this burial.

Age: 7 years +/- 24 months (dental); 5.5-6.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Right ribs exhibit periostitis and resorptive lesions on internal surface.

Anomaly: none noted

Metrics: none taken

Burial 40 (Figure 58)

Description: The adult female within this rectangular stone-box was laid in an extended position on an earth floor. Except for the chest area, most of the skeletal remains were preserved in fair condition. Interestingly, the lower legs were crossed at the ankles, with the right leg over the left leg. A fish effigy bowl was placed with this individual above the left side of the skull. It should be noted here that an intrusive right tibia from an immature individual was recovered from this grave.

Age: 30-40 years

Sex: female

Stature: 155.14 cm +/- 3.513

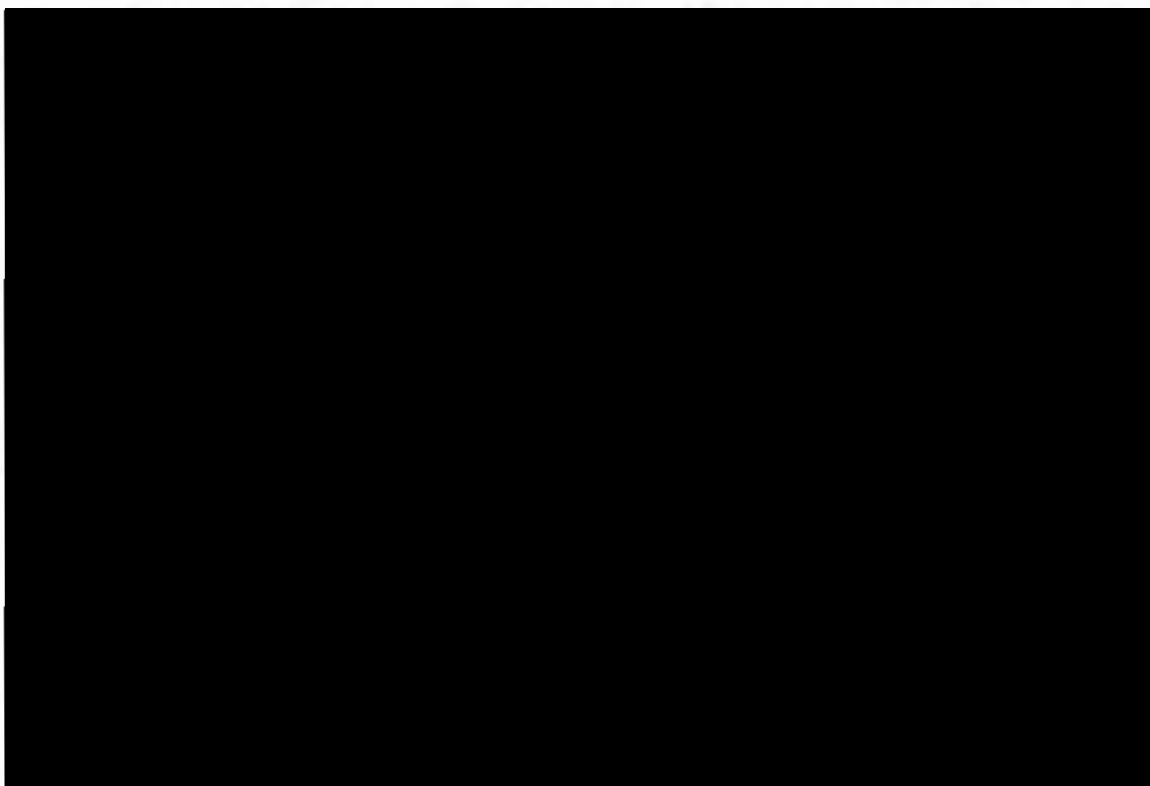


Figure 58. Burial 40, facing northeast.

Pathology: Resorptive lesions on frontal endocranium; heavy calculus deposit on upper and lower teeth; slight to moderate osteophytic lipping on long bones (distal right humerus displays moderate lipping and areas of porosity).

Anomaly: none noted

Metrics:

Left humerus:

maximum vertical diameter of head	40.5 mm
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Right humerus:

maximum length	312.2 mm
maximum vertical diameter of head	41.0 mm
maximum diameter of midshaft	20.9 mm
minimum diameter of midshaft	21.0 mm
circumference at midshaft	60.0 mm

Left femur:

maximum diameter of head	40.5 mm
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Right femur:

maximum length	411.1 mm
maximum diameter of head	41.0 mm
a-p subtrochantric diameter	25.0 mm
transverse subtrochantric diameter	28.0 mm
sagittal diameter at midshaft	23.0 mm
transverse diameter at midshaft	25.5 mm
circumference of midshaft	78.0 mm

Left tibia:

condylo-malleolar length	342.0 mm
maximum diameter at nutrient foramen	30.1 mm
transverse diameter at nutrient foramen	19.9 mm
circumference at nutrient	80.0 mm

Right tibia:

condylo-malleolar length	338.1 mm
maximum diameter at nutrient foramen	30.1 mm
transverse diameter at nutrient foramen	18.9 mm
circumference at nutrient	78.5 mm

Burial 41

Description: The cranium, chest, arms, and portions of the pelvic area of this individual were severely disturbed and/or removed by previous looting activity. Buried in an extended position within a rectangular stone-box, this individual was placed on an earth floor. A mussel shell had been placed between the knees of this person. A small, unusual ornament of carved deer bone (a kneeling figure with a bird-like head) was recovered from the loose fill.

Age: 13-15.5 years

Sex: male (probable)

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right femur:

maximum length	371.0 mm
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Right fibula:

maximum length	307.0 mm
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Burial 42

Description: This rectangular stone-box contained the poorly preserved remains of a probable newborn infant. A stone floor was prepared for this individual that had been placed in an extended position.

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 43

Description: This capped stone-box contained an adult male placed in an extended position on a floor of pottery sherds. The head of this individual rested on a very large fragment of a lug handled jar. Most of the remains within this rectangular box were preserved in fair condition, although some disturbance (probably animal burrowing activity) was noted around the right leg area.

Age: 30-40 years

Sex: male

Stature: 170.0696 cm to 170.6696 cm +/- 4.14

Pathology: Calculus buildup; possible case of tuberculosis (extreme vertebrae destruction of T7-L2, other vertebrae affected); right femur head compressed with eburnation noted (right femur more gracile than left femur); slight osteoarthritic lipping noted on glenoid fossa, manubrium, and long bones.

Anomaly: none noted

Metrics:

Left humerus:

maximum length	327.2 mm
maximum diameter of midshaft	22.7 mm
minimum diameter of midshaft	16.7 mm
circumference at midshaft	65.5 mm

Right humerus:

maximum length	326.0 mm
maximum vertical diameter of head	43.0 mm
maximum diameter of midshaft	23.1 mm
minimum diameter of midshaft	16.1 mm
circumference at midshaft	67.0 mm

Left radius:

maximum length	247.5 mm
sagittal diameter at midshaft	13.0 mm
transverse diameter at midshaft	15.1 mm

Right radius:

maximum length	245.1 mm
sagittal diameter at midshaft	13.0 mm
transverse diameter at midshaft	14.3 mm

Right ulna:

maximum length	265.0 mm
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Left femur:

maximum diameter of head	45.3 mm
a-p subtrochantric diameter	33.9 mm
transverse subtrochantric diameter	24.5 mm
sagittal diameter at midshaft	28.3 mm
transverse diameter at midshaft	28.0 mm
circumference of midshaft	87.0 mm

Right femur:

a-p subtrochantric diameter	21.7 mm
transverse subtrochantric diameter	27.0 mm
sagittal diameter at midshaft	25.1 mm
transverse diameter at midshaft	20.9 mm
circumference of midshaft	71.5 mm

Left tibia:

condylo-malleolar length	371.0 mm
maximum diameter at nutrient foramen	36.5 mm
transverse diameter at nutrient foramen	23.2 mm
circumference at nutrient	97.0 mm

Burial 44

Description: Burial 44 comprised a rectangular stone-box with the remains of a very young child in an extended position on an earth floor. Previous looting activity had severely

disturbed the skeletal elements as several bones were recovered outside the stone-box.
This grave was partially intrusive into the south side of Structure 3 (Feature 25).

Age: 1.5-3.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Left humerus:	
maximum length	132.1 mm
Left radius:	
maximum length	102.0 mm
Left ulna:	
maximum length	114.0 mm

Burial 45

Description: The remains of a very young child were present within this rectangular stone-box. This individual had been placed on an earth floor in an extended position. Two pottery vessels (human effigy) were interred with this person. One vessel was placed in the corner of the stone-box above the left side of the skull, whereas the second vessel was located near the pelvic area along the right side of the body. A number of shell disc beads were also recovered from this burial.

Age: 2-3 years (dental); 1.5-2.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: Mandibular incisor congenitally absent.

Metrics:

Left humerus:	
maximum length	129.1 mm
Right humerus:	
maximum length	130.0 mm
Left femur:	
maximum length	168.1 mm
Left tibia:	
maximum length	137.0 mm
Right tibia:	
maximum length	138.1 mm

Burial 46

Description: This burial consisted of a small, rectangular stone-box with the remains of a (probable) newborn. The body was placed in an extended position on a floor of earth.

No grave associations were noted.

Age: 2 months (dental); newborn-0.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Left humerus:	
maximum length	61.1 mm
Right humerus:	
maximum length	61.3 mm
Left ulna:	
maximum length	57.1 mm
Right ulna:	
maximum length	57.5 mm
Right radius:	
maximum length	50.7 mm
Right femur:	
maximum length	70.1 mm
Left tibia:	
maximum length	63.1 mm
Right tibia:	
maximum length	63.1 mm

Burial 47

Description: Burial 47 represented a (probable) newborn grave with the individual placed in an extended position on an earth floor. The remains were poorly preserved, and no grave goods were recovered.

Age: newborn +/- 2 months (dental); newborn +/- 0.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Left tibia:	
maximum length	65.0 mm

Burial 48

Description: A stone floor was noted for this rectangular stone-box. However, vandals had previously disturbed this very young infant grave. This looting activity was so severe that the position of the head could not be determined. This individual was presumably buried in an extended position.

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right humerus:	
maximum length	76.0 mm
Left tibia:	
maximum length	80.0 mm
Unsided fibula:	
maximum length	78.0 mm

Burial 49

Description: The well-preserved remains of an adult male were removed from this rectangular stone-box. Cranial deformation (occipital flattening) was observed on this individual who was laid in an extended position on an earth floor. A portion of the stone-box intruded into the east side of Structure 3 (Feature 25). In fact, six postmolds associated with Structure 3 were defined on the floor of this burial.

Age: 45-55 years

Sex: male

Stature: 170.422 cm to 170.722 cm +/- 3.18

Pathology: Button osteomas present on frontal bone; extensive antemortem tooth loss as most of alveolar bone has been resorbed except for anterior teeth; severe tooth wear on remaining teeth; severe osteoarthritis on vertebrae; T11-T12 centrum partially eroded away; moderate arthritic lipping on long bones; eburnation observed on left radius and humerus;

Anomaly: none noted

Metrics:

Left humerus:

maximum length	315.9 mm
epicondylar breadth	62.0 mm
maximum vertical diameter of head	43.0 mm
maximum diameter of midshaft	21.3 mm
minimum diameter of midshaft	15.9 mm
circumference at midshaft	63.5 mm

Right humerus:

maximum length	316.0 mm
epicondylar breadth	60.0 mm
maximum vertical diameter of head	43.0 mm
maximum diameter of midshaft	21.1 mm
minimum diameter of midshaft	15.0 mm
circumference at midshaft	65.0 mm

Left radius:

maximum length	262.0 mm
sagittal diameter at midshaft	11.5 mm
transverse diameter at midshaft	13.9 mm

Right radius:

maximum length	260.9 mm
sagittal diameter at midshaft	11.1 mm
transverse diameter at midshaft	12.0 mm

Left ulna:

dorso-volar diameter	15.9 mm
transverse diameter	14.5 mm
minimum circumference	35.1 mm

Right ulna:

maximum length	282.0 mm
dorso-volar diameter	16.0 mm
transverse diameter	14.5 mm
minimum circumference	36.0 mm

Left femur:

maximum length	451.0 mm
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bicondylar length	450.5 mm
epicondylar breadth	81.0 mm
maximum diameter of head	45.0 mm
a-p subtrochantric diameter	30.0 mm
transverse subtrochantric diameter	30.5 mm
sagittal diameter at midshaft	30.0 mm
transverse diameter at midshaft	27.0 mm
circumference of midshaft	91.0 mm
Right femur:	
maximum length	452.5 mm
bicondylar length	451.0 mm
epicondylar breadth	80.0 mm
maximum diameter of head	44.1 mm
a-p subtrochantric diameter	29.0 mm
transverse subtrochantric diameter	29.9 mm
sagittal diameter at midshaft	31.1 mm
transverse diameter at midshaft	27.5 mm
circumference of midshaft	92.0 mm
Left tibia:	
condylo-malleolar length	389.0 mm
maximum diameter at nutrient foramen	40.0 mm
transverse diameter at nutrient foramen	23.0 mm
circumference at nutrient	102.0 mm
Right tibia:	
condylo-malleolar length	393.5 mm
maximum diameter at nutrient foramen	39.0 mm
transverse diameter at nutrient foramen	23.5 mm
circumference at nutrient	107.5 mm
Left fibula:	
maximum length	371.0 mm
maximum diameter at midshaft	17.1 mm
Right fibula:	
maximum length	378.5 mm
maximum diameter at midshaft	18.0 mm

Burial 50 (Figure 59)

Description: Burial 50 contained an extended adult male that had been placed on a floor of ceramic sherds. This rectangular stone-box was capped at the time of removal and contained a loosely compacted midden fill. One modeled human head attached to a rim sherd was recovered from the grave fill. The pottery floor derived from a lug-handled jar.

Age: 35-45 years

Sex: male

Stature: 164.4104 cm to 165.0104 cm +/- 3.24

Pathology: Mandibular incisor abscess; severe dental attrition; slight to moderate osteophytosis of lumbar vertebrae; slight to moderate arthritic lipping on all long bones; healed periostitis on tibiae and fibulae.

Anomaly: Inner table appears thickened, vessel grooves quite deep.

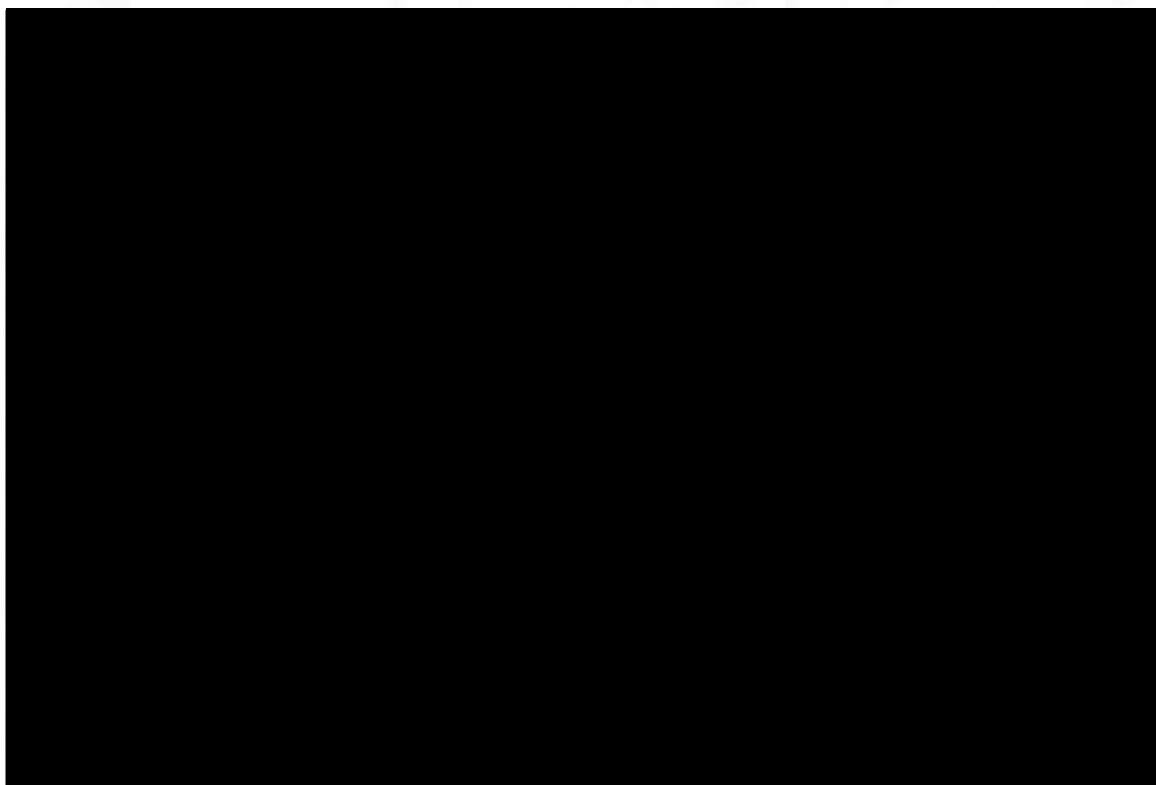


Figure 59. Burial 50, facing northwest.

Metrics:

Left humerus:

maximum length	299.0 mm
epicondylar breadth	55.9 mm
maximum vertical diameter of head	41.1 mm
maximum diameter of midshaft	21.0 mm
minimum diameter of midshaft	16.0 mm
circumference at midshaft	59.5 mm

Right humerus:

maximum length	305.0 mm
maximum vertical diameter of head	41.1 mm
maximum diameter of midshaft	21.9 mm
minimum diameter of midshaft	17.0 mm
circumference at midshaft	61.5 mm

Right radius:

maximum length	232.3 mm
sagittal diameter at midshaft	11.1 mm
transverse diameter at midshaft	14.8 mm

Left ulna:

maximum length	247.5 mm
physiological length	233.5 mm
minimum circumference	31.0 mm

Left femur:	
maximum length	422.0 mm
bicondylar length	417.0 mm
epicondylar breadth	75.1 mm
maximum diameter of head	43.8 mm
a-p subtrochantric diameter	23.1 mm
transverse subtrochantric diameter	31.0 mm
sagittal diameter at midshaft	25.5 mm
transverse diameter at midshaft	25.5 mm
circumference of midshaft	80.0 mm
Left tibia:	
condylo-malleolar length	356.2 mm
maximum diameter at nutrient foramen	31.5 mm
transverse diameter at nutrient foramen	20.1 mm
circumference at nutrient	82.5 mm

Burial 51A

Description: Burial 51 consisted of a small, rectangular stone-box that contained the skeletal remains of two very young children. Although capped prior to removal, the capstones and portions of the endstones were disturbed by heavy equipment activity. Interestingly, large fragments of ceramic pans had apparently been used as one material to cap this grave. The skeletal remains, albeit poorly preserved, were not damaged by the bulldozer. Burial 51A was the first individual interred. This child was (probably) laid in an extended position on an earth floor. At another time, the grave was used again for Burial 51B. The remains of 51A were moved to the sides and end of the stone-box, with Burial 51B placed in an extended position where Burial 51A used to be. Four conch shell beads were recovered from the grave fill.

Age: 3 years +/- 12 months

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 51B

Description: This burial comprised the second child to be placed within the stone-box designated Burial 51. Prior to placing this individual in an extended position within the stone-box, the remains of Burial 51A were moved out of the way (to the sides and end of the box).

Age: 1.5 years +/- 6 months (dental); 0.5-1.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right humerus:	
maximum length	102.0 mm
Left ulna:	
maximum length	88.0 mm

Right radius:	
maximum length	80.0 mm
Left femur:	
maximum length	124.0 mm
Right femur:	
maximum length	124.0 mm
Right tibia:	
maximum length	105.0 mm
Right fibula:	
maximum length	99.0 mm

Burial 52

Description: The somewhat disarticulated remains of a (probable) newborn infant were present inside a small, rectangular stone-box. This individual had been placed in an extended position on an earth floor. The skeletal disturbance was probably due to animal burrowing rather than looting activity. No associated artifacts were recovered from this burial.

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Left humerus:	
maximum length	60.8 mm
Right humerus:	
maximum length	60.9 mm
Left femur:	
maximum length	73.9 mm
Right femur:	
maximum length	73.0 mm
Left tibia:	
maximum length	63.9 mm
Right tibia:	
maximum length	63.9 mm

Burial 53

Description: A portion of an infant or young child was recovered from this previously looted stone-box. Only a few bone fragments remained of the individual that had originally been placed (extended?) on an earth floor.

Age: infant or young child

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 54A

Description: Burial 54 contained the skeletal remains of two adult males (Burial 54A and 54B) and one infant (Burial 54C). The stone-box that accommodated these individuals was rectangular with an earth floor. Previous looting activity had disturbed the remains, but both adults appeared to have been buried in an extended position. Whether or not these two individuals were interred at the same time could not be determined. The infant burial was identified during the laboratory analysis. Questions about the infant's relationship with the two adult males, as well as time and position of interment, remain unanswered at this time.

Age: <40 years

Sex: male

Stature: 170.628 cm +/- 4.25

Pathology: Hypoplastic lines visible on teeth; slight to moderate tooth wear.

Anomaly: none noted

Metrics:

Left humerus:

epicondylar breadth	60.0 mm
maximum diameter of midshaft	23.0 mm
minimum diameter of midshaft	16.1 mm
circumference at midshaft	66.1 mm

Right humerus:

maximum length	328.5 mm
epicondylar breadth	59.0 mm
maximum vertical diameter of head	43.5 mm
maximum diameter of midshaft	24.0 mm
minimum diameter of midshaft	17.5 mm
circumference at midshaft	68.5 mm

Left radius:

maximum length	241.0 mm
sagittal diameter at midshaft	12.0 mm
transverse diameter at midshaft	14.1 mm

Right radius:

sagittal diameter at midshaft	12.3 mm
transverse diameter at midshaft	14.9 mm

Right femur:

maximum length	439.1 mm
bicondylar length	437.5 mm
epicondylar breadth	81.5 mm
a-p subtrochantric diameter	28.1 mm
transverse subtrochantric diameter	32.5 mm
sagittal diameter at midshaft	30.0 mm
transverse diameter at midshaft	25.0 mm
circumference of midshaft	88.0 mm

Burial 54B

Description: As noted previously, Burial 54B comprised one of two adult males buried in a rectangular stone-box. The ability to assess whether or not these individuals were buried at the same time was inhibited by prior looter activity.

Age: 30-40 years

Sex: male

Stature: 165.0865 cm +/- 3.8

Pathology: Slight to moderate tooth wear, slight osteoarthritic lipping on long bones.

Anomaly: none noted

Metrics:

Left humerus:

maximum length	311.3 mm
maximum vertical diameter of head	42.1 mm
maximum diameter of midshaft	22.9 mm
minimum diameter of midshaft	14.1 mm
circumference at midshaft	62.0 mm

Right femur:

maximum length	433.1 mm
bicondylar length	431.0 mm
a-p subtrochantric diameter	24.9 mm
transverse subtrochantric diameter	27.1 mm
sagittal diameter at midshaft	30.9 mm
transverse diameter at midshaft	25.7 mm
circumference of midshaft	87.1 mm

Left tibia:

maximum diameter at nutrient foramen	35.9 mm
transverse diameter at nutrient foramen	19.1 mm
circumference at nutrient	89.0 mm

Right tibia:

maximum diameter at nutrient foramen	34.1 mm
transverse diameter at nutrient foramen	21.0 mm
circumference at nutrient	89.0 mm

Burial 54C

Description: Laboratory processing of the Burial 54 remains identified several fragments of an infant skeleton. Portions of a rib, clavicle and radius were recovered from the burial.

The time of interment, placement of the body, or relationship to the two adult males also in the box cannot be answered with the available information.

Age: infant

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 55

Description: The somewhat preserved remains of a young child were retrieved from this rectangular stone-box. This individual was placed in an extended position on a floor of earth. Shell beads were recovered from the mandible area and are assumed to represent a necklace. Rodent activity had displaced some of the skeletal elements within the box.

Age: 1.4-1.7 years (dental); 0.5-1.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted
Anomaly: none noted
Metrics: none taken

Burial 56

Description: This small, rectangular stone-box contained the poorly preserved bones of a very young infant. The individual was extended on the grave floor, which was primarily earth except for a stone slab under the skull.

Age: newborn-0.5 years +/- 3 months

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 57

Description: Burial 57 comprised a small stone-box with the extended remains of a young child. The box was rectangular with a floor of earth. Most of the skeletal elements were poorly preserved.

Age: 3-3.5 years, 4 years +/- 12 months (dental); 2.5-3.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right ulna:

maximum length 96.1 mm

Left femur:

maximum length 171.5 mm

Left tibia:

maximum length 149.0 mm

Right tibia:

maximum length 149.9 mm

Right fibula:

maximum length 141.1 mm

Burial 58 (Figure 60)

Description: Unlike most of the graves identified at the Gordontown site, Burial 58 consisted of a flexed adult that was placed in an unlined (circular?) pit. This individual was laid on his(?) right side. A small number of shell-tempered ceramic sherds were recovered from the pit fill and under the skeletal remains. No rodent or looter disturbance was noted during the removal. However, parts of the skull and lower right leg were damaged by heavy machinery prior to excavation.

Age: 35-45 years

Sex: male (probable)

Stature: 158.33 cm to 158.93 cm +/- 4.66

Pathology: Slight to moderate dental attrition; C2-C5 nearly fused by osteophytic growth; slight arthritic lipping on thoracic and lumbar vertebrae; long bones osteoporotic and exhibit slight arthritic lipping.

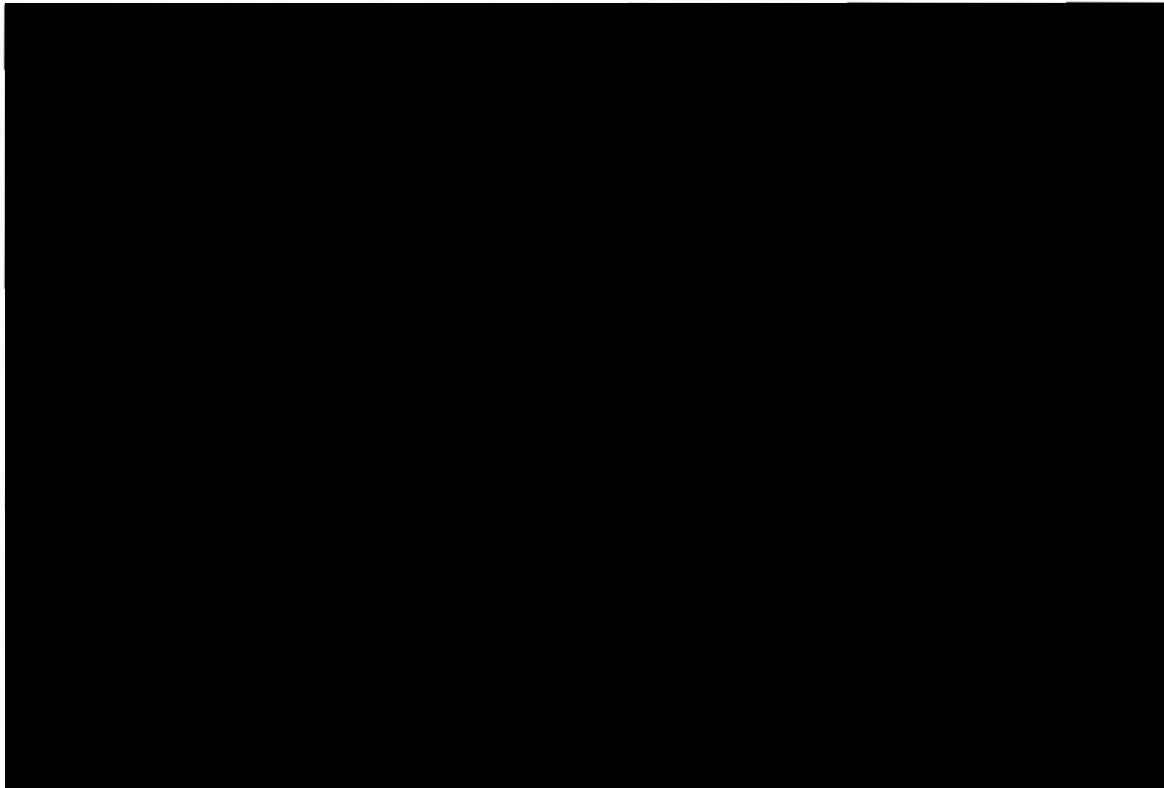


Figure 60. Burial 58, facing east.

Anomaly: none noted

Metrics:

Left ulna:	
maximum length	235.0 mm
Right femur:	
circumference at midshaft	78.0 mm

Burial 59

Description: This stone and ceramic box yielded the poorly preserved remains of a newborn to very young infant. The southern one-half of the box was composed of large, shell-tempered pan fragments, with the northern one-half made of limestone slabs. Inside this box were disarticulated (rodent activity?) skeletal elements that had been placed on a floor of earth. This individual appeared to have been buried in an extended position. No grave goods were recovered from this burial.

Age: 3 months, newborn +/- 2 months (dental); newborn-0.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right femur:	
maximum length	68.0 mm

Right tibia:	
maximum length	61.0 mm
Right(?) fibula:	
maximum length	58.5 mm

Burial 60 (Figure 61)

Description: This rectangular stone-box contained the disturbed remains of an infant. Although the capstones were in place prior to removal, the skeletal remains were found to be fragmented and disarticulated. Several hollow spots were noted in the grave fill, which suggested that rodent (or possibly looting) activity may have been responsible for the poor condition of the bones. A fish-effigy bowl was present in one corner of the box. Conch shell beads were also recovered from this burial. One interesting note about this particular grave is that the box was very well constructed. Each side of the box was made of only one limestone slab. In addition, the floor consisted of only two slabs. All of these slabs had been worked into nearly symmetrical squares or rectangles.

Age: 1.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

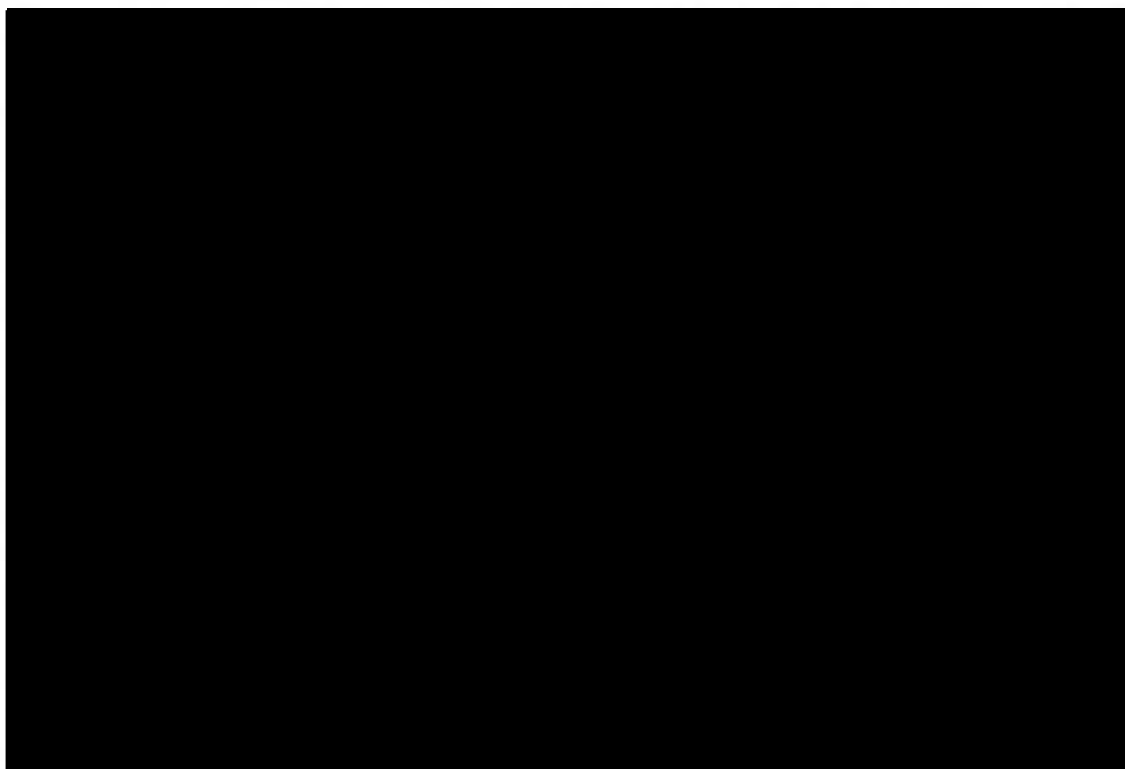


Figure 61. Burial 60, facing east.

Burial 61

Description: Very few skeletal elements were observed within this small, rectangular stone-box. The young infant that was placed (extended?) on the earth floor within this box was likely the victim of looting activity.

Age: <1 year

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 62

Description: Burial 62 consisted of a very young child that had been buried in an extended position within a rectangular stone-box.. This person was placed on a stone floor with a small bowl near the left side of the head. Most of the remains were poorly preserved.

Age: 2-3 years, 2 years +/- 8 months (dental); 1-3 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Cavities present on incisors.

Anomaly: none noted

Metrics: none taken

Burial 63

Description: The intact remains of an adult female were exposed in this rectangular stone-box. This individual was laid in an extended position on a floor of earth. Several of the capstones had collapsed onto the lower half of the skeleton. Although no grave goods were recovered with this adult, the right frontal bone of a subadult was identified during the laboratory analysis.

Age: 30-39 years

Sex: female

Stature: indeterminate

Pathology: Antemortem tooth loss on mandible (left M1-M3, right M1) and maxilla (right M2-M3); slight osteoarthritic lipping observed on glenoid fossa, thoracic and lumbar vertebrae, patellae, and long bone articular surfaces

Anomaly: none noted

Metrics:

Left clavicle:

maximum length	138.3 mm
sagittal diameter at midshaft	10.0 mm
vertical diameter at midshaft	7.0 mm

Left humerus:

maximum length	295.0 mm
maximum vertical diameter of head	39.0 mm
maximum diameter of midshaft	22.3 mm
minimum diameter of midshaft	15.3 mm
circumference at midshaft	64.0 mm

Right humerus:

maximum length	295.5 mm
epicondylar breadth	52.0 mm

maximum vertical diameter of head	39.0 mm
maximum diameter of midshaft	22.0 mm
minimum diameter of midshaft	15.0 mm
circumference at midshaft	64.0 mm
Left radius:	
maximum length	227.0 mm
sagittal diameter at midshaft	18.0 mm
transverse diameter at midshaft	17.0 mm
Left femur:	
epicondylar breadth	69.5 mm
maximum diameter of head	40.0 mm
a-p subtrochantric diameter	23.0 mm
transverse subtrochantric diameter	32.0 mm
Right femur:	
epicondylar breadth	69.5 mm
maximum diameter of head	41.0 mm
a-p subtrochantric diameter	23.3 mm
transverse subtrochantric diameter	31.0 mm
Left tibia:	
maximum distal epiphyseal breadth	45.0 mm
Right tibia:	
maximum distal epiphyseal breadth	45.5 mm
Left fibula:	
maximum length	321.0 mm
maximum diameter at midshaft	17.5 mm

Burial 64 (Figures 62 and 63)

Description: A well-preserved and articulated skeleton was removed from this rectangular stone-box. The young adult male interred in this box was placed on an earthen floor in an extended position. No artifacts were buried with this individual. Interestingly, three layers of limestone slabs were used to cap this particular grave.

Age: 15-17 years

Sex: male

Stature: indeterminate

Pathology: Third mandibular molar impacted.

Anomaly: none noted

Metrics:

Left clavicle:	
maximum length	129.0 mm
sagittal diameter at midshaft	8.1 mm
vertical diameter at midshaft	7.0 mm
Right clavicle:	
maximum length	129.0 mm
sagittal diameter at midshaft	8.5 mm
vertical diameter at midshaft	7.8 mm
Left humerus:	
maximum length	273.1 mm
epicondylar breadth	56.0 mm
maximum diameter of midshaft	18.9 mm

minimum diameter of midshaft	11.9 mm
circumference at midshaft	53.0 mm
Right humerus:	
maximum length	276.1 mm
epicondylar breadth	56.0 mm
maximum diameter of midshaft	21.0 mm
minimum diameter of midshaft	12.9 mm
circumference at midshaft	57.0 mm
Left radius:	
maximum length	223.5 mm
sagittal diameter at midshaft	8.5 mm
transverse diameter at midshaft	11.5 mm
Right radius:	
maximum length	222.0 mm
sagittal diameter at midshaft	8.5 mm
transverse diameter at midshaft	11.0 mm
Left ulna:	
minimum circumference	2.9 mm
Right ulna:	
minimum circumference	3.1 mm
Left femur:	
maximum diameter of head	39.0 mm
a-p subtrochantric diameter	20.0 mm
transverse subtrochantric diameter	23.9 mm
sagittal diameter at midshaft	21.0 mm
transverse diameter at midshaft	18.1 mm
circumference of midshaft	64.0 mm
Right femur:	
maximum length	383.0 mm
maximum diameter of head	38.5 mm
a-p subtrochantric diameter	20.1 mm
transverse subtrochantric diameter	25.0 mm
sagittal diameter at midshaft	21.0 mm
transverse diameter at midshaft	19.0 mm
circumference of midshaft	63.5 mm
Left tibia:	
maximum diameter at nutrient foramen	26.1 mm
transverse diameter at nutrient foramen	18.0 mm
circumference at nutrient	73.0 mm
Right tibia:	
maximum diameter at nutrient foramen	26.0 mm
transverse diameter at nutrient foramen	17.0 mm
circumference at nutrient	71.5 mm

Burial 65 (Figures 62 and 63)

Description: Burial 65 was a capped, rectangular stone-box that contained the somewhat well-preserved skeleton of an adult female. This person was interred on an earth floor in an extended position. Three discoidals had been placed adjacent to the right side of the

skull which exhibited possible cranial deformation. A mussel shell was recovered from under the right tibia.

Age: 30-40 years.

Sex: female

Stature: 154.3282 cm +/- 3.513

Pathology: Button osteoma on frontal; moderate antemortem tooth loss; osteophytic development on cervical vertebrae is slight, thoracic vertebrae moderate, and lumbar vertebrae severe; slight osteoarthritis observed on long bones, hands, feet, patellae and scapulae.

Anomaly: none noted

Metrics:

Left clavicle:

maximum length	141.2 mm
sagittal diameter at midshaft	7.2 mm
vertical diameter at midshaft	10.5 mm

Left humerus:

maximum length	293.0 mm
maximum vertical diameter of head	40.0 mm
maximum diameter of midshaft	21.1 mm
minimum diameter of midshaft	15.6 mm
circumference at midshaft	64.1 mm

Right humerus:

maximum diameter of midshaft	20.0 mm
minimum diameter of midshaft	21.0 mm
circumference at midshaft	64.5 mm

Left femur:

maximum length	415.0 mm
bicondylar length	411.0 mm
maximum diameter of head	42.0 mm
a-p subtrochantric diameter	21.8 mm
transverse subtrochantric diameter	30.1 mm
sagittal diameter at midshaft	22.0 mm
transverse diameter at midshaft	24.9 mm
circumference of midshaft	75.0 mm

Right femur:

maximum length	419.0 mm
bicondylar length	412.5 mm
transverse subtrochantric diameter	29.1 mm
sagittal diameter at midshaft	26.1 mm
transverse diameter at midshaft	23.1 mm
circumference of midshaft	79.0 mm

Left tibia:

condylo-malleolar length	335.1 mm
maximum proximal epiphyseal breadth	64.5 mm
maximum distal epiphyseal breadth	45.1 mm
maximum diameter at nutrient foramen	30.5 mm
transverse diameter at nutrient foramen	21.1 mm
circumference at nutrient	84.0 mm

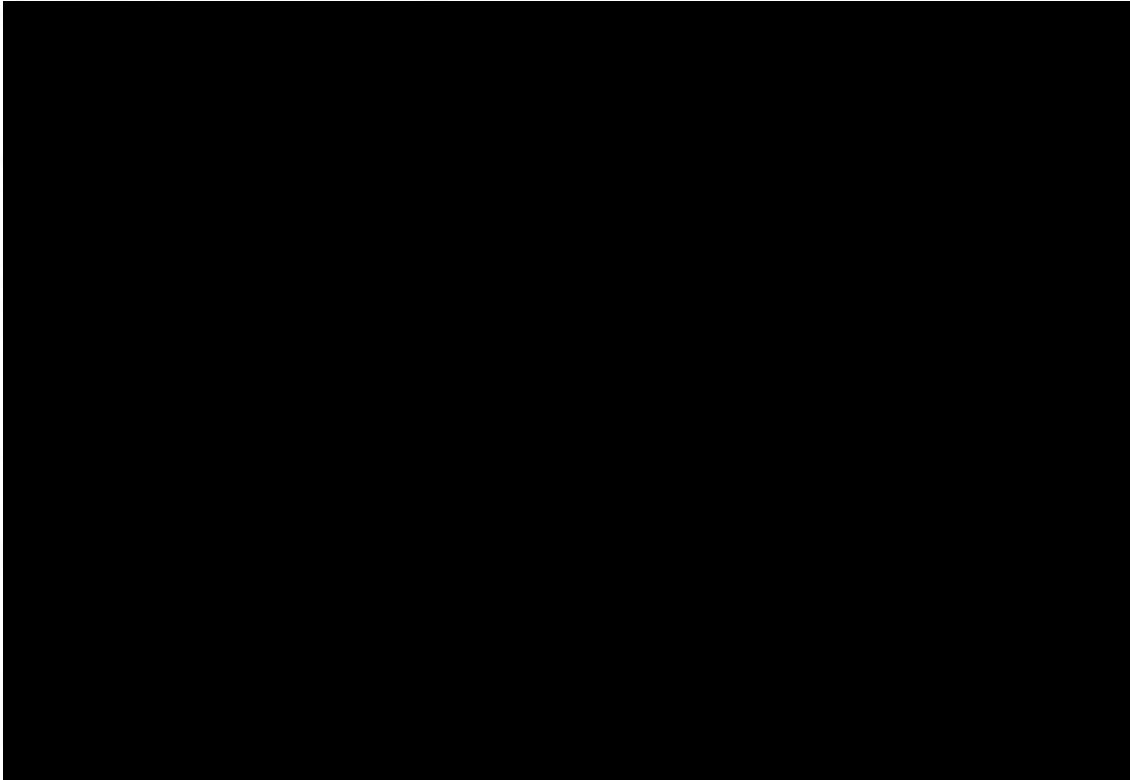


Figure 62. Burials 64 and 65 capped, facing southwest.

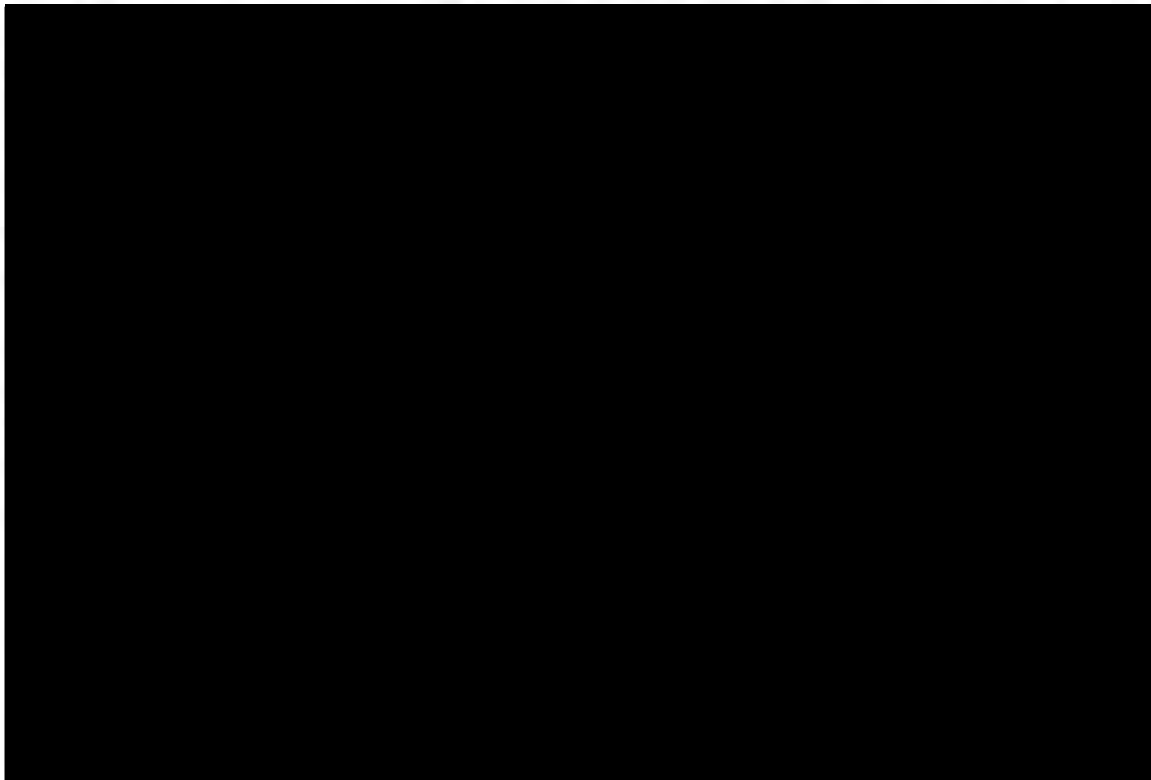


Figure 63. Burials 64 and 65 exposed, facing southwest.

maximum proximal epiphyseal breadth	67.0 mm
maximum distal epiphyseal breadth	44.0 mm
maximum diameter at nutrient foramen	32.1 mm
transverse diameter at nutrient foramen	21.0 mm
circumference at nutrient	86.0 mm
Left fibula:	
maximum length	323.0 mm
maximum diameter at midshaft	12.0 mm
Left calcaneus:	
maximum length	70.0 mm
middle breadth	42.0 mm
Right calcaneus:	
maximum length	70.0 mm
middle breadth	40.0 mm

Burial 66

Description: This adult male was buried in a (circular to oval?) pit. No limestone slabs were associated with this grave. The body was in a semi-flexed position on the right side with the lower legs bent backward behind the upper legs. Cranial deformation (occipital flattening) was observed on the skull of this individual. An intrusive pit (looters?) near the upper torso had severely disturbed the right arm bones. No grave associations were recovered within this pit.

Age: 30-40 years

Sex: male

Stature: 164.3125 cm +/- 3.8

Pathology: Maxillary and mandibular abscesses; all mandibular molars lost antemortem (alveolus resorbed); clavicle and tibial shafts swollen; severe osteophytic development on lumbar vertebrae (slight to moderate on other vertebrae); moderate osteoarthritic lipping visible on articular surfaces of long bones; periostitis on pubis.

Anomaly: none noted

Metrics: none taken

Burial 67

Description: This burial comprised a small, rectangular stone-box that contained the remains of two very young infants. Only one body (Burial 67) was identified during the field investigations. This particular individual was observed to be on a floor of ceramic sherds in an extended position. No grave goods were recovered. Burial 67A was later identified during the laboratory analysis. Specific information about the burial position, or location of Burial 67A within the stone-box was not provided on the burial form. One likely scenario is that Burial 67A was the first body in the stone-box, and that Burial 67 was (at that time or later) placed on top. Possibly due to the condition of the bones and the fact that both infants were so young, the excavator did not recognize that more than one skeleton was present.

Age: 1.5 years +/- 6 months (dental); 1-1.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Discolored teeth; active periostitis present on most bones.

Anomaly: none noted

Metrics:

Right ulna:	
maximum length	82.0 mm
Right radius:	
maximum length	72.1 mm
Left ilium:	
maximum length	51.0 mm
Right ilium:	
maximum length	52.0 mm
Left femur:	
maximum length	113.0 mm
Left tibia:	
maximum length	93.0 mm

Burial 67A

Description: This newborn individual was identified during the laboratory analysis of the Burial 67 remains. Unfortunately, no information about the burial position, or location of Burial 67A was recorded on the burial form. At this time, it appears that Burial 67A was likely the first body in the stone-box, with Burial 67 placed on top (either at the same time or at a later date).

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: Active periostitis noted on most bones.

Anomaly: none noted

Metrics:

Left radius:	
maximum length	53.2 mm
Right femur:	
maximum length	71.0 mm
Left tibia:	
maximum length	64.0 mm
Right tibia:	
maximum length	64.0 mm

Burial 68

Description: The poorly-preserved elements of an infant were recovered from a rectangular stone-box. This person was buried in an extended position on an earthen floor.

Age: 1.3 years, 1.5 years +/- 6 months (dental); 1-2.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 69A (Figure 64)

Description: Two adults (one female, one probable female) were buried within a rectangular stone-box designated Burial 69. Burial 69A represented a female adult that lay in an extended position on a floor of ceramic sherds. An unusual compound bowl was

recovered on the left hip of this individual. The remains of Burial 69B were disarticulated and somewhat fragmented as a result of being pushed down to the end of the stone-box. Burial 69B (probable female) was obviously the original occupant of the stone-box.

Age: 40+ years

Sex: female

Stature: 152.0319 cm +/- 3.816

Pathology: Antemortem loss of mandibular left M3; moderate to severe dental attrition; moderate osteophytosis of cervical vertebrae; severe osteophytosis of lumbar vertebrae (L4 and L5 fused) and sacrum; slight osteoarthritis on long bones.

Anomaly: none noted

Metrics:

Left humerus:

maximum diameter of midshaft	21.3 mm
minimum diameter of midshaft	17.1 mm
circumference at midshaft	64.9 mm

Right humerus:

epicondylar breadth	53.0 mm
---------------------	---------

Right radius:

maximum length	226.5 mm
sagittal diameter at midshaft	11.0 mm
transverse diameter at midshaft	15.1 mm

Right ulna:

maximum length	242.1 mm
physiological length	218.0 mm
minimum circumference	36.9 mm

Left femur:

maximum length	395.0 mm
bicondylar length	392.1 mm
maximum diameter of head	38.2 mm
sagittal diameter at midshaft	31.0 mm
transverse diameter at midshaft	23.2 mm

Right femur:

maximum length	396.1 mm
maximum diameter of head	39.5 mm
sagittal diameter at midshaft	26.0 mm
transverse diameter at midshaft	24.9 mm
circumference of midshaft	81.0 mm

Left tibia:

condylo-malleolar length	337.5 mm
maximum distal epiphyseal breadth	47.0 mm
maximum diameter at nutrient foramen	32.1 mm
transverse diameter at nutrient foramen	22.0 mm
circumference at nutrient	89.0 mm

Left calcaneus:

maximum length	69.0 mm
middle breadth	43.0 mm

Right calcaneus:

maximum length	70.0 mm
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Burial 69B (Figure 64)

Description: As mentioned above, Burial 69B was the original occupant of the stone-box.

The remains of this probable female were pushed to the end of the stone-box to make room for Burial 69A. Many of the bones from Burial 69B were fragmented.

Age: 30+ years

Sex: female (probable)

Stature: indeterminate

Pathology: Severe anterior dental attrition; possible antemortem maxillary tooth loss; slight osteophytosis of lumbar vertebrae.

Anomaly: none noted

Metrics:

Left humerus:

maximum diameter of midshaft	21.9 mm
minimum diameter of midshaft	19.1 mm
circumference at midshaft	60.9 mm

Left femur:

bicondylar length	75.0 mm
sagittal diameter at midshaft	25.9 mm
transverse diameter at midshaft	26.0 mm
circumference at midshaft	81.0 mm

Left tibia:

maximum diameter at nutrient foramen	31.0 mm
transverse diameter at nutrient foramen	21.0 mm
circumference at nutrient	85.0 mm

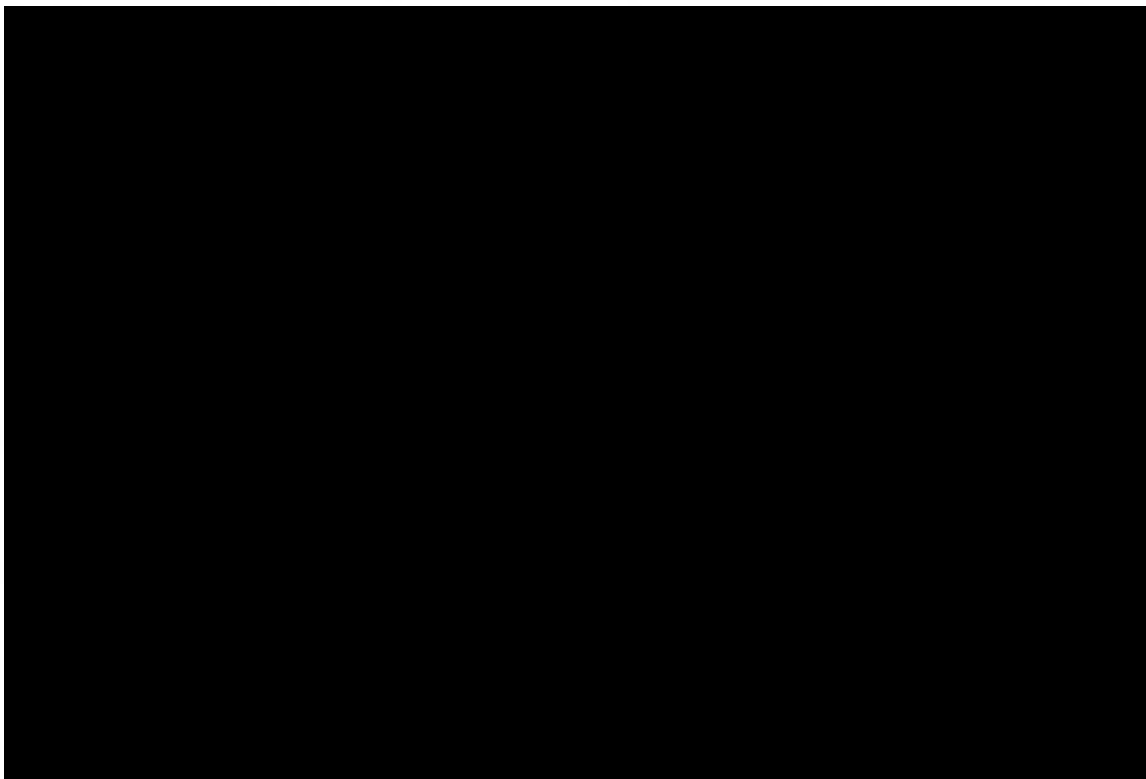


Figure 64. Burial 69 (A and B), facing west.

Burial 70

Description: Very few fragments of bone (<5% of the individual) were recovered from this disturbed stone-box. The virtual lack of bone, in conjunction with missing slabs from the east end of the box, suggest that this grave was previously dug into. A dirt floor was observed inside the box.

Age: adult

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 71

Description: This small, rectangular stone-box contained the scattered remains of an infant. The body was likely placed in an extended position on the earth floor. No artifacts were associated with this grave.

Age: 1-1.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 72

Description: The remains of the adult male buried in this rectangular stone-box were well-preserved. This individual displayed cranial deformation (occipital flattening). A partial ceramic sherd floor was recorded under this extended individual. One bone (pin?) was recovered immediately adjacent to the left arm.

Age: 30-35 years

Sex: male

Stature: 169.02 cm +/- 3.8

Pathology: Moderate compression and some lipping observed in cervical vertebrae; slight lipping visible on glenoid fossae and manubrium.

Anomaly: none noted

Metrics: none taken

Burial 73

Description: This rectangular stone-box yielded the remains of an elderly adult (probably female). The individual was laid in an extended position with a strap-handled jar placed between the lower legs. Cut marks were noted on the femoral condyle of this adult. A combination of ceramic sherds and limestone slabs was used to construct the box floor. Although this burial was essentially intact, portions were damaged by heavy machinery prior to removal.

Age: 45+

Sex: female (probable)

Stature: indeterminate

Pathology: Antemortem mandibular tooth loss; moderate osteophytosis on all vertebrae; slight osteoarthritic lipping on glenoid fossa; moderate to severe osteoarthritic lipping on

articular surfaces of long bones; distal right humerus and proximal right radius exhibit porosity and eburation; moderate lipping on innominate (acetabula).

Anomaly: none noted

Metrics:

Right humerus:	
maximum length	308.5 mm
epicondylar breadth	54.1 mm
maximum vertical diameter of head	41.0 mm
Right radius:	
maximum length	238.0 mm
sagittal diameter at midshaft	12.0 mm
transverse diameter at midshaft	16.0 mm
Left femur:	
maximum diameter of head	40.3 mm
Right femur:	
maximum diameter of head	40.0 mm
Left fibula:	
maximum length	350.0 mm
maximum diameter at midshaft	13.9 mm

Burial 74

Description: The extended remains of a newborn to very young infant were recovered from a small, rectangular stone-box. An earthen floor was observed inside the box. A loop-handled bowl had been placed in the box corner to the right side of the buried individual's head.

Age: 6-9 months +/- 3 months (dental); newborn-0.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Periostitis on both surfaces of several cranial fragments; deciduous incisors stained.

Anomaly: none noted

Metrics: (unsided)

Humerus:	
maximum length	75.0 mm
Ulna:	
maximum length	67.0 mm
Ilium:	
maximum length	40.0 mm

Burial 75

Description: This small, rectangular stone-box contained the skeletal remains of two newborn to very young infants. This grave had been damaged by heavy machinery and was removed somewhat hurriedly. No photographs or notes (other than burial form) are available for this interment. Burial 75 was initially recorded as one individual that was laid in an extended position on an earth floor. A second person (Burial 75A) was identified later during the laboratory analysis.

Age: newborn-0.5 years (dental); newborn-5 months (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right humerus:	
maximum length	65.0 mm
Right radius:	
maximum length	53.0 mm
Left ilium:	
maximum length	34.0 mm
Left femur:	
maximum length	79.1 mm
Right femur:	
maximum length	80.0 mm
Left tibia:	
maximum length	71.0 mm
Right tibia:	
maximum length	71.0 mm
Left fibula:	
maximum length	67.1 mm
Right fibula:	
maximum length	67.0 mm

Burial 75A

Description: Burial 75A was identified during the laboratory analysis as a second individual in the Burial 75 stone-box. Few remains of this individual were recovered, including a right clavicle and various cranial sections. The burial position of this person can not be determined with the available information. Whether or not Burials 75 and 75A were buried at the same time cannot be answered either.

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 76

Description: This slightly rectangular stone-box contained the flexed remains of an adult female. Laid on an earthen floor, this individual was buried on her back with the legs flexed and rotated to the left side. Although this grave was capped, no associated artifacts were present.

Age: 40-50 years

Sex: female

Stature: 146.962 cm to 147.562 cm +/- 3.816

Pathology: Button osteoma on frontal bone; maxilla almost completely resorbed; moderate resorption of mandible; abscesses observed; severe compression and lipping of cervical and lumbar vertebrae; slight compression of thoracic vertebrae; slight to moderate osteoarthritic lipping observed on long bones, hands, and feet.

Anomaly: none observed

Metrics:

Left clavicle:	
maximum length	126.0 mm
sagittal diameter at midshaft	8.1 mm
vertical diameter at midshaft	7.0 mm
Right humerus:	
maximum length	272.5 mm
epicondylar breadth	49.0 mm
maximum vertical diameter of head	40.5 mm
maximum diameter of midshaft	20.0 mm
minimum diameter of midshaft	14.2 mm
circumference at midshaft	61.0 mm
Right ulna:	
maximum length	227.0 mm
Left femur:	
maximum diameter of head	41.0 mm
Right femur:	
maximum length	380.0 mm
bicondylar length	376.0 mm
a-p subtrochantric diameter	25.0 mm
transverse subtrochantric diameter	30.0 mm
sagittal diameter at midshaft	23.1 mm
transverse diameter at midshaft	23.0 mm
circumference of midshaft	74.1 mm

Burial 77

Description: This small, rectangular stone-box contained the remains of two newborn or very young infants. Only one individual (Burial 77) was reported for this grave during the field excavations. Although highly disturbed, enough elements were present to indicate this infant was laid in an extended position of a floor of earth. No grave artifacts were observed in this grave. The partial skeleton of a second infant (Burial 77A) was identified during the laboratory analysis.

Age: newborn-0.5 years

Sex: indeterminate

Stature: indeterminate

Pathology: Periostitis noted on cranium.

Anomaly: none noted

Metrics:

Left humerus:	
maximum length	64.0 mm
Left femur:	
maximum length	76.0 mm
Right femur:	
maximum length	76.0 mm

Burial 77A

Description: The partial skeleton of a second infant (Burial 77A) was identified during a laboratory analysis of the Burial 77 remains. The original burial position of Burial 77A, or

whether this individual was buried at the same time as Burial 77, cannot be determined with the available information.

Age: infant

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 78

Description: Previous looting activity had severely disturbed the skeletal remains within this rectangular stone-box. Buried in this box was an infant that had been placed on an earth floor. Too few bones were recovered to adequately assess the burial position. Any artifacts that might have been placed with this individual were removed by relic collectors.

Age: 1.5 years +/- 6 months (dental); 1-3 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 79

Description: Burial 79 consisted of a rectangular stone-box that contained the flexed remains of a teenage individual of unknown sex. The bone preservation was fair, with some damage to the cranium by grave looters. This person had been interred on their back with the knees flexed and rotated toward the left side.

Age: 15 years +/- 36 months (dental); 12.5-15.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right tibia:

maximum length

299.5 mm

Burial 80A

Description: Burial 80 was a small, rectangular stone-box that contained the poorly preserved remains of two infants. Both of these infants were buried in an extended position on a stone floor. Burial 80A was buried with the head to the east. The poor bone preservation hampered an assessment as to whether or not the bodies were interred at the same time.

Age: 1.5 years (dental); 0.5-1.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Periostitis inside occipital and right temporal bones.

Anomaly: none noted

Metrics: none taken

Burial 80B

Description: This individual was one of two infants buried within a small, rectangular stone-box. Both bodies had been placed in an extended position on a stone floor, with the Burial 80B head to the west. Cranial deformation (occipital flattening) was noted for this infant. Poor bone preservation hampered an assessment as to whether or not Burial 80B was buried at the same time as Burial 80A.

Age: 9-12 months (dental); 0.5-1.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics: none taken

Burial 81

Description: Stone slabs and large fragments of pottery were used to cap this rectangular stone-box. Buried rather deep inside this box was the fairly preserved remains of a child. This individual had been laid in an extended position on a floor of earth. No grave goods were observed with this burial.

Age: 9-10 years +/- 12 months (dental); 6.5-7.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Left humerus:	
maximum length	194.5 mm
Right humerus:	
maximum length	195.9 mm
Left radius:	
maximum length	150.0 mm
Left ulna:	
maximum length	166.1 mm
Left femur:	
maximum length	273.1 mm
Right femur:	
maximum length	275.0 mm
Left tibia:	
maximum length	228.5 mm
Right tibia:	
maximum length	229.0 mm

Burial 82 (A and B)

Description: Most of the skeletal remains within Burial 82 had been severely disturbed by looting activity. Two infants of similar age were buried in this box, although the bones were too jumbled to differentiate which bones went with a particular individual. These infants were probably buried in an extended position on an earth floor. No associated grave artifacts were recovered.

Age: 1.5 years +/- 6 months (dental); 1-3 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: Left radius shaft of one individual exhibited periostitis.

Anomaly: none noted

Metrics: none taken

Burial 83

Description: Burial 83 represented an unlined pit grave that contained the remains of a child buried in a semi-flexed position. This person was placed on the right side, with the arms along the side of the body and the legs semi-flexed perpendicular to the body. Two aboriginal post holes had disturbed much of this individual's midsection (ribs, pelvis, vertebrae).

Age: 6-8 years, 8 years +/- 24 months (dental); 5.5-6.5 years (other)

Sex: indeterminate

Stature: indeterminate

Pathology: none noted

Anomaly: none noted

Metrics:

Right humerus:

maximum length 182.0 mm

Right tibia:

maximum length 199.2 mm

Burial 84 (Figure 65)

Description: The well-preserved skeleton of an adult female was removed from this rectangular stone-box. This individual was laid in a flexed position (right side) on a floor of earth. A wide-necked bottle had been placed on top of the cranium near the southwest corner of the stone-box.

Age: 30-40 years

Sex: female

Stature: 151.447 cm to 152.047 cm +/- 3.816

Pathology: One mandibular tooth lost antemortem; slight osteophytosis of vertebrae; slight to moderate osteoarthritic lipping on acetabula; slight osteoarthritis on long bone articular surfaces.

Anomaly: none noted

Metrics:

Left humerus:

maximum length 279.0 mm

maximum vertical diameter of head 42.0 mm

maximum diameter of midshaft 21.9 mm

minimum diameter of midshaft 15.0 mm

Right humerus:

maximum diameter of midshaft 22.0 mm

minimum diameter of midshaft 14.9 mm

circumference at midshaft 62.0 mm

Left radius:

maximum length 213.1 mm

sagittal diameter at midshaft 10.0 mm

transverse diameter at midshaft 14.0 mm

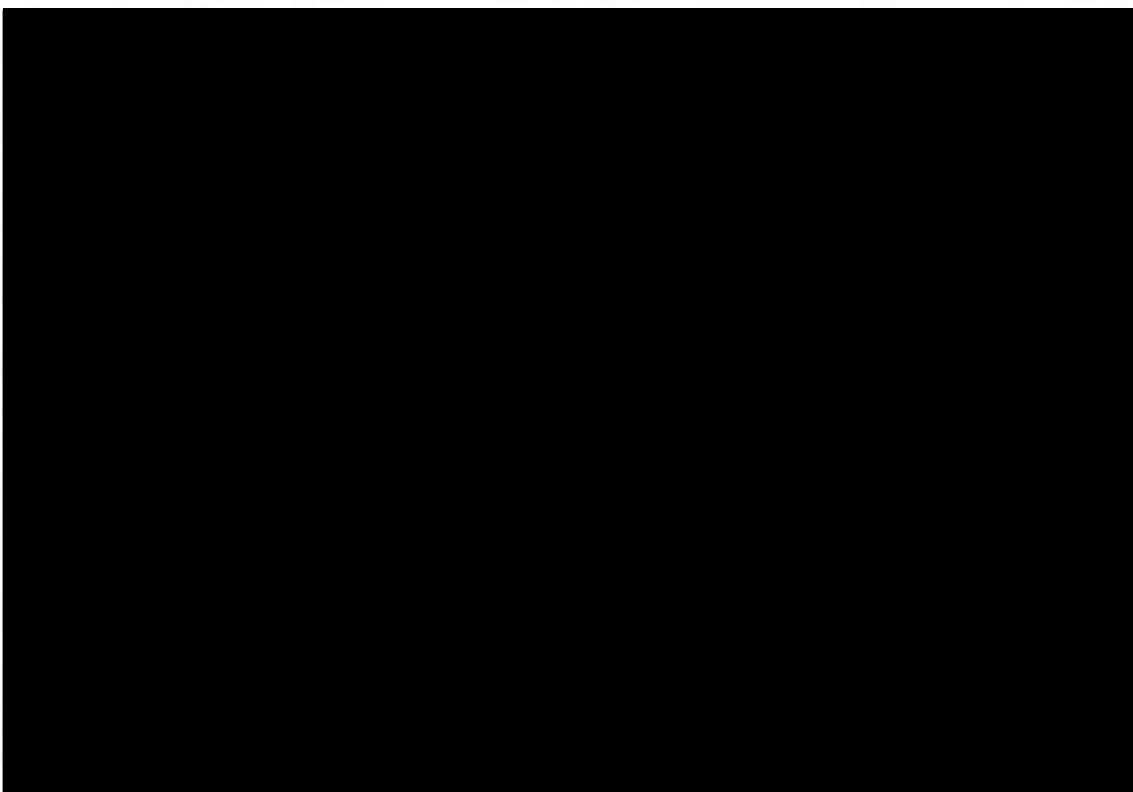


Figure 65. Burial 84, facing west.

Right radius:		
maximum length		215.0 mm
sagittal diameter at midshaft		10.0 mm
Left ulna:		
maximum length		233.0 mm
minimum circumference		36.0 mm
Right ulna:		
maximum length		238.0 mm
minimum circumference		38.0 mm
Left femur:		
maximum length		395.0 mm
bicondylar length		387.0 mm
maximum diameter of head		40.0 mm
sagittal diameter at midshaft		25.5 mm
transverse diameter at midshaft		22.1 mm
circumference at midshaft		75.5 mm
Right femur:		
maximum length		387.0 mm
bicondylar length		382.3 mm
maximum diameter of head		39.0 mm
sagittal diameter at midshaft		26.0 mm
transverse diameter at midshaft		23.0 mm
circumference at midshaft		78.0 mm

Burial 85

Description: This adult male was buried in an extended position within a rectangular stone-box. The box exhibited a partial stone. No grave artifacts were associated with this individual.

Age: 35-45 years

Sex: male

Stature: indeterminate

Pathology: Extensive antemortem tooth loss; moderate vertebrae osteophytosis; manubrium and body fused; moderate arthritic lipping on humeri, ulnae, and radii articular surfaces; left humerus and radius exhibit eburnation; possible fracture of left femur head or neck.

Anomaly: none noted

Metrics:

Left clavicle:

maximum length	131.0 mm
sagittal diameter at midshaft	13.0 mm
vertical diameter at midshaft	9.3 mm

Right clavicle:

maximum length	130.0 mm
sagittal diameter at midshaft	13.0 mm
vertical diameter at midshaft	10.9 mm

Left humerus:

epicondylar breadth	54.5 mm
maximum diameter of midshaft	24.9 mm
minimum diameter of midshaft	16.0 mm
circumference at midshaft	69.0 mm

Right humerus:

epicondylar breadth	54.3 mm
maximum vertical diameter of head	38.1 mm
maximum diameter of midshaft	22.1 mm
minimum diameter of midshaft	16.9 mm
circumference at midshaft	66.0 mm

Right radius:

maximum length	214.5 mm
sagittal diameter at midshaft	11.1 mm
transverse diameter at midshaft	17.5 mm

Left ulna:

maximum length	227.1 mm
minimum circumference	35.0 mm

Left femur:

maximum diameter of head	42.5 mm
sagittal diameter at midshaft	26.9 mm
transverse diameter at midshaft	27.5 mm
circumference of midshaft	83.5 mm

Right femur:

maximum diameter of head	42.5 mm
sagittal diameter at midshaft	27.1 mm
transverse diameter at midshaft	26.0 mm
circumference of midshaft	83.0 mm

Left fibula:

maximum length

317.1 mm

maximum diameter at midshaft

14.1 mm

APPENDIX C

A DESCRIPTION OF TEXTILES IMPRESSED ON GORDONTOWN SITE CERAMICS

Suzanne D. Hoyal

Textile Structures

Twining is the only textile construction technique represented in the fabric impressions on Gordontown ceramics. An informal visual comparison of individual sherds and mended vessel fragments identified fifteen distinct textile structures. Impressions occur on exterior surfaces of large pans. The presence of twelve sherds from a single pan in the surface collection accounts for most of the difference in number between textile structure cases ($n=15$) discussed in this section and the impressed sherd count ($n=28$) presented in Table 15.

Twining is a hand weaving technique that encompasses various textile structures or patterns of warp and weft interaction (Figure 66a and b). The variations included in the Gordontown assemblage are *plain* twining, *alternate pair* twining, *compact* twining, and *complex* or *decorative* twining. Table 31 presents the distribution of textile structures by provenience. Figures 67 and 68 are examples of these different structures.

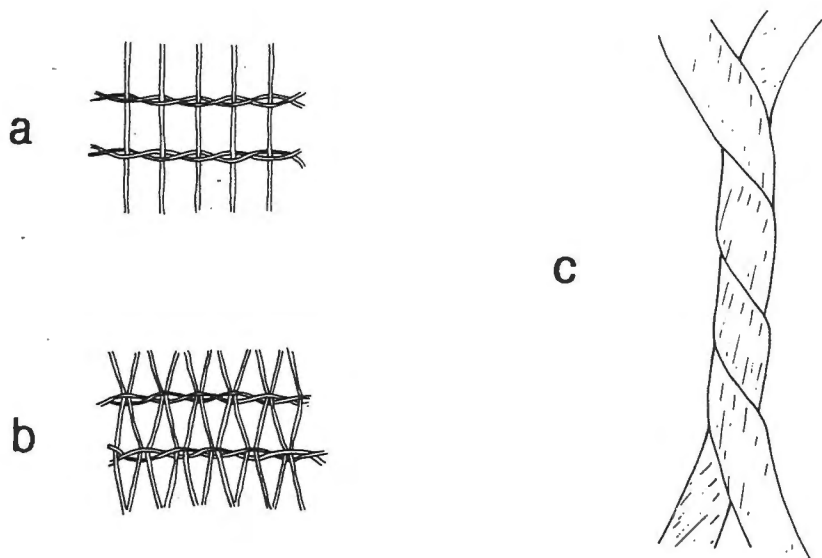


Figure 66. Illustrations of twining and yarn structure: (a) *plain (simple)* twining -- two active yarns pass over and under a single inactive warp and over each other in between the warps; (b) *alternate pair (diagonal, twilled, or zigzag)* twining -- two active yarns pass over and under alternating pairs of inactive yarns; (c) two ply, Z-spun, S-twist yarn.

Table 31. Textile Structures by Provenience from the Gordontown Site, 40Dv6.

Structure	Surface	Burial fill	Structure III	Total
Plain twining (PT)	3	-	-	3
Alternate pair twining (APT)	3	2	-	5
Complex/decorative				
Plain twining with varying weft diameters (PTvwd)	1	-	-	1
Alternate pair twining combined with grouped weft rows (APTgw)	-	-	1	1
Compact/probably twining (Ct) (also known as weft-faced)	1	1	3	5
Total	8	3	4	15

Plain twining occurs alone (n=3) and in a complex structure with varying weft diameters (n=1). Alternate pair twining occurs alone (n=5) and in a complex structure combined with grouped weft rows (n=1). All compact structures (n=5) appear to be twined rather than interlaced. Twining in all structures is S-twist, i.e. when holding the cast with the twining row oriented in a vertical position, the twining slants down to the right as in an "S" mid-section. This study interprets the twining rows as wefts, which appear as the horizontal elements in the figures herein.

In an impression of one complex textile structure the weft rows are 0.8 mm and 1.2 mm in diameter (Figure 67). The fabric impression is visible on a reconstructed portion with approximately 280 square centimeters of exterior surface area. Since the pattern of disparate weft yarns appears to be intentional, this structure is included in the complex/decorative category. The weft row diameter for this case is the average, 1.0 mm.

Yarn Structures

A twining row generally consists of two active yarns passing through inactive warps. Although twining rows are known to sometimes be composed of three active yarns, there is no evidence in this study to indicate more than two. An analysis of Gordontown impressed sherds indicates: (1) a predominance of two ply weft yarns (n=14); (2) a predominance of two ply S-twist warp yarns (n=11); (3) single ply Z-spun warp yarns (n=1); (4) indiscernible wefts (n=1) and warps (n=3); (5) no braided yarns or yarns composed of unspun bundles of fibers; and (6) yarn diameters ranging from 0.8 mm to 2.0 mm.



Figure 67. Alternate pair twining (left); complex twining with varying weft diameters (right).

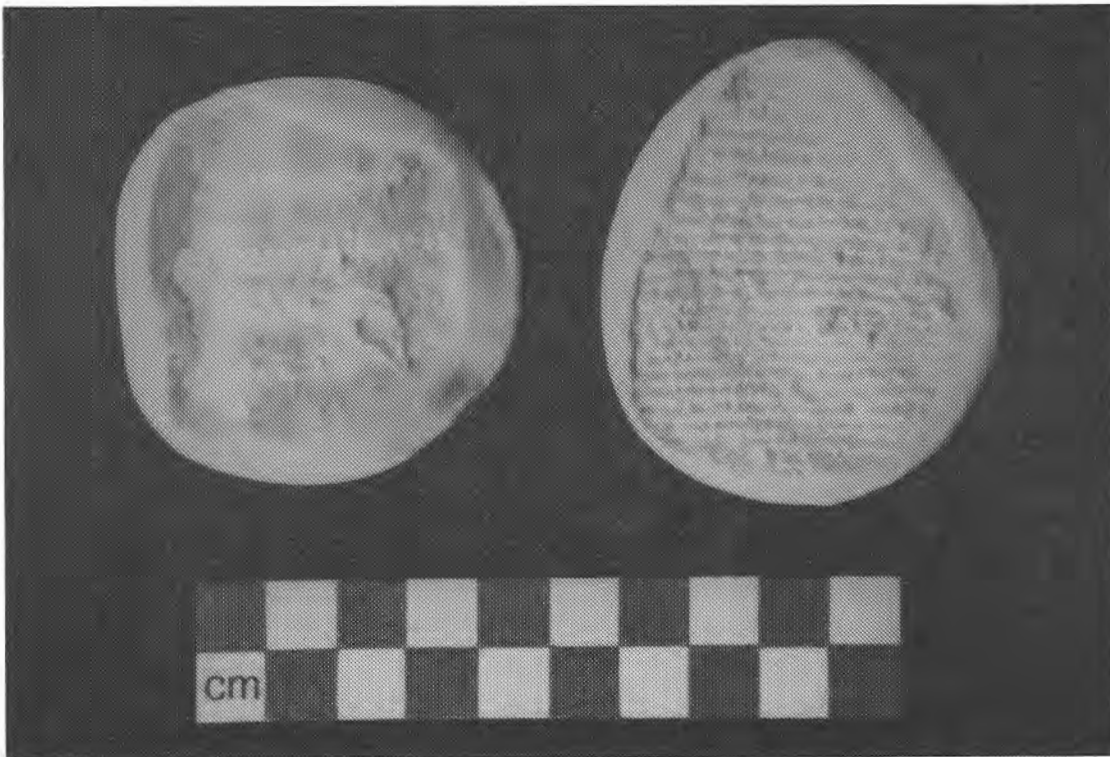


Figure 68. Complex alternate pair twining combined with grouped weft rows (left); compact twining (right).

Textile Attribute Summary

Measurement and notation of textile attributes derive from an examination of both negative fabric impressions on ceramic vessel sherds and their positive baked clay casts. Table 32 summarizes many of the attributes. Additional notations include angle of weft to the rim (n=7), evidence of fabric wear (n=4), and an absence of fabric layers, edges, or joins. Table 33 contains all measurements, indices, and notations. Consult Drooker (1992), Hoyal (1997), Kuttruff (1993), and Kuttruff and Kuttruff (1996) for further information on terminology and method of analysis.

At the present time, the small Gordontown sample prohibits productive comparison with the published data for textiles from other Mississippian period sites. However, the Gordontown textile data will be incorporated into the larger body of information currently being compiled for textiles in the Middle Cumberland region.

Table 32. Summary of Attributes for Textiles from the Gordontown Site, 40Dv6.

Attribute	Minimum	Mean	Maximum	Cases
Warp diameter (in mm)	0.80	1.11	2.00	15
Weft diameter (in mm)	0.80	1.17	2.00	15
Average yarn diameter (mm)	0.90	1.14	1.70	15
Number of warp plies	1.00	1.91	2.00	11
Number of weft plies	1.00	1.93	2.00	14
Warp twist category	1.00	2.18	3.00	11
Warp elements per cm	3.00	6.10	10.00	15
Weft elements per cm	1.40	6.10	16.00	15
Weft rows per cm	0.70	3.03	8.00	15
Fabric count	4.40	12.10	26.00	15
Warp density	3.00	6.33	8.00	15
Weft density	0.98	4.18	9.60	15
Total density	4.20	10.50	17.60	15
Fabric count category	1.00	3.10	6.00	15
Complexity index # 1	2.00	4.20	7.00	15
Complexity index # 2	4.00	5.55	8.00	11
Complexity index # 3	5.00	7.73	10.00	11

MINIMUM	1	2	4.4	1	2	4	5	4.2	0.9	3	0.8	3	1	1	0.7	1	0.98	1.4	0.8	1							14.4	5.5	5.5
MEDIAN		3	10	3	4	5	8	9.5	1	6	1	6	2	2	2	1.2	2.88	4	1	2							0	0	9
AVERAGE		2.67	12.1	3.1	4.2	5.55	7.73	10.5	1.14	6.1	1.11	6.33	1.91	2.18	3.03	1.48	4.18	6.1	1.17	1.93							18.27	8.92	9.31
MAXIMUM	2	3	26	6	7	8	10	17.8	1.7	10	2	8	2	3	8	2.4	9.6	16	2	2							24.7	12.5	13.4
S.D.		0.52	6.73	1.4	1.47	1.362	1.601	4.37	0.2438	0.201	0.291	1.66	0.3	0.603	2.384	0.3961	3	4.8	0.3109	0.267							2.64	2.22	
CASES	15	15	15	15	15	11	11	15	15	15	15	11	11	15	15	15	15	15	14	1	1	1	15	0	0	0	6	6	15

empty cells reflect the inaccessibility of some attributes in compact structures

FTS=	fabric/textile structure, i.e. PT=plain twining, APT=alternate pft twining, Ct=compact twining	WpC=	warp count per cm.	WtRw=	weft rows per cm.	GWBW=	grouped weft band width, in mm.
FTSC=	total number of structures combined	WpDm=	warp diameter in mm.	WtRwDm=	weft row diameter in mm.	GWBs=	space between grouped weft bands, in mm.
FTD=	twining twist start, i.e. S, Z, or SZ	WpDm=	warp density=WpC x WpDm	WtD=	weft density=WtRw x WtRwDm	GWW=	number of twining rows in the weft band
FTTA=	twining twist angle (in degrees), i.e. <10 deg=1, 10-25 deg=2, 25-45 deg=3, >45 deg=4	WpPly=	# of warp piles twisted together	WtC=	weft count=WtRw x # of twining elements (usually two)	CoF=	condition of fabric, i.e. loose yarns=1, broken or frayed yarns=2, missing weft element=3, no evidence of wear=4
		WpTD=	warp twist direction, e.g. S, Z, SZ or NS (no spin)	WtYDm=	weft yarn diameter in mm.	E=	fabric edge, i.e. O=no edge, E=edge present, J=join present
		WpTA=	warp twist angle index (see FTTA)	WtPly=	number of weft piles	O=	fabric layering overlap (OLP); overlay (OLY); same (s) or different (d) structure; at an angle (a) or parallel (p); no layering (N)
FC=	fabric count=WpC plus WVC					RWAg=	angle of weft to rim, (degrees measurement taken on sherd, not cast)
FCI=	fabric count index, e.g. if FC=0 to 4.9, FCI=1; 5.0-9.9, FCI=2; etc.					RShThmn=	maximum thickness of rim at the lip
FCW1=	modified complexity Index #1=FCI plus FTSC					RShThmn=	minimum thickness below the rim
FCW2=	modified complexity Index #2=FCI #1 plus (WpPly plus WtPly, divided by 2)					STh=	informal average of sherd thickness
FCW3=	modified complexity Index #3=FCI #2 plus WpTA						
FD=	fabric density=WpD plus WtD						
AvYDm=	average yarn diameter						

Table 33. Textile Attributes from Cast Analysis for the Gordowntown Site, 40Dv6.

