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No. 19, Fernvale (40WM51), A Late Archaic Occupation Along the South Harpeth River in Williamson County, Tennessee

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Tennessee. Department of Environment & Conservation.

FERNVALE (40WM51)

A LATE ARCHAIC OCCUPATION ALONG THE SOUTH HARPETH RIVER IN WILLIAMSON COUNTY, TENNESSEE

Edited by Aaron Deter-Wolf

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
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RESEARCH SERIES NO. 19
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FERNVALE (40WM51):
A LATE ARCHAIC OCCUPATION ALONG THE SOUTH HARPETH RIVER IN WILLIAMSON COUNTY, TENNESSEE

Edited by Aaron Deter-Wolf

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Cover Images: Top, view of excavations at Fernvale in May, 1985, facing southeast. Bottom, marine shell gorget and beads from Feature 71.

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TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

LIST OF FIGURES

Figure

LIST OF FIGURES (continued)

Figure

LIST OF TABLES

Table

ACKNOWLEDGEMENTS

Numerous individuals have participated in the Fernvale project over the last 20+ years and deserve acknowledgment for their efforts. Foremost among these is Robert Jolley, who directed the 1985 site excavations and coordinated the 1985–1987 analysis and reporting effort. Jolley performed the initial analysis of all features, postholes, structures, and ceramics from the site, and was principal author of a partial draft manuscript.

Carl Kuttruff directed Phase II testing at 40WM51 in 1984, and served as Principal Investigator for the 1985 data recovery excavations. Archaeologists Tom Bianchi, Diane Bouska, John Broster, John Froeschauer, Peggy Froeschauer, Danny Olinger, Anna Ponder, Abigayle Robbins, Steven Spears, Parris Stripling, Joe Urello, Charlotte Watrin, and Richard Yarnell all participated in the testing and data recovery excavations, and contributed to the initial laboratory analysis.

During the 1985–1987 analysis effort, John Broster catalogued and examined the lithic materials from temporally sensitive features, and analyzed the dog burials. Donald Spires and Mary Beth Dowd (Trubitt) conducted an initial faunal analysis and examined the bone tools. Charlotte Watrin examined the marine shell artifacts and created pen and ink illustrations of a number of the diagnostic and/or significant artifacts from the site, some of which are reproduced in the current report. Ann Marie Mires conducted a preliminary analysis of the human skeletal remains, and Andrea Shea (Bishop) examined the ethnobotanical material.

Beginning in 2007, a new cast of individuals conducted a re-examination of the site assemblage. Aaron Deter-Wolf of the Tennessee Division of Archaeology (TDOA) coordinated the reanalysis effort, and served as editor of the final manuscript. Benjamin Steere conducted an analysis of the three structures identified at the site, and contributed to the analysis of non-mortuary pit features. Jesse Tune reexamined the lithic artifacts from the site, contributed to the ceramic analysis, and identified a number of the bivalve specimens.

The 2007–2009 reanalysis and reporting effort relied heavily on the expertise of the Department of Sociology and Anthropology at Middle Tennessee State University (MTSU). Tanya Peres, Teresa Ingalls, and the students in Dr. Peres' fall 2007 Zooarchaeology class conducted the reanalysis of faunal remains from 1/4-inch samples. Teresa Ingalls analyzed the 1/8-inch water screen samples, Jesse Tune identified a number of the bivalve specimens, and Kim Vasut made supporting data tables. Lacey Fleming analyzed two dog burials from the site as part of an undergraduate research project (Fleming 2006) and contributed to the zooarchaeological analysis chapter. Shannon Hodge reexamined the human remains with the aid of her fall 2008 Human Osteology class. Brady Davis examined the palepoathology of the skeletal sample from the site for his

undergraduate senior thesis (Davis 2009) and contributed to the skeletal analysis chapter. Andrew Gillreath-Brown participated in feature analysis and aided in compiling the report appendices. Hugh Berryman assisted with the analysis of the burned bone fragments from feature 58. Finally, Kevin Smith provided aid and guidance with the radiocarbon results and in assessing the Mississippian component of the site.

As the only active TDOA employee who participated in the 1985 excavations, John Broster provided essential background information on the project and good humor throughout the process. State Archaeologist Mike Moore also aided in the ceramic analysis, and provided invaluable logistical support to the project. TDOA site files curator Suzanne Hoyal provided aid with collections tracking and the project site file data.

Still other individuals who contributed advice and direction to the effort include John Barnes from the Harpeth Valley Utility District; Dan Weinand and Annie Blankenship from the University of Tennessee, Knoxville; Ernie Lundelius, Jr. and Melissa Winans from the University of Texas at Austin; and Mark McClure from the journal *Radiocarbon*.

I. INTRODUCTION

This report presents the results of data recovery excavations at the Fernvale archaeological site (40WM51) conducted between February and June of 1985. The site was excavated by staff from the Tennessee Division of Archaeology (TDOA) prior to a Tennessee Department of Transportation (TDOT) bridge replacement spanning the South Harpeth River in northwestern Williamson County.

Beginning in late February of 1985, backhoe equipment was used to remove topsoil from the 1,305-square meter TDOT right-of-way. The excavations resulted in the discovery of 196 pit and 94 posthole features, including 33 human burials, two dog burials, and three prehistoric structures. Temporally sensitive artifacts recovered from the site spanned the Paleoindian through Mississippian periods, with major deposits originating in the Late Archaic, Middle Woodland, and Mississippian periods.

Although a partial draft manuscript was prepared following the data recovery effort, artifact analysis was not completed and that document was never finalized or published. Beginning in September of 2007, a collaborative effort between the TDOA and the Department of Sociology and Anthropology at Middle Tennessee State University sought to reexamine the status of the Fernvale project, with the goal of reanalyzing the site assemblage and producing a complete excavation report.

The Fernvale site report is an edited work that presents the results of analysis by multiple contributors. It begins with a history of archaeological investigations at Fernvale, from its initial recordation in 1982 to the completion of analysis in 2012. Chapters 3 and 4 examine the environmental and archaeological setting of the site along the South Harpeth River. Chapters 5 and 6 discuss the non-mortuary pit features, postholes, and structure footprints identified at the site.

Chapters 7 through 12 present the analysis of cultural material recovered during the excavations. Radiocarbon dates from the site are presented in Chapter 7. The lithic and ceramic assemblages are discussed in Chapters 8 and 9. Analysis of faunal material, including the animal bone, shell, and dog burials, is presented in Chapter 10. Chapter 11 describes the skeletal inventory and analysis, and Chapter 12 presents an analysis of archaeobotanical materials. Finally, Chapter 13 summarizes the findings of the site investigations and presents concluding remarks.

A variety of tabulated site data are included as appendices to the report. Appendix A presents summary data on all features identified during site excavations, including plan view and depth measurements, total excavated volume, and associated artifact types. Appendices B–D describe lithic artifacts according to feature provenience. Appendix E presents metric attributes for all

temporally sensitive projectile points from the site, according to type category. Appendix F details the faunal remains recovered from the site, and Appendix G presents specific element, primary data, and post-cranial measurements for dog burials. Finally, Appendix H presented the archaeobotanical data for temporally diagnostic features.

II. PROJECT HISTORY

The Fernvale site was initially recorded in 1982 during a reconnaissance survey of proposed TDOT bridge replacements over the South Harpeth River along Old Harding Road in northwestern Williamson County. TDOT staff archaeologists recorded the site based on identification of prehistoric artifacts eroding from an existing road cut. No subsurface investigations took place and no artifacts were collected during that initial visit. In a report on the reconnaissance survey, George Ward noted the presence of a possible midden based on soil texture along the road cut, although the presence of that deposit could not be confirmed due to heavy vegetation (Ward 1983). Following the 1982 survey, TDOT determined that additional archaeological testing should take place at the site in order to assess its eligibility for inclusion on the National Register of Historic Places (NRHP).

PHASE II TESTING, 1984

The TDOA conducted an archaeological testing program at Fernvale in May and October of 1984. The initial excavation consisted of two 1 x 1-m test units along the central portion of the landform. No specific details on the findings of these initial excavations are present within the project archive. However, Jolley (1987) reported that both units resulted in the recovery of high quantities of lithic debitage, and temporally diagnostic Mississippian period artifacts. A single intact prehistoric feature was also identified.

That October investigators returned to the site and established an excavation grid oriented to 38-degrees east of north. A total of nine 1 x 1-m test units and six backhoe trenches were excavated throughout the project area. Approximately 106 square meters of the site was examined during Phase II testing.

Figure 1 depicts the locations and findings of the test excavations. This figure was created from a combination of field maps, test unit forms, and backhoe trench data in the project archive. Many of the features recorded during the testing process could not be reconciled with those later mapped as a result of the data recovery excavations. These discrepancies likely result from minor mapping errors and/or changes in feature dimensions caused by the mechanical stripping process and additional delineation efforts.

Five of the backhoe trenches opened during Phase II testing were oriented grid east/west and were excavated to the Ap/B soil transition in order to prospect for buried features (Figure 2). One additional backhoe trench was excavated along a grid north/south axis in the southern portion of the site. That trench was excavated to a maximum depth of 2.5 m below surface in order to examine geologic strata (Kutruff 1984).

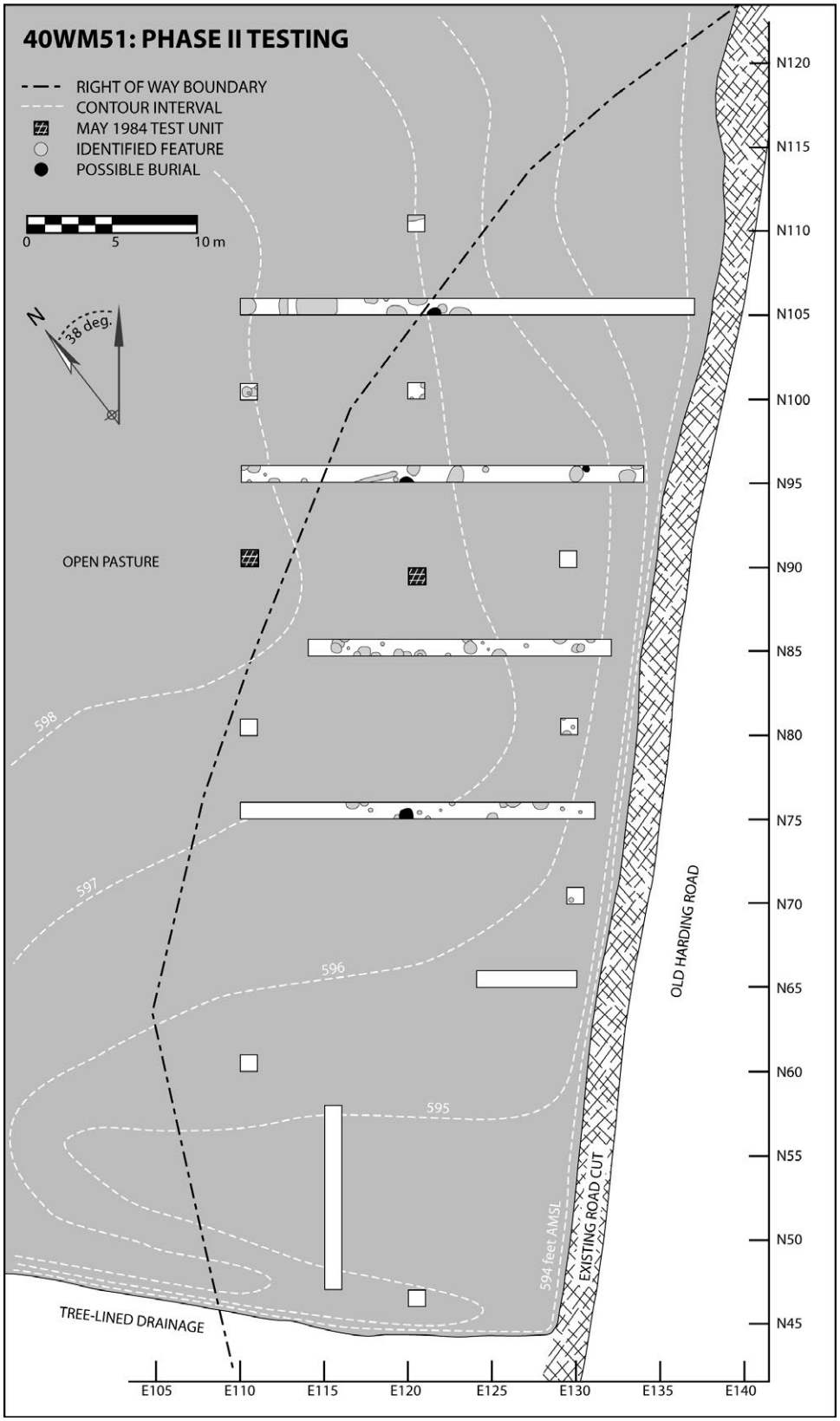

Figure 1. Map of Phase II excavations at the Fernvale site.

Figure 2. View of Phase II backhoe trench at grid N95, facing grid west and showing intact cultural features beneath the plowzone.

The test excavations identified stratigraphy consisting of 18–50 cm of disturbed plow zone underlain by culturally sterile B-horizon soils (Kutruff 1984). Remnant midden deposits were noted beneath Ap-horizon soils in some trenches, and particularly in the northwest portion of the site. Five out of the six backhoe trenches revealed intact cultural features intruding into the sterile B-horizon (see Figure 2).

A total of 68 prehistoric features were identified during the test excavations. All features were subsequently mapped and probed with a soil auger to determine their depth. The features ranged from 35–106 cm in diameter and from 9–85 cm deep. Pits, postmolds, four possible human burials, and a portion of a Mississippian wall trench structure were among the defined features. None of the identified features were subjected to formal archaeological excavation.

All artifacts collected during the 1984 testing were sorted, bagged, and returned to the TDOA for curation. These artifacts were not tabulated or exhaustively analyzed, although a preliminary analysis indicated the presence of Middle Archaic through Mississippian components (Kutruff 1984). Data from field notes indicates that both shell and limestone-tempered ceramics were recovered from all nine Phase II test units. Projectile points including Eva, Motley, Copena, and Adena types, as well as large straight-stemmed forms, were also recovered from these units.

DATA RECOVERY, 1985

Phase II excavations clearly demonstrated the Fernvale site contained intact archaeological deposits and possessed sufficient integrity to address research questions regarding the prehistoric period in the region. TDOT representatives therefore worked in consultation with the State Historic Preservation Office (SHPO) to develop a data recovery program to mitigate the impact of bridge construction on the site (Kline 1984). The initial focus of data recovery excavations was to “gather information to elucidate aspects of Mississippian ‘farmstead’ residential and intra-site settlement organization and subsistence” (Kline 1984:2). In addition, the project objectives called for examination of the Late Archaic component and Archaic subsistence strategy (Kline 1984).

Staff from the TDOA conducted data recovery excavations at Fernvale between February and June of 1985. Limited plowzone investigations were conducted during the initial stage of the data recovery effort. Prior to topsoil removal, Tennessee Valley Authority archaeologist John Coverdale conducted a proton magnetometer survey of a 15 x 38-m block of the site within the proposed ROW. Readings were taken at one-meter intervals throughout this area. The goal of this process was to test the effectiveness of the magnetometer in predicting the occurrence of prehistoric subsurface features. The results of that survey are not included in the project archive, although Jolley (1987) states that there was no

correlation between the magnetometer survey results and the actual occurrence of subsurface features at the site.

Beginning in late February of 1985, backhoe equipment was used to remove topsoil from the proposed right-of-way (ROW). This included the entire direct impact area (that portion of the site situated inside the proposed slope cut) and selected portions of the area between the slope cut and western ROW extent (Figure 3). Approximately 1,305 square meters was mechanically stripped during the data recovery process. The direct impact zone comprised 1,210 square meters of the investigated area.

Figure 3. Aerial photo showing data recovery excavations and road construction.

Following the removal of plowzone soils, all exposed areas were immediately shovel skimmed and troweled to identify and define any cultural features. All features were marked using a combination of gutter spikes and color-coded flagging tape, and then covered with black plastic to limit sun exposure. All identified features were mapped according to grid coordinates, which were noted on feature excavation forms.

Features were excavated by hand using standard archaeological methods (Figure 4). All features were initially profiled along their long axis and recorded using a standard scale and key. After the profiles were recorded, the remaining half of the feature was excavated according to cultural stratigraphy (if present). Due to time constraints and limitations of the project footprint, only 127 of the 196 recorded features were subjected to hand excavation.

Figure 4. View of hand excavations.

Standardized forms were completed for each feature. Information recorded on these forms included grid coordinates, measured dimensions, and verbal descriptions of excavation processes, recovered materials, diagnostic artifacts, and any specialized samples. Features containing human remains were assigned sequential burial numbers, and recorded using standardized Burial Data Sheets. Information on burial forms included burial type, positioning, grave dimensions, and verbal descriptions of the remains and any associated artifacts. Maps of each feature or burial were attached to the relevant forms. All features and burials were documented in profile and final plan view using sketch maps and both color slide and black and white print 35 mm film. Burials were also sketched and photographed *in situ* prior to removal of human remains.

All feature fill excavated during the data recovery process was dry screened through 1/4-inch mesh hardware cloth, and artifacts were bagged according to provenience. Minimally, a five-gallon sample of fill was saved from every feature for 1/8-inch waterscreen recovery. If the fill from the feature was less than five gallons, then the total fill was saved. A one-gallon flotation sample was also collected from each identified stratum that contained temporally diagnostic artifacts.

The project objectives outlined in the TDOT Request for Proposal were reevaluated early in the data recovery process once it was determined that few or no conclusively Mississippian features were present within the direct impact zone. The focus of the project therefore shifted to investigating the Late Archaic

and Early Woodland components at the site. In addition, time and budgetary constraints limited the excavation of features exposed by mechanical stripping.

Those features and burials within the direct impact zone were given highest priority. Features identified outside of the proposed slope cut, including a Mississippian wall trench structure (Structure 2), were not excavated. All unexcavated features were mapped and probed with a soil auger to determine their maximum depth. This data and the plan view dimensions were recorded in the project record.

The 1985 data recovery project identified 196 pit and 94 postmold features (Figure 5). Sixty-five percent (*n*=127) of the pit features and 82 percent (*n*=78) of the postmolds were subsequently investigated through hand excavations. Feature excavation resulted in the identification of 33 human burials, two dog burials, and three structure footprints. Artifact analysis revealed major site occupations during the Late Archaic, Middle Woodland, and Mississippian periods, as well as isolated materials dating from the Paleoindian, and Early and Middle Archaic periods.

Following the completion of fieldwork, all artifacts and field notes were returned to the TDOA for processing and analysis. A partial draft manuscript was prepared on the data recovery effort. That document was subsequently assigned TDOA Unpublished Manuscript No. 87-5, and placed with other written project materials in the site information file in Nashville. All site artifacts were curated in the TDOA facility at Pinson Mounds State Archaeological Park.

REANALYSIS AND COMPLETION, 2007–2012

In August of 2007, State Archaeologist Mike Moore requested that the editor of this volume reexamine the status of the Fernvale project, with the goal of completing any outstanding artifact analysis and finalizing the excavation report. A preliminary assessment of the project status determined that considerable analysis remained to be done on the collection (Deter-Wolf and Tune 2008). Artifacts from many features had never been fully analyzed or tabulated. In addition, only a small sample of the 1/8-inch waterscreen samples had been sorted or examined. The discussion of faunal remains in the original draft was limited in scope and a spot check of the collection revealed errors in species determination. Finally, no documentation or analysis of the human remains had ever been completed.

The intervening 22 years had also resulted in sporadic reorganization of the artifact assemblage and some loss of project paperwork as a result of a flood at the TDOA facility on Edmonson Pike during the late 1990s. These factors made verifying artifact descriptions in the draft report very difficult and in some cases impossible. Finally, the advancement of computer technology had rendered the original electronic project files obsolete.

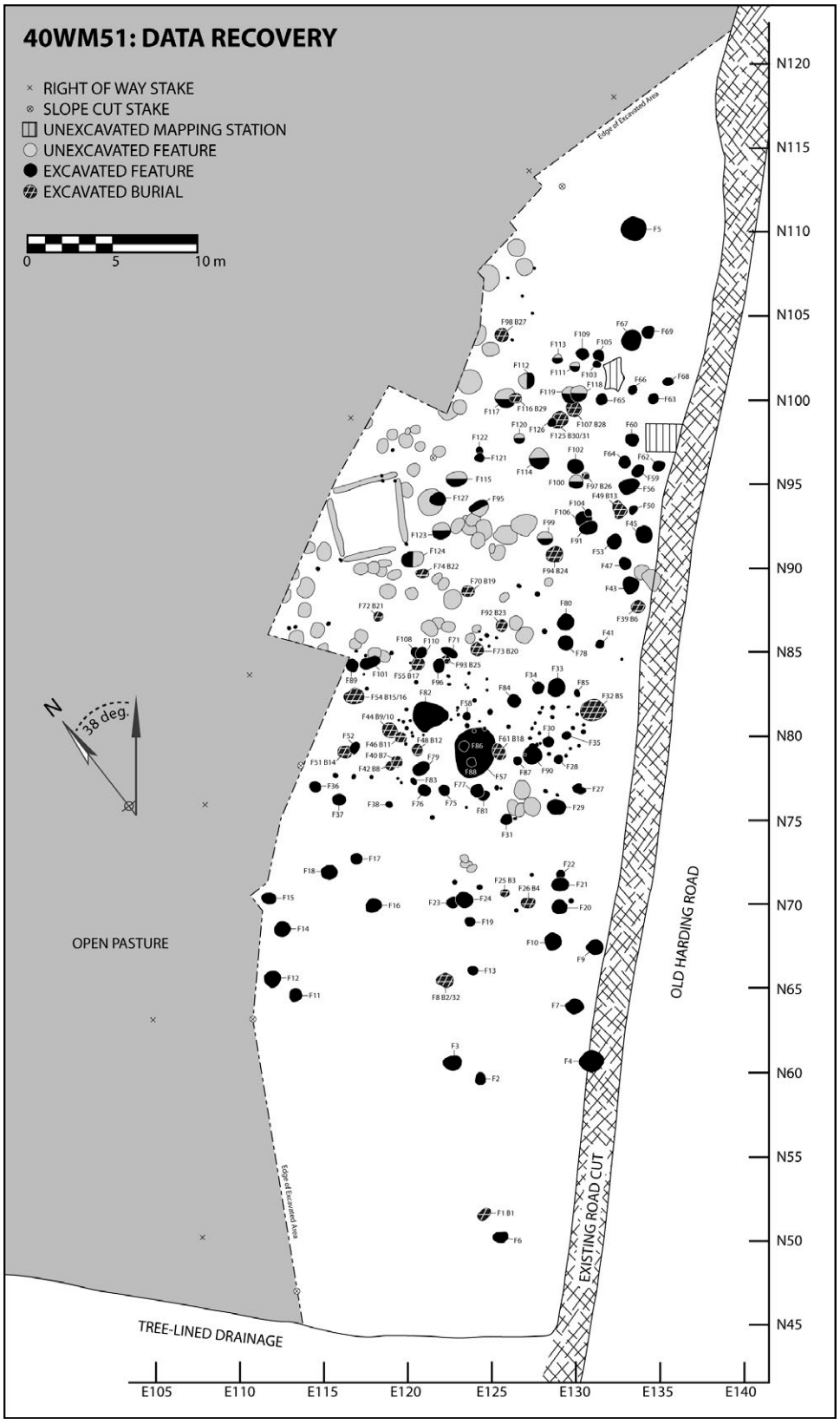

Figure 5. Map of data recovery excavations at 40WM51.

For all of the above reasons, the decision was made to conduct a complete re-analysis of the artifact assemblage from the data recovery excavations, and to issue a new report. This process took place between 2007 and 2012, and was conducted as a collaborative effort between the TDOA and the Department of Sociology and Anthropology at Middle Tennessee State University (MTSU) in Murfreesboro.

The reexamination and reanalysis also involved creating a modern digital archive of all project materials. The original draft manuscript was digitized along with all notes and analyses from the initial reporting effort, project maps, field sketches, and original report graphics. The collection of 35 mm slides and black-and-white negatives from the project archive were also scanned as high resolution digital images. Finally, all digital files were burned onto archival-quality CDs and stored along with original project documentation in the TDOA site information file.

III. ENVIRONMENTAL SETTING

The Fernvale site was established on an alluvial terrace overlooking the left (descending) bank of the South Harpeth River in northwestern Williamson County. Elevations on the terrace landform range between 594–598 feet AMSL. Old Harding Road and the South Harpeth River form the southeastern and eastern boundaries of the landform, while deeply-incised blue line streams form the northern and southern boundaries. The level terrace formation extends approximately 150 m to the northwest before the terrain rapidly ascends to a series of ridge crests that overlook the South Harpeth Valley at elevations of between 800–840 feet AMSL. The site area, along with most of the surrounding South Harpeth Valley, has been maintained as open pasture and grassland for much of the last century.

The following chapter discusses the specific environment of the Fernvale site, including its hydrologic, physiographic, geologic setting. The chapter concludes with a brief discussion of raw material and resource availability as pertaining to prehistoric occupations of Fernvale and the South Harpeth River watershed.

PHYSIOGRAPHY

The region surrounding 40WM51 comprises the intersection of the Western Highland Rim and Central Basin physiographic provinces of Middle Tennessee (Figure 6; Miller 1979). Both the Fernvale site area and the surrounding South Harpeth River Valley belong to the Central Basin province. Ridge crests overlooking the valley range between 700 and 900 feet AMSL in elevation and belong to the Western Highland Rim province. The boundary between these two provinces results from numerous geologic processes including uplift of the Nashville Dome and differential erosion of the Fort Payne Formation.

At the beginning of the Ordovician period of the Paleozoic era (ca. 490 million years ago [MYA]), all of Tennessee and much of what would become North America was submerged beneath a shallow, equatorial sea. Marine sediments deposited on the sea floor during the Ordovician period were compressed over time to form lithological units including Bigby-Cannon Limestone and the Leipers, Catheys, and Arnheim Formations, as well as Fernvale Limestone and Mannie Shale (Wilson 1972).

Following the end of the Ordovician period, sedimentary deposits originating in the Devonian period (ca. 416–370 MYA) and Mississippian epoch of the Carboniferous period (360–325 MYA) resulted in the formation of Chattanooga Shale, the Fort Payne Formation, and Warsaw limestone (Wilson 1972). The extremely dense, cherty limestone of the Fort Payne Formation comprises the ground surface material between approximately 600 and 800 feet AMSL in the immediate vicinity of site 40WM51 (Wilson 1972).

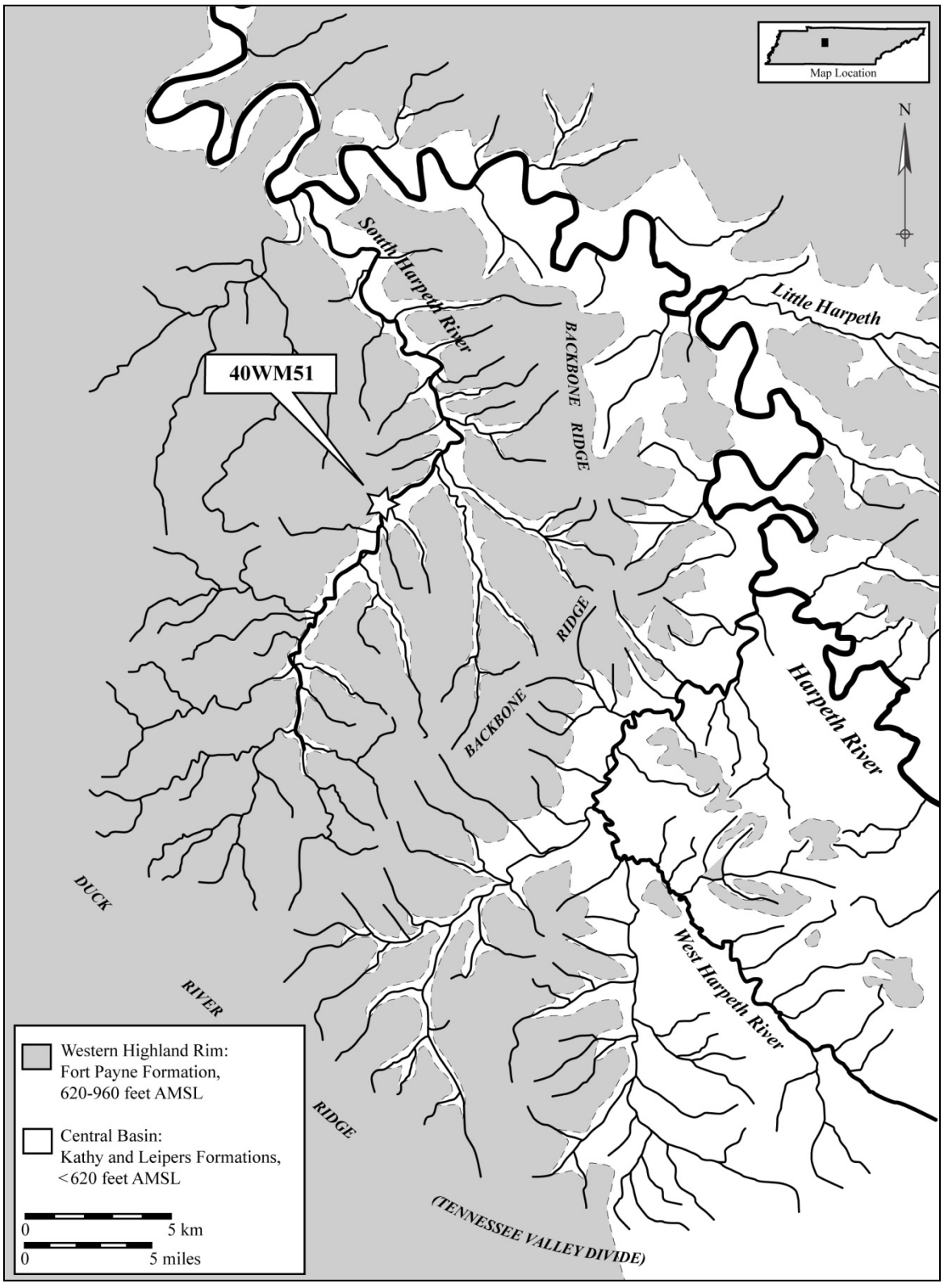

Figure 6. Generalized physiographic map showing the location of the Fernvale site at the intersection of the Central Basin and Western Highland Rim provinces.

Beginning in the Devonian period, tectonic activity and repeated orogenic processes in what would become Middle Tennessee resulted in the upthrust of an elliptical expanse of limestone known as the Nashville Dome (Wilson 1949). The massive upthrust caused fracturing of the sedimentary bedrock layers. These fractures admitted rain and weather, which accelerated erosion of the anticlinal structure and eventually resulted in the formation of the Central Basin, an elliptical depression that measures approximately 201 km north-south and about 97 km east-west.

No orogenic activity occurred to accelerate the erosional process in the area immediately west of the Nashville Dome. In that area the extremely dense Mississippian-era Fort Payne Formation prevented substantial erosion, resulting in the formation of the Western Highland Rim. Only significant streams and rivers that flow through this area, such as the Cumberland, Harpeth, and South Harpeth, have been able to breach the Fort Payne Formation. Once through the protective upper stratum, these waterways were able to easily erode through underlying Ordovician limestone. The result of this differential weathering along the physiographic boundary is the appearance of finger-like protrusions of the Central Basin province that extend along the South Harpeth, Leipers Fork, and other river valleys into the surrounding Western Highland Rim (see Figure 6).

HYDROLOGY

The South Harpeth River watershed consists of 52,120 acres in Williamson, Cheatham, and Davidson Counties, Tennessee. The river has its headwaters approximately 6.2 km to the southeast of Fernvale, where smaller waterways including Caney Fork Creek, South Harpeth Creek, Arkansas Creek, and Harpendene Branch coalesce to create the main channel. Numerous named and unnamed drainages flow from the surrounding dissected uplands to feed the South Harpeth River along its course. The larger named drainages of Bedford Creek, East Fork, Little East Fork, and Pritchard Linton Branch all flow from the east to feed the South Harpeth River along the middle portion of its route.

In the immediate vicinity of the site, the South Harpeth is deeply incised and flows some four meters below its left (descending) bank. From 40WM51, the river meanders northward through western Williamson and Davidson Counties until it reaches its confluence with the Harpeth River in Cheatham County near the community of Pegram. The Harpeth then flows north towards Ashland City, where it feeds the Cumberland River (impounded as Cheatham Lake). From this point the Cumberland flows northwest until it ultimately empties into the Ohio River at Smithland, Kentucky.

The South Harpeth River watershed is situated immediately north of the Tennessee Valley Divide, which travels northwest-southeast at approximately 900 feet AMSL along the crest of ridge systems including the Duck River Ridge (see Figure 6). To the south of this divide the dissected uplands of the region

drain into the Duck River and ultimately into the Tennessee River. The South Harpeth River watershed is bounded to the east by Backbone Ridge, which divides the South Harpeth and West Harpeth drainages at an elevation of approximately 900 feet AMSL. The region west of the South Harpeth Valley drains into Turnbull Creek and Brush Creek, both of which also flow north to feed the Harpeth River.

SOILS

According to the *Soil Survey of Williamson County, Tennessee* (True et al. 1964), soils along the South Harpeth Valley belong to the Lindside-Armour-Huntington association. These naturally fertile soils are found along bottomlands and stream terraces, and are formed in phosphatic limestone soils washed from higher elevations (Figure 7). Huntington, Egam, Lindside, Melvin, and Humphreys series soils all appear along the bottomlands of the South Harpeth and its major tributaries (True et al. 1961). The extremely fertile Armour series soils are situated on foot slopes, valley floors, and stream terraces like the one containing 40WM51. Increasing slopes along the upper terrace formation feature Captina series soils, which transition to the Sulphura series at the base of the dissected uplands.

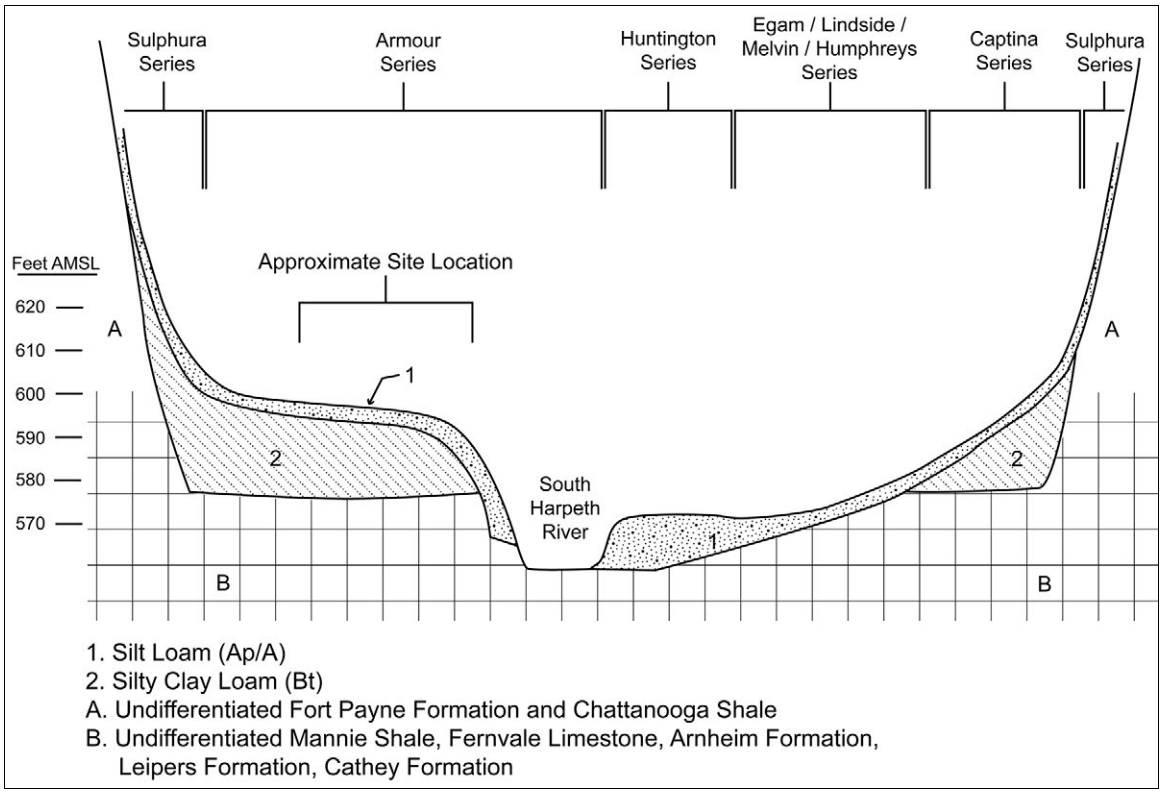

Figure 7. Schematic cross-section of geology and soils in the South Harpeth Valley near the Fernvale site.

Soils within the boundaries of the Fernvale site consist of Armour silt loam (ArB) along the relatively level central crest of the terrace, and Armour cherty silt loam (AcC2; AcD2) on slopes approaching the unnamed drainages to the north and south. Typical stratigraphy for Armour silt loam consists of a dark brown (10YR 3/3) Ap horizon from 0–23 cm below ground surface (True et al. 1964), underlain by up to 10 cm (4 inches) of brown (7.5YR 4/4–4/5) silt loam A horizon. The Bt horizon subsoil begins 33 cm below ground surface and consists of dark-brown (7.5YR 4/4) friable silty clay loam exhibiting a blocky structure and yellow to red mottling

RAW MATERIAL AND NATURAL RESOURCE AVAILABILITY

Differential erosion of the Fort Payne Formation along the South Harpeth and adjacent valleys has resulted in the exposure of lithic and mineralogical resources that would have attracted prehistoric inhabitants of the Fernvale site. In particular, deep weathering along the Western Highland Rim escarpment has resulted in leaching of most of the carbonate fraction from the Fort Payne Formation (Hershey 1965). The leftover residuum of chert, silt, and clay forms in beds approximately 30–60 cm thick. Chert nodules and fragments within these beds are generally small in size, and average less than 10.6 cm in diameter (Fullerton 1964).

The inhabitants of the Fernvale site would have been able to procure Fort Payne chert from quarries along uplands and slopes, or as erosional remnants along the base of the Western Highland Rim escarpment. Historic-period chert mining has occurred at numerous locations along the Central Basin/Highland Rim boundary in the general vicinity of 40WM51 (Fullerton 1964; Hershey 1965). Fort Payne material would also have been procured from the channel of the South Harpeth and its tributaries. Gravel bars that include numerous chert cobbles are presently situated less than 150 m to the north and south of the site area.

In addition to Fort Payne material, cherts from the upper Mississippian-aged Warsaw Formation would also have been available along the channel of the South Harpeth River and the base of the Highland Rim escarpment. The Warsaw formation has been largely eroded in the vicinity of the site, and these cherts would have been much less readily available than Fort Payne material. Large outcroppings of the Warsaw Formation still appear to the west of the Fernvale site around the community of Fairview, generally at elevations greater than 800 feet AMSL (Wilson 1972).

The location of site 40WM51 along the boundary of the Western Highland Rim and Central Basin physiographic provinces would have also provided ready access to a variety of non-chert lithic materials. Both limestone and abrasive siltstone appear as a result of erosional processes along the main channel of the South Harpeth River and along the Highland Rim escarpment. These and other coarse-grained materials would have been collected for manufacturing various

artifacts such as hoes, hammerstones, various groundstone implements, and tools for processing botanical material.

In addition to being convenient to various lithic material sources, the site setting within the South Harpeth River Valley would have provided prehistoric peoples with ready access to food in the form of numerous plant and animal species. A wide variety of mammals, birds, and reptiles were native to the deciduous forest that covered the terraces of the South Harpeth Valley. The river channel and its tributaries would have provided a source for numerous fish, reptiles, amphibians, and shellfish. Game animals currently found within the South Harpeth River watershed include gray squirrel, rabbit, raccoon, white tailed deer, groundhog, smallmouth bass, and rock bass.

Many of the species hunted by inhabitants of the Fernvale site would have found their natural habitat in large stands of river cane which, although currently absent from the area, once grew along riverbanks throughout Middle Tennessee. The cane itself also provided raw material for weaving and basketry, construction of fish weirs and waddle-and-daub structures, and fashioning shafts for various tools and weapons.

Rich alluvial soils along the river bottoms and first terraces would also have significantly contributed to subsistence patterns of the site inhabitants. Fertile soils in the Armour, Huntington, Egam, Lindside, Melvin, and Humphreys associations would have encouraged the growth of various edible wild plants such as Chenopodium, grapes, honey locust, and various species of nuts. During the Woodland and Mississippian periods these soils would have supported both horticultural and agricultural efforts.

IV. ARCHAEOLOGICAL FRAMEWORK

The South Harpeth River Valley remains pastoral in character despite urban encroachment into previously rural areas of Williamson County. Little ground-disturbing development has taken place along the South Harpeth River or its tributaries during the last 30 years. Infrequent home and pond construction, utility work, and road improvements along Old Harding Road and Highway 100 have resulted in limited impacts to the floodplain and adjacent river terraces. Little or no modern development has taken place on the wooded uplands of the surrounding Western Highland Rim.

Although lack of development has served to protect archaeological resources within the South Harpeth River watershed, it also means that very few formal archaeological investigations have taken place within this area. The 1984–1985 investigations at the Fernvale site constitute the only professional testing or data recovery excavations within the 52,120-acre watershed. The following discussion summarizes the limited archaeological investigations within the South Harpeth River watershed, the archaeological sites that have been recorded as a result of those investigations, and the archaeological framework that emerges from an examination of the resources.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

The first record of archaeological sites along the South Harpeth River and its tributaries appears on a statewide map by William Edward Myer titled *Archaeological Map of the State of Tennessee Including the Principal Aboriginal and Pioneer Trails* (Myer 1928: Plate 14). On this map Myer identifies several prehistoric sites within the watershed, including multiple mound groups at the mouth of the South Harpeth River, one mound group along East Fork Creek, and an “Ancient Town” along the Little East Fork (Figure 8).

No mound sites have been subsequently identified within the South Harpeth drainage, and no known sites correspond to Myer’s locations along East Fork or the Little East Fork. These discrepancies are likely the result of mapping errors due to the small, statewide scale of the map. Myer’s unpublished C*atalogue of Archaeological Remains in Tennessee* (Myer 1923) does not include any sites along the South Harpeth River or its tributaries, suggesting he did not intend to plot the sites in question within the South Harpeth River watershed.

Avocational archaeologist John Dowd submitted many of the initial TDOA site record forms for Cheatham, Davidson, and Williamson Counties in the early 1970s based on his own excavations and on data from informants. Along the floodplain of the South Harpeth River Valley, Dowd recorded sites 40CH10, 40WM13 and 40DV44. All three of these sites were identified based on informant interviews rather than in-field investigations.

Figure 8. Excerpt of map by William Edward Myer showing archaeological sites within the South Harpeth River watershed (adapted from Myer 1928: Plate 14).

During the 1970s and 1980s the National Park Service Southeastern Archaeological Center conducted a series of investigations along proposed alternatives for the Natchez Trace Parkway. Several of these investigations (Atkinson 1989; Hamilton 1977; Prokopetz 1975) examined areas east of the South Harpeth River Valley along Backbone Ridge and identified one prehistoric lithic scatter (40WM119) in the uplands overlooking the Little East Fork.

Only three professional archaeological surveys have examined areas within the South Harpeth River Valley. Beginning in October of 1984, the TDOA undertook a statewide prehistoric site survey focused on identifying Mississippian settlement patterns. TDOA archaeologist John Froeschauer conducted a survey of the South Harpeth River drainage as part of the Mississippian survey project, and identified a total of 32 previously unrecorded sites. No subsurface testing was performed during the field investigations, and sites were identified based on the presence of artifact scatters in areas with high ground surface visibility. Site data from the survey is on file with the TDOA.

In 1995, the consulting firm of DuVall & Associates, Inc. conducted an archaeological survey of proposed improvements along State Route 100, which intersects the South Harpeth River Valley in Davidson County at the community of Linton (Anderson and Josephs 1996). Those investigations identified one unrecorded prehistoric scatter (40DV498) within the South Harpeth River watershed. No subsequent testing took place at the site.

That same year, DuVall & Associates conducted a Phase I reconnaissance prior to proposed water line extensions along Old Harding Road (Jones and DuVall 1995). The water line survey resulted in the identification of two previously unrecorded prehistoric sites (40WM162 and 40WM163) and a historic cemetery (40WM164). During that survey field crews also revisited the Fernvale site and several other previously recorded resources in order to assess their relationship to the planned project right-of-way. The final report on those investigations recommended avoidance or Phase II testing at sites 40WM51, 40WM65, and 40WM69 (Jones and DuVall 1995). The proposed water line was constructed in a manner to avoid any potential site impacts, and no additional archaeological testing was performed.

PREHISTORIC OCCUPATION OF THE SOUTH HARPETH RIVER WATERSHED

A total of 45 archaeological sites, including 40WM51, have been recorded within the South Harpeth River watershed (Table 1). Three of these sites (40WM69, 40WM83, and 40WM164) are exclusively nineteenth century historic period resources, and will not be further considered in this discussion. Seventy-six percent (*n*=32) of prehistoric sites in the watershed have produced temporally diagnostic artifacts (see Table 1; Figure 9).

Table 1. Archaeological Sites in the South Harpeth River Watershed, Organized by Documented Temporal Affiliations.

Site	UID Prehistoric	Paleoindian	Archaic			Woodland			Mississippian	Historic
			E	M	L	E	M	L		
40DV498	X									
40WM13	X									
40WM60	X									
40WM66	X									
40WM67	X									
40WM72	X									
40WM74	X									
40WM75	X									
40WM119	X									X
40WM163	X									
40CH85		X	X	X	X					
40WM73		X	X	X	X		X			
40WM51		**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	
40DV211			X	X	X					
40DV228			X	X	X					
40WM53			X	X	X					
40WM58			X	X	X					X
40WM70			X	X	X					
40WM56			X	X	X	X	X			
40WM57			X	X	X	X	X			
40CH84			X	X	X	X	X	X	X	
40CH10				X	X					
40CH26				X	X					
40DV44				X	X					
40DV207				X	X					X
40WM54				X	X	X	X			
40WM63				X	X	X	X			
40WM65				X	X	X	X			
40CH86					X					
40DV206					X					
40DV209					X					
40DV229					X					
40WM59					X					
40WM61					X					
40WM64					X					
40WM162					X					
40DV208					X	X				
40DV210					X	X				
40WM55					X	X				
40WM68					X	X				X
40WM71					X	X				
40WM62					X		X			
40WM69										X
40WM83										X
40WM164										X
Totals	**10**	**3**	**11**	**18**	**32**	**12**	**9**	**2**	**2**	**7**

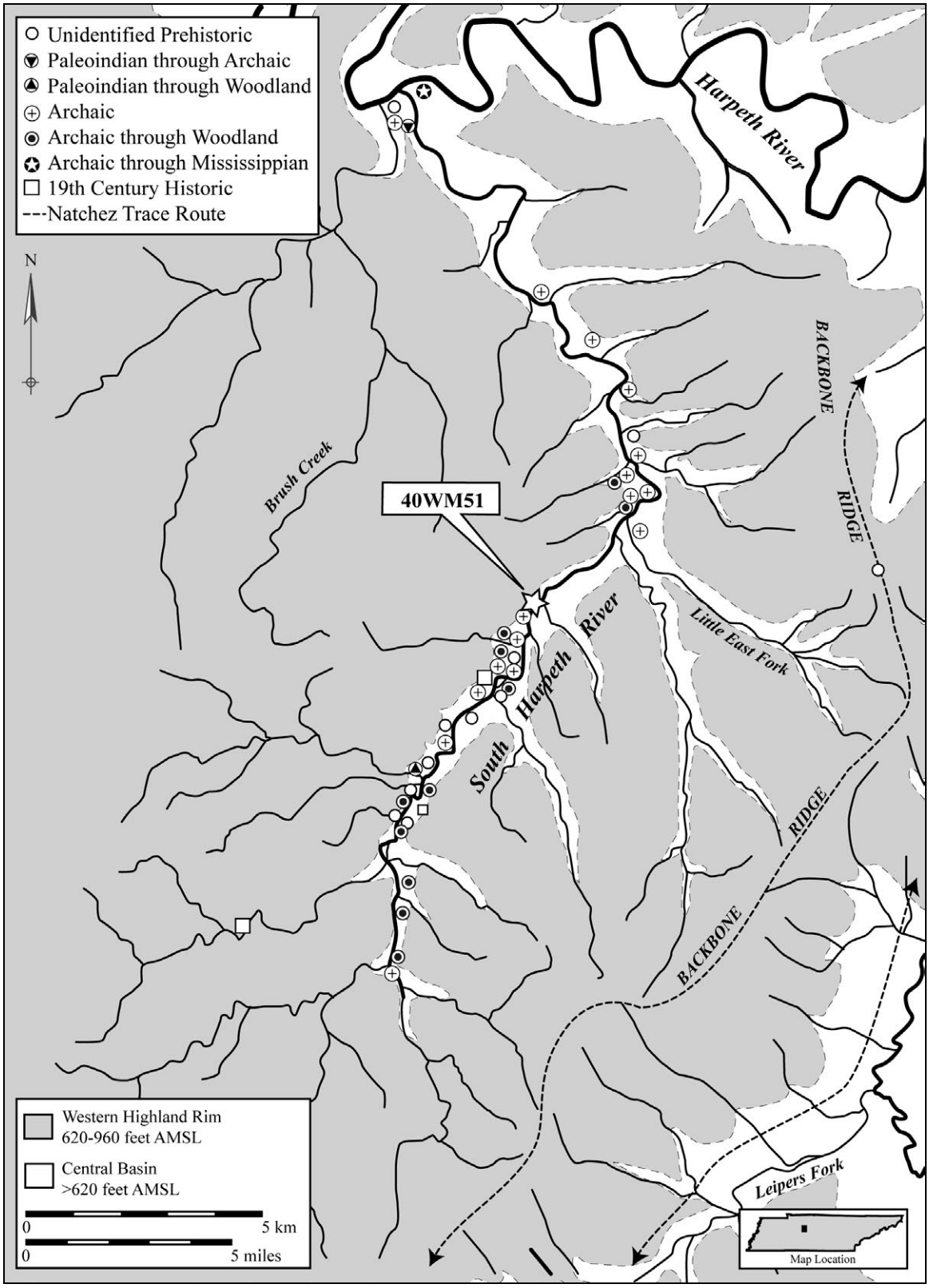

Figure 9. Map of the South Harpeth River watershed, showing general location and temporal affiliation data for all recorded archaeological sites.

The Fernvale site is the only prehistoric resource within the South Harpeth River watershed that has been systematically excavated and can be dated according to sealed feature context. All other sites listed in Table 1 and depicted on Figure 9 have been assigned temporal affiliations based on surface artifact scatters, information from private collections, and state site file records.

All but one of the known prehistoric sites within the watershed consist of open habitations situated on first or second level terraces overlooking the main channel of the South Harpeth River. Site 40WM119 is the only prehistoric resource that has been recorded along the various tributaries or in an upland setting, and is situated at approximately 920 feet AMSL along the crest of Backbone Ridge above the Little East Fork (see Figure 9). There are undoubtedly additional unrecorded sites located along ridge crests throughout the surrounding uplands of the Western Highland Rim that have not been identified due to a lack of formal surveys. These resources likely consist of temporary extractive stations or short-term camps which would have left behind relatively small archaeological footprints.

Seventy-five percent (*n*=24) of the temporally-affiliated sites within the South Harpeth River watershed have produced diagnostic artifacts spanning multiple prehistoric periods. These artifacts suggest the site locations were inhabited repeatedly over a period of several thousand years. There are no recorded examples of mound sites or prehistoric earthworks within the South Harpeth River watershed. In addition to 40WM51, only one other site within the watershed has yielded prehistoric burials (40DV44, discussed below).

As presented in Table 1, only three sites within the South Harpeth River drainage have yielded Paleoindian artifacts. In all three cases, these materials have been recovered out of primary context and as a part of multicomponent collections. Site 40CH85 is located at the confluence of the South Harpeth and Harpeth Rivers, and has yielded a number of Paleoindian and transitional Paleoindian/Early Archaic period artifacts including Clovis, Cumberland, and Dalton points. Isolated Paleoindian artifacts have also been recovered from the Fernvale site (see Chapter 8) and 40WM73.

The small number of Paleoindian components identified along the South Harpeth River and its tributaries may reflect sampling limitations rather than an absence of late Pleistocene activity. As noted above, most of the sites recorded within the watershed have only been examined through surface collection and have not been subjected to controlled stratigraphic excavation. There may be additional late Pleistocene and/or early Holocene deposits that remain buried and unrecorded along the alluvial terraces of the South Harpeth River.

Available data suggests the most intensive prehistoric habitation within the South Harpeth River watershed occurred during the Archaic period. All 32 temporally affiliated prehistoric sites in the region have produced artifacts originating in at

least one of the three Archaic subperiods (see Table 1). Early through Late Archaic temporal spans are present at 34 percent (*n*=11) of the known sites, while 22 percent (*n*=7) have yielded Middle to Late Archaic artifacts with no indications of Early Archaic materials.

Prehistoric activity in the region seems to have peaked during the later portion of the Archaic period. Late Archaic artifacts have been recorded at all 32 culturally affiliated sites (see Table 1) within the South Harpeth River watershed. Forty-four percent (*n*=14) of these sites have yielded diagnostic artifacts exclusively from the Late Archaic period and/or the Late Archaic through Early Woodland transition.

In addition to 40WM51, at least one other site containing Archaic burials has been recorded within the South Harpeth River watershed. Site 40DV44 is located on alluvial terraces overlooking the confluence of the South Harpeth River and East Fork Creek. According to the TDOA site file, 40DV44 was brought to the attention of John Dowd in 1968–1969 during construction along Hwy 96. As a result of that work, an unknown number of "pit burials" (presumably containing flexed interments) were destroyed. According to Dowd, collectors recovered Archaic period artifacts from the site. No professional excavations were conducted at 40DV44, and no documentation of individual collections exists.

Forty-four percent (*n*=14) of culturally affiliated sites in the watershed have yielded Woodland period artifacts (see Table 1). These include twelve instances of Early Woodland materials and nine sites exhibiting Middle Woodland artifacts. Only the Fernvale site and 40CH84 have produced Late Woodland materials. Collections from these two sites also represent the only examples of limestone-tempered pottery documented within the South Harpeth River watershed. All other identification of Woodland components within the region has been based solely on the presence of diagnostic stone tools.

The Fernvale site and 40CH84 are also the only two sites within the South Harpeth River watershed that have produced Mississippian components. Both sites yielded shell-tempered ceramic sherds. Site 40WM51 also had at least one Mississippian structure and an uncalibrated radiocarbon date of 880 ± 70 BP (see Chapter 7). There are no documented stone-box cemeteries or mounds located along the South Harpeth River or its tributaries.

ARCHAEOLOGICAL SETTING

Less than 4.8 km east of the study area, the confluences of the Harpeth River with the West Harpeth and Little Harpeth Rivers mark one of the principal northern entrances into the Central Basin. Compared to the fairly limited number of recorded sites along the South Harpeth River, the region to the east is replete with prehistoric occupations. While there are discrepancies in the amount of modern development and intensity of archaeological investigations that have

taken place between the South Harpeth and Harpeth/West Harpeth Valleys, these factors do not obscure an obvious preference for prehistoric settlement along the more eastern waterways.

In addition to a higher number of sites, the Harpeth and West Harpeth River Valleys are home to such significant Archaic sites as Anderson (40WM9) and Ensworth High School (40DV184), as well as the principal Woodland center of Glass Mounds (40WM3). The contrast between prehistoric occupation of the South Harpeth River watershed and the adjacent West Harpeth/Harpeth River drainage is especially pronounced during the Mississippian period, when Old Town (40WM2), Gray Farm (40WM11), and West Harpeth (40WM406) mound centers, as well as numerous sites containing stone-box cemeteries, were established along the eastern drainages. As noted above, only two sites within the South Harpeth River watershed have yielded Mississippian artifacts.

The wide river terraces overlooking the West Harpeth and Harpeth Rivers would have provided an exponentially greater resource base for prehistoric populations, as compared with the relatively narrow and deeply incised South Harpeth River Valley. The main channels of the Harpeth and West Harpeth Rivers also would have facilitated contact between groups spread throughout the Central Basin, thereby greatly increasing access to non-local or specialized materials. Exotic materials including non-local chert from Ensworth High School (Deter-Wolf 2004), copper from Glass Mounds (Jennings 1946; Putnam 1973), and marine shell from Gray Farm and Anderson (Brain and Phillips 1996; Dowd 1989) all indicate that sites along the eastern waterways enjoyed the benefits of regional trade networks.

The location of the Natchez Trace route relative to the South Harpeth River Valley also provides an indicator of the peripheral status of the study area within regional trade networks. The modern Natchez Trace Parkway travels generally along Backbone Ridge, the landform that divides the South Harpeth and West Harpeth River watersheds. Prior to parkway construction, the Trace consisted of a historic trading path that followed a much older prehistoric route, and which in turn probably originated as a game trail (Myer 1929, see Figure 8, Trail #19).

A review of data from Myer (1928) and information from the National Park Service (TDOA site files) indicates there were two parallel routes for the early historic and presumably prehistoric Trace in the vicinity of the project area (see Figure 9). The main historic route of the Trace crossed Duck River Ridge and passed between the Tennessee and Cumberland River watersheds approximately 8 km south of the South Harpeth drainage, near the modern community of Mobley Cut. From that point, the Trace descended northeast to the Leipers Fork floodplain in the vicinity of Garrison Creek, before diverging at the community of Leipers Fork.

The westernmost route of the historic Trace climbed from Dobbins Branch to the crest of Backbone Ridge, and from there generally followed the route of the

modern Parkway before descending into the Central Basin at Trace Creek near the community of Pasquo. Site 40WM119 was situated along this western, upland route. The eastern route of the Trace remained at lower elevations and traveled along Leipers Fork until it entered the West Harpeth and Harpeth River valleys. The eastern route was apparently well established by the Mississippian period, when the mound centers of Old Town (40WM2) and Gray Farm (40WM11) were built immediately adjacent to its path.

The South Harpeth River Valley would have been accessible from the western route of the Trace, which traveled along Backbone Ridge. From that upland route, travelers could have easily descended via the headwaters of any of the South Harpeth's tributaries. However, on reaching the main channel of the South Harpeth River, a traveler would have been faced with few alternatives for a means of egress. The only options for reaching the larger sites and better natural resources of the adjacent Central Basin would have been to climb back over the natural barrier of Backbone Ridge, or to travel north to the Harpeth, and from there trek approximately 16 km upstream to the southeast.

As discussed in the previous chapter, the South Harpeth River Valley forms a finger-like protrusion of the Central Basin physiographic province into the surrounding Western Highland Rim (see Figure 9). Although this setting offered many natural resources to prehistoric inhabitants of the region, it represents somewhat of a geologic *cul-de-sac* that would have restricted access to high-quality raw material sources, exotic materials, and finished goods obtained through trade and group interaction. The emerging picture of prehistoric habitation in the South Harpeth River Valley is of a peripheral setting that saw its heyday during the Middle to Late Archaic period and was virtually abandoned by the Late Woodland period.

V. PIT FEATURES

Aaron Deter-Wolf, Benjamin A. Steere, and Andrew Gillreath-Brown

The 1984 and 1985 excavations at Fernvale identified 196 pit features. As described in Chapter 2, time and budget constraints prevented the complete excavation of all features exposed during mechanical removal of plowzone soils, and the highest excavation priority was assigned to features within the 1,210-square meter direct impact area. Of 196 identified pit features, 163 were situated within the direct impact zone. The remaining 33 were located partially or entirely outside of the impact area. Seventy-eight percent (*n*=127) of pit features within the direct impact zone were subjected to hand excavation. One hundred and twelve of these were completely excavated, while 15 were bisected, with approximately half of the total fill recovered. Twenty-seven of the investigated features contained human burials. All unexcavated features were mapped and tested with a soil auger to determine their maximum depth.

FEATURE CLASSIFICATION

Archaeologists commonly employ descriptive categories such as “basins,” “pits,” “postholes,” and “hearths” to discuss prehistoric features. Many feature typologies attempt to further divide these basic categories using generalized morphological characteristics (“bell-shaped pit”), inferred secondary functions (“refuse pit”), or more specific descriptive classifications (“shell-filled pit;” “rock-lined basin”). These typologies rarely give any consideration to the primary function of a feature, which except in certain instances (e.g. a stone-box burial or puddled clay hearth) may be difficult or impossible to determine. For the purpose of clarity, this analysis employs the traditional descriptive categories of “pits” and “postholes” in order to discuss features at the Fernvale site. Specific descriptive data of all recorded features from the site are presented in Appendix A.

Robert Jolley developed a classification scheme for addressing non-posthole features at the Fernvale site during the initial post-fieldwork analysis. That classification effort sought to avoid arbitrary descriptive categories, and therefore was developed independently of attributes that might suggest a known function. This classification scheme was originally presented in the unpublished draft manuscript (Jolley 1987), and has been reproduced below.

Jolley employed three morphological attributes to initially classify pit features from the Fernvale site. These consisted of plan shape (circular, oval, or oblong), wall shape (sloping, straight, or excurvate), and base shape (flat or rounded). In addition, four descriptive size categories and three depth categories were established based on clustering of dimensions within the data set. These categories were distinguished based on average diameter and depth, and are presented below in Table 2.

Table 2. Size and Depth Categories Employed in the Classification of Non-Mortuary Pit Features at 40WM51.

Attribute	Category	Average Measurements
Diameter (Average)	Small	< 0.59 m
	Medium	0.6–1.09 m
	Large	1.1–1.49 m
	Very Large	> 1.49 m
Depth (Average)	Shallow	< 0.29 m
	Moderate	0.3–0.89 m
	Deep	> 0.9 m

Using the criteria described above, the 127 excavated pit features were initially sorted into 18 categories. As might be expected when applying an independent classification scheme to an archaeological data set, not every feature from the Fernvale site exhibited consistent traits or could be conveniently pigeonholed into the defined categories (Jolley 1987). For example, some features exhibited one straight and one sloping side, or irregular bases. These instances were used to refine the classification scheme, resulting in the creation of seven easily recognizable feature categories. Representative plan and profile views of the seven feature categories are presented in Figures 10 and 11.

It should be noted that depth measurements recorded for features and used in this classification scheme do not reflect the actual depths of the features created by the site's prehistoric inhabitants. Test excavations revealed that plowing and cultivation had disturbed the first 18–50 cm of topsoil across the entire site area, including the uppermost portions of all pit features. The use of heavy mechanical equipment to remove disturbed soils during the data recovery process is likely to have caused additional impacts to feature deposits. Of the 127 excavated pit features, 44 percent (*n*=56) had been truncated so that 16 cm or less of the original deposit remained. For these reasons, all depth measurements for features from the site should be viewed as relative.

Category 1 (*n*=89)
Plan View: circular to oval
Sides: straight to sloping
Bottom: flat to rounded
Measured Diameter: 0.34–1.06 m (range); 0.71 m (mean)
Measured Depth: 0.02–0.29 m (range); 0.14 m (mean)
Excavated Volume: 0.01–0.18 cubic meters (range); 0.05 cubic meters (mean)
Features: 1, 2, 9–14, 16, 17, 19, 20, 22, 23, 25–31, 34–41, 44, 46–48, 50–53, 55, 58–66, 68–70, 72–75, 77, 80, 81, 83–89, 91–93, 95–100, 103–111, 113, 116, 119, 120, 122, 126, 127

The majority of excavated features (70.1 percent) were assigned to Category 1. Approximately 23.6 percent of the features in this category (F-1, 25, 26, 39, 40, 44, 46, 48, 51, 55, 61, 70, 72–74, 92, 93, 97, 98, 107, and 116) contained human burials. One feature (F-17) exhibited internal stratigraphy. Seven percent (*n*=7) of the features in this category were partially excavated due to time constraints.

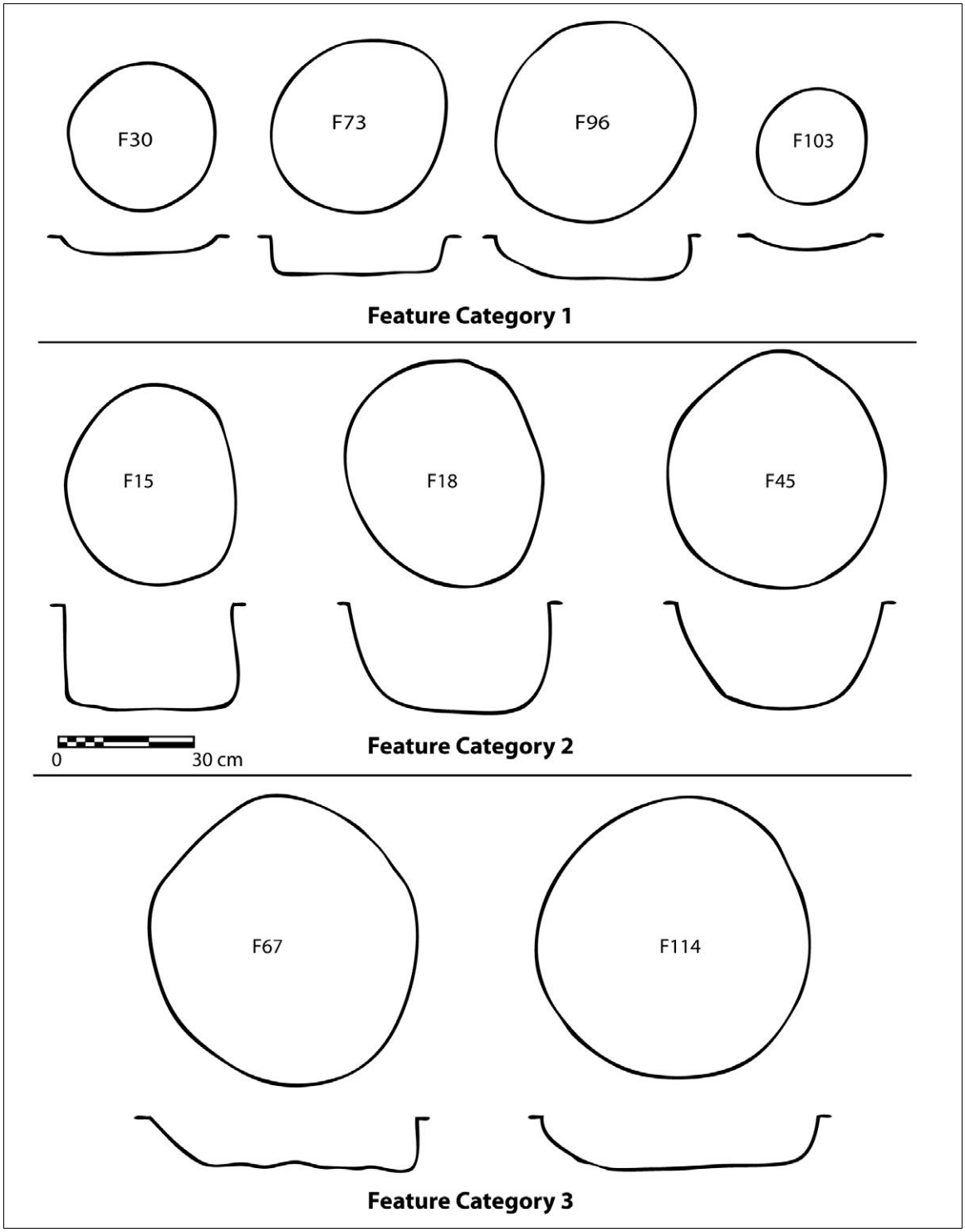

Figure 10. Representative plan and profile views of Feature Categories 1–3 (adapted from Jolley 1987).

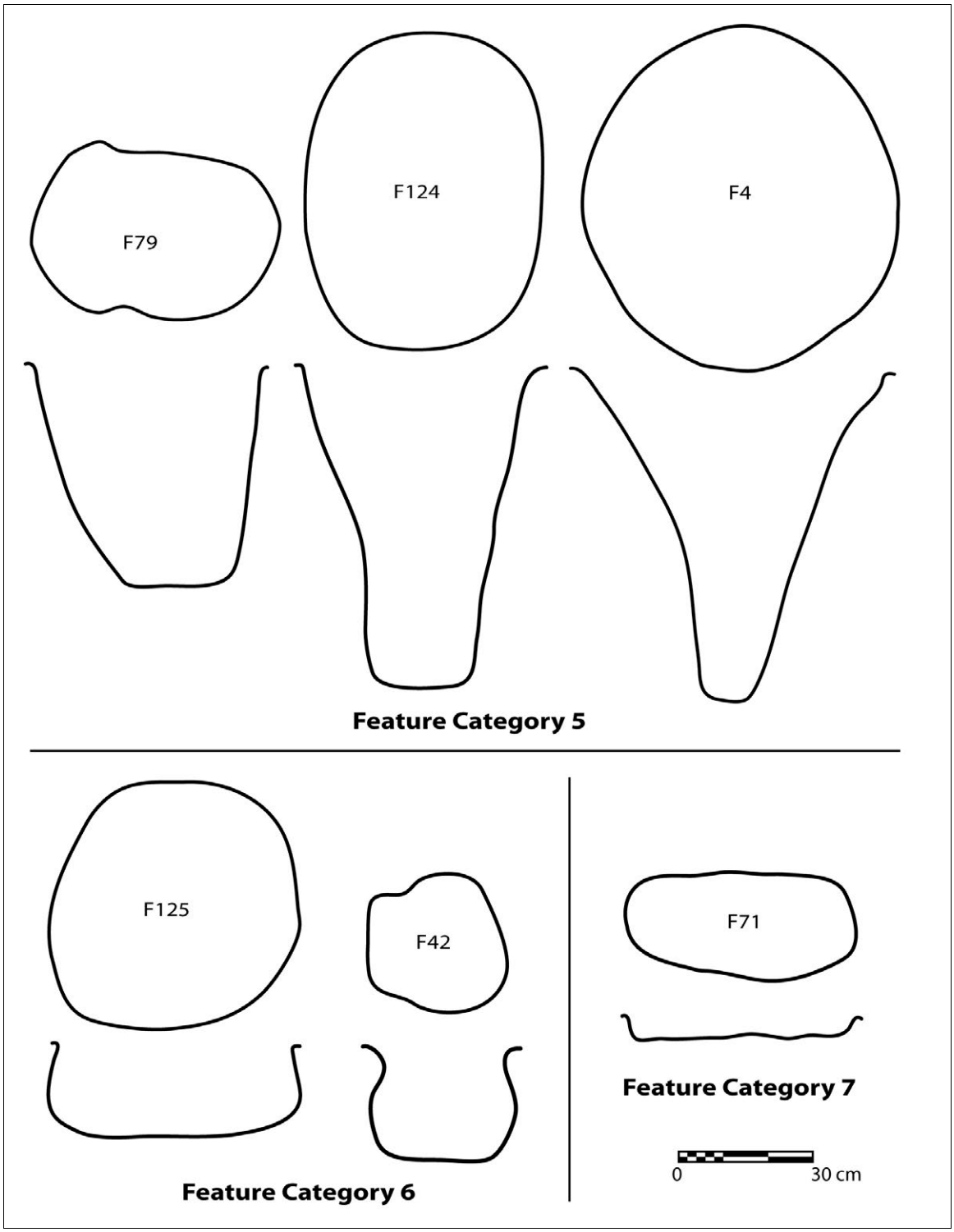

Figure 11. Representative plan and profile views of Feature Categories 5–7 (adapted from Jolley 1987).

Category 2 (*n*=16)
Plan View: circular to oval
Sides: straight to sloping
Bottom: flat to rounded
Measured Diameter: 0.73–1.08 m (range); 0.96 m (mean)
Measured Depth: 0.3–0.51 m (range); 0.38 m (mean)
Excavated Volume: 0.08–0.3 cubic meters (range); 0.21 cubic meters (mean)
Features: 3, 6, 7, 15, 18, 21, 24, 43, 45, 49, 76, 78, 94, 102, 112, 118

Category 2 represents the second most frequently occurring feature type at the site, comprising 12.6 percent of the whole (see Figure 10). Two features (F-49 and 94) contained human burials. Two features (F-3 and 18) exhibited multiple filling episodes, while two others (F-18 and 43) had large slabs of shale at their bases. It is possible these slabs were deliberately placed at the base of Features 18 and 43 to keep their contents dry or clean by avoiding ground contact.

Category 3 (*n*=8)
Plan View: circular to oval
Sides: sloping
Bottom: flat to rounded
Measured Diameter: 1.1–1.43 m (range); 1.25 m (mean)
Measured Depth: 0.17–0.39 m (range); 0.25 m (mean)
Excavated Volume: 0.11–0.33 cubic meters (range); 0.24 cubic meters (mean)
Features: 5, 32, 33, 67, 90, 114, 117, 123

Feature Category 3 was distinguished from Categories 1 and 2 by relatively shallow depth, large diameter, and lack of straight sides (see Figure 10). Only 6.3 percent of the total excavated features belonged to this category. One subadult burial was included in Feature 5, although stratigraphy suggests the mortuary event represents reuse of the feature.

Category 4 (*n*=2)
Plan View: circular to oval
Sides: sloping
Bottom: flat to nearly flat
Measured Diameter: 1.93–2.67 m (range); 2.3 m (mean)
Measured Depth: 0.4–0.44 m (range); 0.42 m (mean)
Excavated Volume: 0.68–1.82 cubic meters (range); 1.25 cubic meters (mean)
Features: 57, 82

Feature Category 4 includes two features, representing 1.6 percent of the total sample. Both features are situated within the portion of the site that includes structure footprints. Feature 57 exhibited five distinct strata, suggesting a combination of wash deposits and cultural fill. This feature is discussed and illustrated later in this chapter.

Category 5 (*n*=6)

Plan View: circular to oval
Sides: straight to sloping
Bottom: flat to nearly flat
Measured Diameter: 0.91–1.44 m (range); 1.11 m (mean)
Measured Depth: 0.98–1.42 m (range); 1.17 m (mean)
Excavated Volume: 0.38–0.84 cubic meters (range); 0.57 cubic meters (mean)
Features: 4, 56, 79, 101, 115, 124

With six features, Category 5 includes 4.7 percent of the total excavated features (see Figure 11). The tapered shape, depth, and volume of these features suggest they may have served as storage locations. None of the Category 5 features contained burials. Sixty-six percent of these features (F-4, 79, 101, and 124; see discussion below) exhibit wash and fill episodes. Although the sample is somewhat small to draw definitive conclusions, Category 5 features may have been intentionally left open over a period of time to facilitate reuse.

Category 6 (*n*=5)

Plan View: circular to oval
Sides: recurvate
Bottom: flat to nearly flat
Measured Diameter: 0.53–1.17 m (range); 0.85 m (mean)
Measured Depth: 0.31–0.5 m (range); 0.42 m (mean)
Excavated Volume: 0.05–0.43 cubic meters (range); 0.25 cubic meters (mean)
Features: 8, 42, 54, 121, 125

Category 6 features are the fifth most frequently occurring at the site, and comprise 3.9 percent of the total sample (see Figure 11). These features are a type often referred to as “bell-shaped pits.” Eighty percent of the features in Category 6 (*n*=4; F-8, 42, 54, and 125) contained burials. A total of six human and a single dog burial were recovered from these features. Three of the five features in this category (60 percent; F-8, 54, and 125) contained burials of multiple individuals, consisting of either two humans, or one human and one dog.

Category 7 (*n*=1)

Plan View: oblong
Sides: straight
Bottom: flat to nearly flat
Measured Diameter: 0.74 m
Measured Depth: 0.1 m
Excavated Volume: 0.4 cubic m
Features: 71

Only one feature from the site belongs to Category 7. Feature 71 was relatively sterile, and exhibited a low density of fire-cracked rock (see Figure 11). A marine

shell gorget and shell beads were recovered from the eastern end of this feature, which is discussed more fully later in this chapter.

FEATURE STRATIGRAPHY

The vast majority of pit features investigated at the Fernvale site (91 percent; *n*=115) contained homogenous brown to black silt loam fill. Only eight percent of non-mortuary pit features (*n*=10; F-3, 4, 6, 17, 18, 57, 58, 79, 101, and 124) exhibited discernible stratigraphy suggesting multiple episodes of deposition or reuse. This suggests that pit features from the site almost entirely represent single-use events, and were not kept open over an extended period of time.

In four instances (F-32/B-5, F-42/B-8, F-46/B-11, and F-92/B-23), the positioning of human remains within associated pits indicates that the inhumations incorporated already open, partially-filled features. Three of these burials (B-5, 11, and 23) were interments of infants or children less than two years old, while Burial 8 consisted of a cremation. Differential burial treatment of infants and very young children, and particularly their burial within open pits rather than dedicated mortuary features, has been documented at other Archaic sites in the region (Deter-Wolf et al. 2004; Dowd 1989). All remaining mortuary features apparently functioned as single-event deposits that were backfilled immediately following inhumation.

When layered deposits were identified during initial profile excavations, an effort was made to excavate the remaining feature fill according to stratigraphic levels. Artifacts were successfully segregated according to stratigraphic provenience for five of the 12 stratified features from the site (F-3, 4, 17, 42, and 57). Stratigraphy for the remaining seven features (F-6, 18, 49, 58, 79, 101, and 124) was identified during the 2007–2009 reanalysis effort based on field forms, plan drawings, and the photographic record.

Seven of the 10 stratified non-mortuary features (F-3, 4, 18, 57, 79, 101, and 124) exhibited wash and fill episodes (Figure 12). Features 3, 4, 57, and 124 exhibited single zones of yellow-brown silty clay loam tapering in from the walls, or in the case of Feature 3 extending in a thin zone across the entire pit. Features 18, 79, and 101 each exhibited up to three wash and fill episodes (see Figure 12). The profile shape of the silty clay lenses in these seven features indicates they result from natural washing of exposed feature walls, rather than deliberate efforts by the site inhabitants to seal or cap the features. Homogenous dark brown loam fill was present both above and below the wash deposits in features 3, 4, 18, 79, 101, and 124. Of the seven non-mortuary features exhibiting wash and fill episodes, only Feature 57 contained deposits that varied in color and/or texture.

At 2.8 m north-south by 2.10 m east-west, Feature 57 was the widest feature excavated at the Fernvale site, and also contained the most complex stratigraphy

of any pit feature. Although it extended less than 40 cm below grade, Feature 57 contained five separate fill zones (Figure 13). The specific stratigraphy of this feature was substantially complicated by the presence of multiple intrusive pits (F-86 and 88), and postholes (P-34 and 35, both part of the Structure 3 footprint), as well as a single human burial (B-18).

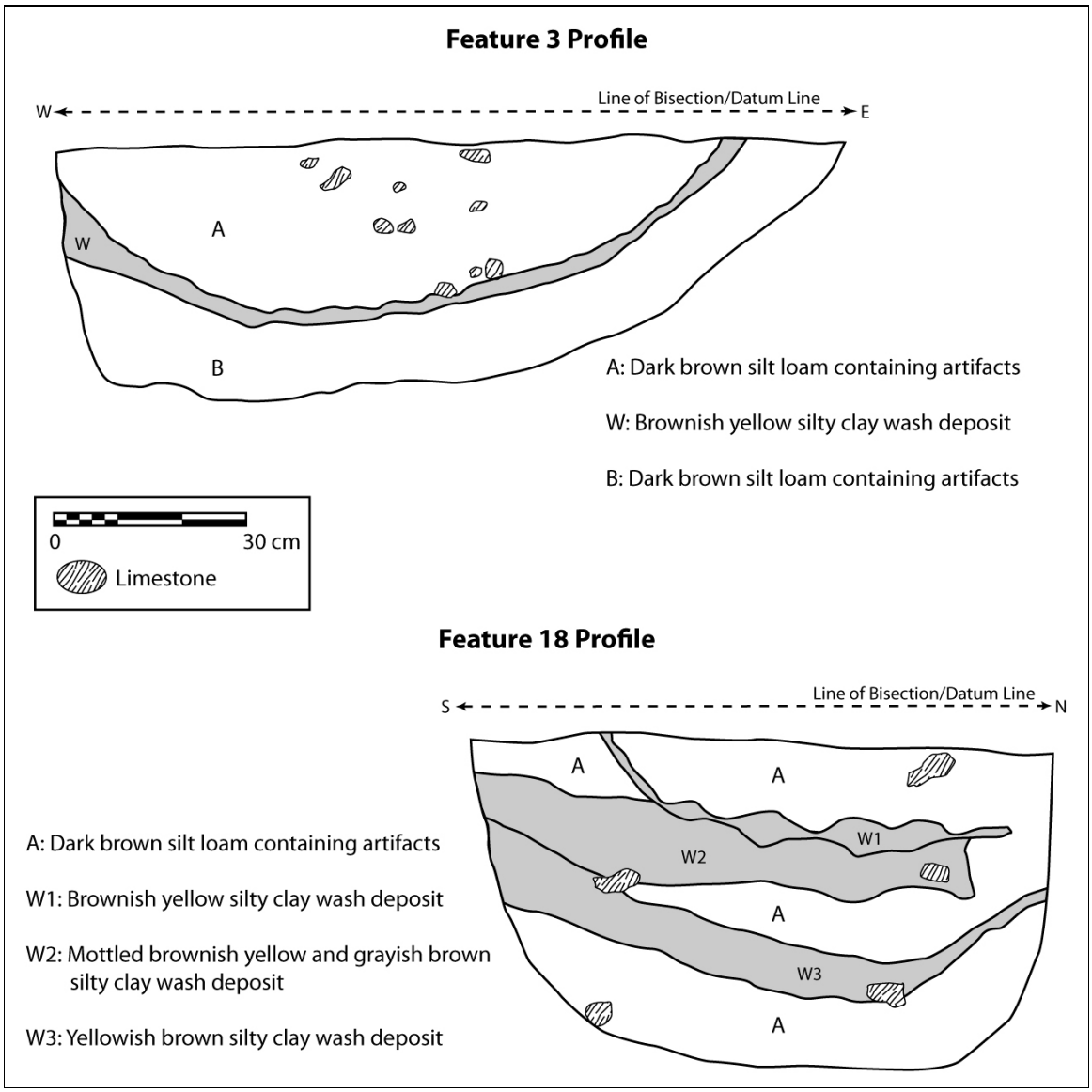

Figure 12. Profile views of selected features exhibiting stratified wash and fill episodes.

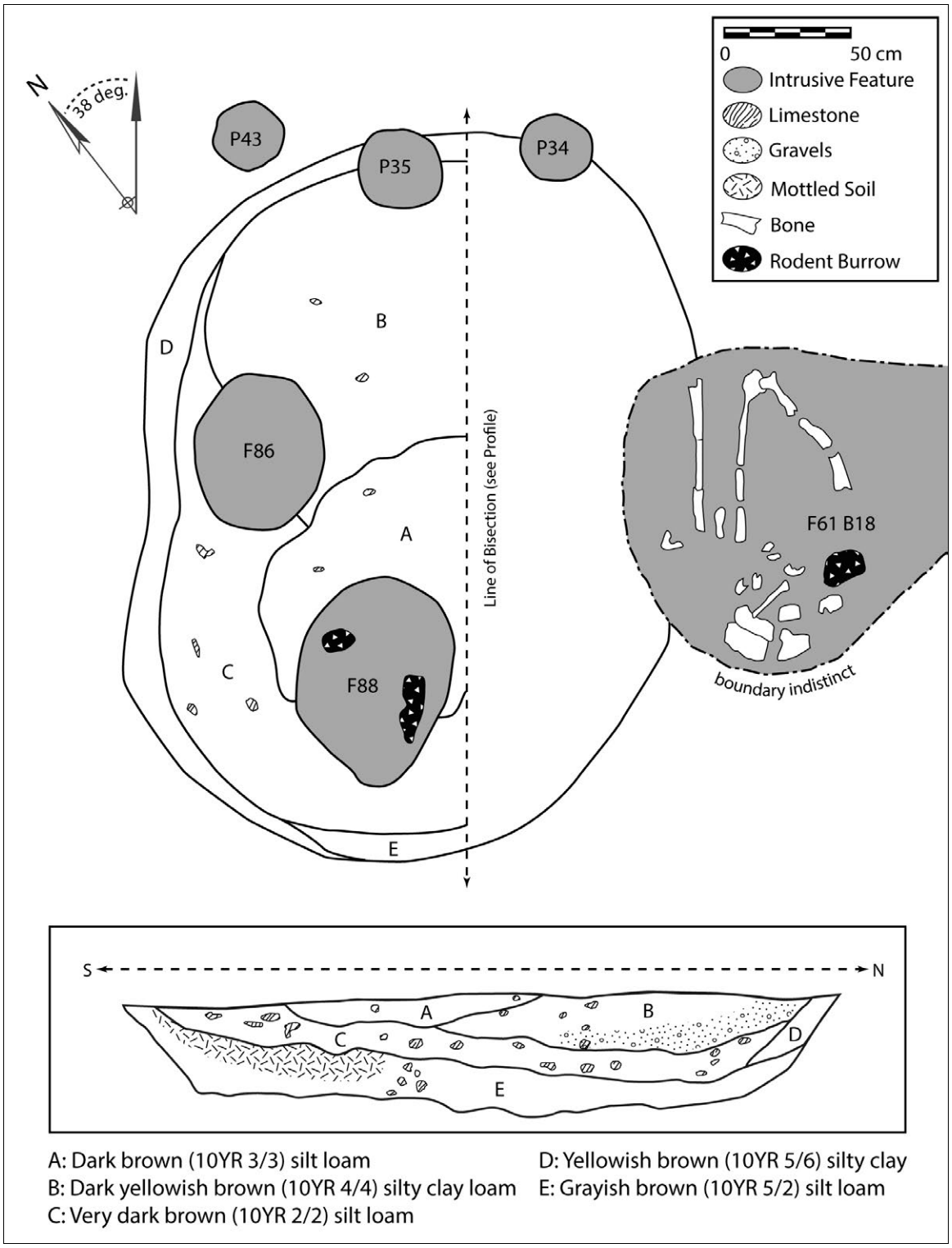

Figure 13. Plan and profile views of Feature 57.

Zone A in Feature 57 consisted of an amorphous area of dark brown silt loam that partially underlies Feature 88 while overlapping Zone B. Profile data suggests that both Zones A and B represent additional intrusive features that were not recognized during excavations, rather than separate depositional zones within Feature 57. Zones C and E consisted of dark brown to gray silt loam deposits containing high quantities of cultural material. Zone D consisted of silty clay washed soils deposited along the northern and western portions of the feature between deposition of Zones E and C. Temporally diagnostic artifacts were recovered from Zones B, C, D, and E, and are discussed later in this chapter.

The remaining three stratified non-mortuary features (F-6, 17, and 58) each exhibited two distinct fill zones distinguished by changes in soil color and/or texture. Feature 6 contained a lower zone of yellow-brown clay loam, while Zone A in Feature 17 exhibited increased clay mottling (Figure 14). Feature 58 contained an upper stratum consisting of ash and heavily burned bone, and is described below.

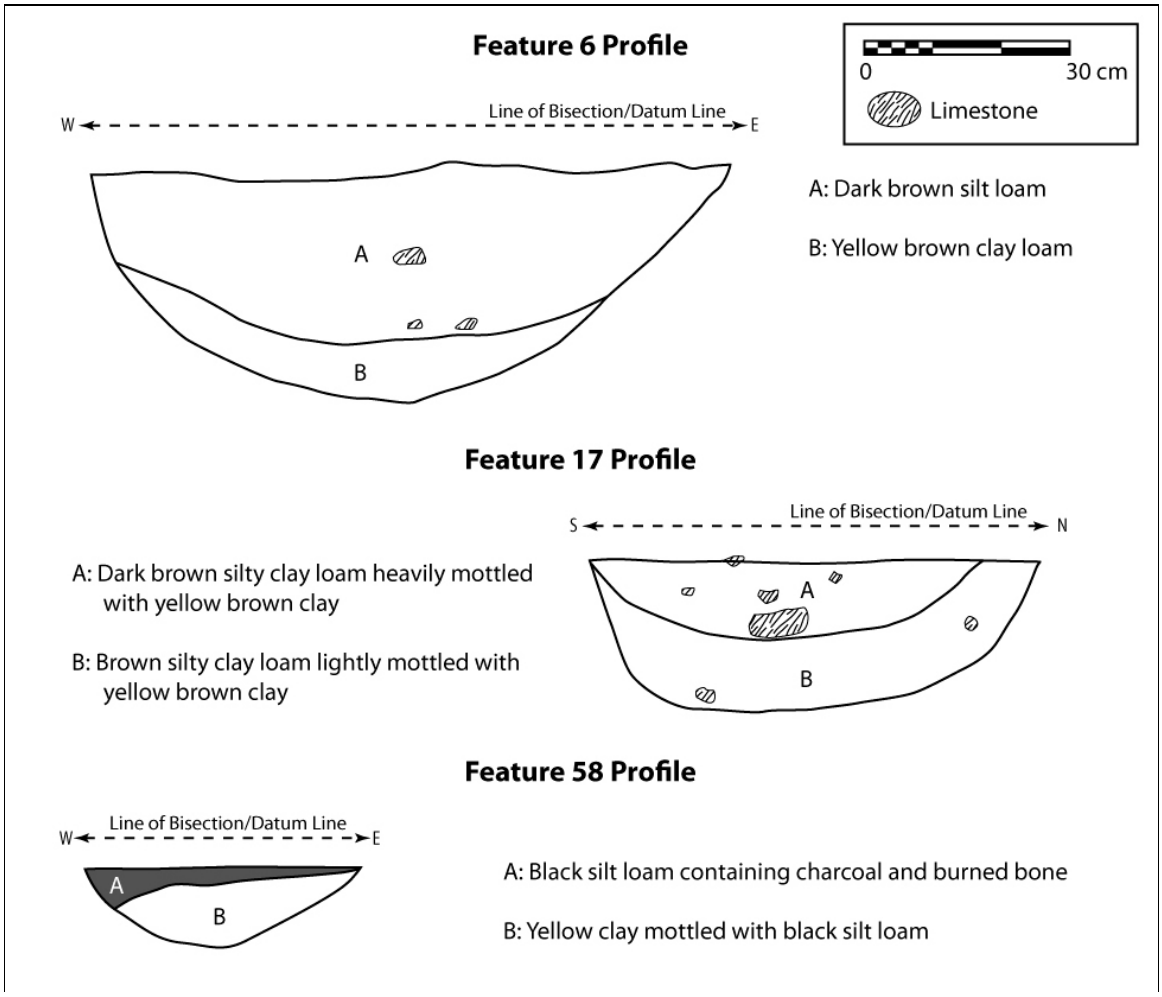

Figure 14. Profile views of features 6, 17, and 58.

DISTINCTIVE FEATURES AND DEPOSITS

In addition to Feature 57, several features from the site were distinctive due to their character and/or contents, and merit individual descriptions. These include a cache of limestone hoes (F-24), a possible cremation (F-58), a feature containing and a marine shell gorget and beads (F-71), a dog burial (F-93), and Feature 94 , which included a cache of goods associated with Burial 24.

Feature 24

Feature 24 was a medium-size circular pit (Feature Category 2) situated in the south-central portion of the site area. This feature intruded into the adjacent Feature 23, and contained a moderate amount of lithic and faunal material (see Appendices A, B, and F). Two Motley-style projectile points recovered from the feature fill suggest a Late Archaic or Early Woodland cultural affiliation. Three bifacially-flaked limestone hoes were recovered from the northern half of Feature 24. These artifacts measured between 16 and 23 cm in length, and were broken across their midsections (Figure 15).

Figure 15. Limestone hoes recovered from Feature 24.

It is unlikely that the near-identical fractures on the three limestone hoes from Feature 24 are the result of use wear. Instead, it is possible that the artifacts were deliberately “killed” prior to interment or disposal. The three hoes were situated within silty loam fill approximately 8 cm above the base of Feature 24.

The homogenous matrix above and below the artifacts suggests that the feature was not intended primarily as a cache location, but rather that the three implements were deposited within a convenient, already open pit.

Feature 58

Feature 58 comprised a small circular pit (Feature Category 1) within the footprint of Structure 3. Stratigraphy within this feature consisted of an upper zone of black silt loam containing charcoal and large amounts of burned bone, which was underlain by a thin deposit of mixed yellow silty clay and black loam (see Figure 14). Excavation notes suggest the bone in the upper zone was burned in place, and that the feature may have served as a crematory pit. The feature was essentially empty of any additional artifacts, and did not contain any temporally sensitive materials.

The bone material from Feature 58 was reexamined in an effort to determine if it was human in origin. The physiology of several tooth and root fragments did resemble those of humans. However, the analysis concluded that the bone material from Feature 58 was too small and badly burned to be positively identified as human (Peres et al. 2007). Therefore, the 1,046 burned bone fragments from Feature 58 were classified as “medium to large mammal,” and included in the zooarchaeological inventory (Appendix F).

Feature 71

Feature 71 consisted of an oblong, shallow pit (Feature Category 7) in the central portion of the site. The feature extended six cm below maximum backhoe excavations and contained few artifacts within its fill (see Appendix B). The eastern end of the feature contained an undecorated marine shell gorget (Figure 16), beneath which were situated one cylindrical bead and 51 shell disk beads (described and illustrated in Chapter 10). The positioning of the shell beads relative to one another was not documented in the project archive. The marine shell artifacts deposited in Feature 71 stand out in the site assemblage due to their exotic material type and context, as well as the uniqueness of the gorget and the information revealed by radiocarbon dating.

The Fernvale gorget and beads were deposited by themselves within a feature that was otherwise essentially artifact-free and included no indication of human skeletal remains. Late Archaic marine shell artifacts from the interior Southeast are almost uniformly recovered from burial contexts. This association of marine shell with burials is so strong that it led the original site excavators to propose that Feature 71 at Fernvale represented an “absentee burial,” perhaps intended to commemorate or represent a resident of the site who had died and been buried elsewhere.

Similar undecorated, center-drilled marine shell gorgets appear at Archaic sites along the Green River in Kentucky, including Indian Knoll (Webb 1974), during

the period ca. 4000–5000 BP. A radiocarbon assay for the Feature 71 gorget returned a date of 5140 ± 30 BP (see Chapter 7), which is generally consistent with the Green River specimens. However, the Fernvale gorget is the only example of this artifact type from the Middle Cumberland region.

A radiocarbon assay for one of the shell disk beads recovered beneath the gorget in Feature 71 returned a date of 3320 ± 30 BP. This date clusters tightly with other Late Archaic radiocarbon assays from the site (see Chapter 7) and reveals that the shell gorget significantly predates its deposition in Feature 71. It is unlikely the gorget remained in active use as a piece of body decoration for nearly two millennia. Instead, the terminal Late Archaic residents of Fernvale probably obtained the piece from an earlier mortuary deposit and deliberately placed it in a dedicated feature alongside their own shell beads. The gorget's level of preservation suggests it was surrounded by a very low-acid matrix in its original context, a condition which during the Late Archaic was found principally within shell middens and shell mounds.

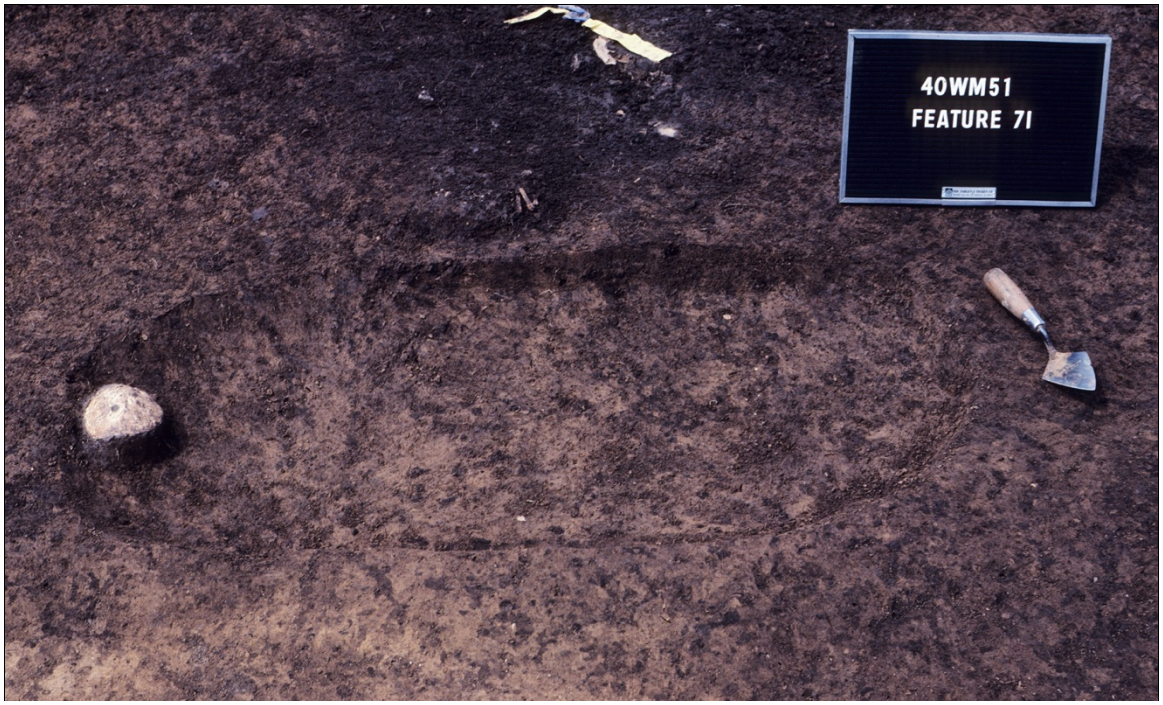

Figure 16. View of Feature 71 with the marine shell gorget *in situ*.

Ancient Native Americans regarded earlier artifacts --and particularly those fashioned from marine shell-- as items of great power and ritual significance (Deter-Wolf and Peres 2013). These items were curated as ancestral totems and linked to both specific cosmic geography and celestial forces. The curation of the marine shell gorget at Fernvale directly recalls the contents of a sacred Kansa bundle recorded in the late nineteenth century by J. Owen Dorsey (1885). The principal item contained within that sacred bundle was a Mississippian period

marine shell mask gorget that likely originated at least 500 years earlier in the Mississippi Valley or interior Southeast (Howard 1956).

It is possible that the shell gorget and beads in Feature 71 at Fernvale constitute the remains of a sacred bundle. Comparative examples documented on the Great Plains during the late nineteenth through early twentieth centuries typically consisted of multiple fiber and/or hide wrappings, and held powerful objects important to the social and spiritual well-being of a group or an individual (e.g., Harrington 1913, 1914; La Flesche 1921). The specific contents of bundles varied widely, but often included items such as medicinal plants, feathers, fur, animal skins, scalplocks, artifacts (such as shells, pipes, tools, or copper), pigments, and beaded costume elements. The orientation of the Fernvale gorget directly above the beads in Feature 71 suggests these artifacts were deposited within a biodegradable wrapping. Unfortunately any additional items the bundle may have contained did not preserve in the archaeological record.

The lack of human skeletal remains in Feature 71 further suggests that the gorget and beads were part of a corporate bundle. These items were maintained and deployed by bundle keepers, who were highly-trained ritual specialists. The bundles were transferred to new keepers once an individual had become too old, incapacitated, or otherwise unfit to perform the associated sacred duties (e.g., Foster 1994; Hanson 1980; Pauketat 2013). Consequently, corporate bundles were not typically buried or decommissioned, although such actions might be undertaken in the event of an unsuccessful transfer. In 1989, Woods Cree medicine man Russell Willier related that in the past, corporate bundles were sometimes “buried in the forest until [a suitable bundle keeper] came along” (Young et al. 1989). Corporate bundles might also be buried during major ritual or cosmological events, as seen in the Great Mortuary at Spiro (Brown 2010).

Feature 93

Feature 93 was located directly south of Feature 71. This shallow, oval pit (Feature Category 1) contained the burial of an adult dog (see Figure 31). The feature extended only eight cm below grade, and other than the dog skeleton was essentially empty of artifacts. No temporally sensitive materials were recovered from this feature. A later non-mortuary pit (F-96) intruded into the southwestern portion of the dog burial. Feature 93 was initially recorded in the project record as Burial 25, but did not contain any human remains. The dog interred in Feature 93 is discussed in Chapter 10.

Burial 24

Feature 94 at Fernvale included a bundle with lithic tools, vertebrate and invertebrate remains, and degraded red ochre pigment interred beside Burial 24 (that of an adult probable adult male). These artifacts were situated east of the flexed burial in an area measuring approximately 23 cm north-south by 30 cm

east-west. Position and clustering of the artifacts suggests they were originally deposited within multiple biodegradable wrappings (Figure 17, see also Figure 41). These artifacts are also described and illustrated in Chapter 10.

Figure 17. Burial 24 bundle, *in situ*.

Lithic artifacts from the Burial 24 bundle included one Terminal Archaic Straight Stemmed point, one Terminal Archaic Expanding Stemmed point, an ovate knife, a secondary biface, and a wing-tipped drill (Figures 18 and 19). The projectile points and secondary biface were stacked in the southwest corner of the bundle. The ovate knife lay alongside a white-tailed deer antler tine, with its distal tip pointed to the northwest. Four sharpened left turkey tarsometatarsii were stacked together in the northwest corner of the bundle beside the wing-tipped drill and oriented to the northwest. Disarticulated bivalve, mussel, and mucket shells were stacked cup-up in three clusters along the northern edge. Two sharpened right turkey radii were located in the center of the bundle. Seventeen dog, wolf, or coyote phalanges were situated along the southern edge of the bundle, with claws predominately oriented south in a manner suggesting they were articulated.

While the lithics and bone tools from Feature 24 may have everyday utilitarian uses, the presence of the shells, pigment, and canid paws suggests this collection represent the remains of a personal bundle. Although personal bundles could be transferred to other individuals, these items were often buried with their owners (Bowers 1963; Clark 1966; Pauketat 2013). Paws of various animals

Figure 18. Reconstructed positioning of artifacts within Burial 24 bundle.

Figure 19. Lithic artifacts from the Burial 24 bundle.

regularly appear in historic period bundles (e.g., Bailey 1995; Harrington 1914), and the presence of animal phalanges as grave offerings has been interpreted archaeologically as an indicator of personal bundles (e.g. Russell 2012; Webb 1974). Additional lithic and faunal materials were recovered from the fill of the Feature 94 (see Appendix A), but were not part of the bundle.

CULTURAL AFFILIATIONS

Only 38 percent (*n*=48) of the 127 pit features excavated at the Fernvale site contained temporally diagnostic artifacts. This included a total of seven mortuary and 41 non-mortuary features (Tables 3 and 4). Temporally diagnostic artifacts recovered from these features included both projectile points and ceramic sherds (see Chapters 8 and 9). Radiocarbon assays were obtained from select features (see Chapter 7).

Seventy-eight percent of culturally-affiliated non-mortuary pit features (*n*=31) and 71 percent (*n*=5) of the culturally-affiliated mortuary features contained artifacts diagnostic of a single prehistoric period. The remaining features included artifacts from multiple periods, in some cases spanning time frames of up to 7,000 years. According to excavator field notes there was little disturbance to features as a result of animal burrows or bioturbation. As discussed above, there are also few examples of stratified features from the site that indicate deliberate reuse by the prehistoric inhabitants. This suggests that the presence of multicomponent artifacts within feature fill at Fernvale results principally from incidental deposition of earlier materials at the time the feature was created and/or used.

Temporal affiliations for features yielding multicomponent artifacts were assigned based on the most recent diagnostic type. For example, Feature 90 yielded the greatest number of temporally sensitive artifacts from any feature at the site (*n*=18), which originated in the Late Archaic through Middle Woodland periods (see Chapters 8 and 9). Based on the criteria outlined above, Feature 90 was assigned a Middle Woodland cultural affiliation.

Feature 57 yielded the second highest number of diagnostic artifacts (*n*=15) for pit features from the site. In the western half of the feature, Zones B and C each contained three points from the Late Archaic period (see Chapter 8). The wash deposits of Zone D also contained two Late Archaic points, but in addition produced a single Copena Triangular point. This artifact pushes the *terminus post quem* for Feature 57 to the Middle Woodland period.

Seven of the 27 mortuary features contained temporally diagnostic artifacts that may indicate cultural affiliations. These artifacts consisted of 16 whole or partial projectile points, and a single ceramic sherd. In four instances (B-4, 5, 8, 24, and 28), diagnostic artifacts from burials are considered integral to the mortuary features and therefore reliable indicators of cultural affiliation. Although the potentially-embedded projectile point from Burial 4 could not be located for

Table 3. Temporally Diagnostic Artifacts from Non-Mortuary Pit Features.

Feature #	Projectile Points (Table 12)	Ceramics (Table 13)	Total Diagnostic Artifacts	Cultural Affiliation(s)*					
				A	B	C	D	E	F
03 NNW 1/2 Zone B	1		1			X			
04 East 1/2	2		2		X	X			
07	1		1			X			
09	1		1			X			
11	1		1			X			
15	5		5			X			
16	1		1			X			
18	2		2	X		X			
21	3		3			X		X	
24	2		2			X			
33	1	2	3	X				X	
34		1	1					X	
35#			1			X			
36	2	1	3			X			X
37	1		1			X			
45	3		3			X			
56	3		3		X	X			
57 East 1/2	4		4	X	X	X			
57 West 1/2 Zone B	3		3			X			
57 West 1/2 Zone C	3		3			X			
57 West 1/2 Zone D	3		3			X		X	
57 West 1/2 Zone E	2		2			X			
59	1		1			X			
65	3		3			X			
71 (C-14 date; see Chapter 7)			2		X	X			
78	1		1					X	
79	3		3		X	X			
80	2		2			X			
82	6		6			X		X	
89	2		2			X			
90	3	15	18			X	X	X	
95	1		1			X			
101	4		4			X			
102	4		4			X			
109	1		1			X			
110 (C-14 date; see Chapter 7)			1			X			
112	1		1					X	
114	2		2			X		X	
115	1		1			X			
117	1		1			X			
118	2		2			X			
121	1		1					X	
123	2		2			X			
124	4		4			X	X		
127	1		1			X			
Total	**90**	**19**	**111**	**3**	**4**	**33**	**2**	**10**	**1**

* Cultural Affiliations:
A: Early Archaic B: Middle Archaic C: Late Archaic
D: Early Woodland E: Middle Woodland F: Mississippian

reanalysis, excavator notes identify this artifact as originating in the Late Archaic. In two additional instances (B-22 and 30), diagnostic materials were recovered from feature fill beneath the skeletal remains. These artifacts are not integral to the burials, but nevertheless provide a *terminus post quem* for the remains. Three burials from the site (B-4, 5, and 8) were assigned to the Late or Terminal Archaic period. One (B-24) was assigned to the Early Woodland, and two (B-22 and 28) were assigned to the Middle Woodland.

Table 4. Temporally Diagnostic Artifacts from Mortuary Features.

Feature #	Burial #	Projectile Points (see Table 12)	Ceramics (see Table 13)	Total Diagnostic Artifacts	Cultural Affiliation(s)*					
					A	B	C	D	E	F
26	4	1		1			X			
32	5	5		5	X		X			
42 Zone A#	8	1		2			X			
74	22		1	1					X	
94	24	7		7			X	X		
107	28	1		1					X	
125	30, 31	1		1	X					
Total		**16**	**1**	**18**	**2**		**4**	**1**	**2**	

Radiocarbon Date; see Chapter 7

* Cultural Affiliations:

A: Early Archaic B: Middle Archaic C: Late Archaic
D: Early Woodland E: Middle Woodland F: Mississippian

Feature 125 / Burials 30 and 31 contained a complete Kirk Serrated point. No Early Archaic burials have been documented in Middle Tennessee to date, and mortuary patterns for this period are not well understood for the Southeast as a whole. Based on the level of bone preservation, burial positioning, and overall character of the inhumations, it is unlikely that Burials 30 or 31 originate in the Early Archaic.

In total, the Late Archaic period accounts for the greatest number of culturally affiliated features from the site, with 68 percent (*n*=32) of the total. The Middle Woodland period accounts for the second greatest number, with 26 percent (*n*=12). None of the site features can be conclusively associated with Paleoindian, Early Archaic, Middle Archaic, or Late Woodland occupations. Table 5 presents the overall percentages of temporally-affiliated pit features, and includes information from both diagnostic artifacts and radiocarbon assays.

The overall picture that emerges from feature analysis is a site intensively and repeatedly occupied during the Late and/or Terminal Archaic. Site use waned during the Early Woodland before increasing again in the Middle Woodland. Occupation again dropped off during the Mississippian period, when the site area was apparently occupied as a single-family farmstead (see Chapter 6). This understanding of the site settlement is admittedly tentative, as it is limited to the portion of the site excavated during the bridge replacement.

Table 5. Cultural Affiliations for Temporally Sensitive Pit Features.

Cultural Affiliation	Features	Total	Percent of Total
Late or Terminal Archaic	3, 4, 7, 9, 11, 15, 16, 18 24, 26 (B-4), 32 (B-5), 35*, 37, 42 (B-8)*, 45, 56 59, 65, 71*, 79, 80, 89, 95, 101 102, 109, 110*, 115, 117, 118, 123, 127	32	68
Early Woodland	94 (B-24), 124	2	4
Middle Woodland	21, 33, 34, 57, 74 (B-22), 78, 82, 90, 107 (B-28), 112, 114, 121	12	26
Mississippian	36	1	2
Total		**47**	**100**

* Radiocarbon Date; see Chapter 7

VI. POSTHOLES AND STRUCTURES

Benjamin A. Steere and Aaron Deter-Wolf

Excavations at 40WM51 identified a total of 94 postholes and the footprint of a Mississippian wall trench structure (Figure 20). One circular post pattern in the central portion of the project area was identified as a structure footprint following the mechanical removal of topsoil, and designated Structure 1. The 2007–2012 reanalysis effort identified an additional small circular structure footprint adjacent to Structure 1. General observations on the posthole features are presented below, and followed by a discussion of the three structure footprints.

POSTHOLE FEATURES

A total of 78 postholes were excavated within the 1,210-square meters direct impact area, and their contents screened through 1/4-inch mesh. Time constraints prevented the excavation of 16 postholes situated in the northern portion of the site area. The surface diameters of these unexcavated features were recorded, and their depths determined using a soil auger. Summary data for all posthole features is presented in Appendix A.

All posthole features at the site were generally circular or oval in shape, and ranged from 8–37 cm in diameter. Twenty-four of the 78 excavated postholes (31 percent; P-4, 11, 12, 17, 19, 25, 26, 27, 28, 30–33, 35, 38, 41, 42, 48, 51–55, and 76) exhibited discernible post molds. Structure data from sites such as Toqua (40MR6) have demonstrated that postholes represent the maximum possible diameter of wall posts, and that actual post molds can be anywhere from 25 to 50 percent smaller than the diameter of the surrounding feature (Polhemus 1985). However, profile data for posthole features from Fernvale indicate that, when present, post molds were only a few centimeters smaller than the entire feature diameter. Depths for posthole features ranged from 5–49 cm. However, all postholes at the site had been truncated as a result of plowing and mechanical soil removal, and depth measurements are therefore relative.

Ninety-four percent (*n*=74) of the excavated posthole features exhibited vertical or nearly vertical walls. The remaining four postholes (P-7, 10, 12, and 42) featured slanting walls. In the original report manuscript, Jolley (1987:23) notes that the four slanting posthole features are located southwest of Structure 1, and that while “the function of these slanted posts is unknown, their cluster[ing] suggests functional differences associated with an activity area.” Unfortunately, mechanical plowzone removal did not allow for controlled recovery of any artifacts within this possible activity area.

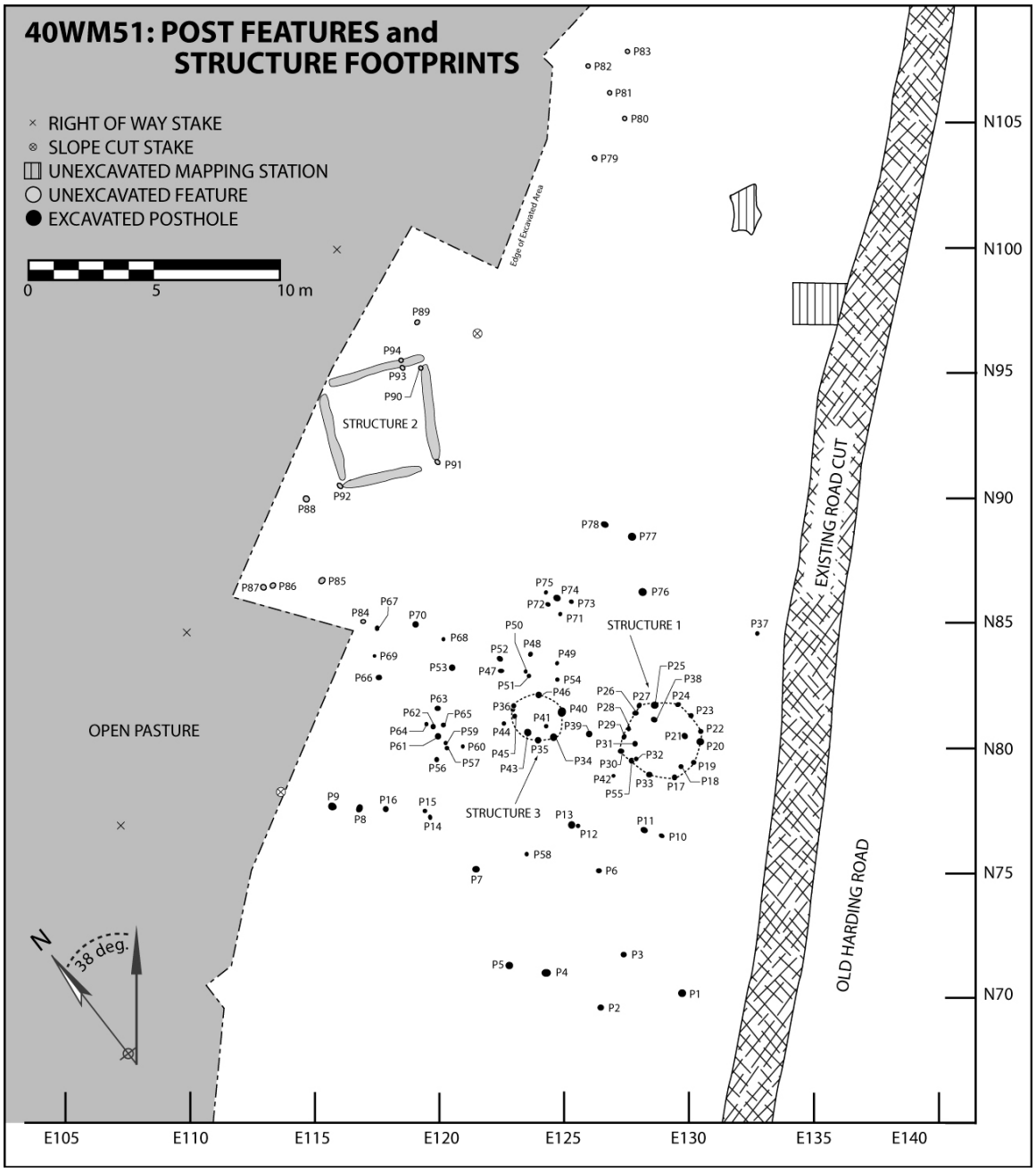

Figure 20. Excerpt of overall site map showing all posthole features and structure footprints.

A total of 2,497 artifacts were recovered from posthole fill at Fernvale. These included ceramic sherds, projectile points, bifacial tools, lithic debitage, fire-cracked rock, burned clay, and a variety of faunal remains. The recovery of temporally diagnostic cultural material from posthole fill provided possible cultural affiliations for 14 posthole features.

Fifty-seven percent (*n*=8) of the possible diagnostic features contained materials consisting exclusively of limestone-tempered ceramics (P-1, 21, 23, 24, 27, 28,

38, and 65) (see Chapter 9). Fourteen percent (*n*=2) (P-36 and 46) contained only shell-tempered sherds. Only two posthole features from the site (P-18 and 66) contained temporally diagnostic projectile points. These consisted of a Copena Triangular point and a Terminal Archaic Straight Stemmed projectile point, respectively. Three postholes that contained temporally diagnostic artifacts (P-17, 18, and 26) included multicomponent materials (see Chapters 8 and 9)

STRUCTURES

Thirty-three posthole features from the Fernvale site are associated with three structure footprints. Structures 1 and 2 were recorded during the data recovery effort, while Structure 3 was identified during the 2007–2012 reanalysis. The following section presents information on all three structures, including feature and artifact data as well as comparative examples from other sites.

Structure 1

Structure 1 consisted of a circular post structure situated in the east-central portion of the site area. The structure footprint included 15 possible exterior posts and four possible interior posts, and exhibited a maximum diameter of 2.9 m (Figure 21). During excavation each posthole within the Structure 1 footprint was profiled in orientation to the axis of the structure. All exterior posthole profiles exhibited relatively straight sides, suggesting that Structure 1 was built using vertical wall posts rather than tensioned post construction. Comparative regional data and experimental studies further support vertical wall post construction for Structure 1.

In his study of prehistoric architecture in the Chickamauga Basin, Lewis (1995) determined that structures with posthole diameters of 15.2–30.5 cm and spaced 30 cm or further apart represented houses constructed with rigid, straight walls. He further determined that houses built with flexed poles were constructed using posts that averaged only 9.1–15 cm in diameter. In addition, Lacquement's (2004) experimental studies on the strength and flexibility of hickory and ash poles indicate that poles greater than 7.6 cm in diameter cannot be bent by hand, thereby making the construction of a flexed or tensioned structure nearly impossible. The 15 possible exterior posts associated with Structure 1 at Fernvale ranged in diameter from 15–25 cm, with an average of 21.4 cm. Spacing between the exterior posts ranged from 0.45–1.1 m between feature centerpoints, and averaged 0.72 m.

As a rigid pole building, Structure 1 would have featured an attached roof supported by vertical interior posts. The four postholes within the interior of Structure 1 (P-18, 21, 31, and 38) ranged from 17–25 cm in diameter with an average of 22.2 cm, and could easily have supported a roof and superstructure. Although there is no evidence of a large, centrally located interior post within Structure 1, it is unlikely that a central pole would have been necessary given the

buildings relatively small size. Based on ethnographic analogy and archaeological studies of domestic architecture at the Kincaid Mounds in Southern Illinois, Brennan (2007) argues that horizontal structural members could have been used even in the absence of interior posts to reinforce heavy hipped and gabled roofs on Mississippian wall trench houses. For Fernvale Structure 1, the combination of interior supports with horizontal members such as tie beams would have certainly been sufficient to support the roof.

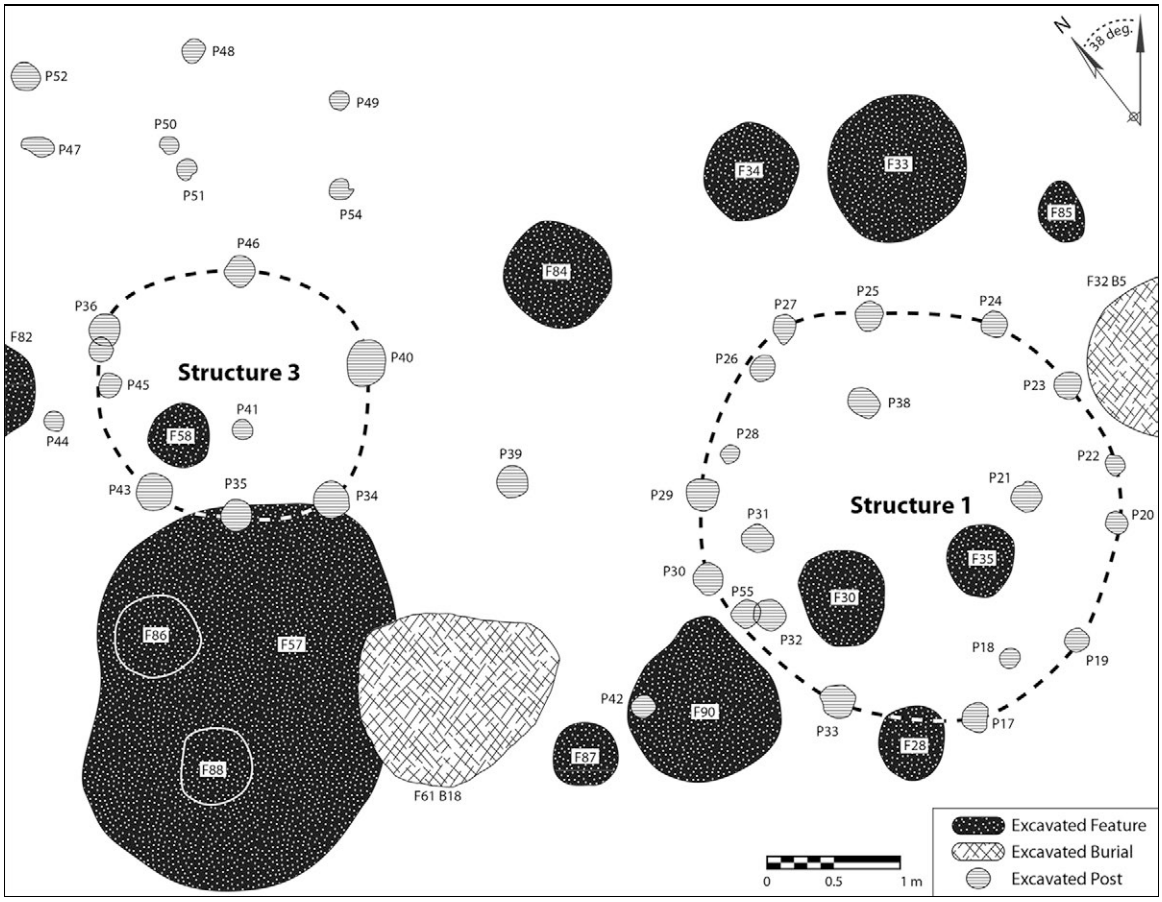

Figure 21. Map of Structures 1 and 3, and surrounding features.

Excavations of Structure 1 did not reveal any indications of charred wood within the structure footprint or extensive charcoal deposits within posthole fill to suggest that the structure burned. Only one pair of overlapping postholes (P-32 and 55) was identified along the exterior of the structure (see Figure 21). The orientation of these features suggests that Posthole 32 was a later intrusive post unassociated with the initial construction of Structure 1. There are no indications that Structure 1 underwent large scale or multiple rebuilding episodes, and Posthole 32 may therefore either represent a limited repair/stabilization effort, or be entirely unassociated with construction or utilization of Structure 1.

Structure 1 had no readily discernible entryway based solely on the arrangement of posthole features. However, it is possible to refine the structure footprint based

on the presence of temporally diagnostic artifacts (Figure 22). As shown in Table 6, eight of the Structure 1 postholes (P-17, 21, 23, 24, 26, 27, 28, and 38) yielded a total of 11 limestone-tempered sherds.

While the majority of these sherds exhibited no identifiable surface treatment, single sherds from Postholes 21 and 38 were assigned to the Middle Woodland Flint River Cord Marked type. Three postholes within the Structure 1 footprint (P-17, 18, and 26) contained both Woodland and Mississippian artifacts (see Table 6). Postholes 17 and 26 contained both shell-tempered and limestone-tempered sherds, while Posthole 18 contained both a single shell-tempered sherd and a Copena Triangular projectile point.

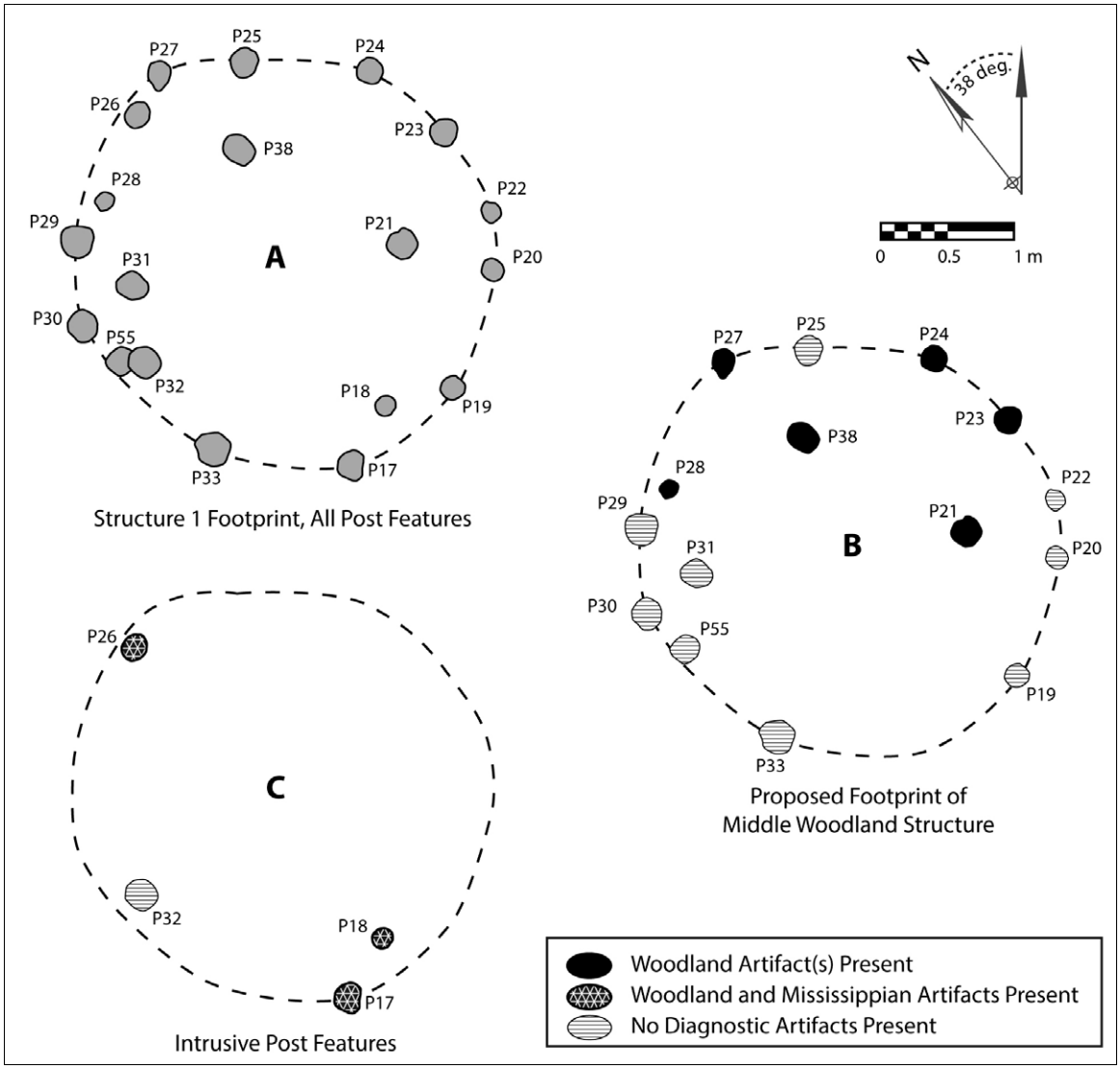

Figure 22. Detail of Structure 1 showing cultural affiliations for posthole features.

Table 6. Diagnostic Artifacts from Structure 1 Posthole Features.

Posthole #	Mulberry Creek Plain	Flint River Cord Marked	Mississippi Plain	Copena Triangular	Total
17	1		1		2
18			1	1	2
21	1	1			2
23	1				1
24	1				1
26	1		1		2
27	2				2
28	1				1
38	1	1			2
Total	**9**	**11**	**3**	**1**	**15**

A Middle Woodland cultural affiliation has been assigned to Structure 1, based the presence of only limestone-tempered sherds in six of the posthole features. Using the rule of *terminus post quem*, Postholes 17, 18, and 26 may be assigned to the Mississippian period, and in addition to Posthole 32 appear to represent later intrusive features. Removing these four posthole features from the structure footprint reveals possible entryways along the southern and northwestern walls of the structure (see Figure 22). These potential openings measure approximately 1.8 m and 1.4 m, respectively.

Two pit features (F-30 and 35) are situated within the interior of Structure 1 but could not be conclusively associated with its construction or occupation (see Figure 21). No temporally diagnostic artifacts were recovered from either of these features. A radiocarbon AMS date for burned wood fragments from Feature 35 returned a conventional radiocarbon age of 3360 ± 40 BP (see Chapter 7), revealing that Feature 35 significantly predates Structure 1.

Comparative Examples

There have been relatively few excavations of Woodland period sites in the region immediately surrounding the Fernvale site. Consequently, comparative data for circular structures associated with limestone-tempered pottery in Middle Tennessee comes primarily from along the Upper Duck and Elk Rivers at sites including Eoff I (40CF32; Cobb 1982), Bailey (40GL26; Bentz 1996a), and McFarland (40CF48; Kline et al. 1982), as well as from along the Cumberland River at Duncan Tract (40TR27; McNutt and Weaver 1983), Chapman (40JK102; Bentz 1986), 40JK27 (Dillehay et al. 1982), and 40JK33 (Ball 1979).

The available data indicate that a variety of structural types were present during the Middle Woodland in the Cumberland, Duck, and Elk River drainages. In some cases different structure patterns have been assigned to different phases, while at some sites different types of contemporaneous architecture is evident. For example, different cold- and warm-season structural types have been defined for the Owl Hollow phase in the Upper Duck and Upper Elk valleys (Cobb 1982; Cobb and Faulkner 1978). Cold-season structures in that region exhibit large rectangular-oval footprints and included paired earth ovens, while

contemporaneous warm-season structures exhibited relatively small circular patterns ranging between 4.9 and 6.1 m in diameter. Limestone-tempered ceramics were associated with four warm-season structures at the Eoff I site, all of which measured between 4.8 and 5.7 m in diameter (Cobb 1982).

Structure 1 from Fernvale differs substantially from other Middle Woodland structures at the sites identified above due to its small size and vertical wall post construction. At a maximum diameter of 2.9 m, Structure 1 is than half as large as circular structures documented at Eoff I, and on average a third as large as structures from Duncan Tract (Cobb 1982; McNutt and Weaver 1983). The five circular structures documented at the McFarland site were associated with limestone-tempered ceramics and yielded an uncorrected average radiocarbon date of 1823 ± 66 BP (Kline et al. 1982). However, these structures ranged between 6.3 and 7.1 m in diameter (Kline et al. 1982), and were built using tensioned posts. The McFarland structures all exhibited central post features, at least one deep cylindrical pit, shallow basin-shaped processing areas, and earth ovens filled with fire cracked limestone.

Additional insight for interpretation can also be gained through comparing Structure 1 from Fernvale with Middle Woodland houses outside of Middle Tennessee. Round or oval-shaped, single-post construction Middle Woodland structures have been recorded in northern Georgia at the Hickory Log site (9CK9; Webb 2000), the Brasstown Valley sites (9TO45; 9TO48, 9TO49, Cable et al. 1997), and at Two Run Creek (9BR3; Wachope 1966). These structures were similar in shape to Structure 1 from Fernvale and also lacked interior hearths, but like the Middle Tennessee examples discussed above exhibit substantially larger footprints.

Twelve Cartersville phase structures from Hickory Log ranged in diameter from 4.8–9.2 m, and exhibited average post diameters of roughly 20 cm (Paul Webb, personal communication, 2008). Eight possible Cartersville structures at Brasstown Valley were oval in shape and ranged in diameter from 4.7–7.7 m (Anderson and Schuldenrein 1985). A probable Cartersville phase structure recorded by Wauchope (1966) at Two Run Creek measured 7.9 m in diameter and contained several interior support posts, suggesting a similar construction technique to Structure 1 at Fernvale, but on a larger scale.

Middle Woodland structures were also recorded in the Georgia piedmont at the Cane Island site (9PM209; Wood 1981) on the upper Oconee River and at Rucker's Bottom (9EB91) in the upper Savannah River valley (Anderson and Schuldenrein 1985). Two structures at Cane Island measured between 5 and 7 m in diameter, and were roughly oval shaped. In contrast to Structure 1 at Fernvale, the post spacing and floor plans of both structures at Cane Island were highly irregular. Both structures also contained interior rock-filled hearths, unlike Structure 1 at Fernvale and the northwest Georgia examples discussed above. At Rucker's Bottom, a possible Swift Creek phase structure measured 5x6 m, and was defined by a regular oval pattern of large single posts and several

interior support posts. Like the houses at McFarland described above, but in contrast with Structure 1 at Fernvale, the structure from Rucker's Bottom was associated with several large interior and exterior storage pits (Anderson and Schuldenrein 1985).

One probable Middle Woodland structure in Georgia is roughly the same size as Structure 1 at Fernvale. Caldwell (1950) recorded a Cartersville phase structure at the Kellog site (9CK102) that measured roughly 3 m in diameter and contained two or three interior pit features. The postholes associated with this structure are small and closely spaced, suggesting it may have been constructed using flexed poles. This house is smaller than any other Middle Woodland structures found in Georgia, leading Anderson (1985:38) to suggest "the small size of this structure may be atypical, as it contrasts with most other houses from this time."

The Middle Woodland Connestee phase (AD 200-950) at the Ela site in western North Carolina yielded eight structures similar in form to Structure 1 at Fernvale, but with much larger footprints (31SW5; Wetmore 1990). These structures were all round in shape with large, widely spaced exterior posts and ranged from 6.6–8.5 m in diameter. Most of the Connestee phase structures exhibited a few irregularly placed interior posts, and no more than one or two interior pit features.

Conclusions

While Structure 1 at Fernvale is very similar in form to many Middle Woodland houses across Tennessee, Georgia, and North Carolina, comparative architectural data cannot be used to precisely confirm the assignment of a Middle Woodland cultural affiliation. Structure 1 is half the size of almost all other domestic structures examined for the region, with a diameter of only 2.9 m. The interior floor area of the structure would have been less than 7 square meters, offering relatively little room for indoor activity. Although houses with this little interior space do occur in the Southeast, they seem to be more common during the Early Mississippian period. For example, Pauketat (1998) recorded over 60 Emergent Mississippian phase (AD 900–1050) houses at Tract 15A and the Dunham Tract at Cahokia. These structures were all rectangular, single post constructions with average interior floor areas of between 6.7 and 8.7 square meters.

Briefly setting aside the artifact assemblage, the known Southeastern architectural form that Structure 1 most resembles is the small circular corn crib or *barbacoa*, a type of storage building recorded in historic accounts and documented archaeologically at Late Mississippian and Historic Indian sites in the Brasstown Valley in northern Georgia (Cable et al. 1997), and at Chota-Tanase (40MR2/40MR62; Schroedl 1983) and Mialaquo (40MR3; Russ and Chapman 1983) in eastern Tennessee. All of these sites contain small, round, rigid pole structures measuring 1–3 m in diameter, and that have been interpreted as storage facilities. The Early Mississippian component at the Martin Farm site (40MR20) in eastern Tennessee may also have an earlier example of such a storage building (Schroedl et al. 1985; see also Structure 3 discussion

below). Unfortunately, the ceramic assemblage from posthole features at Structure 1 does not support a Mississippian affiliation, and it seems very unlikely that Structure 1 from Fernvale served this sort of function.

With the exception of the single structure at the Kellog site in Georgia, no other Middle Woodland structures in the Southeast appear to have been as small as Fernvale Structure 1. Structure 1 may therefore be an unusually small and/or ephemeral Middle Woodland domestic structure, similar to the one recorded by Caldwell (1950) at the Kellog site. It is interesting to note that seven out of the twelve possible Middle Woodland pit features excavated at Fernvale (see Table 5) are situated less than eight meters from Structure 1 (Figure 23). This proximity suggests the presence of a Middle Woodland household activity area not unlike those identified at McFarland in Middle Tennessee (Kline et al. 1982) and Rucker's Bottom in piedmont Georgia (Anderson and Shuldenrein 1985).

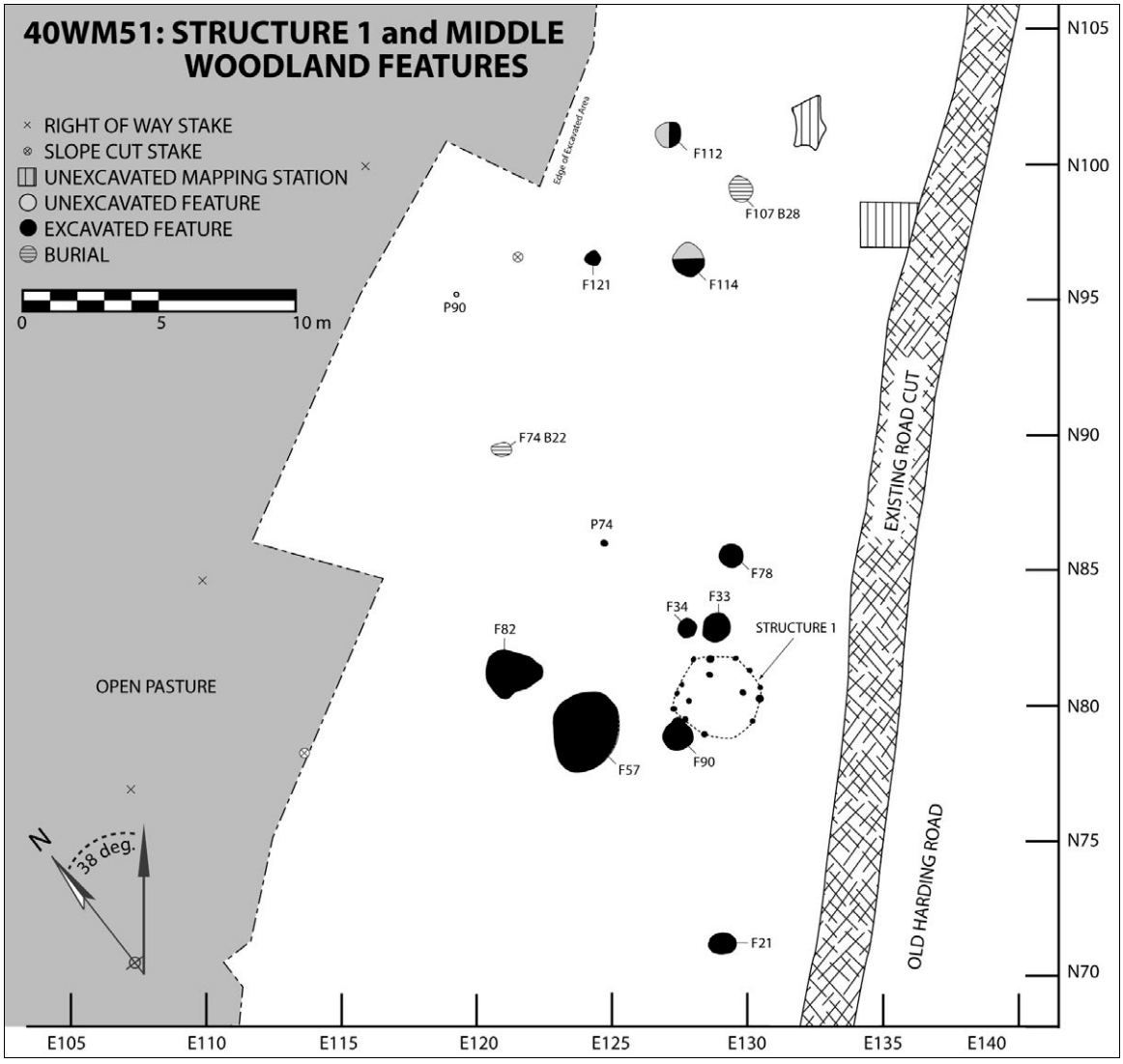

Figure 23. Excerpt of site map showing proposed footprint of Structure 1 and all identified Middle Woodland features.

Structure 2

Structure 2 at Fernvale consisted of a wall trench structure located in the west-central portion of the project area (Figure 24; also see Figure 20). This structure was situated outside of the direct impact area and not fully defined during the data recovery effort. The following discussion is therefore based entirely on field maps, the artifact catalog, and radiocarbon dates.

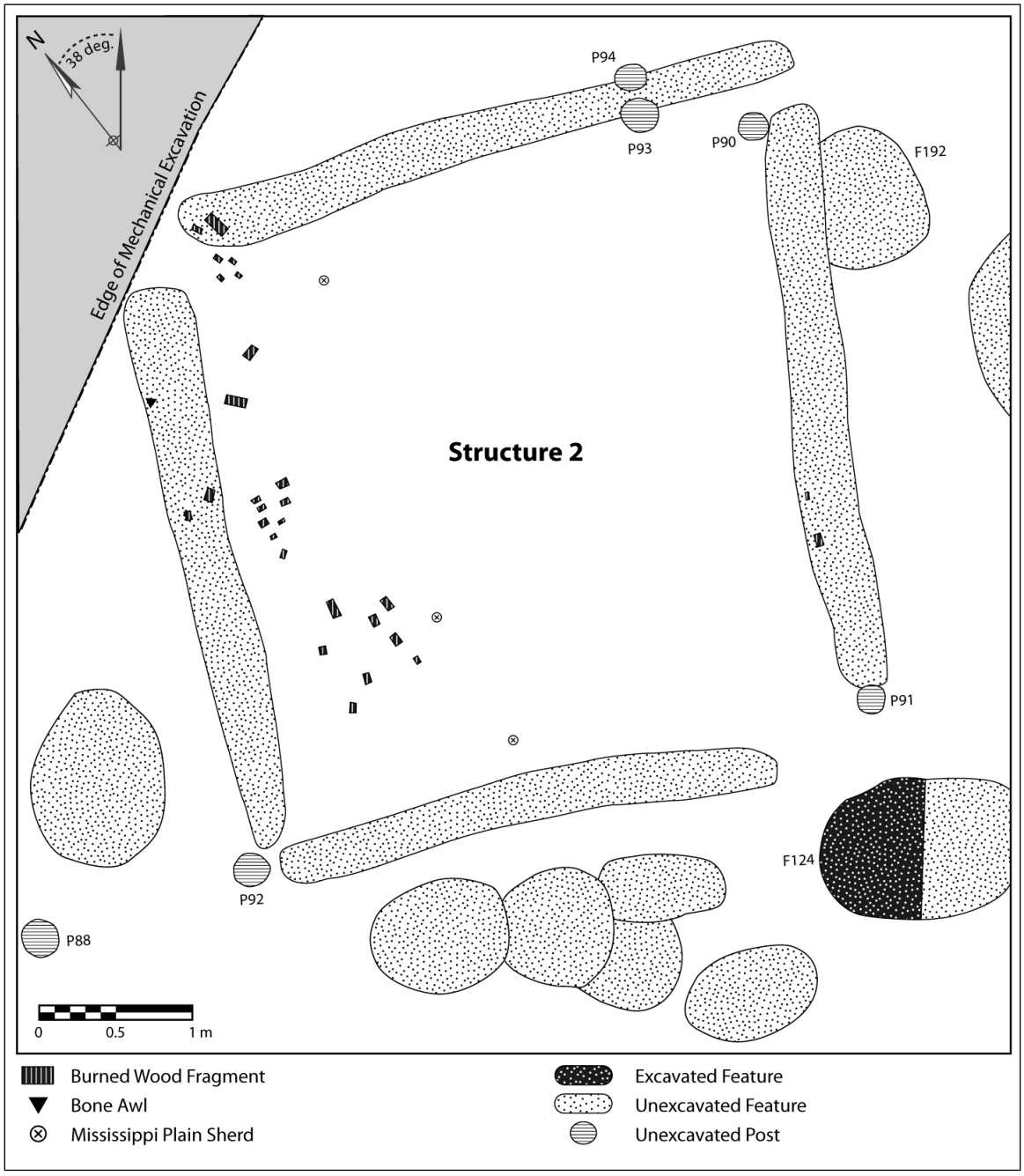

Figure 24. Plan view drawing of Structure 2.

The Structure 2 wall trenches ranged from 3.2–4.2 m in length, and from 24–44 cm in width. Auger tests revealed these features extended 5–57 cm below grade. The eastern wall trench was oriented 25 degrees east of magnetic north, while the western wall trench was oriented 31 degrees east of north. The interior was approximately 3.8 x 3.8 m, measured from the inner edge of wall trenches.

Structure 2 exhibited open corners, the widest of which is situated in the southeast and may have served as the doorway. The east wall trench intruded into an unexcavated pit feature (F-192, see Figure 24). Five postholes were mapped within or immediately adjacent to the Structure 2 footprint (see Figure 24). One of these (P-91) was located in the southeast near the possible entryway, one (P-92) was situated in the southwest corner, and three others (P-90, 93, and 94) were located to the northeast. Postholes 93 and 94 were intrusive into the northern wall trench, and may represent a repair effort. The diameter of these postholes ranged from 18–24 cm, and soil auger tests indicate their depths were between 20 and 35 cm. The postholes were not excavated and no diagnostic artifacts were noted within their fill.

No hearth or other interior features were identified within the Structure 2 footprint. However, as noted above the location of this structure outside of the project's direct impact zone precluded a comprehensive investigation. It is possible that hand excavations within the structure footprint would have yielded evidence of a hearth or other intact cultural deposits. Alternately, plow disturbance and mechanical soil removal may have removed any trace of interior features at Structure 2.

Artifacts encountered within the Structure 2 footprint included four shell-tempered ceramics, one bone awl, and fragments of burned wood (see Figure 24). A concentration of carbonized wood was noted in the western portion of the structure. The positioning and concentration of these fragments suggests that Structure 2 burned. A radiocarbon sample of burned wood from Structure 2 returned a date 880 ± 70 BP (see Chapter 7).

Comparative Examples

Structure 2 at Fernvale exhibits a classic Mississippian wall trench configuration also found at other sites throughout the Middle Cumberland region. Examples of this architectural style (including partial wall trench structures) have been identified at Mississippian sites including Mound Bottom (40CH1; O'Brien 1977), Averbuch (40DV60; Reed and Klippel 1984), Sellars Farm (40WI1; Butler 1981), Moss-Wright (40SU61), Rutherford-Kizer (40SU15; Moore and Smith 2001), Sandbar Village (40DV36; Dowd and Broster 2012), 40TR32 (Autry 1985), Kellytown (40WM10), Ducks Nest (40WR4; Kline 1979), and Castalian Springs (40SU14; Smith, personal communication, 2010). During the analysis effort, comparative data was examined for 37 additional complete wall trench structures in Middle Tennessee (Table 7). Unfortunately, since Structure 2 at Fernvale was not fully defined or excavated, it is only possible to compare a limited data set with the information available from other sites.

Table 7. Comparison of Interior Space Dimensions for Middle Cumberland Wall Trench Structures.

Site	Structure	Interior Area (square m)	Source
Fernvale	2	14.4	
Sellars Farm	1	36	Butler 1981
Ducks Nest	1	72	Kline 1979
	2	42.9	
Rutherford-Kizer	5	33	Moore and Smith 2001
	8	42.25	
	9	22.5	
	10	20	
40TR32	1	24.75	Autry 1985
Mound Bottom	1	16	O'Brien 1977
	9	20.25	
	10	34.8	
	23	14	
Moss-Wright	2	20.25	TDOA Site Files
	5	18	
	6	14.44	
	4	16	
	no number assigned	20.25	
	no number assigned	16	
	7	18.06	
	8	16	
	9	16	
	10/11	16	
	20a	20.25	
	20b	20.25	
	21	16	
	22	16	
	23b	25	
	23c	25	
	27	12.25	
	29	19.36	
	31	25	
	32	25	
	34	25	
	35	23.04	
Averbuch	1	25	Reed and Klippel 1984
	5	12.96	
	7	36	
	Total: 36	**Average: 24.05**	

The largest and smallest complete wall trench structures identified in Middle Tennessee exhibited interior spaces of 12.25 and 72 square meters, respectively. The average interior space for the examined structures was 24.05 square meters. At 14.4 square meters of interior space, Structure 2 falls within the lower range for Mississippian wall trench structures in the Middle Cumberland area. As shown in Table 7, only four other examples from Middle Tennessee are of comparable size to Structure 2. House 32 from Mound Bottom (House 23) was slightly smaller that Structure 2 at Fernvale, and measured 14 square meters. Structures 6 and 27 at Moss-Wright measured between 12 and 15 square meters. Finally, Structure 5 at Averbuch measured 12.96 square meters.

Recent excavations at Castalian Springs (40SU14) uncovered a very large wall trench structure with an interior area of between 65 and 120 square meters (K. Smith, personal communication, 2010). Preliminary analysis of the Castalian Springs structure suggests that it served as public architecture rather than a residential unit. Although radiocarbon dates from the Castalian Springs structure are discussed in Chapter 7, the size data was not included in Table 7.

From a broader geographic perspective, Structure 2 is very similar to wall trench houses found throughout the Mississippian Southeast between roughly 550–950 BP. Comparable wall trench houses appear in west-central Alabama at Moundville (1TU500), Lubbub Creek (1PI33), and the Bessemer Mounds (1JE12; Lacquement 2007b) and at east Tennessee sites including Hiwassee Island (40MG31; Lewis and Kneberg 1984), Martin Farm (40MR20; Schroedl et al. 1985), Toqua (40MR6; Polhemus 1987), Hixon (40HA3), and Thompson Village (40HY5; Sullivan 2007).

Wall trench houses are also common at Mississippian sites in southern Indiana and Illinois, including Cahokia (Pauketat 1998), Angel Mounds (12VG1; Black 1967), Kincaid (11MX1; Brennan 2007), and Toothsome (11CT73; McConaughy 2007). Finally, excellent examples of wall trench houses are also found at the Jonathan Creek (15ML4) site in western Kentucky (Webb 1952).

The 14.4 square meters of interior space within Structure 2 at Fernvale is small compared to many other wall trench structures at the sites mentioned above. For example, two Mississippian II phase wall trench houses at Martin Farm had floor areas of 23 and 46 square meters (Schroedl et al. 1985). Structure 2 is also on the small end of the size distribution for wall trench houses in west-central Alabama (Lacquement 2007b) and the Kincaid site (Brennan 2007). Lacquement's (2007b) sample of small pole structures in west-central Alabama identified the average floor area as 19.6 square meters, with a range of 6.9–37.2 square meters. According to Brennan (2007:94), "small" wall trench houses at Kincaid ranged in size from 9.6 to 41.8 meters square. Within this "small" category, houses between 10 and 20 meters square were from early and middle portions of the site's principal Mississippian occupation.

There is some evidence that domestic wall trench structures across the Southeast were initially small, and increased in size over time. Lacquement (2007b) notes a general increase in the size of domestic structures between AD 1000–1550 in west-central Alabama, while Brennan (2007) records a similar increase in house size from the Early to the Middle Kincaid phases at Kincaid. Nine Lohman I phase (AD 1050–1075) wall trench houses recorded at the Dunham Tract and Tract 15A at Cahokia had an average floor area of 14.8 square meters, with minimum and maximum floor areas of 8.4 and 27.4 square meters, respectively. (Pauketat 1998). Structure 2 at the Fernvale site would lie in the center of this size distribution. In sum, while Structure 2 is small compared to similar structures in Middle Tennessee, it is similar in size to many wall trench houses across the Southeast, and is especially similar to early examples.

The uncalibrated radiocarbon date of 880 ± 70 BP returned for wood charcoal from Structure 2 fits nicely with dates obtained from other Mississippian wall trench structures in the region. As discussed in Chapter 7 and presented in Figure 27, available dates for wall trench structures in Middle Tennessee suggest that this type of construction was most prevalent in the region between 500–1000 BP (Autry 1985; Butler 1981; Kline 1979; O'Brien 1977; Reed 1984; Kevin Smith, personal communication, 2010). On a broader regional scale, the radiocarbon date for Structure 2 is roughly contemporaneous with wall trench houses from the Early and Late Moundville I phases (700–900 BP) at Moundville (Lacquement 2007b), the Early Kincaid phase (850–950 BP) at Kincaid, and the Mississippian I (950–1050 BP) and Mississippian II (650–950 BP) phases at Martin Farm (Schroedl et al. 1985).

All comparative radiocarbon dates described above were associated with wall trench structures situated within multi-family village and mound sites. No additional Mississippian residential structures have been documented at Fernvale. In addition, there was no evidence of a palisade wall, and the morphology of the landform likely restricted the amount of habitable space at the site. These factors suggest that during the Mississippian period the Fernvale the site functioned as a hamlet or individual family farmstead.

The presence of wall trench structures at Mississippian hamlets and farmsteads in the Middle Cumberland region is not well documented. Instead, all such sites identified during the current research effort exclusively feature circular, single post residential architecture. In addition, radiocarbon dates from other Mississippian farmsteads and hamlets in Middle Tennessee are generally more recent than the dates returned for Structure 2 at Fernvale. The single post structure at Brandywine Pointe (40DV247) yielded uncorrected dates of 960 ± 70 BP, 660 ± 60 BP, and 680 ± 60 BP (Smith and Moore 1994), while 40DV68 produced a date of 930 ± 60 BP (Norton and Broster 2005).

Conclusions

As Structure 2 was not excavated, any interpretations regarding its specific construction are purely speculative. However, recent archaeological and

experimental studies provide new insight into what wall trench houses may have looked like aboveground (Lacquement 2007a). Although some archaeologists (e.g., Brennan 2007) argue that wall trench structures could have supported hipped or gabled roofs, a growing body of comparative and experimental data suggests that most wall trench houses were built with small, 9–15 cm diameter poles, which were closely spaced and woven together to form either a wigwam-style or dome-shaped roof (Blanton and Gresham 2007; Lacquement 2007a, 2007b; Lewis 1995; Reed 2007).

Mississippian wall trench houses are often described in archaeological interpretations as having wattle and daub walls. However, there is actually little archaeological data to support this claim (Knight 2007). Experimental studies (e.g. Blanton and Gresham 2007) indicate that daub is hard to maintain and quickly deteriorates on flexed pole structures, due to the lack of protective eaves associated with dome-shaped or wigwam-style roofs. Rather than daub, Structure 2 at Fernvale would likely have been covered with cane matting and thatch, the remains of which may be represented by the small fragments of charcoal associated with the structure.

It has been suggested that the size of a residential structure can reflect household size, wealth, and status (Wilk 1983; Wilk and Netting 1984). There are no other definitively Mississippian residences at Fernvale for comparison in terms of wealth and status. Nonetheless, given the relatively small size of Structure 2 relative to other contemporaneous examples in Middle Tennessee and beyond, it seems reasonable to conclude that Structure 2 would have been home to a small, single family. The lack of major repair efforts to the structure, aside from a few possible reinforcing posts, suggests a short occupation, probably no more than a single generation. If Structure 2 and Structure 3 (discussed below) were contemporaneous, it may be that Structure 3 and the scatter of postholes to the south represent a storage facility and domestic activity area. If these features were associated with Structure 2, their size and scale would seem to be consistent with a small, single household occupation.

Structure 3

Structure 3 consisted of a small circular post structure situated in the central portion of the project area (see Figures 20 and 21). This structure included nine postholes and exhibited a maximum diameter of only 1.9 m. Structure 3 was not identified during the course of fieldwork, and consequently no photographic record of the structure exists in the project archives.

All documented posthole profiles for Structure 3 exhibited relatively straight sides, indicating the presence of vertical wall posts rather than tensioned post construction. The eight exterior posts ranged from 17–40 cm in diameter, with an average diameter of 27.4 cm. The single, centrally located interior posthole (P-41) measured 13 cm in diameter. As described for Structure 1, the diameter of all Structure 3 post footprints also indicates that this was a rigid post structure.

Excavations revealed no evidence of destruction or rebuilding episodes for Structure 3. Only one pair of overlapping postholes (P-36) was identified within the structure footprint (see Figure 21). No plan or profile drawings or photographs of these features were present in the project archives, and it is therefore not possible to determine which posthole was intrusive. There was no evidence of burned posts or of extensive charcoal within posthole fill at Structure 3 to suggest burning. There was no discernible entryway to the structure.

One pit feature (F-58) is situated within the interior of Structure 3. As described in Chapter 5, Feature 58 exhibited an upper zone of black silt loam containing charcoal and large amounts of burned medium- to large-mammal bone. Although this feature was recorded as a possible cremation, the bones could not be conclusively identified as human.

Diagnostic artifacts recovered from Structure 3 postholes included a total of 6 shell-tempered ceramic sherds recovered from P-36 and 46. Based on the presence of these artifacts, Structure 3 was assigned a Mississippian cultural affiliation. No natural soil disturbances were noted within or adjacent to these posthole features during the hand excavation process.

Comparative Examples

Structure 3 exhibits an interior floor area of only 2.8 square meters, suggesting that it probably would not have served as a residence. This floor area is less than half of the smallest Early Mississippian houses around Cahokia (Pauketat 1998), and roughly one-eighth the floor area of the average area exhibited by the Mississippian wall trench houses described in Table 7. In a comparative study of over 200 Woodland, Mississippian, and Historic Indian houses from 30 sites in the Southern Appalachian region, Steere (2007) found that almost all Mississippian and Historic Indian examples under five square meters were used for storage.

Given its small size, Mississippian cultural affiliation, and proximity to Structure 2, it seems plausible that Structure 3 may have been an above-ground storage facility associated with the Early Mississippian wall trench house. By the Late Mississippian period in the Southeast, small corn cribs or barbacoas became relatively common in household clusters (Hally and Kelly 1998). Structure 2 at Martin Farm, in eastern Tennessee, may provide an Early Mississippian example of such a structure (Schroedl et al. 1985). That structure consisted of a round, single post building that measured only 1.7 m in diameter and dated to the Mississippian II phase (650–950 BP). The Martin Farm structure is nearly identical in size to Structure 3 at Fernvale, and was also located a few meters away from an Early Mississippian wall trench house. It is possible that Fernvale, along with Martin Farm, provides some of the earliest evidence of the establishment of small, above-ground storage buildings in the Southeast.

Structure Summary

Excavations at the Fernvale site resulted in the identification of three structure footprints. Temporally diagnostic artifacts allow Structures 2 and 3 to be assigned to the early portion of the Mississippian period, while Structure 1 appears to have originated during the Middle Woodland period. Structures 1 and 2 likely functioned as residences. Structure 3 likely served as an above-ground storage facility associated with Structure 2.

Structure 1 and the surrounding Middle Woodland pit features may represent a short occupation by a single household. The lack of rebuilding associated with the structure suggests an occupation of no more than a single generation. Given the small size of Structure 1 relative to many other Middle Woodland houses across the Southeast, it seems unlikely that any group larger than five or six people in a nuclear or small extended family would have inhabited the dwelling.

Structure 2 is an excellent and early example of a Mississippian wall trench house. This house form is widespread across the Southeast from ca. 550–950 BP, and is found in a wide array of site types from large administrative centers to small hamlets (Lacquement 2007b). Houses are powerful and highly visible symbols of group identity (Blanton 1994). Although the household that occupied Structure 2 was likely small and were living off the beaten path, its members expressed their cultural ties to the larger Mississippian world through their architecture.

Structure 3 seems far too small to have been a residential structure. However, if it is contemporaneous with the wall trench structure to the north, Structure 3 likely represents an early example of above-ground storage at a Mississippian farmstead. A similar arrangement of buildings has been documented at the Martin Farm site in eastern Tennessee (Schroedl et al. 1985).

Several factors hinder the interpretation of domestic architecture and other non-mortuary features at Fernvale. For example, no hearths or earth ovens were found at the site during the data recovery effort. The lack of these features is probably the result of plowing and mechanical topsoil removal rather than their actual absence from the site. Comparative data from regional sites such as Robinson (Morse 1967), Duncan Tract (McNutt and Weaver 1983) and Penitentiary Branch (Cridlebaugh 1986) suggest that hearth features were almost certainly present at Fernvale.

It is also clear that prehistoric construction and activity at Fernvale extended beyond the study area of the bridge replacement project. An extensive scatter of postholes south of Structure 2 and west of Structure 3 may in fact represent a fourth structure (see Figure 20). Two postholes in this area (P-65 and 66) yielded temporally diagnostic artifacts, consisting of a single plain limestone-tempered sherd and a Terminal Archaic Straight Stemmed projectile point, respectively. If an unidentified structure exists in this area, it may prove to be an extension of the

same Woodland activity area identified surrounding Structure 1. Additional excavations along the western edge of the project area no doubt could clarify this picture. Further excavations would likely also reveal additional features associated with Structure 2, thereby providing a better understanding of Mississippian occupation at the site and in the region.

VII. RADIOCARBON DATES

During the 1985–1987 analysis effort, three radiocarbon samples were submitted to the University of Texas at Austin Radiocarbon Laboratory for analysis. These samples consisted of wood charcoal recovered from a non-mortuary pit feature (F-110), a flexed burial pit (F-42A/B-8), and a wall trench structure (Structure 2). Between 2007 and 2012, three additional radiocarbon assays were submitted to Beta Analytic, Inc. from Features 35 and 71. All dates in this chapter are discussed in uncalibrated radiocarbon years before present (Table 8).

Table 8. Radiocarbon Dates from Fernvale.

Context	Lab sample #	Material	14C Age BP	Calibrated Age*
Feature 71 gorget	Beta-334565	Shell	5530 ± 30	4449–4336 BC (95.4%)
Feature 42 Zone A (B-8)	TX-5554	Wood charcoal	3490 ± 300	2671–1107 BC (94.9%)
Feature 110	TX-5552	Wood charcoal	3420 ± 120	2030–1448 BC (95.4%)
Feature 71 bead	Beta-334566	Shell	3710 ± 30	2201–2024 BC (95.4%)
Feature 35	Beta-245163	Charred material	3380 ± 40	1771–1601 BC (90.3%)
Structure 2 wall trench	TX-5533	Wood charcoal	880 ± 70	1026–1262 AD (95.4%)

* oxCal 4.2; INTcal 13

Feature 110 was a shallow, rounded pit located in the central portion of the direct impact area. This feature intrudes into both earlier pit (F-108) and burial (F-55/B-17) features. Feature 110 was selected for radiocarbon analysis with the intention that it would help establish dates for the Late Archaic occupation of the site. The feature contained moderate amounts of lithic debitage, burned limestone, and animal bone (see Appendices B and F). No temporally diagnostic artifacts were present within the feature. Wood charcoal from Feature 110 yielded a date of 3420 ± 120 BP (TX-5552; wood charcoal; δ14C= -346.1 ± 4.3%).

Feature 42 was located in the central portion of the direct impact area, and included two stratified levels designated Zones A and B. Zone A, the uppermost strata, contained a partial human cremation (Burial 8; see Chapter 12). Zone A of Feature 42 was selected for radiocarbon analysis to date what at the time was believed to be an Early Woodland cremation. Wood charcoal collected from the northern portion of Zone A in the vicinity of the pelvis yielded a date of 3490 ± 300 BP (TX-5554; wood charcoal; δ14C= -351.9 ± 14%). In addition to Burial 8, Zone A of Feature 42 contained a moderate to high amount of lithic debitage, burned limestone, burned and unburned animal bone, and a single Terminal Archaic Straight Stemmed projectile point (see Appendices B and F).

A third processed radiocarbon sample was collected from the northern wall trench of Structure 2. The sample consisted of wood charcoal and was selected to date the Mississippian site occupation. The sample from Structure 2 returned a date of 880 ± 70 BP (TX-5533; wood charcoal; δ14C= -103.4 ± 4.1%)(Smith 2002).

During the 2007–2012 reanalysis effort a sample of burned nutshell recovered from the Feature 35 1/8-inch water screen sample was selected for AMS analysis. Feature 35 was one of two possible interior pit features associated with Structure 1, and was selected to corroborate the age of the structure. Posthole features in that structure footprint yielded both limestone- and shell-tempered sherds. However, the sample from Feature 35 yielded a date of 3380 ± 40 BP (Beta-245163; charred material; δ13C/12C= -23.6). Based on this date it was determined that Feature 35 significantly precedes Structure 1, and is not associated with either the Middle Woodland or Mississippian site occupations.

Two samples of marine shell from Feature 71 were also submitted for AMS analysis. One sample was collected from the marine shell gorget, while the other consisted of a section of a shell disc bead. These were selected in order to provide a date range for some of the few exotic artifacts recovered at the site, and to contribute to the evolving understanding of regional trade networks and the exchange of marine resources throughout the interior Southeast. The shell gorget returned a date of 5530 ± 30 BP (Beta-334565; shell; δ13C/12C= -1.3), while the disc bead yielded a date of 3710 ± 30 BP (Beta-334566; shell; δ13C/12C= -1.3). Local reservoir corrections were not applied to these dates as the specific point of origin for the shells is unknown.

DISCUSSION

Dates for all three pit features and the shell disc bead from 40WM51 tightly cluster during the terminal portion of the Late Archaic period. This focus corresponds nicely with type percentages of temporally diagnostic artifacts from the site. In the report on investigations at the Late Archaic and Middle Woodland Bailey site (40GL26), Bentz (1996c:84–90) compiled a series of radiocarbon dates for Archaic and Woodland occupations throughout the Midsouth. As shown in Figure 25, the four Late Archaic dates from Fernvale overlap with uncalibrated ranges for both the Ledbetter and Little Bear Creek phases, as identified by Bentz.

The classification of temporally diagnostic projectile points from the Fernvale assemblage includes Late Archaic Stemmed and Terminal Archaic Straight Stemmed categories, which encompass the Ledbetter and Little Bear Creek forms (respectively). As described in Chapter 8, 72 percent of the diagnostic projectile point collection was assigned to the Late Archaic period. The Late Archaic Stemmed and Terminal Archaic Straight Stemmed categories comprise the first and second largest clusters of diagnostic point types recovered at 40WM51. A single Terminal Archaic Straight Stemmed projectile point was recovered from Burial 8, which yielded the uncalibrated date of 3490 ± 300 BP.

Although the marine shell gorget and beads from Feature 71 were clearly deposited in a single event, radiocarbon assays from those artifacts returned dates separated by at least 2,000 years. Rather than representing a potential

data error, these dates fit nicely with the character of the site and region and suggest Feature 71 represents an example of prehistoric artifact curation and/or reuse. The date of 3710 ± 30 BP returned for the shell disk bead is very close to dates recovered from Features 35, 110, and Burial 8 (see Table 8), and clearly places the creation of the Feature 71 marine shell cache during the principal Late to Terminal Archaic occupation of the site.

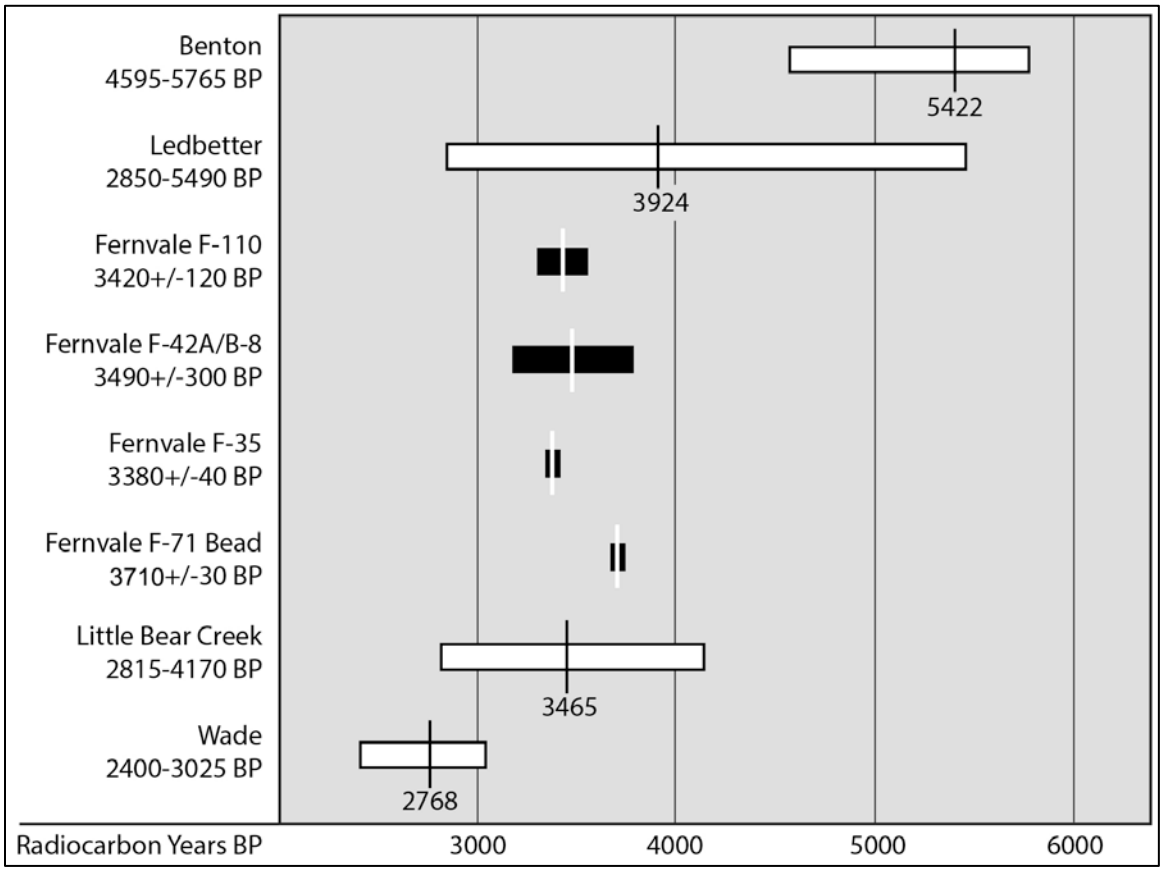

Figure 25. Uncalibrated Late Archaic radiocarbon ranges from the Fernvale site, compared with uncalibrated ranges and means for Late Archaic phases (as identified in Bentz 1996c:90).

At 5530 ± 30 BP, the origin of the marine shell gorget significantly predates its interment at Fernvale. However, this date is generally consistent with the appearance of marine shell artifacts throughout the region. Whole marine shells and artifacts crafted from the outer whorls and columellae of *Busycon* were distributed from the Gulf Coast into the interior Mid-South along emerging trade networks as early as 7000 BP (Hofman 1985). *Busycon* beads and cups appear in burials from Middle Tennessee by at least 6000 BP (Dowd 1989) and are fairly common along the Green and Tennessee rivers during the Late Archaic (Claassen and Sigmann 1993). Although marine shell gorgets are rare in Late Archaic assemblages from the Middle Cumberland region, undecorated center-drilled shell gorgets such as the one recovered from Feature 71 appear along the Green River, and are the predominate gorget type associated with Late Archaic

burials at the Indian Knoll site (Webb 1974). The main shell midden occupation at that site formed approximately 3900–4700 BP (Jefferies 2008).

The age of the gorget relative to the disk beads suggests this is not an example of a 2000-year old shell being used to craft an artifact, but rather that the Terminal Archaic inhabitants of Fernvale acquired the complete artifact from an earlier archaeological context and deliberately buried it at the site along with their own marine shell artifacts.

There are few radiocarbon dates associated with Late Archaic components in Tennessee from which to draw comparisons with the Fernvale data. Smith's (2002) compilation of Tennessee radiocarbon dates includes only 28 Archaic dates between 3200 and 3600 BP. These dates were recovered from 18 sites, of which only Penitentiary Branch (40JK25, Cridlebaugh 1986) and Robinson Shell Mound (40SM4, Morse 1967) are located within the Central Basin. Recent excavations at shell-bearing sites along the main channel of the Cumberland River in Cheatham and western Davidson Counties resulted in the publication of 32 radiocarbon dates from Archaic components (Miller et al. 2012; Peres et al. 2012). However, the only Late Archaic dates from these deposits were older than 4000 BP.

Fortunately, two Archaic period sites in relatively close proximity to the South Harpeth drainage have yielded a number of additional Late Archaic radiocarbon dates that are comparable with the Fernvale results (Figure 26). Excavations at 40CH195, located northwest of 40WM51 along the Cumberland River near Ashland City, identified a series of short-term Late Archaic occupations. Although temporally diagnostic artifacts were essentially absent from the site, burned feature fill yielded a series of 13 Late Archaic radiocarbon dates ranging from 2930–3860 BP (Wampler and McKee 2012).

The radiocarbon dates from pit features at Fernvale also correspond nicely with four dates obtained a short distance to the east at the Ensworth High School site (40DV184) (Deter-Wolf et al. 2004). The dates from Ensworth were recovered from non-mortuary pit fill, and arrayed alongside the dates from Fernvale and 40CH195 provide an excellent range for Late Archaic activity in the region.

As previously mentioned, Structure 2 at Fernvale was outside of the direct impact zone and was therefore not excavated during the data recovery effort. A small number of artifacts were recovered from the structure floor, including Mississippi plain ceramics and several bone tools. The radiocarbon date of 880 ± 70 BP fits well with the limited number of dates from other wall trench structures in Middle Tennessee (Figure 27).

Radiocarbon dates are only available for a total of 12 wall trench structures from seven sites in Middle Tennessee. In addition to Structure 2 from Fernvale, these include single structures from both 40TR32 (Autry 1985) and Sellars Farm (40WI1; Butler 1981), Structures 1, 13, and 23 from Mound Bottom (40CH1;

O'Brien 1977), Structures 1, 3, and 11 at Averbuch (40DV60; Reed 1984), Structures 1 and 2 from Ducks Nest (40WR4; Kline 1979), and a single structure recently excavated at Castalian Springs (40SU14; Kevin Smith, personal communication, 2010). Eighty-six percent (*n*=18) of the uncalibrated radiocarbon dates obtained from these 12 structures fall between 500–1000 BP, and provide an excellent range for principal construction of wall trench structures in the region.

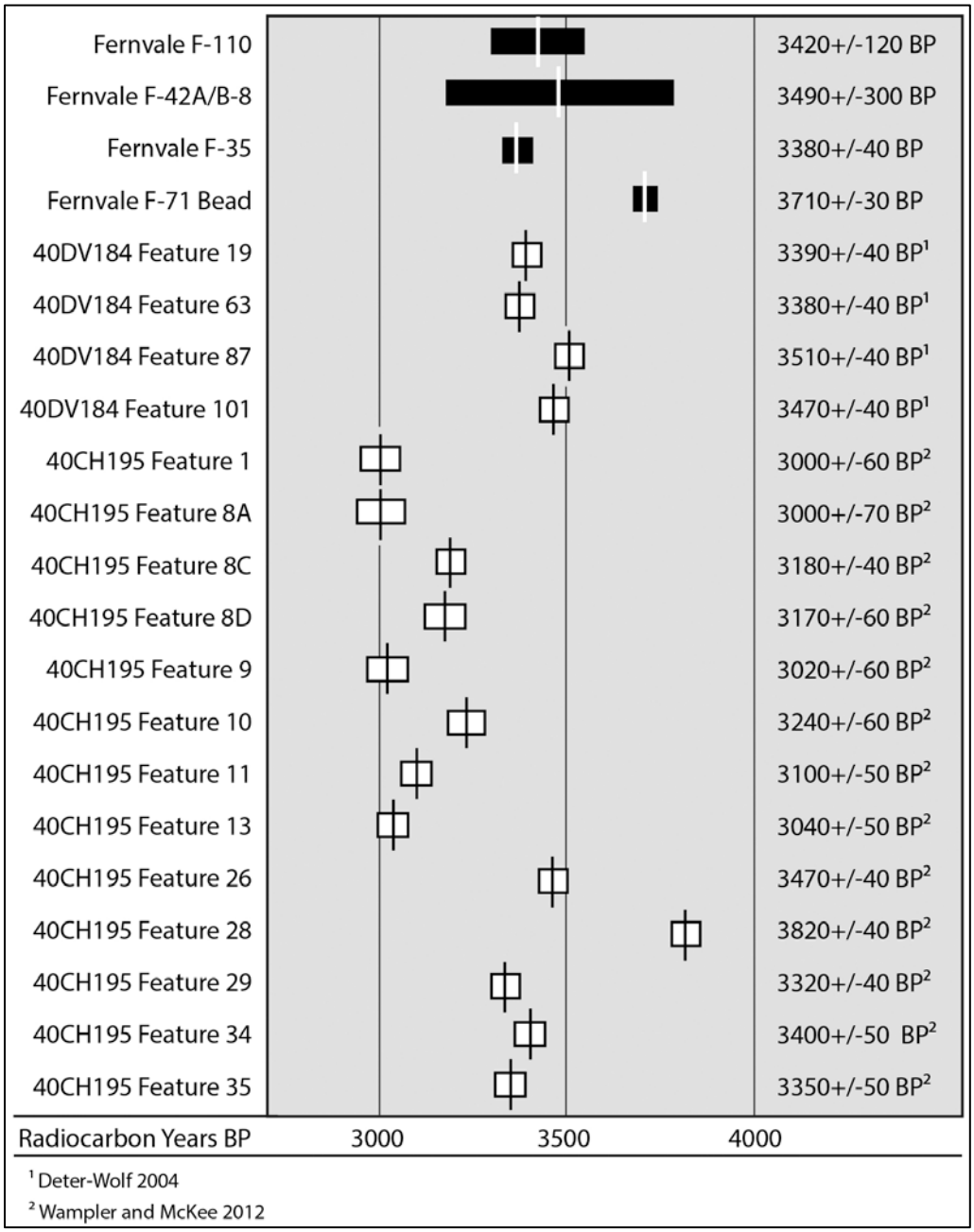

Figure 26. Comparison of uncalibrated Late Archaic radiocarbon dates from Fernvale, 40DV184, and 40CH1195.

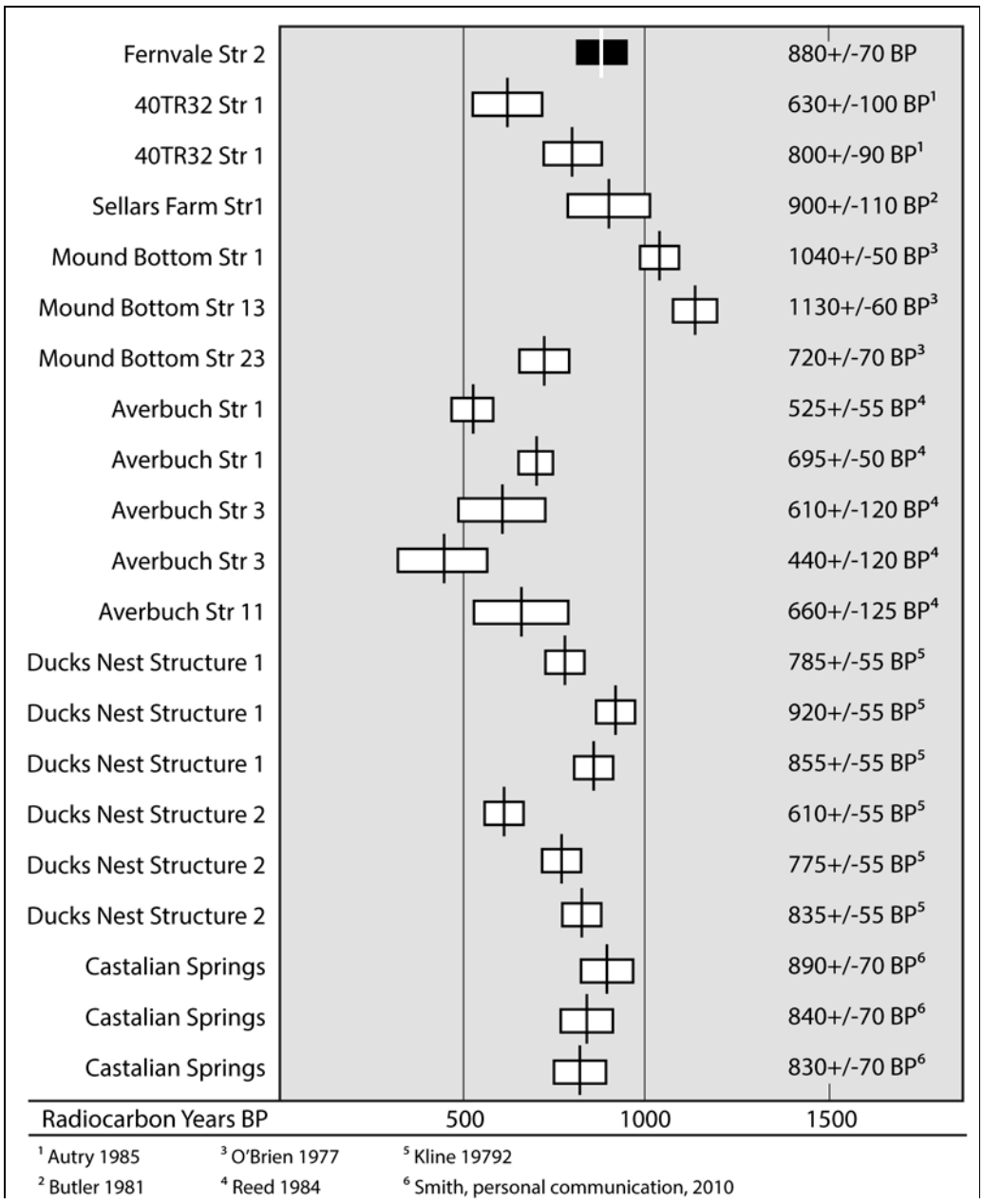

Figure 27. Comparison of uncalibrated radiocarbon dates for wall trench structures from Mississippian sites in Middle Tennessee.

VIII. LITHIC MATERIALS

Jesse W. Tune and Aaron Deter-Wolf

A total of 82,245 lithic artifacts were recovered from excavations at Fernvale. During analysis, the lithic assemblage was initially divided into objective and detached pieces, thereby separating debris created through manufacturing and resharpening from the formal tool assemblage. Microscopic analysis was not conducted on any of the lithic artifacts. In an effort to avoid subjectivity and inconsistent identification, no expedient tool categories (e.g. “utilized flake”) were included in the analysis. Morphological attributes were used to sort all formal tools into traditionally-accepted descriptive categories. The following discussion examines the lithic debitage, raw material distribution, formal tools, and specifically the projectile point collection from Fernvale. The complete catalog of lithic artifacts is presented according to provenience in Appendices B–D. Metric attributes for projectile points are presented in Appendix E.

DEBITAGE AND OTHER LITHIC MATERIALS

A total of 81,612 pieces of lithic debitage and 778,978 g of other lithic materials (e.g., fire-cracked-rock) were recovered from Fernvale. Debitage from the site (presented in Appendix C) consisted of 67,041 artifacts recovered from 1/4-inch dry screen, and 14,571 specimens recovered from 1/8-inch waterscreen samples. This material was segregated into a standard typology consisting of primary flakes (*n*=584), secondary flakes (*n*=841), tertiary flakes (*n*=21,776), flake fragments (*n*=51,407), cores (*n*=206), shatter (*n*=6,369), and flaked limestone (*n*=429).

Raw Material Types

All debitage collected from non-posthole features using 1/4-inch dry screen was examined to identify raw material types. Specimen color, texture, structure, and composition were the primary sorting criteria used during this examination. The overall percentages of identified material types are shown below in Table 9 and are presented according to specific provenience in Appendix D.

The majority of lithic material from Fernvale (86.77 percent) was created from medium- to coarse-grained Fort Payne chert, likely obtained as cobbles from the gravel bars of the South Harpeth River. The second greatest percentage of raw material (8.12 percent) consisted of chert that was unidentifiable due to alterations caused by deliberate or incidental heating. Warsaw chert comprises the third most frequent material type within the debitage collection (2.78 percent). This material is locally available as erosional remnants along the escarpment of the Western Highland Rim.

Table 9. Lithic Raw Material Types for 1/4-inch Screen Lithic Debitage from Non-Posthole Features

Raw Material	Count	Percent of Total
Fort Payne	56,197	86.77
Unidentifiable Thermally Altered	5,257	8.12
Warsaw	1,801	2.78
Other Unidentified Chert	974	1.5
Limestone	429	0.66
St. Louis	98	0.15
Chalcedony	5	0.01
Red-Brown Agate	3	0.01
Total	**64,764**	**100**

Various unidentifiable, non-thermally altered cherts were also present in the lithic assemblage, and cumulatively accounted for only 1.5 percent of the total collection. These included fine to coarse-grained specimens ranging from tan to cream in color, medium grained black-gray material with white mottling, and coarse-grained fossiliferous chert ranging from light gray to black. All the cherts in this category are believed to represent local variations in Mississippian-aged material originating along the South Harpeth River and Western Highland Rim escarpment rather than imported or exotic materials.

Only three exotic raw material types were identified in the debitage collection from Fernvale, and together account for less than 0.2 percent of the total assemblage. St. Louis chert is derived from Mississippian-age limestone which outcrops along higher elevations of the Western Highland Rim northwest of the site. Only 0.15 percent of the debitage collection from Fernvale was manufactured from St. Louis chert. Five pieces of debitage were identified as chalcedony, a microcrystalline quartz material that originates in the Pennsylvanian strata of the western Cumberland Plateau (Cobb and Faulkner 1978). Finally, three pieces of lithic debitage were identified as red-brown agate. This fine-grained, waxy material may be Horse Mountain agate, which originates in the Ordovician-age Hermitage Formation and outcrops in Bedford County, TN, approximately 77 km (47.7 miles) southeast of 40WM51.

Other Lithic Materials

Other lithic materials collected from the site include burned limestone, fire-cracked rock, shale, and red ochre. A total of 738,844 g of thermally altered limestone was recovered from Fernvale. Of that amount, 99.8 percent (737,618 g) was recovered from features (including 161,207 g from mortuary features) and 1,226 g was recovered from postholes. A total of 17,070 g of fire-cracked rock was recovered from the site, including 16,746 g (98.1 percent) from features (3,291 g from mortuary features) and 324 g from postholes.

Shale does not occur naturally within the subsoil at the Fernvale site, and therefore the 23,064 g of this material recovered during excavations represents deliberate curation efforts. None of the shale collected from Fernvale was

deliberately shaped or worked. Nearly all specimens (23,053 g) were recovered from non-posthole features, including 1,036 g from mortuary features. One burial from the site, Burial 2, was interred resting on a prepared shale surface (see Chapter 12).

Iron oxide or red ochre was recovered from four burials and one non-mortuary feature (F- 65) at Fernvale. Ochre was not collected or weighed during the field excavations. Rather, the presence of red ochre was determined during the reanalysis effort using field notes and feature documentation. Red ochre was identified east of the skull of Burial 10. In Burial 14, red ochre was spread between the pelvis and skull, and also appeared beneath the skeleton. Degraded red ochre was identified on several bone tools contained in the bundle interred with Burial 24, and also appeared in a small circular patch above the knees of Burial 28.

LITHIC TOOLS

The Fernvale excavations resulted in the recovery of 331 non-diagnostic complete and fractured bifaces, 144 projectile points, and 158 other lithic tools. These artifact totals are presented in Table 10 and tabulated according to provenience in Appendix B.

Table 10. Types and Feature Associations for Lithic Tools from Fernvale.

Tool Type	Plow Zone	Mortuary Features	Non-Mortuary Pit Features	Postholes	Total
Primary Biface		5	11		16
Secondary Biface		8	53		61
Tertiary Biface		10	54	2	66
Finished Biface	7	42	134	5	188
Projectile Point	35	17	90	2	144
Unimarginal Flake Tool		8	52		60
Bimarginal Flake Tool			2		2
Graver		1			1
Drill		5	8		13
Sidescraper		1	11		12
Endscraper	4	1	6		11
Spokeshave	1	1	2		4
Bifacial Chisel			1		1
Hoe		5	33		38
Hammerstone	1	4	6		11
Abrasive Siltstone Bead			1		1
Abrasive Siltstone Pipe			1		1
Misc. Groundstone			3		3
Total	**48**	**108**	**468**	**9**	**633**

Bifaces

Non-diagnostic bifaces included primary (*n*=16), secondary (*n*=61), and tertiary (*n*=66) stage implements. The assemblage also included 188 finished bifaces, a category that includes all non-diagnostic and fragmentary projectile points (distal tips, non-diagnostic haft elements, midsections, etc.). One of the complete but not temporally-sensitive bifaces in this category consisted of an ovate knife recovered from Burial 24 (see Figure 19). A detailed count of finished bifaces from the Fernvale site is presented in Table 11.

Table 11. Finished Bifaces from Fernvale.

Description	Count
Non-Diagnostic Base/Haft Element Only	30
Non-Diagnostic Base/Haft Element with Shoulders and/or Midsection Present	9
Midsection Only	52
Midsection with Distal Tip and/or Shoulders, No Haft Element Present	54
Distal Tip Only	34
Edge Fragment	4
Complete Finished Biface, Not Temporally Diagnostic	5
Total	**188**

Projectile Points

A total of 144 projectile points were recovered from the Fernvale site (see Table 10). Thirty-five specimens were recovered during plowzone removal and lack specific provenience. Ninety points were included in the fill of non-mortuary pit features. Two specimens were recovered from within post fill. Seventeen specimens were recovered in mortuary pits, either as deliberate offerings or as incidental fill inclusions.

Traditional projectile point analysis involves the sorting of an assemblage according to morphological attributes. These attributes may include the presence, orientation, and shape of notching on the haft element, shape of the blade and basal edge, presence or absence of grinding on the haft element, cross-section, and pattern of flake removal. Based on these and other traits, the artifacts are then assigned to specific temporal and regional forms (e.g., Cambron and Hulse 1990; Justice 1987; Kneberg 1956). This method of analysis identifies general temporal and regional trends and thereby allows for the identification of site components based on stratigraphic recovery of hafted bifaces.

Unfortunately reliance on named types can muddy the temporal interpretation of a site. Certain projectile point varieties span many thousand years and a wide range of stylistic variability. These include both minor and significant differences according to geographic locale, and likely also result from unquantifiable cultural criteria such as lineage or linguistic group. In some cases these differences may result from reinvention of basic shapes according to specific needs, rather than reflecting uninterrupted cultural phenomenon. One example of this issue is the

appearance of both Early and Late Archaic corner notched projectile point forms at the Fernvale site. Although all 11 of these artifacts can be lumped morphologically into the Kirk Corner Notched type, to do so ignores the likelihood that they reflect discreet Early and Late Archaic occupations (Barker 1997).

A second method for analyzing projectile points was pioneered in Tennessee by Faulkner and McCullough (1973) in their reports on the Normandy Reservoir project. This method rejects named typology in favor of descriptive classification of morphological attributes including blade and base shape, edge preparation, cross-section, and relative size. Although this method of classifying projectile points is notable for its attempt to escape specific type biases and achieve a "big-picture" analysis, the ultimate result in the case of the Normandy Reservoir reports was overly specific and somewhat unwieldy.

Analysis of projectile points from Fernvale attempts to meld the techniques of specific type-assignment and morphological description. The result employs a combination of "lumping and splitting" which it is hoped will promote an understanding of the various temporal and cultural affiliations at the site while not becoming enmeshed in arguments regarding geographic and temporal distribution or variation in specific named forms. In this regard, the analysis employs certain well-defined specific types (e.g. Quad, Morrow Mountain) that are unmistakable as a result of their widespread occurrence and established temporal provenience in Middle Tennessee.

In cases where projectile points did not fall cleanly within established types, the analysis relies on morphological similarities to intuitively group artifacts into likely temporal affiliations. The specific types defined for the site are presented below in Table 12, and examples of selected types are illustrated in Figures 27 and 28. Metric attributes for all projectile points are presented according to type in Appendix E. Further subdivision of types and concordance with both Normandy forms and traditional named classifications are included in the following discussion as appropriate.

A single projectile point recovered from Burial 4 (F-26) was, according to field notes, imbedded between the third and fourth ribs on the right side of the rib cage (see Chapter 12). Neither the actual artifact nor any individual photographs of this point were present within the project materials. Field notes postulate that the artifact is "possibly Late Archaic," but this assessment could not be verified. This specimen was included in Table 12 under the category of "Unknown/Missing."

Quad (*n*=1)

A single Quad type projectile point was recovered from disturbed plowzone soils at the site. This artifact features a recurvate blade, pronounced basal ears, and exhibits repeated end thinning and resharpening (Figure 28A). This type is equivalent to Normandy type 136 ("Medium Lanceolate, Recurvate Blade, Auriculate Base") (Faulkner and McCullough 1973:141).

Table 12. Projectile Points Recovered from Fernvale.

Provenience	Burial #	Quad	Big Sandy I	Kirk Corner Notched	Kirk Stemmed	Kirk Serrated	Beveled Edge	Morrow Mountain	Sykes/White Springs	Eva	Late Archaic Corner Notched	Late Archaic Stemmed / Pickwick	Terminal Archaic Straight Stemmed	Unknown/Missing	Terminal Archaic Expanding Stemmed	Motley	Early Woodland Contracting Stemmed	Adena Contracting Stemmed	Copena Triangular	Shallow Side Notched	Total
Plow Zone Collection		1	1	1	1					2	3	6	7		1	1	3		8		**35**
F. 03 NNW 1/2 Zone B															1						**1**
F. 04 East 1/2									1			1									**2**
F. 07													1								**1**
F. 08	2, 32			1																	**1**
F. 09													1								**1**
F. 11												1									**1**
F. 15											1	1	2			1					**5**
F. 16																1					**1**
F. 18							1						1								**2**
F. 21													2							1	**3**
F. 24																2					**2**
F. 26	4													1							**1**
F. 32	5			1								2			1	1					**5**
F. 33						1															**1**
F. 36												1				1					**2**
F. 37																1					**1**
F. 42 Zone A	8												1								**1**
F. 45												1	2								**3**
F. 56								1							2						**3**
F. 57 East 1/2				1						1		1				1					**4**
F. 57 West 1/2 Zone B												2			1						**3**
F. 57 West 1/2 Zone C												1			2						**3**
F. 57 West 1/2 Zone D													1		1				1		**3**
F. 57 West 1/2 Zone E												1			1						**2**
F. 59											1										**1**
F. 65												1	1		1						**3**
F. 78																				1	**1**
F. 79										1		1	1								**3**
F. 80												1	1								**2**
F. 82												4	1						1		**6**
F. 89													1		1						**2**
F. 90											1								2		**3**
F. 94	24											1	4		1		1				**7**
F. 95													1								**1**
F. 101												1	1		2						**4**

Table 12. Projectile Points Recovered from Fernvale (continued).

Provenience	Burial #	Quad	Big Sandy I	Kirk Corner Notched	Kirk Stemmed	Kirk Serrated	Beveled Edge	Morrow Mountain	Sykes/White Springs	Eva	Late Archaic Corner Notched	Late Archaic Stemmed / Pickwick	Terminal Archaic Straight Stemmed	Unknown/Missing	Terminal Archaic Expanding Stemmed	Motley	Early Woodland Contracting Stemmed	Adena Contracting Stemmed	Copena Triangular	Shallow Side Notched	Total
F. 102												1	1		1	1					**4**
F. 107	28																			1	**1**
F. 109																1					**1**
F. 112 East 1/2																			1		**1**
F. 114															1					1	**2**
F. 115																1					**1**
F. 117												1									**1**
F. 118													1		1						**2**
F. 121																			1		**1**
F. 123											1		1								**2**
F. 124															1	2		1			**4**
F. 125	30, 31					1															**1**
F. 127												1									**1**
Posthole 18																			1		**1**
Posthole 66													1								**1**
Total		**1**	**1**	**4**	**1**	**2**	**1**	**1**	**1**	**4**	**7**	**30**	**33**	**1**	**19**	**14**	**4**	**1**	**15**	**4**	**144**

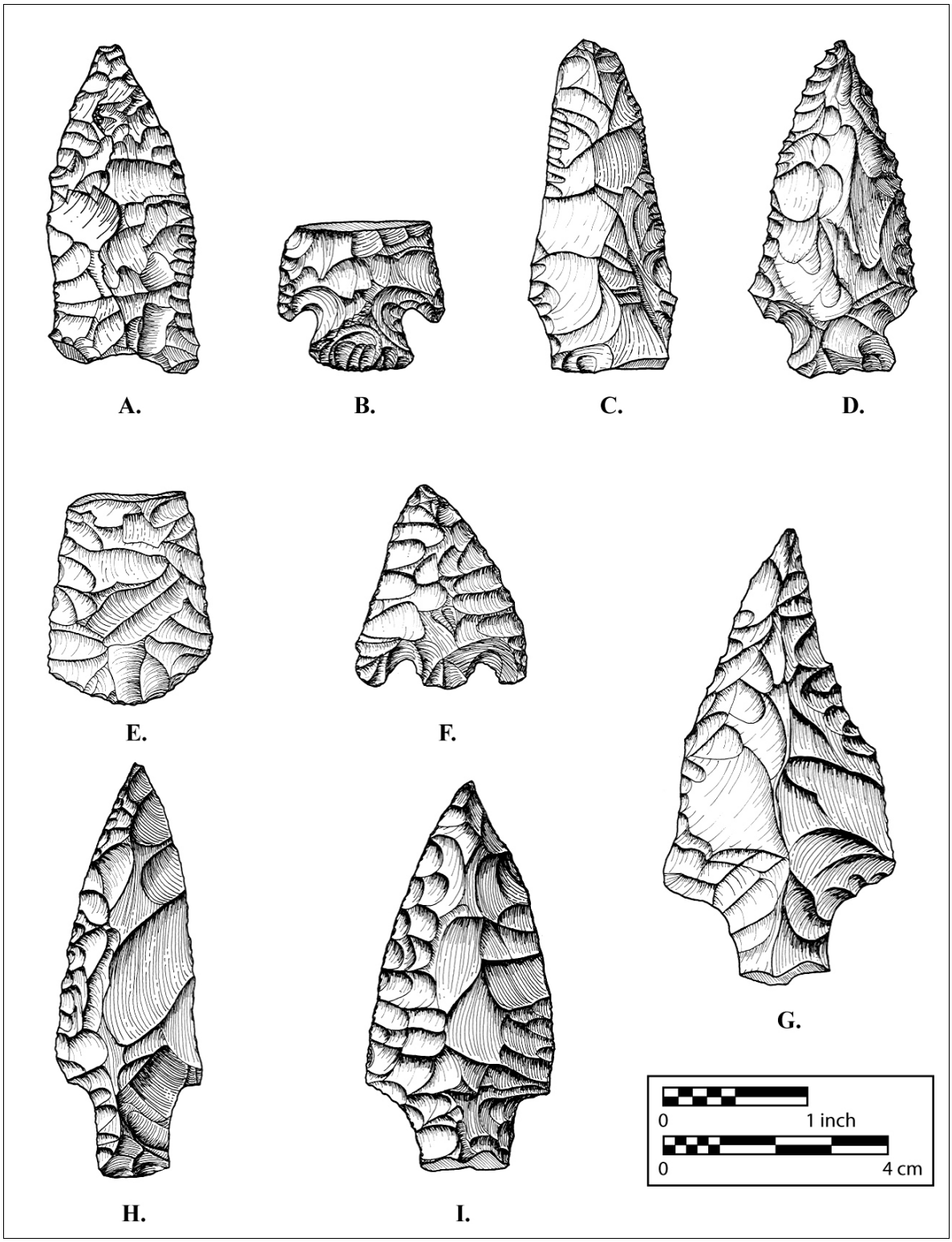

Figure 28. Illustrations of selected projectile point type categories. A) Quad; B) Kirk Corner-Notched; C) Kirk Stemmed; D) Kirk Serrated; E) Morrow Mountain; F) Eva; G-I) Late Archaic Stemmed.

The Quad type is considered diagnostic of the very late Paleoindian through Early Archaic periods in the Southeast. At Dust Cave (1LU496), the horizon containing Quad, Beaver Lake, Hardaway, and Dalton-like projectile points was radiocarbon dated to between 10,000 and 10,500 BP (Driskell 1994).

Big Sandy I (*n*=1)

Disturbed plowzone soils at Fernvale yielded a partial Big Sandy I type projectile point. This side-notched form features a slightly excurvate blade and subtly incurvate base resulting from end thinning. The basal ears are square to slightly tapered, and the basal edge is unground. The Big Sandy type is considered diagnostic of the Early Archaic period in the Southeast. At Dust Cave (1LU496), the Early Side Notched component containing Big Sandy I-like projectile points was bracketed by Late Paleoindian (ca. 8000–10,000 BP) and Kirk Stemmed (ca. 7000–8000 BP) components (Driskell 1994).

Kirk Corner Notched (*n*=4)

A total of four Kirk Corner Notched projectile points were obtained from Fernvale. One each was recovered from the plowzone, Feature 57, Burial 2/32, and Burial 5. All four specimens consist of proximal fragments broken along the lower portion of the blade (Figure 28B). These points exhibit short expanded stems formed by corner notches, are flattened to bi-convex in cross-section, and have bases that are straight to slightly round. Kirk Corner Notched points share attributes with Normandy types 122 (“Large Corner Notched, Straight Base”), 123 (“Medium-Large Corner Notched, Straight Base”), and 125 (“Medium Corner Notched, Straight Base”) (Faulkner and McCullough 1973:132–134).

The Kirk Corner Notched type is well represented throughout Middle Tennessee, and is associated with the Early Archaic period in the region. Two radiocarbon samples from the Puckett site (40SW228) on the lower Cumberland River returned dates of 8490 ± 180 and 8820 ± 180 BP for a Kirk Corner Notched horizon (Norton and Broster 1993). At the Johnson site (40DV400) located just east of Nashville, Kirk Corner Notched deposits yielded eight radiocarbon ages ranging between 9555 ± 90 and 8810 ± 80 BP (Barker and Broster 1996). These Middle Tennessee dates are generally consistent with radiocarbon ages reported for Eastern Tennessee sites such as Icehouse Bottom (40MR23), Patrick (40MR40), and Rose Island (40MR44) (Chapman 1976).

Kirk Stemmed (*n*=1)

A single Kirk Stemmed projectile point was recovered from surface deposits at the site (Figure 28C). The point features a straight broad stem, straight base, and grinding on the haft element. The triangular blade edges are slightly serrated as a result of resharpening. Kirk Stemmed projectile points are considered diagnostic of the Early Archaic in Middle Tennessee, and have been generally assigned a date of 7900–8900 BP (Justice 1987). At Dust Cave (1LU496), deposits containing Kirk Stemmed and Kirk Serrated projectile points were radiocarbon dated to 7000–8500 BP (Driskell 1994).

Kirk Serrated (*n*=2)

Feature 33 and the fill of Burial 30/31 each yielded a single Kirk Serrated type projectile point (Figure 28D). These specimens exhibit triangular blades with serrated edges resulting from resharpening, straight to slightly expanding stems, and are biconvex in cross-section. One example exhibits slightly barbed shoulders and a concave base, while the other has more horizontal shoulders and a generally flat base. Grinding was absent from the base of both artifacts. The Kirk Serrated type appears throughout the southeast at around the same time as Kirk Stemmed forms. According to Coe (1964), the Kirk Serrated form may represent a somewhat later cultural manifestation than Kirk Stemmed.

Beveled Edge (*n*=1)

Feature 18 yielded a fragmentary point exhibiting a beveled edge and partial shoulder. Although the haft element and overall blade shape could not be determined for this artifact, the beveled edge is similar to the Early Archaic Plevna and Lost Lake forms. At Icehouse Bottom in East Tennessee, beveled edge projectile points similar to the Lost Lake and Plevna forms were recovered from early Kirk strata, radiocarbon dated to 9435 ± 270 BP (Chapman 1977).

Morrow Mountain (*n*=1)

A single Morrow Mountain-type projectile point was recovered from Feature 56 (Figure 28E). This artifact exhibits a wide blade and short, rounded contracting stem with grinding along the basal edge. It is generally biconvex in cross-section and was broken across its midsection as a result of an impact fracture. The Morrow Mountain type is equivalent to Normandy type 116, ("Medium-Large, Short Rounded Base, Wide Blade") (Faulkner and McCullough 1973:129–130).

Radiocarbon dates for the Morrow Mountain type fall within the Middle Archaic period. In Middle Tennessee, a feature containing Morrow Mountain projectile points at the Anderson site (40WM9) yielded a date of 6720 ± 220 BP (Dowd 1989). The Cave Spring site (40MU141) produced dates for Morrow Mountain projectile points ranging from 6540–7250 BP (Hofman 1982).

Sykes/White Springs (*n*=1)

The basal portion of a single Sykes/White Springs projectile point was recovered from Feature 4. This artifact exhibits shallow corner notches, squared shoulders, and a flat base. The example from Fernvale is equivalent to Normandy type 114 ("Small-Medium Corner Removed") (Faulkner and McCullough 1973:128). Sykes/White Springs projectile points appear in the archaeological record of the region beginning around 7000 BP, overlapping in some cases with both the earlier Morrow Mountain and later Benton types (Cambron and Hulse 1990; Justice 1987; Meeks 2000).

Eva (*n*=4)

The excavations at Fernvale produced three whole and one partial Eva points (Figure 28F). Two specimens were recovered from the plowzone, while two

others were contained in non-mortuary feature fill (F-57 and 79). These artifacts exhibit triangular flat to slightly excurvate blades and basal notches, pointed to rounded barbs, and extremely small stems that are flat to slightly rounded. Eva projectile points are similar to Normandy type 115 ("Medium-Large, Basally Notched, Wide Blade") (Faulkner and McCullough 1973:129). At Dust Cave (1LU496), these artifacts originated in the same stratigraphic level as Morrow Mountain and White Springs projectile points, and were radiocarbon dated to 6000–7000 BP (Driskell 1994).

Late Archaic Stemmed (*n*=30)

A total of 30 Late Archaic Stemmed projectile points were retrieved during excavations (Figure 28G–I). Twenty-four examples of this type originated in feature contexts, while six were recovered from disturbed plowzone soils (see Table 12). Artifacts included in this type category make up the second largest portion of the projectile point assemblage, at 20.8 percent.

These artifacts exhibit contracting stems, and lack grinding on their haft elements. They have straight to round bases, and in a number of instances exhibit unmodified or lightly worked cortex along the base. Blade shapes are generally recurvate, with uneven shoulders that may be barbed, straight, or slanting. They are generally biconvex in cross-section. These artifacts are crudely worked, and substantially thicker in cross-section than any other projectile point type from the site. Only three of the artifacts within this category (those originating from Features 15, 57C, and 127) are unbroken. The example from Feature 127 has been heavily resharpened along its distal tip.

The Late Archaic Stemmed type includes forms traditionally classified as Ledbetter, Pickwick, and Mulberry Creek. (e.g., DeJarnette et al. 1962; Justice 1987). They also share forms with Normandy types 102, 103, 105, and 106 ("Medium-Large Straight Stemmed, Narrow-Wide Recurvate Blade, Strong Shouldered;" "Medium-Large Straight Stemmed, Narrow-Wide Asymmetrical Blade;" "Medium-Large Narrow Straight Stemmed, Slight Barb, Wide Blade;" and "Medium-Large Straight Stemmed, Wide Asymmetrical-Thick Blade," respectively) (Faulkner and McCullough 1973:121–124).

Ledbetter and Pickwick types originate in the Late Archaic period, and are generally dated to approximately 3000–4500 BP. In Middle Tennessee, radiocarbon dates for Ledbetter projectile points include 2850 ± 870 BP and 4030 ± 260 BP from Banks V (40CF111, Faulkner and McCullough 1974), 4200 ± 100 BP at Aenon Creek (40MU493; Bentz 1995), 4450 ± 80 to 4960 ± 100 at Bailey (40GL26, Bentz 1996c), and 5055 ± 105 BP at Eoff I (40CF32, Faulkner 1977). Based on a compilation of 37 separate radiocarbon ages, Bentz (1996c) assigned a mean date of 3465 BP for this type.

Late Archaic Corner Notched (*n*=7)

Seven Late Archaic Corner Notched projectile points were recovered from the site (Figure 29A). Three artifacts were collected within disturbed plowzone soils.

The remaining four examples were recovered from Features 15, 59, 90, and 123. All examples of this projectile point type were broken prior to their disposal and exhibit signs of heavy retouch. Like the Kirk Corner Notched and Normandy Type 125 forms, all the artifacts in this type category exhibit short expanded stems formed by corner notches and are flattened to bi-convex in cross-section. Their bases are slightly rounded or straight. The principal trait separating these artifacts from the earlier Kirk forms is an absence of grinding on the basal haft element.

Artifacts in this type category were manufactured during the Late Archaic period, rather than representing a variation in Early Archaic Kirk technology. At the Austin Cave site in Robertson County (40RB82), similar corner notched projectile points were recovered from within strata dated to 6200 ± 60 and 6620 ± 80 BP (Barker 1997). These dates suggest that the basic corner notched projectile point type either remained in use throughout the Early to Mid-Holocene, or was "reinvented" during the Late Archaic.

Terminal Archaic Straight Stemmed (*n*=33)

The Fernvale excavations produced a total of 33 Terminal Archaic Straight Stemmed projectile points (Figure 29C, D). Twenty-five examples were recovered from features, seven from disturbed plowzone soils, and one from a posthole (see Table 12). Terminal Archaic Straight Stemmed projectile points make up the largest segment of the projectile point assemblage at 22.9 percent.

These artifacts all exhibit triangular to slightly excurvate blades and straight, parallel stems that lack grinding. Haft elements include both narrow and wide stems with angled, flat, and slightly convex bases. All examples are biconvex in cross-section, and exhibit heavy and sometimes irregular retouch along the blade edges. Three examples have curves of between 3 and 8 degrees along the distal portion of their blades.

Twelve points in this category exhibit asymmetrical shoulders. In four instances (F-15, 21, 42A, and B-24) the asymmetry may result from breakage and/or resharpening. However, in all remaining instances, one shoulder is severely abbreviated with little difference between the edge of the blade and the haft element.

Terminal Archaic Straight Stemmed points share traits with Normandy types 98 ("Medium Straight Stemmed, Narrow Blade,") 99 ("Medium-Large Straight Stemmed, Weak Shouldered"), 100 ("Medium Straight Stemmed, Narrow Blade"), and 101 ("Medium Straight Stemmed, Narrow Blade, Strong Shouldered") (Faulkner and McCullough 1973:118–121). The category is also similar to the Kays type identified by Kneberg (1956) for the Tennessee Valley, and shares attributes with the Late Archaic Little Bear Creek and Late Archaic to Early Woodland Saratoga Parallel Stemmed types discussed by Justice (1987). The asymmetrical examples are identical to Normandy type 107 ("Asymmetrical Stemmed Knife") (Faulkner and McCullough 1973:124).

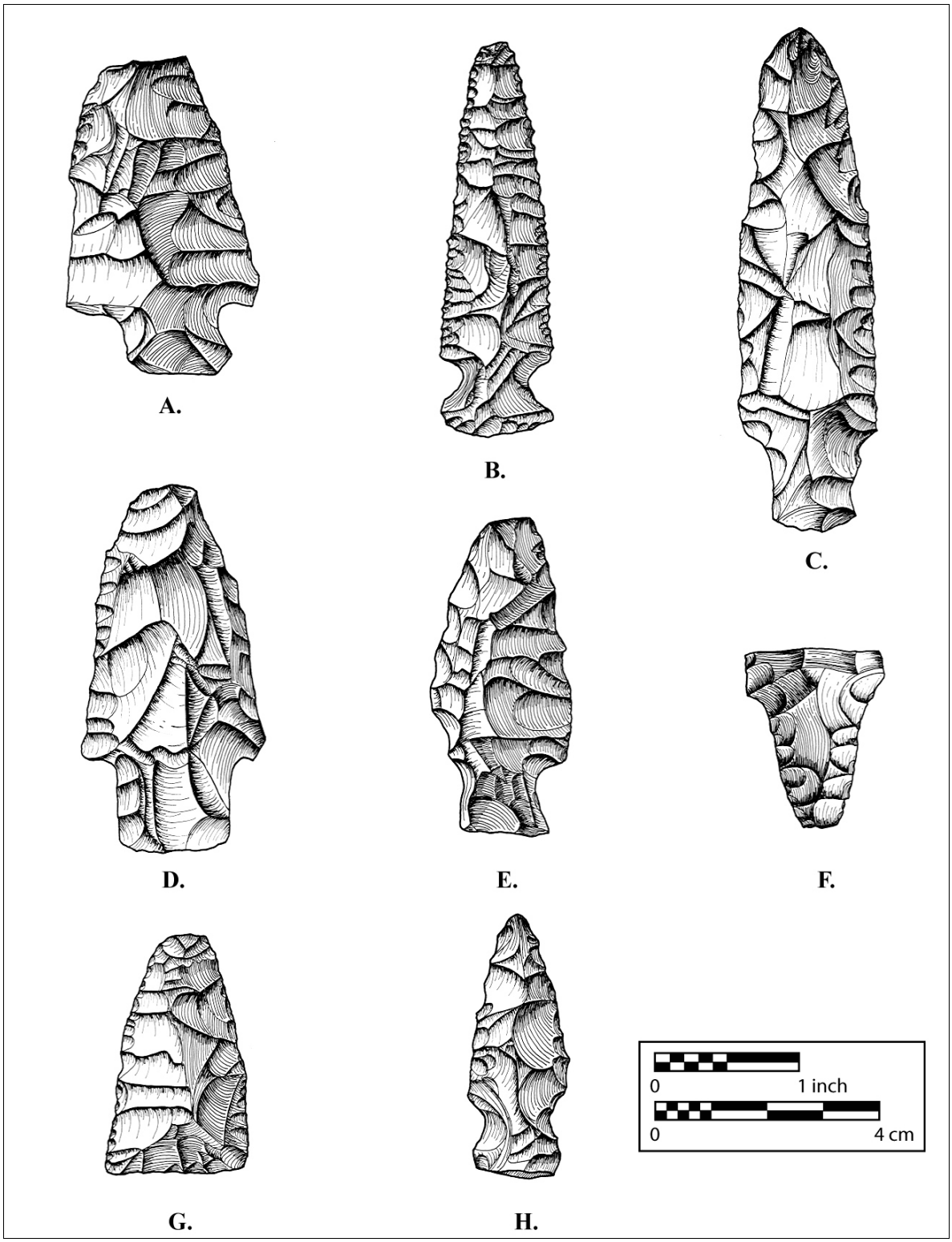

Figure 29. Illustrations of selected projectile point type categories. A) Late Archaic Corner Notched; B) Motley; C-D) Late Archaic Stemmed; E) Terminal Archaic Expanding Stemmed; F) Adena Contracting Stemmed; G) Copena Triangular; H) Shallow Side Notched.

Terminal Archaic Expanding Stemmed (*n*=19)

The Fernvale excavations yielded a total of 19 Terminal Archaic Expanding Stemmed points (Figure 29E). Eighteen artifacts were recovered from feature contexts, while one was recovered from disturbed plowzone soils (see Table 12). Artifacts in this type category make up the third largest segment of the projectile point assemblage, at 13.1 percent.

All projectile points in this category exhibit triangular to excurvate blades and narrow, slightly expanding stems. Their bases are flat to slightly excurvate, and several have slightly barbed shoulders. Eight artifacts consist of a broken haft or haft and shoulder element. The remaining 11 artifacts are largely intact. Three examples of this type (F-124 and both examples from F-57C) show unmodified cortex along their base. The distal portion of the blade on one example (F-56) exhibits a curve of approximately three degrees.

Artifacts in this type category are similar to Normandy types 80 ("Small-Medium Narrow expanded Stemmed, Slight Barb, Narrow Blade"), 81 ("Medium Straight-Expanded Stemmed, Barbed, Wide Blade"), 82 ("Medium Expanded Stem, Straight Base, Excurvate Blade"), and 84 ("Medium Undifferentiated Expanded Stem, Narrow Blade") (Faulkner and McCullough 1973:109–111). In addition, they share traits with a number of conventional Late Archaic and Early Woodland stemmed types including Wade, Stanley Stemmed, McIntire, and the Late Archaic Stemmed Cluster described by Justice (1987) for Kentucky and the southern Ohio Valley. During excavations at Austin Cave, Barker (1997) recovered similar straight to expanding stemmed projectile points from strata dated to 5990 ± 90 BP.

Motley (*n*=14)

The Fernvale excavations produced a total of 14 Motley type projectile points (Figure 29B). These included one artifact from plowzone soils, and single examples from Features 15, 16, 36, 37, 57, 102, 109, and 115. A Motley projectile point was recovered immediately south of Burial 5, and may have been intended as a mortuary offering. Unretouched Motley projectile points exhibit broad, deep corner notches resulting in wide, barbed shoulders. The Fernvale examples have been heavily retouched, and exhibit narrow necks and flat to slightly rounded bases with no evidence of grinding. These points also have triangular blades and are general biconvex in cross-section.

Motley projectile points have been recovered from the Late Archaic through Middle Woodland components in the Southeast. Justice (1987) assigns a date range of approximately 2500–2700 BP to this type, although reports they have been dated as early as 3250 BP. At the Spring Creek site (40PY207), these artifacts were associated with a stratum that also contained fiber-tempered ceramics and was radiocarbon dated to 3320 ± 155 BP (Peterson 1973).

Adena Contracting Stemmed (*n*=1)

A single fragment of an Adena type projectile point was obtained from Feature 124 (Figure 29F). That fragment consists of the ovate haft element and one shoulder. No grinding is present on the haft. Adena projectile points share traits with Normandy types 91 and 92 ("Medium Round Stemmed, Narrow Blade" and "Medium Contracting-Rounded Long Stemmed, Narrow Blade," respectively) (Faulkner and McCullough 1973:111, 114–115). At the Spring Creek site (40PY207), Adena points were recovered from a stratum with limestone-tempered ceramics that dated to 2150–2750 BP (Justice 1987; Peterson 1973).

Early Woodland Contracting Stemmed (*n*=4)

Three Early Woodland Contracting Stemmed projectile points were recovered from disturbed plowzone soils, with one additional example found in the fill of Feature 94 (Burial 24). These artifacts exhibit strongly contracting stems that have not been ground and are biconvex in cross section.

The haft elements on these artifacts are similar to examples of the Gary Contracting Stemmed, Little Bear Creek, and Cypress Stemmed types (Justice 1987). They also share traits with Normandy types 85, 91, and 92 ("Contracting Stemmed, Tapered Shoulder;" "Medium Round Stemmed, Narrow Blade;" Medium Contracting-Round Long Stem, Narrow Blade") (Faulkner and McCullough 1973: 114–115).

Copena Triangular (*n*=15)

A total of 15 Copena Triangular projectile points were recovered from the site (Figure 29G). These included eight examples from disturbed plowzone soils, two from Feature 90, and single examples from Features 57, 82, 112, 121, and Posthole 18. Three artifacts are complete (one from P-18 and two from plowzone soils) and exhibit heavy resharpening. This type is biconvex in cross-section, has straight to slightly excurvate blades, and flat bases. Some of the bases have been lightly ground.

Copena is equivalent to Normandy types 53 ("Medium-Large Triangular, Straight-Excurvate Blade"), 54, ("Medium-Large Triangular, Thick Straight-Excurvate Blade"), 55 ("Medium-Large Triangular, Straight Elongate Blade"), and 56 ("Medium-Large Triangular, Recurvate Elongate Blade") (Faulkner and McCullough 1973:94–97). Copena projectile points are considered characteristic of the early Middle Woodland McFarland phase in the Normandy Reservoir (Faulkner and McCullough 1977).

Excavations in the Middle Tennessee River Valley have associated Copena points with plain and fabric-impressed, limestone-tempered ceramics, with radiocarbon dates spanning 1400–1800 BP (Justice 1987; Walthall 1980). Excavations at Aenon Creek (40MU493) along the Middle Duck River determined that McFarland Cluster triangular projectile points were associated with plain and fabric-impressed, limestone-tempered ceramics (Bentz 1995). A date of 1920 ±

40 BP was obtained from a pit feature containing a Copena projectile point at the Ensworth High School site (Deter-Wolf et al. 2004).

Shallow Side Notched (*n*=4)

Four Shallow Side Notched projectile points were recovered from the fill of Features 78, 81, and 114 (Figure 29H). A single example was identified resting against the ribs of Burial 28. These small points have narrow lanceolate blades, weak shoulders, and biconvex cross-sections. Bases are flat to slightly convex but not bifacially worked. In two examples (F-114 and 81) the bases exhibits cortex, while the remaining two examples may have been fashioned from the distal ends of earlier projectile points or large flakes that broke along their midsection.

This type is identical to Normandy type 62 ("Narrow Thick Lanceolate Side Notched"). Shallow Side Notched points appear to be associated with the Middle to Late Woodland in the upper Duck Valley (Faulkner and McCullough 1973:100). Excavations at the Eoff I site (50CF32) suggest this type is associated with the early Middle Woodland McFarland cluster, while excavations at Banks III (40CF108) seemed to indicate correspondence with the later Owl Hollow phase (Faulkner and McCullough 1974; 1977).

Additional Lithic Tools

In addition to bifaces and projectile points, the Fernvale site produced a variety of other lithic tool forms (see Table 10). These included drills (*n*=13), scrapers (*n*=22), spokeshaves (*n*=4), hoes (*n*=38), hammerstones (*n*=11), one bifacial chisel, one graver, both unimarginal (*n*=60) and bimarginal (*n*=2) flake tools, one drilled stone bead, one abrasive siltstone pipe fragment, and three miscellaneous groundstone artifacts.

Two drills exhibit distinct hafting elements and were likely manufactured by reshaping projectile points. The wing-tipped drill from Burial 24 exhibits an expending stem and slightly excurvate base (see Figure 19), while the stemmed drill from Feature 3 has a contracting stem, weak shoulders, and a flat unground base. The eleven remaining drills consist of bit fragments lacking haft elements and measure between 3.6 and 5.2 cm in length.

Scrapers included 12 sidescrapers, three endscrapers, and eight hafted endscrapers. All of the hafted endscrapers were made from projectile points reworked to create a beveled working edge along what was previously the midsection of the blade, and exhibit straight or expanding stems. These artifacts are not included with the projectile point count, even when the hafting elements allow for identification of a specific, temporally-sensitive type.

Thirty-six of the 38 hoes within the artifact assemblage were made from limestone, while single examples from Features 21 and 115 were manufactured from chert. Two limestone hoes were recovered in close association with Burials

30 and 31, and may have served as grave offerings. In addition, a possible cache of three limestone hoes was recovered from the northern half of Feature 24 (see Figure 15). These artifacts measured between 16 and 23 cm in length, and were broken across their midsections. The artifacts do not show signs of having been hafted, and it is unlikely that regular use would have resulted in these three identical fractures. It is therefore possible that these artifacts were ritually "killed" prior to deliberate interment.

Feature 91 yielded a large fractured groundstone implement that may have served as an anvil or metate. Specific use wear or pecking could not be identified on this artifact as a result of its fragmentary condition. Two small unidentifiable fragments of groundstone were also recovered from the fill of Feature 115. These artifacts were all manufactured out of abrasive siltstone.

Two artifacts from the site were manufactured out of abrasive siltstone. A single bead measuring 24 mm in diameter was recovered from the eastern half of Feature 57. This artifact was drilled through, and is generally rectangular with rounded edges. It measures 2.2 x 2.39 cm, and is a maximum of 0.82 cm thick. Feature 90 contained the proximal stem of a stone pipe measuring 2.12 cm in length. The interior of the stem shows pronounced blackening from exposure to heat.

DISCUSSION

A total of 82,245 lithic artifacts were recovered from 40WM51. These included 81,612 pieces of lithic debitage, 143 early stage bifaces, 188 finished bifaces, 144 complete projectile points, and 158 additional tools. Non-posthole features yielded an average of 515 lithic artifacts from 1/4-inch dry screen. Excavated posthole features contained an average of 29.9 lithic artifacts.

The greatest quantity of lithic material from a single provenience (*n*=6,894) was recovered from Feature 57, which also contained the most projectile points (*n*=15) of any feature. The density of artifacts recovered from Feature 57 was likely related to its size. At 1.82 cubic m, Feature 57 was the largest feature at the site. The second highest concentration of lithic artifacts was recovered from Feature 82 (*n*=4,594), which was the third largest feature by volume at 0.68 cubic m. The largest single quantity of lithic material in a posthole feature was recovered from Posthole 66, which contained 155 specimens.

The site assemblage exhibits relatively few cores (*n*=206) and an extremely low percentage (<2 percent) of early stage (primary or secondary) decortication flakes. This small percentage indicates initial biface and tool production stages did not generally take place within the excavated site area. Instead, the large quantity of tertiary stage flakes and flake fragments suggests that tool maintenance and/or resharpening were important site activities.

In his 1979 article on testing at the Ducks Nest site (40WR4), Kline proposed that the relative frequency of decortication flakes to cores at a site provides a window into the proximity of raw material sources. A high frequency of decortication flakes to cores indicates primary reduction sequences and reflects a close proximity between archaeological site and raw material source. At Fernvale, the ratio of decortication flakes to cores was 1,425:206, or about 7:1. This statistic represents a moderate flake to core ratio, which according to Kline (1979) suggests the principal raw material source(s) were located at an intermediate distance from the site.

The raw material tallies for 1/4-inch screen debitage from non-posthole features (see Table 9) reinforce the conclusion that residents of the Fernvale site were using locally available lithic sources. Virtually all of the debitage was comprised of Fort Payne or Warsaw cherts. As described in Chapter 3, these materials are available both from the South Harpeth River channel and along the escarpment of the surrounding Western Highland Rim. No specific quarry sites have been identified within the South Harpeth Valley, but to date only limited archaeological investigations have been conducted in the area.

The Fernvale lithic assemblage exhibits extremely low instances of non-local raw materials. Three identifiable exotic types (St. Louis chert, agate, and chalcedony) comprise just 0.82 percent of the total 1/4-inch screen debitage recovered from non-posthole features. No lithic tools from the site were manufactured from these non-local materials.

A comparable model of lithic raw material acquisition is seen at the Middle Woodland McFarland site (40CF48) along the upper Duck River in Coffee County. Lithic types at that site also exhibited an overwhelming reliance on locally available Fort Payne material. Kline et al. (1982) suggested that the low percentages of non-local or exotic materials indicated these resources were obtained incidentally rather than as a result of deliberate organized trade or specific procurement trips.

This pattern of incidental non-local lithic procurement fits into Binford's (1979) "embedded procurement" strategy. The inhabitants of Fernvale likely collected exotic raw materials such as St. Louis chert during seasonal movements or individual travel. However, the paucity of exotic types within the assemblage suggests lithic procurement was not the principal intent of those trips. The absence of both tools and grave offerings manufactured from exotic lithics further suggests there was not a deliberate or concerted effort among the site inhabitants to acquire non-local materials.

The average weight of burned limestone and fire-cracked rock recovered from mortuary features at Fernvale was 5757.4 g and 170.6 g, respectively. Surprisingly, these figures are somewhat higher than the average weights recorded for completely excavated non-mortuary features (5248.5 g and 125.91 g, respectively). There was no evidence that prepared surfaces or pit linings

within graves were created from these materials. The inclusion of the fire-cracked rock and burned limestone within burial pits is therefore probably not a result of intentional deposition, but rather incidental presence in fill material. Substantially more shale was recovered on average from non-mortuary features than from burials at the site (258.7 g and 39 g, respectively), although a prepared shale surface was identified beneath Burial 2.

Seventy-five percent of the stone tool assemblage from Fernvale was classified within the biface category. Of the 471 bifaces, 70 percent (*n*=328) consisted of finished (broken or not temporally-sensitive) bifaces and diagnostic projectile points. The 144 temporally sensitive projectile points were grouped into type categories described above.

Twenty-three of 46 features that contained projectile points yielded more than one point. The stratified deposits within Feature 57 (see Chapter 5) contained a total of 15 temporally-sensitive artifacts, comprising the greatest number of projectile points recovered from any single feature at the site. Feature 94 yielded the most projectile points within a single stratigraphic provenience with 7 specimens.

Temporally diagnostic projectile points span from approximately 1400–10,500 BP, and include the late Paleoindian through Middle Woodland periods. The vast majority (72 percent) of the diagnostic projectile point collection originates in the Late to Terminal Archaic periods. As seen in Table 12, 12 of the 50 features that contained projectile points included types associated with more than one prehistoric period. This is likely the result of incidental inclusion, wherein earlier artifacts from the site midden were inadvertently deposited in feature fill.

Late Archaic through Mississippian inhabitants of the Southeast employed mixed subsistence strategies including horticultural and/or agricultural practices as well as hunting and fishing. Although occupation at Fernvale is contemporaneous with both horticultural and agricultural populations in the region, there is an almost complete absence of grinding implements or vegetal processing tools such as nutting stones, pestles, or metates within the lithic assemblage.

The absence of vegetal processing artifacts may indicate these activities were not performed on site, while the disparity between the number of finished bifaces and other stone tool types within the lithic assemblage may indicate that hunting and/or butchering were principally important activities to the site residents. However, it is possible that the lack in lithic diversity is the result of sampling size. Only a small portion of the probable site area was examined during the data recovery effort, and mechanical stripping of plowzone soils likely removed many artifacts and thereby possibly altered the composition of the assemblage.

IX. CERAMIC ARTIFACT ANALYSIS

Aaron Deter-Wolf and Jesse W. Tune

A total of 45 ceramic sherds were recovered during excavations at 40WM51. These ceramics were sorted based on size, temper type visible in cross section, and surface decoration. Artifacts less than 3.2-square cm (1/2-square inch) in size were classified as residual sherds and not included in the artifact tallies or analysis. All sherds were subsequently cataloged based on temper and surface decoration.

Both limestone- and shell-tempered wares were present in the ceramic assemblage. Feature 90 also contained one small clay cylinder with unidentifiable temper (Table 13). Finally, the site yielded 32 fragments (29 g) of burned clay (see Appendix B). Twenty sherds were recovered from excavated features, while 22 originated within posthole fill. The remaining three sherds were recovered from the floor of Structure 2. The following discussion summarizes the types and proveniences for ceramic artifacts recovered during the data recovery effort.

Table 13. Ceramic Artifacts from Fernvale.

	Limestone-Tempered		Shell-Tempered	UID	
Provenience	**Plain**	**Cord Marked**	**Mississippi Plain**		**Total**
F.33	2				**2**
F.34	1				**1**
F.36			1		**1**
F.74		1			**1**
F.90	12	2		1	**15**
Structure 2			3		**3**
P.01	1				**1**
P.17	1		1		**2**
P.18			1		**1**
P.21	1	1			**2**
P.23	1				**1**
P.24	1				**1**
P.26	1		1		**2**
P.27	2				**2**
P.28	1				**1**
P.36			5		**5**
P.38	1	1			**2**
P.46			1		**1**
P.65	1				**1**
Total	**26**	**5**	**13**	**1**	**45**

LIMESTONE-TEMPERED CERAMICS

Limestone-tempered ceramics from Fernvale comprise a total of 31 sherds. These artifacts have coarse to medium paste that contain sporadic sand and/or quartz particles. These particles are considered to be natural inclusions in the clay. These ceramics have smooth to rough interior finishes, and exterior surface colors ranging from tan to black. Both plain and cord marked exterior surface treatments were present.

Mulberry Creek Plain (*n*=26)

Twenty-six limestone-tempered sherds exhibit plain surfaces, and were assigned to the Mulberry Creek Plain type (see Table 13). This type was initially identified in the Pickwick and Guntersville Basins along the Tennessee River Valley (e.g. Haag 1939, 1942; Heimlich 1952) and is generally attributed to the Middle Woodland period. According to Cobb and Faulkner (1978:23), Mulberry Creek Plain comprises the "most common sherd type of the Middle Woodland period in the upper Duck and Elk Valleys."

In Middle Tennessee, Mulberry Creek Plain is also associated with the Early or Middle Woodland periods (Walling 2000). However, at the McFarland site (40CF48), plain surface limestone-tempered ceramics were associated with four structures radiocarbon dated to an uncorrected mean age of 1823 ± 66 BP (Kline et al. 1982). Late Woodland dates were also obtained from the Bailey site (40GL26), where uncalibrated dates of 1450 ± 60 and 1520 ± 60 BP were associated with features containing Mulberry Creek Plain sherds (Bentz 1996b, 1996c).

Flint River Cord Marked (*n*=5)

A total of five limestone-tempered sherds with cord marked exterior surfaces were assigned to the Flint River Cord Marked type (see Table 13). The Flint River Cord Marked typology was originally identified for pottery in the Guntersville Basin of the Tennessee River (Heimlich 1952). These ceramics exhibit long grooves along the horizontal plane of the vessel's exterior surface. These distinct markings were created by rolling a cord-wrapped paddle over the exterior surface of the vessel prior to firing.

Limestone-tempered, cord marked ceramics are generally associated with Middle and Late Woodland occupations in Middle Tennessee (Walling 2000). Excavations at Stardust Site 2 (40CY64) resulted in uncalibrated radiocarbon dates of 2300 ± 40 and 2420 ± 40 B.P. for features containing Flint River Cord Marked sherds (Wampler et al. 2004). At Aenon Creek (40MU493), features containing both plain and cordmarked limestone-tempered ceramics returned uncalibrated radiocarbon dates of 2220 ± 60 and 2400 ± 70 BP (Bentz 1995). Flint River Cord Marked is analogous to Candy Creek Cord Marked, a type originally defined in East Tennessee (Lewis and Kneberg 1957, 1984).

SHELL-TEMPERED CERAMICS

Thirteen shell-tempered ceramic sherds were recovered during the Fernvale investigations. These artifacts have a coarse paste, and do not display any identifiable surface decorations. Interior and exterior surface finishes range from smooth to rough, while exterior surface colors within the assemblage include orange-red, tan, brown, and black.

Mississippi Plain (*n*=13)

All 13 shell-tempered sherds belong to the Mississippi Plain type (see Table 13). This type is characterized by plain exterior and interior surfaces, coarse paste, and platy shell inclusions that measure greater than 1 mm in size (Phillips 1970). Mississippi Plain is the most common type of shell-tempered pottery found at Mississippian period sites in Middle Tennessee (Moore et al. 2006; Smith 1992; Walling 2000).

UNIDENTIFIABLE TEMPER

Feature 90 yielded a small rolled clay cylinder with unidentifiable temper. This artifact measures 1.25 cm long by 0.8 cm wide, and exhibits a central hole that extends less than one-third of the way through the artifact. The hole appears to have been created by the rolling process rather than by subsequent drilling or piercing. This cylindrical artifact may represent an unfinished clay bead or figurine fragment.

DISCUSSION

Approximately 69 percent (*n*=31) of the pottery sherds are limestone-tempered, while 30 percent (*n*=13) are shell-tempered. Eighty-eight percent (*n*=40) of sherds measured between 3.2-square cm (1/2-square inch) and 6.4 square cm (1-square inch) in size. Five shell-tempered sherds (three from Structure 2 and two from Posthole 36) exceeded this size.

An approximate equal number of ceramics were recovered from pit (*n*=20) and posthole (*n*=22) features. The majority of sherds (71 percent; *n*=32) were collected from features either directly associated with, or immediately adjacent to, Structure 1. These included nine of 13 posthole features that contained ceramics (P-17, 18, 21, 23, 24, 26, 27, 28, and 38) (see Figure 20). These nine postholes yielded 11 limestone- and three shell-tempered wares. Two posthole features (P-17 and 26, both within Structure 1) contained both limestone-tempered and shell-tempered sherds.

Features 33, 34, and 90 are immediately adjacent to Structure 1 (see Figure 20). Features 33 and 34 occur less than one meter to the north, while F-90 is located

immediately next to the southwestern edge. These three features contained about 55 percent (*n*=17) of the limestone-tempered sherds from the site. No shell-tempered wares were present in these features. Although Feature 33 contained a complete Kirk Serrated projectile point, the presence of limestone-tempered ceramics pushes the *terminus post quem* for that feature from the Early Archaic up to the Middle Woodland. Feature 90 contained a Late Archaic Corner-Notched and two Copena projectile points in addition to limestone-tempered sherds.

As previously mentioned, Structure 2 was exposed during mechanical stripping of the site but not subjected to hand excavations. Three large sherds from the structure interior were collected during the definition and mapping process. All three sherds consist of rim fragments from large Mississippi Plain jars. Two rim sherds recovered from the southwestern portion of the structure exhibit direct rims with flattened lips, with one also displaying a single lug handle (Figure 30A and B; see Figure 24). Both sherds have similar surface texture, color, thickness (varying between 7.8 and 8.9 mm), and rim diameters (24 cm), suggesting they belong to a single vessel. The third Mississippi Plain sherd, recovered from the northwest portion of Structure 2, exhibits a slightly excurvate rim with a rounded lip (Figure 30C). Rim diameter for this sherd was calculated at 30 cm (11.8 inches).

The three shell-tempered sherds from Structure 2 also comprise 75 percent of the rim sherds present within the ceramic assemblage. Feature 28 yielded one additional rim fragment of a limestone-tempered vessel with a direct rim and flattened lip (Figure 30D). The rim diameter for this vessel could not be determined.

Two posthole features associated with Structure 3 (P-36 and 46) yielded ceramic artifacts (see Figure 20). Six shell-tempered sherds were recovered from these postholes.

Feature 74 contained a flexed burial (Burial 22) and is situated southeast of Structure 2. A single limestone-tempered Flint River Cord Marked sherd was recovered from the feature base, approximately 3 cm (1.1 inches) beneath the skeletal remains.

A relatively small amount of burned clay was recovered from the fill of Features 7, 54, 90, 103, 117, and 123, and Postholes 24, 60, and 68. There was no evidence that any of these features included the residual remains of prepared surfaces, hearths, or burned and collapsed structures.

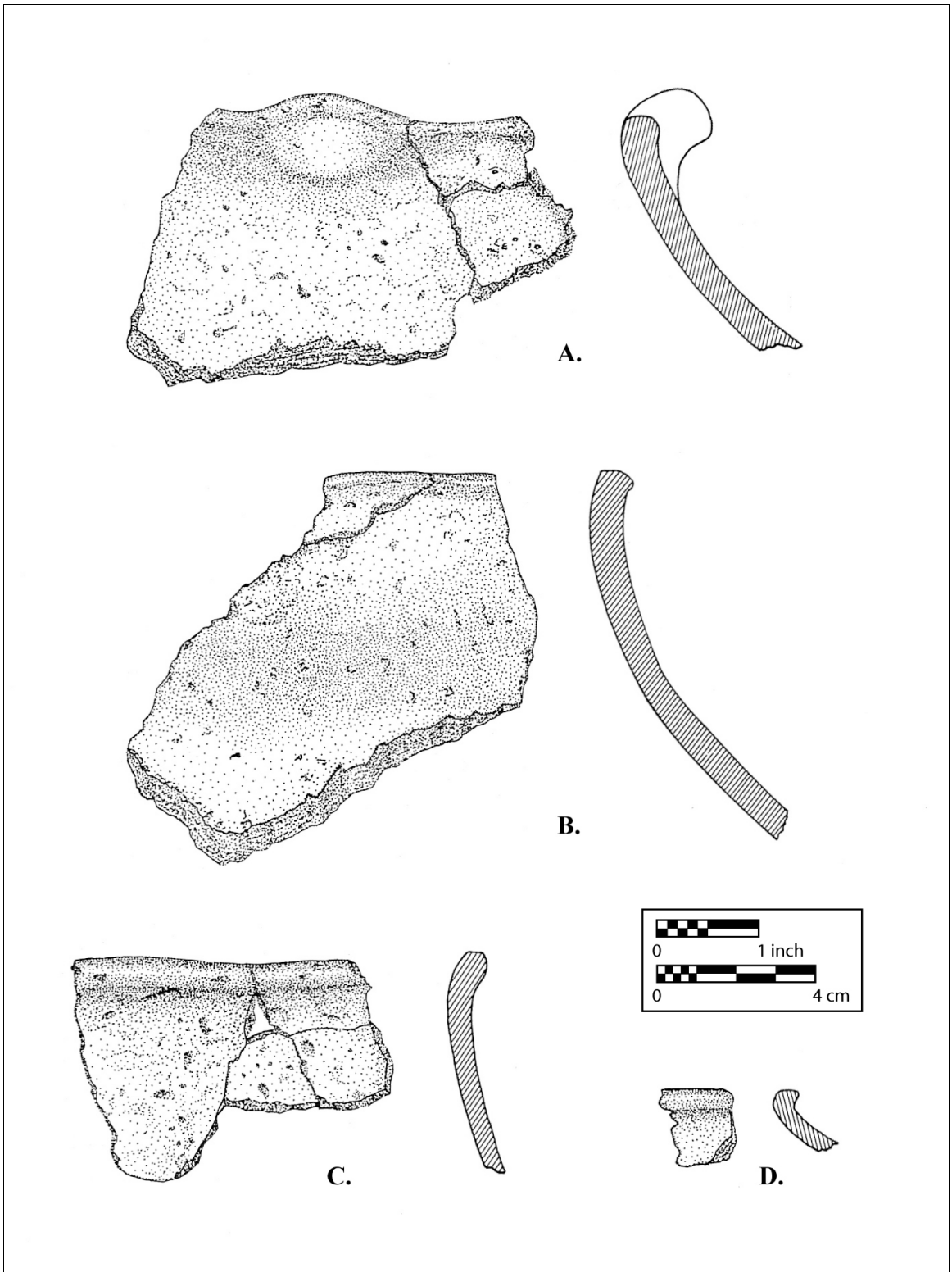

Figure 30. Illustration of rim sherds recovered from Fernvale.

X. FAUNAL ASSEMBLAGE

Tanya M. Peres, Teresa Ingalls, and Lacey S. Fleming

This chapter discusses archaeological animal remains recovered during the 1985 excavations at Fernvale. Preservation within the features was good, and a sizeable faunal assemblage was recovered using 1/4-, 1/8-, and 1/16-inch meshes. The specimens from the 1/4-inch mesh were dry screened while those recovered from the smaller meshes were water screened. The total faunal assemblage from Fernvale (including both vertebrates and invertebrates) examined during this analysis consists of 19,492 specimens (9,272.7 g).

The following discussion briefly reviews the methods used to examine the faunal assemblage. The zooarchaeological data is then presented by category with focus on structures, dog burials, faunal remains from human burials, and modified bone and shell. Finally, a discussion of dietary and non-food uses of faunal remains is included to place the assemblage within the broader subsistence strategies practiced by people living in Middle Tennessee during the Archaic and Woodland periods. The complete catalog of faunal material is presented according to provenience in Appendix F, and specific element primary data and postcranial measurements for dog burials are presented in Appendix G.

METHODS

Standard zooarchaeological procedures were used in this analysis following Peres (2010) and Reitz and Wing (2008). All specimens were identified to genus and species when possible, or otherwise assigned the most likely specific taxonomic classification. Specimens identified with “cf.” before the taxonomic identification compare with, or are close to, a particular species. Some specimens could not be assigned to a species. In these cases “sp.” is used for species, and “spp.” is used if there is more than one species possible (Reitz and Wing 2008:36).

Identified elements were sided (i.e., left, right, axial) where appropriate. The taxonomy of mammals follows Wilson and Reeder (1993), bird taxonomy follows the Zooarchaeological Comparative Collection at the Florida Museum of Natural History, fish taxonomy follows Robins et al. (1991), and invertebrate taxonomy follows Turgeon et al. (1998). Any evidence of use-wear, thermal alteration, modification, or butchering was recorded. Weights and Number of Individual Specimens (NISP) were recorded for all taxa.

ZOOARCHAEOLOGICAL DATA

A total of 19,492 specimens (9,272.7 g) were analyzed, representing 39 different taxa (Peres et al. 2008)(see Appendix F). Mammals account for approximately

31 percent (*n*=12 taxa) of the total, invertebrates 33 percent (*n*=13 taxa), bony fish 18 percent (*n*=7 taxa), reptiles 10 percent (*n*=4 taxa), birds 5 percent (*n*=2 taxa), and amphibians 3 percent (*n*=1 taxa). More than half the total assemblage (54.7 percent, *n*=10,096 by count) was recovered via 1/8-inch water screens.

Non-Mortuary/Non-Structural Features

A total of 196 features were identified as non-mortuary/non-structural features that include pits and basins of various shapes and sizes (see Chapter 5). Of these features, 84 yielded faunal material. Specific feature data are described in Appendix A and tabulated in Appendix F.

Structures

The original 1985 draft report on the Fernvale excavations listed two structures (Structures 1 and 2). The reanalysis effort identified the presence of a third structure, Structure 3. Descriptions of these structures can be found in Chapter 6.

Structure 1

As described in Chapter 6, Structure 1 is a circular configuration of postholes located in the east-central portion of the site area, and based on diagnostic artifacts is assigned a Middle Woodland temporal affiliation. The total faunal assemblage from Structure 1 postholes is 64 specimens, weighing 30.68 g (Table 14). No faunal remains from the Structure 1 postholes showed signs of deliberate modification. Pit features 33, 34, 57, 78, 82, and 90 are located nearby, also have Middle Woodland affiliations, and may be associated with Structure 1. Feature 30 is located within the footprint of Structure 1 but could not be directly associated with the Middle Woodland period (see Appendix F).

Table 14. Summary of Analyzed Faunal Assemblage from Structure 1 Posthole Features.

Taxon	Common Name	NISP		Weight		Heat Altered	
		Qty	%	grams	%	Qty	%
Vertebrata	vertebrates	5	8	0.86	3	4	12
Mammalia	mammals	16	25	5.89	19	6	18
	large mammals	5	8	8.5	28	3	9
	medium-large mammals	21	33	9.81	32	13	38
	medium mammals	3	5	1.07	4	2	6
Cervidae	family of elk and deer	2	3	1.9	6	0	0
Aves	birds	1	1	0.11	<1	0	0
Testudines	turtles	11	17	2.54	8	6	17
	TOTALS	64	100	30.68	100	34	100

The majority of faunal remains recovered from Structure 1 postholes are from medium to large mammals (*n*=21, 33 percent). Fourteen of the mammal remains (21.9 percent) are bone flakes and 34 (53 percent) were burned. The elk and deer family (Cervidae) is represented by one molar and a single tooth fragment. Turtles are represented by 10 shell fragments (2.42 g), none of which are

identifiable beyond order (Testudines). Half of the shell fragments were burned. Additionally, one bird bone fragment was identified from the postholes.

Structure 2

Structure 2 is a wall trench structure outside of the primary excavation area (see Chapter 6). This structure was radiocarbon dated to 880 ± 70 BP, and is assigned to the Early/Emergent Mississippian period. A single modified deer bone was recovered from the northwestern wall trench. This proximal ulna portion was sharpened and smoothed longitudinally and distally, and also shows evidence of battering.

Structure 3

Structure 3 is a circular configuration of postholes (P-34, 35, 36, 40, 43, 45, and 46) with one interior post (P-41) and one possible interior pit feature (F-58). The total faunal assemblage from Structure 3 was 1,082 specimens.

The assemblage from Structure 3 posthole features is comprised of 36 specimens weighing 10.37 g (Table 15). These are primarily fragments from mammals (*n*=19, 52 percent), large mammals, and medium to large mammals. Small to medium mammals are represented by three specimens weighing 0.92 g, all of which are burned. Squirrel is represented by one left mandible. One costal fragment is from the mud and musk turtle family (Kinosternidae). Seven specimens (0.91 g) were identified only as Vertebrata due to lack of diagnostic features.

Table 15. Summary of Analyzed Faunal Assemblage from Structure 3 Posthole Features.

Taxon	Common Name	NISP		Weight		Heat Altered		Modified		Juvenile	
		Qty	%	grams	%	Qty	%	Qty	%	Qty	%
Vertebrata	vertebrates	7	19.44	0.91	8.78	0	0	0	0	0	0
Mammalia	mammals	10	27.78	1.83	17.65	4	36.36	0	0	0	0
	large mammals	4	11.11	4.11	39.63	1	9.09	0	0	0	0
	medium-large mammals	5	13.89	1.48	14.27	1	9.09	0	0	0	0
	medium-small mammals	3	8.33	0.92	8.87	3	27.27	0	0	0	0
Sciurus spp.	squirrels	1	2.78	0.20	1.93	0	0	0	0	0	0
Testudines	turtles	5	13.89	0.68	6.56	2	18.18	0	0	0	0
Kinosternidae	mud and musk turtles	1	2.78	0.24	2.31	0	0	0	0	0	0
	TOTALS	**36**	**100**	**10.37**	**100**	**11**	**100**	**0**	**0**	**0**	**0**

Field notes identify Feature 58 as a possible crematory pit due to its circular shape, extremely dark soil at the top, and presence of burned bone fragments throughout (*n*=1,046). The analysis concluded that the material was too small and burned to be positively identified as human or non-human. Therefore, the bone fragments from Feature 58 were labeled as medium to large mammal.

Dog Burials

Two dog burials from Fernvale were designated Feature 8/Burial 32 and Feature 93/Burial 25. Neither feature contained temporally diagnostic artifacts, but both likely originate during the Late Archaic period. Specific element primary data and postcranial measurements for these dog burials are presented in Appendix G.

Feature 8/Burial 32. This feature included the remains of a mature dog that weighed approximately 12.35 pounds (Figure 31). The animal was interred on its left side, and curled lengthwise against the back of an older woman (Burial 2; see Chapter 12). The dog's head was positioned resting over her neck and right shoulder, while the right forepaw was placed beneath the woman's right arm.

Figure 31. View of Feature 8/Burial 2, the burial of an adult female accompanied by a dog.

Several notable skeletal pathologies were identified on this specimen. The epiphyses of the long bones exhibited severe arthritic lipping, and the right tibia and fibula were fused. The right femur revealed evidence of a healed fracture, as well as a hole on the diaphysis that may be attributed to a bone infection due to the fracture. Finally, the femoral head --or what would have served as such--

shows signs of eburnation, a polishing of bone that occurs when a joint has been badly damaged and attempts to repair itself.

Feature 93/Burial 25. This feature was labeled as a burial during fieldwork, but did not contain any human skeletal remains. Instead, Feature 93 included the burial of an adult dog that weighed approximately 28.44 pounds. This individual was interred on its right side, and oriented north with the head turned back across the left forepaw. This animal was younger at the time of death than the dog in Feature 8, and was not associated with a human burial (Figure 32). A healed fracture was discovered on the second sacral vertebra, and several of its complete thoracic and lumbar vertebrae were misshapen. The latter pathology is interpreted as an indication of load-bearing activities (Fleming 2006).

Figure 32. View of Feature 93 dog burial.

Faunal Remains Associated with Human Burials

A total of 1,925 specimens (1,530.46 g) were recovered from the 23 human burials and single cremation burial at Fernvale, exclusive of those specimens identified in the field as “modified bone, shell” or “tools.” The following discussion addresses artifacts that were directly or potentially associated with human remains. Non-mortuary artifacts recovered from burial fill are detailed in Appendices A and F.

Feature 8/Burial 2 (human) and 32 (dog). In addition to the dog burial discussed above, one non-canid modified animal specimen was recovered during the excavation of Burial 2. A left turkey tarsometatarsus recovered from near the woman’s right hand was smoothed and polished, and displayed longitudinal

striations consistent with sharpening. Other animal remains recovered from this feature but not directly associated with the burial include two large mammal bone flakes, one large mammal long bone shaft fragment, a cervid antler that is cracked from weathering, and one indeterminate bird fragment.

Feature 39/Burial 6. This burial yielded four beads made from the columella of a marine gastropod, and are discussed in greater detail below.

Feature 42/Burial 8. Zone A of Feature 42 yielded 26 faunal specimens consisting of large calcined mammal rib fragments (n=18), and eight partial bivalve fragments.

Feature 44/Burials 9 and 10. A single bivalve fragment was recovered from this burial feature. Excavator notes identify the presence of a turtle shell cup or rattle positioned above the abdomen of Burial 9, but this artifact was not available for analysis.

Feature 46/Burial 11. According to excavator notes, two bone awls were placed above the stomach of Burial 11 and oriented along the main trunk of the body. Feature notes record that a third bone awl or hairpin was present immediately beneath the skull. None of these artifacts were available for analysis. One sharpened and polished flake from a large mammal bone was recovered from feature fill.

Feature 49/Burial 13. This burial yielded a burned and polished fragment of mammal bone, and a possibly polished fragment of a medium to large mammal baculum. The precise positioning of these artifacts in relation to the human skeletal remains is not clear.

Feature 61/Burial 18. One large mammal bone flake was recovered from this burial. Six indeterminate fragments were identified as general mammal, with one left proximal radius fragment defined as small mammal. One fragmented beaver premolar/molar and a distal bird tarsometatarsus fragment were also present in this burial. A single broken gastropod shell was recovered from Burial 18 as well. Due to the level of feature disturbance, it was not possible to conclusively determine if these artifacts were directly associated with the burial.

Feature 70/Burial 19. The animal remains included in this burial feature are invertebrates, comprised of one nearly complete gastropod (identified as cf. Goniobasis clavaeformis) and one complete but indeterminate specimen. Because of the level of feature disturbance the relationship of these materials to the skeletal remains could not be determined.

Feature 73/Burial 20. Both vertebrates and invertebrates were recovered from this burial feature, including 12 medium to large mammal bone flakes, a left antler fragment from a white-tailed deer, and two burned partial hinges identified as the family of freshwater mussels (Unionidae). These materials may represent deliberate mortuary inclusions. However, their position within the feature and

exact association with the skeletal remains is not clear from the site documentation.

Feature 94/Burial 24. This mortuary feature produced a total of 256 modified and unmodified faunal remains. Retrieval methods consisted of hand collection of in situ items, 1/4-inch dry screen, and 1/8-inch water screen. A number of lithic and faunal artifacts from Burial 24 were recovered from what has been identified as part of a bundle (Figure 33; see also Figures 17 and 18).

Figure 33. Selected faunal remains from the Burial 24 bundle.

Faunal artifacts from the bundle included one white-tailed deer antler tine that was scored and snapped distally (Figure 33A), and displayed polish and a rounded tip resulting from use. Also present were 17 dog/wolf/coyote phalanges (cf. Canis spp.) (Figure 33B). Four specimens are phalanx #1, two are phalanx #2, and 11 are phalanx #3 (four of one side and seven of the other, possibly with red ochre staining).

Four left turkey tarsometatarsii were included in the bundle (Figure 33C). All have signs of sharpening, two on their distal end only, one on the proximal end only, and one on both proximal and distal ends (with possible red ochre staining). One specimen is twice the size of the others and could be from an adult male turkey. Two turkey right radii (Figure 33D) were sharpened at their distal ends, and the larger of the two exhibited ochre staining at the tip.

Invertebrate remains within the bundle included specimens of Invertebrata (*n*=4), bivalve (*n*=4) (Figure 33E), freshwater mussel family (*n*=3), and mucket (cf. *Actinonaias* sp.) (*n*=3). These appear to have been stacked in three groups. Excavators noted the presence of red ochre on several of the bivalve shells, although this was not evident during the analysis.

Unmodified vertebrate specimens recovered from feature fill and that do not appear to have been mortuary offerings include small and indeterminate mammal remains (*n*=44; 17 burned), turtle carapace elements (*n*=4; one burned), two snake vertebrae, three bony fish cranial fragments, and 156 vertebrate fragments.

Feature 107/Burial 28. A total of 42 vertebrate and invertebrate specimens were recovered from this burial feature. Fifteen are indeterminate mammal fragments, along with two turtle carapace fragments, one snake vertebra, and twenty-two indeterminate vertebrate fragments. All of these are unmodified, and their exact relationship to the skeletal remains is unclear in the site documentation. Three burned fragments of mammals were also recovered. Two right bivalve hinges were located immediately west of the individual's shoulder.

Feature 125/Burials 30 and 31. This feature contained the most faunal material of any burial (n=541), although the precise relationship of those artifacts to the human remains is not evident from the site documentation. The non-modified fauna (n=535) include mammals (82.80 percent), birds (9.16 percent), reptiles (5.61 percent), and invertebrates (2.43 percent). Identifiable taxa were possum (n=1), raccoon (n=2), fox squirrel (n=5), family of mud and musk turtle (n=8), eastern box turtle (n=13), pocketbook (Lampsilis ovate, n=5), and white-tailed deer (n=34). A juvenile deer was identified by the unfused epiphysis of a metapodial and a deciduous maxillary molar. Some bone fragments from Feature 125 exhibited spiral fractures, a characteristic of bone marrow extraction.

Six specimens from Feature 125 were singled out and bagged separately as bone tools during the 1985 excavations. These include three burned mammal fragments, one white-tailed deer antler base where it was cut from the pedicle, one carapace fragment from a water/box turtle (modification was not readily apparent in analysis), and an indeterminate burned turtle fragment.

Modified Faunal Remains

Modified Bone

The modified bone assemblage included examples of burning, cutting, polishing, and battering, as well as materials deliberately shaped into defined tool types. The total assemblage included 6,373 heat altered specimens ranging from burned black to calcined. A total of 281 faunal artifacts were modified into formal tools or deliberately fractured.

Feature 67 yielded a medium to large mammal scapula that was calcined and polished, while Feature 65 contained a distal tibia that was sharpened on the proximal end of the distal epiphysis and polished. Feature 49 produced a polished baculum from a medium to large mammal. A right bobcat tibia from Feature 96 had the distal end removed, diaphysis hollowed out on the inside, and exhibits polish on the proximal epiphysis and diaphysis. A single turtle costal fragment from Feature 29 had been modified to be roughly circular, smoothed, and had a hole drilled through the middle. Feature 91 yielded a drilled *Canis* spp. canine. Feature 24 contained probable beads made from long bone shaft fragments of small to medium birds.

A number of modified Cervidae pieces were identified in the assemblage. Features 7, 24, 32, 57, 62, 110, 115, 118, and 121 yielded 23 (129.79 g) antler beams, tines, tips, or other fragments that displayed modifications such as scoring/snapping, abrasion/cut marks, rounded ends from use, burnishing/polishing, or hollowed interiors. A probable deer antler base from Feature 125 had cut marks near the base of the first tine and was clearly cut from the animal's skull. Single examples of scored and snapped antler tines (one still attached to the beam) were recovered from Features 29 and 94. The assemblage also included a burned and polished deer ulnar notch (F-45) and a proximal deer ulna (F-115) that was battered, sharpened and smoothed (longitudinally and distally). The second phalanx of an elk from Feature 15 was battered and smoothed.

The faunal assemblage from Fernvale includes a total of 22 mammalian and/or avian bone awls. Feature 79 contained an awl fashioned from a complete bobcat ulna that exhibited a highly polished tip, and also included the proximal ulna of a beaver that was sharpened and smoothed (longitudinally and distally). Two vertebrate fragments from Feature 7 were burned and sharpened, and likely represent broken tips of awls or bone points. Four left turkey tarsometarsii from Feature 94/Burial 24, one from Feature 8/Burial 2, and one right tarsometatarsus from Feature 7 were smoothed and sharpened on the distal shaft portions. One specimen from Feature 94/Burial 24 may have been stained with red ochre. Another artifact from the same provenience was unusually large and possibly derived from a male turkey.

Evidence of processing large animals for non-muscle tissue resources includes the presence of spiral fractured long bone fragments and bone flakes from mammal, large mammal, cervid, and deer (*n*=1,585; see Appendix F). These flakes are characterized as pieces from long bone shafts that lack articular ends, less than half the circumference of the original element, and may represent evidence of marrow extraction (Brain 1981). Marrow is often regarded as a food item used mainly in times of stress, during periods when the animals themselves are also in poor physical condition (Speth and Spielmann 1983). However, ethnographic evidence from the Plains Indians shows that grease was used as an ingredient in pemmican, which played a large role in food storage and trade (Brink 1997).

Modified Shell

There was limited evidence at Fernvale for the modification of shell either as decorative objects or utilitarian tools. Of three freshwater bivalve shells possibly used as spoons, two right hinges were only identifiable as Bivalvia (F-107). The other was identified as a left possible mucket (cf. *Actinonaias* sp.) with the teeth removed (F-91).

Feature 39/Burial 6 yielded two complete and two fragmented cylindrical beads fashioned from the columella of a large marine gastropod. The two complete beads measured 20 mm long with outside diameters of 7 mm. The gastropod's siphonal canal is visible on three of the beads. *T*hese artifacts were situated alongside the right wrist of an adult female, and were likely part of a bracelet.

The western portion of Feature 71 contained a marine shell gorget placed above one tubular bead and 51 disk beads. As discussed in Chapters 5 and 7, radiocarbon dates for these artifacts indicate that the beads and gorget were not worn simultaneously but were brought together specifically for placement within Feature 71.The gorget (Figure 34A) was made from the outer whorl of a lightning whelk (*Busycon sinistrum*), measured approximately 10.5 x 8 cm wide and 2-3 mm thick, and is undecorated on either face. Two drilled holes near the outer edge of the gorget measure 3 mm in diameter, while a central perforation is 7 mm in diameter.

The tubular bead from Feature 71 (Figure 34B) measured 32 mm long with an outside diameter of 7 mm, and was drilled on both ends and through one side. This artifact was likely crafted from the columella of a lightning whelk, although the level of modification makes the identification tenuous. Three of the 51 disk beads were too fragmentary for reanalysis. Of the surviving beads (Figure 34C), 13 measured between 6 and 6.5 mm in outside diameter and most (*n*=29) were less than 2.5 mm in thickness. The remaining disk beads were all less than 5.5 mm in thickness or too fragmented to measure.

Figure 34. Marine shell gorget and beads from Feature 71.

DISCUSSION

Faunal assemblages that are recovered archaeologically do not include all of the materials that were originally consumed, used, or deposited at any given site. Various issues that impact assemblage composition include socio-cultural factors, taphonomic processes, and excavator bias. Consequently, the absence of an animal from a faunal assemblage does not imply avoidance by site inhabitants; likewise, presence of an animal does not imply consumption.

People living in the past selected certain animals from the environment to be incorporated into their diet. The surrounding environment and their belief systems (including social status, food preferences, and taboos) dictated the types of organisms included in and excluded from the diet (Cooke 1992; Gragson 1992). These choices were not fixed, but instead might change on a daily, monthly, or annual basis. In addition, specific processing techniques and waste disposal patterns determine how foodstuffs are actually deposited in the archaeological record. Sites may include areas specifically used for disposal (e.g., refuse middens), or food remains may be scattered throughout a habitation area.

Once disposed of, animal remains are acted upon by a score of taphonomic processes that determine the preservation of faunal remains in the archaeological record. These processes include differential preservation, weathering, site inundation, erosional forces, redeposition, trampling, scavenging, human actions, soil pH, and plant intrusion (Davis 1987; Klein and Cruz-Uribe 1984; Lyman 1994; Reitz and Wing 2008). The animal remains recovered from Fernvale are well preserved despite the work of these various taphonomic agents.

Several studies (Gordon 1993; Shaffer 1992; Wing and Quitmyer 1985) have shown that soils screened with larger mesh sizes (1/2-inch or 1/4-inch) are biased towards large animals (i.e., mammals). These methods of artifact recovery result in a skewed picture of the relative abundance and importance of one class of animals compared to another. The use of 1/8-inch and 1/16-inch meshes allows for a more complete recovery of delicate animal remains.

Faunal remains from Fernvale were recovered with 1/4-inch and 1/8-inch meshes. Excavations of test units, postholes, and features were completed with 1/4-inch wire mesh screens. Some soil samples were collected from features containing temporally diagnostic artifacts, and processed using 1/8-inch mesh via water screening. In addition, a single flotation sample from Feature 30 was analyzed so that it could be included in the discussion of faunal material from Structure 1. Because of the use of 1/4 and 1/8-inch mesh screens it is likely that the Fernvale faunal assemblage represents the true range of fauna exploited and deposited at the site.

It is imperative to take into consideration the context of archaeologically-recovered faunal remains in any discussion of ancient dietary preferences.

Faunal materials deliberately included in mortuary features may have been food refuse, but surely do not represent everyday food choices. Additionally, it can be difficult in some cases to differentiate deliberate grave offerings from incidental inclusions in mortuary feature fill. Therefore, in examining the animal food remains from Fernvale we only consider faunal remains recovered from Structures 1 and 3, and the non-mortuary/non-structural pit features.

Pit features were typically used for storage as well as for disposing of items no longer needed, and are typically associated with food-related activities. A total of 84 excavated non-mortuary/non-structural features at Fernvale contained faunal material. These features yielded a total of 15,823 identifiable specimens and included all animal classes. Mammals comprise the majority of faunal remains (78.67 percent) from non-mortuary/non-structural features at Fernvale. The remainder of the assemblage is comprised of reptiles (8.39 percent), molluscs (6.46 percent), birds (4.27 percent), bony fish (2.43 percent), and amphibians (0.28 percent). Nearly one third (27.18 percent, *n*=4,301) of the specimens from non-mortuary/non-structural features were heat altered.

Overall, the faunal remains from Fernvale reveal a preference towards exploitation of locally abundant terrestrial animals, with white-tailed deer comprising the majority of identified taxa. This pattern is consistent with other Archaic period assemblages from the region, and has been variously attributed to animal size, meat quality, habitat, and year-round availability (e.g., Hofman 1984). However, there are many small mammals, reptiles, and amphibians represented in the Fernvale assemblage that could also have been eaten. Aquatic animals are scarce, although this may reflect preservation issues, recovery methods, or differential deposition rather than preferences of the site inhabitants.

The best evidence of small animals used as food at Fernvale comes from Structures 1 and 3. The faunal assemblage for the Middle Woodland period Structure 1 was recovered from features and postholes, and had a total NISP of 485 (210.05g). The identified fauna include the classes of mammals, birds, and reptiles. A single juvenile white-tailed deer was identified in the assemblage, along with chipmunk, squirrel, turtle, and snake. A total 118 specimens from Structure 1 were burned, of which eight consist of debris from splitting open long bones.

The evidence of burning and deliberate splitting of long bones from Structure 1 is generally consistent with the detritus of food processing, and it is likely that the small animal remains from Structure 1 constitute Middle Woodland dietary refuse. Small animal remains recovered from domestic spaces are traditionally interpreted as being commensal in nature. However, other researchers (e.g., Reinhard et al. 2006; Sobolik 1993) have shown that small animals such as turtles, rodents, birds, and bats were important parts of prehistoric diets. Szuter (1989) concludes that small and medium mammals were important protein

sources for the Hohokam, and that their dietary importance seems to have increased during the transition to a more agricultural lifestyle.

Structure 3, a small Mississippian period structure, yielded faunal material from eight postholes. The total NISP for Structure 3 is 1,082, the majority of which (*n*=1,046) were small, heavily burned specimens recovered from Feature 58. Structure 3 postholes yielded a total of 36 faunal specimens. Only squirrel and mud/musk turtle were positively identified, and few other faunal remains from Structure 2 were identifiable beyond class. It is possible that the low quantity of faunal material recovered from the footprint of Structure 3 reflects an interior space that was generally kept free of debris and food refuse. However as noted in earlier chapters, historic plowing and removal of topsoil removed any living surface within Structure 3 prior to excavations and may therefore have biased the sample.

Once animals have been butchered for meat, a wide variety of materials including bone, skin, viscera, marrow, fat, hooves, claws, and antlers may remain. In the case of invertebrates, shells and in some instances pearls remain. These various non-meaty animal parts may become the raw materials for other activities, such as fashioning tools and items of personal adornment. Consequently, the same taxa counted as dietary indicators may also reveal non-food use of animals.

A number of non-mortuary features at Fernvale contained modified faunal remains that did not result from food preparation or consumption butchering activities, although these artifacts may have been made using byproducts of animal carcasses. These materials included mammalian and avian bone awls, worked antler specimens, a modified costal fragment, possible bird bone beads, and a drilled *Canis* spp. canine.

The raw materials and finished products of non-food faunal utilization could also acquire ceremonial or ritual significance, as reflected in their archaeological context. For example, the careful placement of the marine shell beads and gorget from Feature 71 at Fernvale within an otherwise essentially-empty pit reveals differential treatment perhaps indicating the ritual importance of those items.

Ceremonial or ritual importance of both modified and unmodified faunal remains can also be conveyed by their inclusion in human burials. The burials at Fernvale yielded significantly fewer unmodified zooarchaeological specimens than non-mortuary features at the site, indicating that those artifacts deposited in mortuary contexts were carefully and deliberately selected. The 32 burial matrices at Fernvale yielded a total of 1,842 identifiable unmodified faunal specimens. Mammals are the best-represented class within mortuary contexts, with a total of 802 specimens. Other classes trailed far behind, including reptiles (*n*=82), birds (*n*=61), mollusks (*n*=54 specimens), amphibians (*n*=9) and bony fish (*n*=3).

The role of the domesticated dog as a hunting aide and companion has been well-documented throughout the prehistoric Southeast, and the non-food status of these animals can sometimes be identified by skeletal pathologies and the intentional burial of near-complete skeletons. Fernvale yielded two excellent examples of the close relationship between humans and domesticated dogs. Feature 8, Burial 32 was the burial of a mature dog interred alongside an adult female human. As described above, several notable skeletal pathologies were identified on this specimen. These pathologies suggest that the dog's right hind limb was atrophied during the later years of its life. This condition would have required diligent human care --perhaps from the woman with whom the dog was buried-- for the animal to survive.

Feature 93 contained an adult dog with several misshapen thoracic and lumbar vertebrae. This pathology is interpreted as an indication of load-bearing activities, such as carrying packs or a loaded travois. A study of Late Archaic dogs from Dust Cave, Alabama (Walker et al. 2005) reveals that this phenomenon, pathological or otherwise, is widespread in the Southeast.

XI. ARCHAEOBOTANICAL ANALYSIS

Andrea Shea Bishop

Archaeobotanical remains recovered from temporally sensitive, non-mortuary pit features were analyzed following the 1985 excavations. As described in Chapter 5 and detailed in Table 3, 42 percent (*n*=41) of the non-mortuary pit features excavated at the Fernvale site contained temporally sensitive artifacts consisting of either ceramic sherds or projectile points.

Standard analytical procedures modified from Yarnell (1974) involved passing the carbonized plant material through a series of graduated mesh Geologic Screens measuring 2 mm, 1 mm, and 0.025 mm. Each fraction was examined using a binocular microscope with 8X to 40X magnification. The contents of the 2 mm screen were sorted into major categories consisting of wood charcoal, nutshell, and seeds. Appendix H presents the botanical materials recovered from temporally sensitive non-mortuary pit features according to weight and recovery method. The seeds were removed from all screens, and the remaining material in the 1 mm and 0.025 mm screens was categorized as “residual.”

PLANT FOOD

Plant food remains recovered from the 41 temporally sensitive features include five nutshell taxa, the seeds of two woody taxa, and one herbaceous taxa. The nut remains and seeds are described below.

Nuts

The archaeobotanical sample included five nutshell taxa consisting of hickory, walnut, butternut, hazelnut, and acorn. Hickory (*Carya* sp.) nutshell constitutes by far the largest percentage of both the total plant food weight (90.5 percent) and of the total plant remains (60 percent). Hickory nuts were represented in the sample by both shell and meat fragments, while the four remaining species were represented only by shell fragments.

Walnut shell (Juglandaceae) comprises the second greatest percentage of both plant food weight and the total archaeobotanical remains, with 8.6 and 5.7 percent, respectively. Butternut (*Juglans cinerea*) constitutes 0.19 percent of the plant food weight and 0.13 percent of the total remains.

Hickory and butternut trees thrive in well-drained moist soils and fertile alluvial deposits, although both are also found on dry rocky soils of limestone origin (Burns and Honkala 1990). Butternut occurs sporadically in mesophytic hardwood forests such as grew along the South Harpeth River Valley during the

prehistoric period, which may account for the relatively low percentage of butternut shell recovered from sampled features at 40WM51.

Acorn (*Quercus* sp.) shell and meat fragments constitute 0.63 percent of the plant food weight and 0.42 percent of the total plant remains. Hazelnut (*Corylus* sp.) constitutes 0.1 percent of the plant foods and total remains. The nuts of both acorn and hazelnut are very fragile and do not preserve well in archaeological settings. For this reason, these taxa may be misrepresented in the plant food sample.

Seeds

Only one whole and eight fragmentary seeds were recovered from the sampled features. These consist of one herbaceous taxa and two woody taxa (Table 16). One whole and two fragmentary goosefoot seeds (*Chenopodium sp.*) were recovered from Features 11 and 45. Both these features have been assigned to the Late Archaic period at the site (see Table 3). A species level identification was not attempted on these specimens because of the eroded pericarp. *Chenopodium* would have grown in disturbed areas near the site during prehistoric occupations.

A total of five fragments of honey locust seeds (*Gleditsia triacanthos*) were recovered from Features 9, 102, 115 and 117. All these features have been assigned to the Late Archaic period at the site (see Table 3). An abundance of honey locust in the site vicinity is also reflected in the quantity of wood charcoal remains found in the sample and discussed below.

Table 16. Seeds Recovered from Sampled Features.

	FEATURE						
TAXA	**9**	**11**	**45**	**102**	**115**	**117**	**TOTAL**
Goosefoot		1W	2F				1W, 2F
Honey Locust	1F			2F	1F	1F	5F
Grape					1F		1F
TOTAL	**1F**	**1W**	**2F**	**2F**	**2F**	**1F**	**1W, 8F**

Notes: F = Fragment, W = Whole; All seeds recovered from flotation except Features 9 and 102, which recovered from 1/8" water screen

Feature 115 yielded a single fragment of grape seed (*Vitis sp.*). Several species of grape would have been available in various habitats near the site. Most of the species have an edible fruit.

Plant Food Seasonal Availability

All of the plant foods recovered from sampled features at the Fernvale site could have been obtained beginning in the late summer and continuing through mid-winter. All nuts can be easily stored, making them an important winter food source (Hudson 1976; Shea et al. 1987). Hickory nuts are available from

September through December. Their nutmeats provide a good source of food energy and crude protein, while shells could have been used as a fuel source. In addition, hickory nuts could be processed to extract oils, which were used for both cooking and preserving (Hudson 1976).

Hazelnuts ripen between August and September, while acorns are available from August through November. Early historic Native American groups throughout the Southeast ground acorns to use as flour and in breadstuff. Acorns were also processed to extract their oils (Hudson 1976; Shea et al. 1987).

Walnut and butternut fruits mature in September and October and usually remain on the trees until after leaf fall. The nut meats of both these species are good sources of food energy. Like hickory nuts, these fruits yielded oils used for cooking and preserving (Shea et al. 1987; Swanton 1979).

Honey locust seeds are formed within pods that also contain sweet, edible pulp that was used as a sweetener and thickener by both prehistoric and early historic populations in the Southeast (Fernald and Kinsey 1996; Hudson 1976; Nesom 2003). These pods ripen in September and October and can be preserved all winter.

Both goosefoot and grape seeds ripen from August through December. Goosefoot seeds can be ground for flour (Fernald and Kinsey 1996). The goosefoot plant also produces greens that are available as a food source in the spring.

WOOD CHARCOAL

The number of wood charcoal fragments was small enough to examine the entire sample from each temporally-sensitive feature. The 506 identifiable fragments of wood charcoal belonged to a total of 24 taxa, and are presented in Appendix H. All unidentifiable fragments and those with incomplete growth ring patterns were not recorded on the table.

Oak, including both red and white oak, accounts for the greatest percentage of wood charcoal in the sample at 29.8 percent. Ninety-two percent (*n*=34) of the 37 sampled features that contained wood charcoal included at least one fragment of oak. Hickory charcoal comprises the second greatest portion of the sample, with 26.8 percent. Honey locust and ash are also present in moderate amounts, and respectively account for 10.6 and 9.9 percent of the sample. The remaining 22.9 percent of the sample is comprised of 18 additional taxa, as shown on Table 16.

DISCUSSION

As discussed in Chapter 5 and presented in Tables 3 and 4, the Late Archaic period accounts for nearly 70 percent of culturally affiliated features from the site.

The Middle Woodland period accounts for an additional 26 percent of culturally affiliated features. Table 17 presents the percentage of nut remains from all temporally-affiliated features at the Fernvale site. Although Features 35 and 110 also originated in the Late Archaic period, their cultural affiliations were determined during reanalysis based on radiocarbon testing, and their contents have not been included in this table. As reflected in the overall site sample, hickory huts comprise the largest percentage of plant foods from all prehistoric periods. Walnut comprises the second greatest concentration in both the Late Archaic and Early Woodland features, while acorn is of greater abundance in Middle Woodland and Mississippian features. Butternut is present in only small quantities in Late Archaic and Middle Woodland features, while hazelnut is only present in extremely small quantities in Late Archaic pits.

Table 17. Percentage of Plant Foods at 40WM51 According to Cultural Affiliation.

	Hickory	Walnut	Acorn	Butternut	Hazelnut
Late Archaic	91.1	8.1	0.5	0.3	<0.1
Early Woodland	62.2	37.8	-	-	-
Middle Woodland	90.5	0.8	8.6	0.1	-
Mississippian	86.3	0.6	13.1	-	-

The importance of nuts to subsistence during the Archaic through Late Woodland periods in the Eastern Woodland has been well documented through numerous archaeobotanical analyses. The frequency of nut remains from the examined features at Fernvale reiterates this importance. Although the vast majority of the Fernvale archaeobotanical remains were recovered from Late Archaic contexts, the percentages of nuts in the sample is comparable with Middle Woodland components from the Upper Duck and Elk River Valleys (Crites 1978; Shea 1978) (Table 18). Samples from sites 40CF11, 40CF32, 40CF108, 40FR45 and 10FR7 all included a far greater percentage of hickory nuts than any other plant food type. Walnut comprises the second greatest percentages of plant foods at all sites, with the exception of 40FR45.

Table 18. Total Plant Foods by Percentage for Comparative Sites.

	Hickory	Walnut	Acorn	Hazelnut
Fernvale	60	5.7	0.4	-
Upper Duck River Valley				
40CF111	94.0	2.3	0.1	-
40CF32	89.3	10.4	0.2	-
40CF108	97.6	2.3	0.1	-
Upper Elk River Valley				
40FR45	79.1	3.2	15.1	0.1
40FR7	95.1	1.8	-	-

The low number of herbaceous seeds and the lack of evidence for domesticated plant products at 40WM51 are unusual for the Late Archaic and Early Woodland periods. At Mammoth Cave, Watson (1974:234) states that the Late Archaic and Early Woodland diet is “fairly steady plant food diet focused on hickory nuts, sunflower, sumpweed, and chenopods seeds with other seeds and occasional fruits in season.” Similarly, Archaic and Woodland features from sites in the

Upper Duck, Elk, and Tellico River Valleys have yielded large quantities of seeds of goosefoot, knotweed, maygrass, sunflowers, sumpweed and squash remains (Chapman and Shea 1981; Crites 1978; Shea 1978).

It is possible that the lack of herbaceous seeds and domesticated plant products from Fernvale is the result of the sampling strategy employed during analysis. Only those archaeobotanical remains from non-mortuary pit features that also contained temporally-sensitive artifacts were examined. The examination of other pit features may have yielded additional plant foods. Additional archaeobotanical remains are present within the 1/8-inch waterscreen samples collected from all pit features at the site, and are available for future study.

XII. BIOARCHAEOLOGICAL ANALYSIS

Shannon Chappell Hodge and C. Brady Davis

The 1995 data recovery excavations at the Fernvale site resulted in the identification and recovery of 33 human burials from 27 individual pit features. The human skeletal remains were examined according to standard North American bioarchaeological principles and practices. The following discussion describes the skeletal sample as it represents the living population of the prehistoric Fernvale community. We assess demographic patterns and describe whether or not the sample appears to be normally distributed and representative of a typical skeletal sample. We discuss health and pathology as reflects nutrition, disease, musculoskeletal stress resulting from occupation or lifestyle, degenerative joint disease as a function of age and activity, and dental health as regards disease, nutrition, hygiene, and cultural modifications to teeth. Summary data on all burials is presented in Table 19.

Our results address three notable features of this sample: 1) trophy-taking in two adult individuals; 2) unusual dental wear and robust cranial muscle markings; and 3) strongly-developed lower extremities and degenerative joint disease of the spine.

METHODS

The Fernvale skeletal sample was inventoried according to standards for data collection set out by Buikstra and Ubelaker (1994). The sample exhibits variable preservation, which in some cases prevented full assessment of age, sex, and pathology. Where assessment of sex was possible, sexually dimorphic characteristics of the skull and postcranial skeleton were observed, including morphology of the skull and pelvis (Buikstra and Ubelaker 1994). In cases where these observations were not possible, measurements of the postcranial skeleton were used, particularly the femoral and humeral heads (Bass 1985), with the understanding that these metric standards were developed for modern EuroAmerican populations, and are not entirely appropriate for sex estimation of prehistoric Native Americans. For subadults, age was estimated based primarily upon dental development, but where possible epiphyseal fusion and union of primary and secondary ossification centers were scored (Buikstra and Ubelaker 1994), and long bone lengths were compared to known age-specific developmental standards (Scheuer and Black 2000). For adults, age estimates were based on the morphology of the pubic symphysis using the Suchey-Brooks system and casts (Brooks and Suchey 1990), morphology of the auricular surface of the innominate, eruption and occlusion of third molars, and fusion of some epiphyses (Buikstra and Ubelaker 1994). These estimates were supported by general appearance of cranial sutures, osteoarthritis, dental wear, and

antemortem tooth loss. Stature was estimated using regression formulae developed by Auerbach and Ruff (2010).

Paleopathological assessment was recorded using a narrative approach, supplemented by pathology scores as recorded on standardized pathology coding sheets, and extensive photographic documentation. The Fernvale remains were examined for skeletal pathology including trauma, degenerative joint disease, specific and nonspecific infection, and metabolic conditions. Dental pathologies were recorded using dental inventory and scoring techniques according to Buikstra and Ubelaker (1994). These include dental caries, abscesses, calculus, dental wear, and antemortem tooth loss. Linear enamel hypoplasia was also recorded (Aufderheide and Rodríguez-Martín 1998, Hillson 1996). Where remains were sufficiently preserved, osteometric data and nonmetric traits were recorded using measurement criteria and trait definitions set forth by Buikstra and Ubelaker (1994).

Table 19. Fernvale Burial Summary.

Burial	Feature	Adult / Subadult	Age	Sex	Position	Side	Head Oriented	Grave Goods
1a	1	adult		unknown	poss. bundle			N
1b	1	subadult	7–8	unknown	poss. bundle			N
1c	1	adult		unknown	poss. bundle			N
2	8	adult	50+	female	loosely flexed	L	E	dog
3	24	adult		male	tightly flexed	L	N	N
4a	26	adult	20–25	female	tightly flexed	L	W	Y
4b	26	subadult	fetal	unknown	fetal			N
5	32	subadult	18–30 mos	unknown	flexed	R	NE	possible
6	39	adult	25–40	female	flexed	L	N	Y
7	40	adult		male	flexed	L	S	N
8	42	adult		prob. female	cremation			Y
9	44	adult	35–50	prob. male	flexed	back	S	Y
10	44	adult	20–50	female	loosely flexed	L	N	Y
11	46	subadult	3–12 mos	unknown	flexed	R	S	Y
12	48	adult	18–24	prob. female	loosely flexed	R	NW	N
13	49	adult	< 25	prob. female	flexed	L	N	possible
14	51	subadult	9–12 mos	unknown	loosely flexed	R	N	possible
15	54	adult	35–50	prob. male	indeterminate			N
16	54	adult	40–60	male	flexed	L	E	N
17	55	adult		prob. female	tightly flexed	R	S	N
18	61	adult		prob. male	tightly flexed	L	S/SW	possible
19	70	adult		prob. male	tightly flexed	L	NE	possible
20	73	adult	25–50	prob. male	loosely flexed	back	SW	Y
21	72	subadult	4–5	unknown	flexed	R	S	N
22	74	adult		unknown	tightly flexed	R	S	N
23	92	subadult	perinate	unknown	flexed	back		N
24	94	adult	25–55	prob. male	flexed	R	N/NE	Y
25	*96*	*not a human burial*						
26	97	subadult	8–14	unknown	indeterminate			N
27	98	adult	35–50	female	tightly flexed	R	S	N
28	107	adult	18–24	female	flexed	R	S	Y
29	116	subadult	perinate	unknown	loosely flexed	L	E	N
30	125	adult	35–45	unknown	indeterminate		N	possible
31	125	adult	19–25	unknown	indeterminate		N	possible
32	*8*	*not a human burial*						

BURIAL DESCRIPTIONS

Burials 1a, 1b, and 1c

Feature 1 contained the remains of three individuals designated Burials 1a, 1b, and 1c. The skeletal remains were situated at the base of a basin-shaped pit, 1–16 cm below grade. During the 1995 recovery, excavators noted that the remains appeared disarticulated and stacked, suggesting these interments represent redeposited bundle burials. There were no grave goods, diagnostic artifacts, or zooarchaeological materials present within the feature.

Burial 1a is the highly fragmented remains of an adult of unknown age and sex and was situated within the central portion of the feature. The long bones were stacked in a linear fashion generally oriented NW/SE. Less than 10 percent of this skeleton was represented. No pathologies were observed on any of the remains which are present, but this is not a representative sample of this individual. Femora exhibit strong development and true pilastering of the linea aspera, suggesting rugged development of leg muscles associated with this individual's lifestyle and occupation.

Burial 1b was situated immediately southwest of Burial 1a along the southern feature edge. This burial is also highly fragmented, and consists only of teeth and a few isolated and unidentifiable cranial fragments. The teeth represent the mixed dentition of a subadult aged 7 to 8 years old ± 24 months. Only the second molars of the deciduous dentition remain, as the others were lost due to natural shedding during this child's life. These remaining deciduous teeth exhibit moderate wear. Twenty of thirty-two adult teeth are present, in varying stages of development consistent with this child's age. Only the first molars of the permanent teeth were in full occlusion, but exhibit little wear. No caries were observed, but linear enamel hypoplasia (LEH) is present in multiple episodes throughout the anterior dentition.

Burial 1c was identified during laboratory analysis based on the presence of an additional left femur fragment. That element was identified as an adult, but of smaller size and without the strong leg development seen in Burial 1. The original placement of this fragment within the grave is unknown.

Burial 2

Burial 2 is that of an older woman interred alongside a dog in a bell-shaped pit (Feature 8). The woman was buried in a loosely flexed position resting on her left side, with her head oriented east. She appears to have been positioned with both hands gripping their respective lower legs. The left hand was positioned near the left ankle, while the right hand grasped just below the right knee. The dog (identified in the field as Burial 32) was positioned immediately to the north of the woman, curled lengthwise against her back. The dog's right forepaw was placed beneath the woman's right arm while its head rested on her right shoulder.

Both burials were situated above a prepared shale surface that covered the northwestern portion of the feature floor. The base of a single Kirk Corner Notched projectile point was recovered from the feature fill, although the presence of this artifact in the grave shaft was likely the result of incidental inclusion rather than representing a deliberate grave offering. A smoothed, polished turkey tarsometatarsus was recovered from the area of the woman's right hand.

Burial 2 is poorly preserved, but was identified as an adult female with an age at death greater than 50 years. Sex estimation was based on the morphology of cranial and postcranial nonmetric traits, including Phenice's characteristics of the pelvis, a broad greater sciatic notch, gracile nuchal crest, mastoid process, supraorbital margin, and glabella (Buikstra and Ubelaker 1994). Age was estimated by characteristics of the pubic symphysis according to the Suchey-Brooks standards (Brooks and Suchey 1990). Due to poor preservation, stature cannot be estimated. However, she seems to have been very small in life, exhibiting delicate and lightweight bones with cortical thinning attributable to osteoporosis, consistent with a woman in her elder years.

This individual exhibits extensive degenerative joint disease in the form of osteoarthritis and osteophytosis throughout the skeleton. In particular, the spine exhibits remarkable degeneration throughout the vertebral column, with significant porosity and compression of vertebral bodies, which when combined with profuse lipping and osteophyte formation at the margins of the vertebral centra, produces an hourglass shape most notable on the lumbar and lower thoracic spine. There is evidence of significant disk degeneration throughout the spine, including porosity of the subchondral bone adjacent to the intervertebral disk, and "fish-lips" deformity of osteophytes at the vertebral margins suggesting herniation of a disk. The cervical vertebrae exhibit osteoarthritic slippage, porosity, lipping, eburnation, and in some cases complete destruction of intervertebral facets indicative of near-complete loss of disk height and subsequent misalignment of facets leading to degeneration and ultimately bone-on-bone damage to articular surfaces. The thoracic spine exhibits osteoarthritis of the superior and inferior articular facets and of the costal pits, in addition to the osteophytosis seen throughout the vertebral column.

Osteoarthritis is also notable in the sternal end of the clavicle and at the acromial articulation of the scapula with the clavicle, featuring porosity, lipping, and ruggedness of the articular surfaces; though the glenoid fossa of the scapula is only slightly lipped. Osteoarthritic macroporosity and lipping are also present bilaterally on the lunate surface of the acetabulum, and on the articular surfaces of the right and left knees. She shows squatting facets on the distal articular surfaces of her first metatarsals, with arthritic lipping and porosity, and slight eburnation near the plantar margin of the head of the left first metatarsal. There are no sesamoid bones present, but the eburnated surface is consistent with the location of a sesamoid.

Burial 2's teeth were mostly lost antemortem; only nine were present. All of the teeth exhibit extreme dental wear. In many cases they are worn down below the cemento-enamel junction, resulting in complete destruction of the tooth crown and making identification and siding of individual teeth difficult. Two two-rooted molars are present, one with the crown completely gone, and one with only a small rim of enamel remaining on three sides of the tooth. Both exhibit masticatory wear on the sides of the roots, suggesting that alveolar attrition was extreme, and that the exposed sides of the roots became chewing surfaces as the crowns were worn away. These teeth are probably mandibular first molars, judging from the root morphology. The remaining seven teeth include two second premolars which remain in the mandible, and five unidentifiable single-rooted teeth, none of which retain any enamel whatsoever. One is highly polished and shows angled wear at the occlusal surface and along the side of the root. This may indicate that rather than being a single-rooted tooth, it is the last remnant of a double-rooted molar (i.e., one remaining root), which is worn down like the other molars described above.

Burial 3

Burial 3 consisted of a tightly flexed interment of an adult male placed on his left side within a small basin-shaped pit (Feature 25). The skull was oriented towards the north of the feature. Burial 3 was heavily impacted by plowing and mechanical removal of topsoil, resulting in a maximum depth only 6 cm below grade. There were no grave goods or diagnostic artifacts present within this feature.

The skeletal remains from Burial 3 are highly fragmentary, and no elements are preserved which would indicate age beyond adulthood. This individual has all permanent teeth fully erupted and in occlusion, with second molars exhibiting extensive dental wear consistent with a person who was fully adult at the time of death. Burial 3 is fairly robust, with marked muscle attachments in the upper arm and upper leg. The temporal line of the parietal is also well developed, reflecting use and development of the temporalis muscle of the jaw. This is consistent with the extreme dental wear observed on this individual. Only three teeth were preserved, but both anterior and posterior dentition exhibit heavy attrition, wearing crowns down almost to the cemento-enamel junction on anterior teeth, and completely obliterating all dental cusps and reducing crown height by about half on the remaining right maxillary second molar.

Burials 4a and 4b

Feature 26 included the remains of a young woman (Burial 4a) and unborn infant (Burial 4b) (Figure 35). Burial 4a was interred in a tightly flexed position on her left side in a basin-shaped pit with a maximum depth of only 9 cm below grade. The head was oriented west, and the hands were held together, possibly cupped,

immediately beneath her chin. The infant remains were located in the pelvic cavity of Burial 4a.

The sex estimate for Burial 4a was based on sexually dimorphic characteristics of the pelvis and skull, including a broad greater sciatic notch, and gracile supraorbital margin, glabella, and mental eminence (Buikstra and Ubelaker 1994). Most epiphyseal lines remain quite distinct and allowed for an age estimate of between 20 and 25 years. Stature was estimated at 151.9 ± 2.9 cm, roughly 5 feet tall (Auerbach and Ruff 2010). The fifth lumbar vertebra exhibits spondylolysis, or separation of the neural arch from the vertebral body. This can be caused by repetitive stress during growth and development preventing the neural arch from fusing properly, or acute injury which causes avulsion fracture of the bone after it is fused. The ribs are very fragmentary but their surfaces are well preserved, and no cut marks or perimortem fractures were observed.

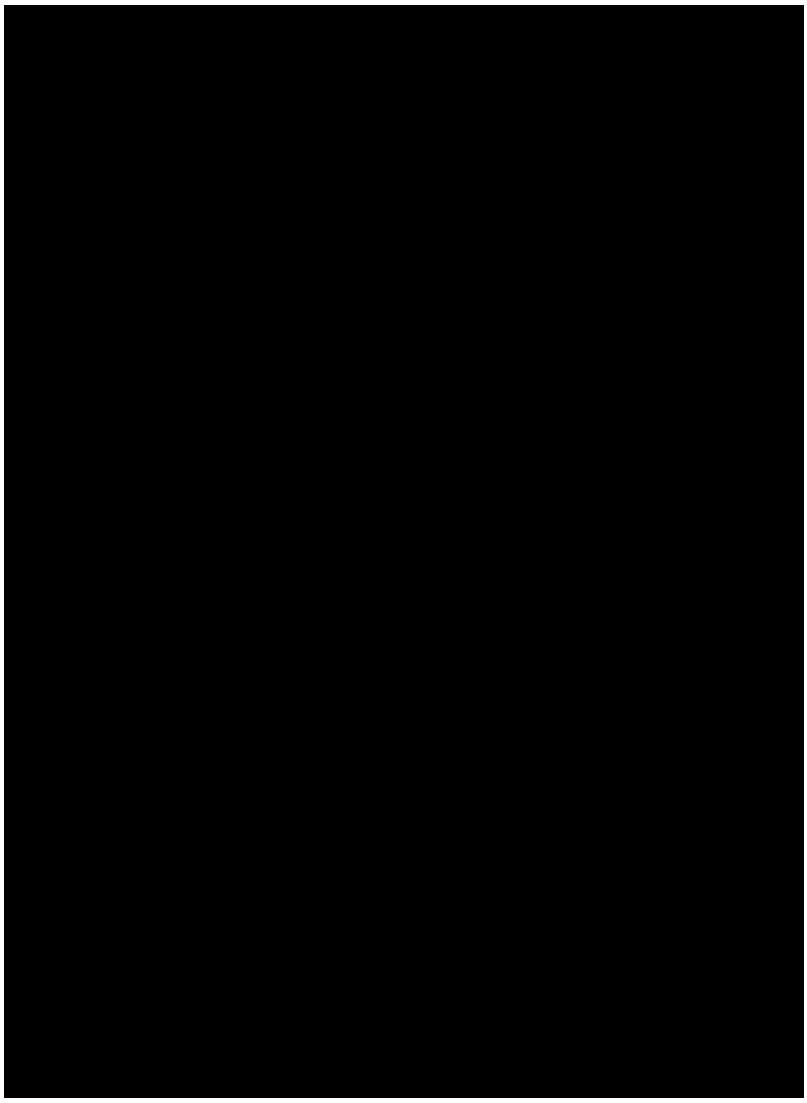

Figure 35. View of Burials 4a and 4b.

Burial 4a also has several instances of atypical porosity of bone on the skull. The zygomatics exhibit porosity bilaterally. While this trait is reminiscent of scurvy, the greater wings of the sphenoid exhibit only slight porosity and are therefore inconsistent with this condition. There is pinpoint and coalescing porosity in the lateral corner of the orbit of the left frontal, along with marked vascularization also consistent with scurvy, but not typical of cribra orbitalia. There is a very small patch of periostitis on the supraorbital ridge, medial to the zygomatico-frontal suture, and adjacent to the porosity and vascular tracks inside the eye. These various traits may alternatively be the result of a blow to the head which affected the eye and caused proliferative growth of blood vessels. The alveolar processes of the maxilla also exhibit porosity reminiscent of scurvy, although the alveolar regions of both the maxilla and mandible have gingival recession and shelving. This suggests porosity of the maxilla may instead be attributable to bleeding associated with gum disease. There is a small area of periostitis, less than one square centimeter in area, on the inferior margin of the nasal aperture on the right side of the nasal spine.

Most of the adult dentition is present and in occlusion. Four teeth were lost postmortem. There are no observed caries in this individual, and dental wear is significant, particularly for a person so young. In most cases 1/4 to 1/2 of the crown height is worn away, and there is dentine exposure on all teeth except the third molars. The wear is very angular on the anterior dentition, with rounding of the fronts of the bottom teeth and angled wear on the backs of the top teeth. In addition, the wear is highly polished and very glossy on the remaining enamel. Whatever causes this unusual wear also seems to produce movement among all of the teeth, resulting in interproximal wear as well. There is only minimal development of the gonial angle of the mandible, and none on the temporal lines, with no development of the nuchal region of the occipital, suggesting that this was not a muscle-intensive process. This individual does not exhibit the same broadening of the mandible and chin seen in Burial 2, suggesting that trait is unassociated with the wear-producing behavior. No unusual staining of the teeth is observable. Very small chips occur on the lingual margin of two of the mandibular molars, and chipping is profuse on the front edges of the maxillary incisors and canines, some having occurred recently before death and some very polished. There is one prominent episode of LEH and several lesser ones visible on the maxillary incisors and canines.

Burial 4b is an unborn infant of 24–28 weeks gestation, based on measurements of skeletal elements (Scheuer and Black 2000). The infant remains were located in the pelvic cavity of the young woman, positioned with the head downwards. Despite this head-down positioning, the infant does not seem to have entered the birth canal. This, in conjunction with the early pre-term age of the fetus (6 to 7 months gestation), suggests that this is not likely a case of death in childbirth. Consistent with the condition of the mother, the bones of this infant are quite porous, and exhibit multiple lines of growth interruption.

During excavations, investigators recorded the presence of a projectile point situated between the third and fourth ribs on the Burial 4a's right side. This artifact is described in field notes as probably originating in the Late Archaic period (see Chapter 8). In mortuary contexts it is difficult to determine if a projectile point is embedded, having been shot or thrust into the body during life and perhaps being the cause of death, or whether the artifact was placed on top of the body and simply fell among the bones as decomposition progressed. In the case of Burial 4a there is no evidence of impact fractures or cut marks on any of the ribs to suggest the individual had been shot or stabbed, though Milner (2005) estimates that in prehistory only 1/3 of projectiles which damaged soft tissue actually impacted bone. It is dramatic to consider the possibility that this pregnant young woman died violently at the hands of an assailant, but this scenario cannot be verified. The burial feature also contained one long bone fragment from a large mammal. The exact function is unknown, but the item has been modified and likely functioned as a tool of some sort.

Burial 5

Burial 5 was that of a child interred in a flexed position in the northeastern quadrant of Feature 32, a large circular pit feature. The individual was interred lying on their right side with head oriented to the northeast, and was approximately 18 months (± 6 months) to 2 years (± 8 months) old, based on patterns of dental eruption (Buikstra and Ubelaker 1994). On the right temporal, the foramen of Hutschke is almost completely formed (lacking only a small part of the bridge), and the petrous portion and tympanic portions are fused, suggesting an age around 2 to 2 1/2 years (Scheuer & Black 2000:80, fig. 5.34).

This skeleton is remarkably complete, though fragmentary. The long bones on this child exhibit a fine film of periostitis in some areas. In particular, the posterior aspect of the diaphysis of the right tibia has mild periostitis, while the left tibia displays an entire shell of new reactive periosteal bone. This may be attributable to a nonspecific systemic infection. The skull is fragmentary but mostly complete; there is no evidence of periostitis or abnormal porosity on the bones of the skull vault, and the sphenoid is not abnormally thickened or porous. There is some abnormal vascularization of the orbits, but not fine porosity associated with broken capillaries, and no thickening of the diploë. Instead, on the right orbit, in addition to the supraorbital foramen on the orbital margin, there are four large foramina in the orbital squama which suggest increase in blood supply. Three are smooth-walled and semi-round. The fourth is oblong and gives the appearance of being "worn" through the orbital roof, with smooth tapered edges and no appearance of breakage under 10X magnification. This atypical foramen is perhaps due to pressure atrophy from a blood vessel overlying the bone.

On the maxilla and mandible, palatine and mental sutures are completely fused. The alveolar region is quite porous, consistent with early childhood tooth development and eruption. The chin still bears the appearance of a very young child, with deep dimples on either side of the mental eminence. The subadult

incisors are erupted and in occlusion, deciduous maxillary canines are partially erupted, and deciduous maxillary first molars are erupted and in occlusion. Deciduous mandibular canines and first molars are partially erupted, and deciduous second molars are in the crypt, but are pushing their way out. In addition, one permanent maxillary central incisor crown is 1/4 formed, and both mandibular permanent first molars have crowns that are 3/4 complete. Other permanent teeth are present in their crypts, but cannot be observed to assess development. This individual's teeth exhibit no caries, little calculus, and no linear enamel hypoplasia, suggesting that no significant growth disruptions took place. In addition, there is no evidence of other dental disease in the form of abscesses, and no observable dental wear.

The fill from Feature 32 contained generalized lithic and faunal materials, as well as a total of five diagnostic projectile points, four of which originated in the Late Archaic period. A single Motley-type projectile point recovered immediately south of the skeletal remains may have been intended as a grave offering. Both the remains and the possible offering were situated approximately 3 cm above the floor of the pit. This relative depth and the positioning of the burial along the northeastern edge of the pit suggest that Feature 32 was not principally intended as a mortuary feature.

Burial 6

Burial 6 was the well-preserved but fragmentary flexed burial of an adult female interred on her left side in Feature 39, a very shallow basin-shaped pit. The head was oriented north, and the hands were drawn up tightly beneath the chin. Four marine shell columella beads were recovered from near the right wrist of the individual, suggesting they were part of a bracelet. No additional burial goods were present.

The individual from Burial 6 was estimated to be an adult female aged 25 to 40 years, based on the morphology of the preauricular sulcus and the mastoid process, and the overall gracile appearance of the skeleton. She exhibits mild lipping of her lumbar vertebrae, and her third molars were erupted and in occlusion, but with minimal wear. She also exhibits mild to moderate arthritis of the upper body. This condition has affected the humeral head bilaterally, the right acromion process of the scapula (the left acromion is missing), and acromial articulation of the right clavicle, the sternal end of both clavicles and clavicular notches of the sternum, and the left elbow and right wrist. The right elbow shows evidence of chronic hyperflexion of the joint, with inflammation and bone breakdown at the triceps insertion on the olecranon process of the ulna, and a deep and rugged coronoid fossa on the distal humerus. There is mild osteophytosis throughout the vertebral column, particularly on the lumbar vertebrae, with evidence of a herniated disk between L4 and L5. She also exhibits two well-healed rib fractures, and osteoarthritis of some of the rib heads and facets. The postcranial skeleton is generally not robust, although muscle attachments on the legs are marked. There is a large tubercle at the insertion of

the gluteus maximus on the left femur, suggesting some habitual activity that involved hyper-abduction, extension, or rotation of the leg. The right maxilla and mandible were missing postmortem. On the left maxilla and mandible, dental wear was severe, resulting in poor dental health. This resulted in large abscesses on the left maxilla from P2 to M2, and on the left mandible, also from P2 to M2, leading to antemortem tooth loss of the left mandibular second premolar and first molar.

Burial 7

Feature 40 at the Fernvale site contained the moderately preserved skeleton of an older adult male, interred on his left side in a flexed position, with head oriented south and the right hand positioned over the left humerus. The maximum depth of the burial pit was only 18 cm below grade. The feature intrudes into Burial 8, which is situated immediately to the west. There were no grave goods or diagnostic artifacts included in Burial 7.

Sex was estimated based on the presence of a very robust mental eminence and external occipital protuberance, marked temporal lines, large mastoid processes, and thick supraorbital margins. Analysis also revealed broad and dull superciliary arches, a narrow sciatic notch, and a shallow and narrow preauricular sulcus (Buikstra and Ubelaker 1994).

This individual shows degenerative joint disease throughout the skeleton and robust muscle development. The right elbow exhibits mild to moderate lipping of all of the articular elements, with eburnation of the capitulum and trochlea of the humerus, consistent with complete cartilage breakdown and bone-on-bone wear. The left elbow is in the same condition, though to an even greater degree, with exuberant lipping of the entire circumference of the margin of the trochlea, impinging upon both the coronoid and olecranon fossae, with extensive glassy eburnation and grooving of the capitulum. The adjacent surface of the radial head also exhibits lipping, porosity, remodeling, and eburnation.

Burial 7 had arthritic knees, with porosity and lipping of distal articular surfaces of the left femur, and eburnation of the lateral condyle and adjacent posterior aspect of the patella. There is a long-healed fracture to the distal right fibula with traumatic osteoarthritis to the distal articular surface. The right tibia exhibits periostitis on the medial diaphysis adjacent to the fracture site. The right ankle is also highly arthritic, with lipping, porosity and minor eburnation of the articular surfaces of the talus and calcaneus.

Tooth wear is significant. In an extreme example, the right maxillary first molar is worn to such an extent that the entire crown and mesial root were worn away during life; only the distal root remains, with a remnant chewing surface on the occlusal aspect of the root stub. Mandibular first and second molars were lost bilaterally antemortem; the third molars remain on both sides and exhibit considerable wear. On the maxilla, the right first and second premolars and left

first premolar were also lost antemortem. Two maxillary molars also exhibit periapical abscesses which are consistent with noncarious pulp exposure resulting from extreme dental wear. These typically precede pathological antemortem tooth loss.

Burial 8

Burial 8 consisted of a partial *in situ* cremation within the uppermost stratified zone (Zone A) of Feature 42. Based on the absence of burned material or human bone in Zone B of Feature 42, it appears the cremation took place within a pit feature that was already open and in use. Feature 40 and Burial 7 intruded into the northeast portion of Burial 8.

Less than 20 percent of the remains are present, and all exhibit evidence of having been burned. The gray, blue, and white tones on the bone are consistent with low-fire temperatures of 700–800 degrees celsius. Circumference of the femur (79 mm) indicates that the individual is a probable female (Bass 2005). Age and stature cannot be estimated. This individual shows no observable pathology due to taphonomic destruction of the remains.

In addition to Burial 8, Zone A of Feature 42 contained a moderate to high amount of lithic debitage, a unimarginal flake tool, and bivalve fragments. Burned limestone and animal bone were present in the matrix surrounding Burial 8. One Terminal Archaic Straight Stemmed projectile point and three non-diagnostic, finished biface fragments were recovered from around the lower lumbar region. These tools showed signs of burning, indicating that they were present at the time of the cremation and likely served as a mortuary offering. Wood charcoal collected from the northern portion of Zone A in the vicinity of the pelvis yielded an uncalibrated radiocarbon date of 3490 ± 300 BP.

Burials 9 and 10

Feature 44 contained the double, head-to-toe interment of Burials 9 and 10 (Figure 36). Burial 9 is a moderately well-preserved adult (probable male) interred in a flexed position on his back, with head oriented south and arms resting on the chest. Sex was estimated based on sexually dimorphic nonmetric traits of the skull and postcranial skeleton, including the breadth and bluntness of the supraorbital margin, the size of the mastoid process, the ruggedness of the nuchal region of the occipital, and the prominence of glabella. Age is estimated to be 35 to 50 years, based on the morphology of the auricular surface of the innominate and a composite score of the closure of cranial vault sutures (Buikstra and Ubelaker 1994).

This mature individual exhibits osteoarthritis typical of his age, including osteoarthritic lipping and porosity of the left temporomandibular joint, osteoarthritis of the left and right knees, left ankle, left and right elbows, and right shoulder at the articulation of the clavicle and acromion process of the scapula.

The spine exhibits osteophytosis throughout the vertebral column, and is especially pronounced in the lumbar vertebrae where there is significant osteophyte formation. There is also evidence of hyperextension of the left big toe, with squatting facets on the left first metatarsal and bone spurs on the first distal phalanx. Another toe in the left foot also has osteoarthritis of the articular surfaces of the middle and distal phalanges. The right ankle and foot are poorly preserved and fragmentary. It is unclear if this pattern of osteoarthritis, hyperextension of joints, and formation of squatting facets is also present in the right foot and ankle.

Figure 36. View of Burials 9 and 10.

Like most adults in this sample, Burial 9 exhibited heavy dental wear. The maxillary central incisors display unusual angled wear with slight winging. All but one of the posterior mandibular teeth were lost long before the individual's death, with total resorption of the alveolar space. Only the right third molar remains. The maxillary teeth are in a similar state, with first and second premolars and first and second molars lost on both sides antemortem, with complete resorption of the alveolar bone. This loss is likely due to abscesses observed on the left and right maxilla, with the left producing a cloaca which drained into the oral cavity through the hard palate. On the remaining teeth, wear is heavy but caries and calculus are rare. Excessive wear can result in premature weathering of dental defects,

effectively precluding the development of incipient caries. Similarly, calculus cannot accumulate in an environment of significant attrition. However, this individual exhibits a high rate (9/32 teeth, or 28 percent) of antemortem tooth loss, which may be associated with premature dentine exposure resulting in caries and subsequent dental abscesses, leading to tooth loss and alveolar resorption. Unfortunately, because these teeth were lost before death, we cannot know if this individual's dental health was in fact much worse that it appears.

Burial 10 is a highly fragmented adult female of middle age, interred in a loosely flexed position on her left side with head oriented north. Her hands were drawn in front of the chin in a position mirroring that seen in Burials 4, 6, 17, 19, and 27. Skull fragments and vertebrae for Burial 10 were situated beneath the pelvis and right proximal femur of Burial 9, indicating Burial 10 was the first individual placed within the grave. Sex was estimated using dimorphic nonmetric traits of the skull and postcranial skeleton, including the morphology of the greater sciatic notch, the preauricular sulcus, the nuchal crest, mastoid processes, and supraorbital margins (Buikstra and Ubelaker 1994). This woman's age is estimated to be between 20 and 44 years, judging from the condition of the auricular surface of the innominate, and the degree of closure of cranial vault sutures. Morphology of the pubic symphysis indicates an age between 25 and 50 years (Brooks and Suchey1990; Buikstra and Ubelaker 1994).

Minimal osteoarthritis throughout the skeleton supports the estimate of a middle aged adult. In particular, osteoarthritic changes are notable on the acromial articulations of both clavicles, and bilaterally at the knees. Degenerative disease of the vertebral column is minimal, with two exceptions. The third and fourth cervical vertebrae exhibit wedging, pitting and porosity of subchondral bone, and exuberant osteophyte formation consistent with compression fracture and disk herniation. Similarly, the fifth lumbar and first sacral vertebrae also exhibit breakdown of subchondral bone and osteophyte formation complete with "fish-lips" deformity, likely resulting from a herniated disk. This individual suffered a Colles' fracture to the left radius (Figure 37). This injury typically results from a fall onto an outstretched hand, and is not suggestive of interpersonal violence. The fracture was aligned well, was fully healed, and likely occurred years or even decades before death. There is minimal posttraumatic osteoarthritis at the distal articulation of the radius.

Dental health was comparatively good, with no dental caries, abscesses, or linear enamel hypoplasia, and only minor antemortem tooth loss. As with other individuals in this sample dental wear was extreme, with near-total loss of crown height on almost all of the teeth. Interestingly, the muscle attachments on this jaw are pronounced, with strong marking medially and laterally at the gonial angle, along the mental eminence, the underside of the chin, and the mental spines. There is also a moderate mandibular torus inside the arch of the jaw.

No temporally diagnostic artifacts were present within the grave. Excavator notes record the presence of a turtle shell cup or rattle positioned above the abdomen

of Burial 9. A small amount of red ochre was noted immediately east of the skull of Burial 10. The burial feature was impacted slightly by the adjacent Feature 46, which contained Burial 11.

Figure 37. Colles' fracture on the left radius of Burial 10.

Burial 11

Burial 11 is that of a subadult aged between 3 months and 1 year, interred in a flexed position on his or her right side with the head oriented south. The burial was situated in the southwest quadrant of Feature 46, 6 cm below grade and 17 cm above the base of the feature. The remains were surrounded by homogenous feature fill, indicating the individual was placed into a pit that was already open and probably was not originally intended for burial use. Feature 46 intrudes slightly into the southeast margin of Feature 44, which contained Burials 9 and 10. Post 58 slightly intrudes into the southeast corner of Feature 46, but did not result in disturbance of the remains.

The skeleton of Burial 11 is partially fragmented but fairly complete. There is minimal pathology evident on the postcranial skeleton. There is a patch of periostitis on the medial and posterior aspect of the proximal 1/3 of the left ulna and on the adjacent surface of the left radius. If, as suggested below, this child was suffering infantile scurvy resulting from maternal malnutrition, a slight injury to the elbow resulting from a fall, a bump, or even birth trauma, might have resulted in a hematoma which could lead to periostitis in this location.

The cranial bones are very fragmented, but most are present and at least partially complete. The parietals have the squamous portion united with the petrosal portion bilaterally, but the foramen of Hutschke has not formed. The tympanic ring is completely fused bilaterally, and is closed on the right, but remains partially open on the left at the anterior margin. This developmental

stage of the temporals is consistent with an age between 6 months and 1 year (Scheuer and Black 2000:80, Figure 5.34). The frontal metopic suture is not yet fused, and there is no evidence of abnormal porosity inside the orbits. The pares basilaris and pares laterales of the occipital are not fused, and the arms of the hypoglossal canal do not meet bilaterally, suggesting an age less than one year (Scheuer and Black 2000). On the occipital, there is fine periostitis on the pares laterales, and the basilar portion shows abnormal porosity. In addition, the greater wing of the sphenoid shows abnormal porosity and periostitis, particularly surrounding the foramen rotundum, but no thickening. The left zygomatic is present and shows abnormal porosity with linear and coalescing pores. This pattern of abnormal porosity and periostitis is very reminiscent of infantile scurvy (Brickley and Ives 2008), a condition which could occur in a child born in the late winter or spring, whose later gestation and nursing would have occurred in the months when fresh fruits and other sources of vitamin C would have been less available to the mother.

Finally, there is a lesion on the parietal, with unusual thickening of the diploë and lifting of the outer cortex, with some surface remodeling, and evidence of periostitis within the diploë. Note that this is not porotic hyperostosis, as it does not exhibit abnormal porosity on the outer table of the skull, nor perpendicular orientation of the trabeculae. It is also not bilateral, though the authors are unable to determine which side this fragment of parietal comes from. There are no similar lesions on any other cranial bones. This may be a trauma-related bone infection, or scalp infection which invaded the bone in this localized area. The lesion has a puckered appearance, and though it has a stellate, gummatous quality (Figure 38), it is not suggestive of treponematosis. Stellate lesions are typical of treponemal infection in adults (Powell and Cook 2005), but do not occur on children as it takes many years for the treponemal disease process to advance to the stage of soft tissue gummas and bony reaction.

Dental development suggests an age at death between birth and 6 months (± 3 months). None of the teeth are fully developed, fully erupted or in occlusion. There is no evident dental pathology (caries, LEH, wear, or abscesses). Although most of the first molars and incisors are present, none exhibit the mulberry molar or Hutchinson's incisor defect which are pathognomonic of congenital syphilis (treponematosis) (Powell and Cook 2005). Their absence also suggests that the lesion on the parietal is not associated with treponemal infection.

According to excavator notes, a deer ulna awl and a bone flake were situated above the stomach of Burial 11, both pointing south towards the head. Another bone awl or pin was present at the base of the skull. Lithic artifacts were recovered from feature fill but do not appear to have been associated with the burial.

Figure 38. Lesion on the parietal of Burial 11.

Burial 12

Burial 12 was interred in a flexed position on its right side, with arms folded across the chest and head oriented northwest. Feature 48, which contained the burial, extended a maximum of 11 cm below grade, and portions of the skeleton had been disturbed by plowing and mechanical soil removal. There were no grave goods or diagnostic artifacts included in Burial 12.

Less than 25 percent of the skeleton was available for analysis. Sex is estimated as probable female based on sexually dimorphic nonmetric traits of the cranium, including small mastoid processes, and a moderately sharp supraorbital margin along with a gracile nuchal crest, glabella, mental eminence and gonial angle. She was 18–24 years at death based on dental eruption (Buikstra and Ubelaker 1994) and rib phase analysis (İşcan et al. 1993).

This individual exhibits degenerative disease of the cervical spine with pitting and porosity of the subchondral bone on vertebral bodies and osteophyte formation at articular margins, but without osteoarthritis of the true joints at the articular facets of the vertebrae. Other evidence of osteoarthritis is apparent in both shoulders, with osteoarthritic pitting and porosity of the acromial and sternal articulations of both clavicles and the acromion process of the right scapula. This condition is also visible on the right hip, with mild porosity of the acetabulum of the right innominate and the right femoral head. Additional pathology includes two well-healed rib fractures and a benign osteoma of the right femur.

As with other burials in this sample, dental health is good although dental wear is extreme with near-total or complete loss of crown height on most teeth. The left mandibular first molar was lost antemortem, with advanced resorption of the alveolar space. The right mandibular first molar exhibits a periapical abscess of the anterior root, with a cloaca on the buccal aspect of the alveolus. There are few caries and no calculus consistent with the high degree of dental wear, and no evidence of linear enamel hypoplasia.

Burial 13

The lower zone of Feature 49 contained Burial 13, an extremely well-preserved young probable female. This individual was positioned in a flexed position on her left side, with head oriented north and arms crossed over the abdomen. There were no diagnostic artifacts included with Burial 13 or present in either fill zone of Feature 49. Two modified faunal specimens were recovered from the lower fill zone of Feature 49 and may represent burial inclusions. These consist of a burned and polished fragment of mammal bone, and a possibly polished fragment of a medium to large mammal baculum. The precise positioning of these artifacts in relation to the skeletal remains is not clear. Excavation notes and profile data suggest that the upper stratum of Feature 49 represents a later, intrusive non-mortuary pit rather than deliberate feature reuse.

Sex estimates for Burial 13 are based on nonmetric cranial and postcranial traits including a sharp supraorbital margin and small superciliary arches, a small external occipital protuberance, small mastoid processes, and a very deep preauricular sulcus (Buikstra and Ubelaker 1994). Her age is estimated to be less than 25 years as her pubic symphysis is non-grainy and shows a uniform transverse billowing across the majority of the observable surface. The morphology of the auricular surface of the innominate is also consistent with a young adult (Buikstra and Ubelaker 1994). Epiphyseal lines are present on all long bones, the first sacral element is only partially fused, and third molars are present and lightly worn. Stature was estimated at 160 ± 2.3 cm, approximately 5 feet 3 inches tall (Auerbach and Ruff 2010).

This individual shows almost no degenerative joint disease in the vertebral column, and no other significant incidence of osteoarthritis. There is a cervical fossa of Allen on the right femur, which is a skeletal anomaly of unknown

etiology, but may be associated with habitual anterior hyperextension of the hip (Scheuer and Black 2000:377; Villotte and Knüsel 2009). This feature has also been observed on other individuals in the Fernvale sample. The left femur is damaged at this location, and it could not be determined if the feature is bilateral. The postcranial skeleton has significant muscle development, including bilaterally large muscle attachments for the gluteus maximus and prominent linea aspera on both femora, and corollary strong development of the spiral line of the tibiae. The right humerus exhibits a musculoskeletal lesion at the insertion of the tendon of the subscapularis muscle below the anatomical neck, measuring approximately 17 mm mediolaterally, with exposure of trabecular bone, deposition of periosteal bone, and a smooth reactive lip. This may result from an avulsion of the bone surface during dislocation of the shoulder, or simply from chronic overexertion of the rotator cuff.

Dental health is good, with all adult teeth present. Minimal caries and calculus were observed, with no linear enamel hypoplasia or abscesses. Dental wear is typical of this population, but moderate given this individual's young age. The maxillary central incisors are strongly shoveled, and the maxillary lateral incisors exhibit a talon cusp which is atypical for this sample.

Burial 14

Burial 14 consists of the well-preserved and nearly complete subadult skeleton buried in a loosely-flexed position on his/her right side, with head oriented north. Unlike other subadult burials at the Fernvale site, the feature containing Burial 14 (Feature 51) appears to be a deliberate grave pit rather than an example of expedient feature reuse. Red ochre was present throughout the grave both above and below the central portion of the body between the femora and jaw. The feature fill contained lithic debitage and a single limestone hoe. That artifact is not noted in the burial paperwork, and its position in regard to the skeletal remains is unknown. The feature also contained faunal specimens consisting of a bone flake from a large mammal, thirteen indeterminate fragments of medium to large mammal (of which five were heat altered), and one raccoon phalanx.

The age of Burial 14 was assessed at one year (± 4 months) based on dental eruption (Buikstra and Ubelaker 1994). Postcranial metrics, developmental stages of the temporal, occipital, and mandible, along with the presence of an open anterior fontanelle put the age at nine months to one year (Scheuer and Black 2000). This individual exhibited no pathology, with normal bone contours, density, and surface texture in the cranial and postcranial skeleton. The distal portion of the right femur and portions of the cranial vault (particularly the frontal) exhibit blue-gray discoloration and a waxy, glassy surface indicative of exposure to a low-temperature fire. There was no corresponding evidence of burning or charcoal within the feature, suggesting this exposure took place in a separate location prior to interment.

Burial 15

Feature 54 consisted of a bell-shaped pit containing Burials 15 and 16. Burial 15 was the incomplete remains of a middle aged adult (probable male), situated in the eastern portion of the feature at approximately 16 cm below grade. The remains were only partially articulated, and may represent the secondary interment of a defleshed burial. Homogenous dark brown loam feature fill surrounded both burials in Feature 54. However, profile views following excavation suggest that Burial 15 represents a later intrusive pit feature. Although both lithic and faunal remains were recovered from the Feature 54 matrix, none of these could be directly associated with Burial 15.

Burial 15 is incomplete, with less than 40 percent of the individual present; however, the skeletal elements which are present are well preserved. An age of 35–50 years was estimated by presence and wear of third molars and closure of cranial sutures. Sex was estimated based on observation of dimorphic cranial characteristics, including large broad mastoid processes, a prominent mental eminence, strong gonial angles, and a robust nuchal crest (Buikstra and Ubelaker 1994). No postcranial measurements were taken because of the fragmentary nature of this skeleton, precluding stature estimation.

As with several individuals in this sample, Burial 15 exhibits a cervical fossa of Allen on the neck of the left femur. The right femoral neck is absent. The left femur also exhibits a very large and robust gluteal tuberosity, and an extremely rugged greater trochanter, with exostoses of the intertrochanteric fossa and bone spicules at the insertion of the gluteus medius and minimus, piriformis, obturator internus, and gemelli. These features are associated with abduction, adduction, flexion, extension, and rotation of the hip, as well as with overuse including anterior hyperextension and lateral hyperadduction. The individual exhibits good dental health, albeit with extreme dental wear typical of this population. Many mandibular tooth crowns are worn down to half height or less, and the maxillary anterior dentition and the left molars are worn down to the roots. Caries are few and calculus is scant, consistent with the heavy dental attrition on this individual.

Burial 16

Burial 16 was situated 47 cm below grade at the base of Feature 54. This individual was interred in a flexed position on his left side and head oriented east. The arms were crossed across the torso, with the right arm across the stomach and left arm resting on the pelvis. Although both lithic and faunal remains were recovered from the Feature 54 matrix, none of these could be directly associated with Burial 16.

Burial 16 is a well-preserved and extremely robust adult male whose stature was estimated at 173 ± 2.55 cm, approximately 5 feet 8 inches tall (Auerbach and Ruff 2010). Sex was estimated using nonmetric cranial and postcranial characteristics including broad and blunt supraorbital margins and superciliary

arches, large mastoid processes, a prominent external occipital protuberance, a large mental eminence, and robust gonial angles. The pelvis exhibits a shallow and narrow preauricular sulcus and a narrow sciatic notch, with a broad ischiopubic ramus and no subpubic concavity (Buikstra and Ubelaker 1994). Age was estimated by cranial suture closure, dental wear, and pubic symphysis and auricular surface morphology that indicated an age at death between 40 and 60 years (Buikstra and Ubelaker 1994).

Osteoarthritis in this individual is typical of his age and robusticity, occurring mostly at the knees. He exhibits moderate osteophytosis throughout the vertebral column, with more severe lipping and osteophytosis on the fifth lumbar and first sacral elements, consistent with a traumatically herniated disk. This individual had six broken ribs, all of which were fully healed at time of death. He also suffered a severe and complete fracture to the right clavicle (Figure 39) which was dramatically misaligned but fully healed at death. Misalignment of the right clavicle led to posttraumatic osteoarthritis of the right shoulder, including the humeral head, glenoid fossa, and acromion process of the scapula. Also consistent with the robusticity of this individual is the bilateral occurrence of gluteal tuberosities, and bilateral cervical fossae of Allen on the femoral necks.

Dental wear is typical of this population, with fairly extreme attrition of the anterior dentition and remaining maxillary molars. On the mandible, all but one of the posterior teeth were lost past the first premolar, with extensive resorption of the alveolar bone. On the maxilla, all posterior teeth were lost past the first molar, again with extensive resorption.

Figure 39. Fracture to the right clavicle of Burial 16.

Burial 17

Burial 17 is that of an adult (probable female) situated within a shallow pit feature (Feature 55). This individual was positioned in a tightly flexed position on her right side, with head oriented south and hands drawn beneath the chin. The

burial was heavily fragmented by historic plowing or mechanical removal of topsoil. Feature 55 contained both lithic and faunal materials, none of which could be directly associated with the skeletal remains.

Less than fifty percent of the skeleton was present for analysis. This individual is an adult, gauged by eruption of third molars, but no more specific age estimate can be made. A sex estimate of probable female is based on observation of nonmetric cranial characteristics, including a sharp supraorbital margin and small mental eminence, but a moderate supraorbital ridge and external occipital protuberance, and a strong mental eminence (Buikstra and Ubelaker 1994). No metrics were possible due to the poor preservation of the remains, and stature is unknown. The vertebrae are highly fragmented, and only the cervical vertebrae could be assessed for pathology. These elements exhibit extensive degenerative porosity, compression, and osteophyte development on the vertebral bodies, and true osteoarthritis of the vertebral facets. In addition, the right acromial-clavicular articulation shows mild osteoarthritic remodeling. Both temporomandibular joints show osteoarthritic porosity and breakdown of the bone surface on the anterior rim of the joint capsule, perhaps associated with chronic stress or subluxation of the joint. The right radius exhibits a well-healed Colles' fracture in the distal 1/3 of the diaphysis with ossified interosseous membrane. This injury is commonly the result of a fall onto an outstretched hand, and is not indicative of interpersonal violence. The adjacent right ulna does not display a corresponding fracture. Both femora exhibit robust gluteal tuberosities, though to a lesser extent than some in this sample.

This individual's dental health is in a similar state to others in this sample, with extreme dental wear on all teeth, including total or near-total loss of crown height on anterior and posterior teeth. The maxillary left second molar has a large abscess and appears to have been lost antemortem. There are small periapical abscesses of the maxillary right first and second molars, though without antemortem tooth loss. On the mandible, the first and second molars were lost and exhibit complete alveolar resorption. There are few caries and little calculus, consistent with the stage of dental wear on these teeth. The gonial angle is robust, with strong muscle markings which may result from occupational use of the mouth and teeth.

Burial 18

Burial 18 was interred within a shallow pit feature (Feature 61) that extended a maximum of 6 cm below grade. Consequently, both historic plowing and mechanical topsoil removal had obliterated the boundaries of the feature, removing some bones altogether and scattering others to the east. A rodent burrow was also identified in the southern portion of this burial. It appears that the skeleton may have been originally interred in a tightly flexed position on its left side, with the head oriented south or southwest. The Feature 61 matrix included lithic debitage and a finished, non-diagnostic biface. Faunal material included a single bone flake, six indeterminate fragments, and one left proximal

radius fragment, all identified as mammal. One fragmented beaver premolar/molar, a single distal portion of a bird tarsometatarsus, and a single broken gastropod were also recovered. Due to the level of feature disturbance, it was not possible to conclusively determine if these artifacts were directly associated with the burial.

Burial 18 is extremely fragmented and poorly preserved, with less than 25 percent of the remains available for analysis. This individual is estimated to be an adult, but could not be more precisely estimated. Assessment of sex as probable male is based on nonmetric cranial characteristics, including a large supraorbital ridge, a remnant metopic suture, prominent glabella, dull supraorbital margin, and large mastoid process (Buikstra and Ubelaker 1994). No skeletal measurements were possible, so the stature is unknown. Assessment of pathology is incomplete given the poor preservation, but this individual shares some characteristics with other members of this sample. These include a rugged and well-developed gluteal tuberosity and strong pilastering of the linea aspera on the left femur (the right femur is missing postmortem), and osteoarthritic pitting of the anterior margin of the left temporomandibular joint (again, the right is absent postmortem). This individual has extensive dental wear typical of this population, with most crowns worn completely away, and wear on the root surfaces.

Burial 19

Burial 19 was that of an adult (probable male) recovered from a very shallow pit feature (F-70) that extended only 4 cm below grade. The burial suffered disturbance to the cranium, lower right leg, and feet as a result of plowing or mechanical topsoil removal. This individual was interred in a tightly flexed position on his left side, with the head oriented to the northeast and hands resting immediately in front of the chin. The feature matrix yielded lithic debitage, a limestone hoe, and two freshwater gastropods. Because of the level of feature disturbance the relationship of these materials to the skeletal remains could not be determined.

Less than 25 percent of the skeleton survived for analysis. Sex estimation was based on dimorphic characteristics of the skull including a large mastoid process, though the external occipital protuberance is small (Buikstra and Ubelaker 1994). Epiphyseal lines are faintly present on the distal left and right ulna, and distal right radius, suggesting a younger adult. Due to poor preservation, long bones could not be measured, and a stature estimate cannot be calculated. As with Burial 18 above, this individual shares characteristics with other members of this sample, including a rugged and well-developed gluteal tuberosity and strong pilastering on the femur. Of the teeth, only the maxillary left central incisor remains, but it is heavily worn. The maxilla and mandible are missing, thus it is impossible to know if any of the other teeth were lost antemortem.

Burial 20

Burial 20 is an adult (probable male), interred in a semi-flexed position. He was placed on his back in a shallow pit (Feature 73) with knees drawn upwards and the shoulders and neck reclined against the southwestern edge of the pit (Figure 40). Artifacts recovered from the burial feature include lithic debitage, bifaces, a limestone hoe, and both vertebrates and invertebrate remains. Although these materials likely represent deliberate grave inclusions, their position within the pit and exact association with the skeletal remains is not clear from the site documentation. During excavation, Burial 20 was noted to be missing his head, both lower arms, wrists and hands, both lower femora, patellae, and upper tibiae and fibulae.

Figure 40. View of Burial 20.

In field notes, excavators alternately suggest that the absence of these skeletal elements represented trophy-taking or the overzealous application of heavy machinery for topsoil removal, resulting in the head and knees being scraped away. Upon examination, it seems that both conclusions are probably true. There is no sign of a skull ever having been present in the burial, as there are no cranial fragments or teeth present. The first cervical vertebra is absent along with the

skull. The second cervical vertebra was recovered in articulation with the rest of the vertebral column, and shows no signs of cut marks which would indicate decapitation. It is possible that the skull was removed some time after the body was interred and decomposed, although excavation records make no note of any intrusive feature or disturbance to the pit. Conversely, the knees of both legs appear to have been lost as a result of historic plowing or mechanical disturbance in earthmoving activities around the time of excavation. This likely resulted from the position of the burial, with the knees drawn up to the highest point in the supine skeleton.

The arms of this individual appear to have been deliberately removed at the time of death. Both hands, all wrist bones, both ulnae and radii, and the distal ends of the humeri are missing. Both humeri exhibit steeply angled perimortem spiral fractures and cut marks consistent with fresh bone being scored and broken. The cut marks are multiple, short and relatively shallow, and perpendicular to the axis of the long bone across the belly of the brachialis muscle. It would have been necessary to sever the muscle attachment to reflect the soft tissue from the bone so it could be scored prior to snapping the bone in two.

Cutmarks in this location on the arms might simply indicate mortuary practice for the purpose of extremely tight flexion of the interment (Smith 1997). However, considering the presence of spiral fractures and absence of arm, wrist, and hand skeletal elements from within the grave, it is more likely that this truly represents trophy-removal. Similar arm bone trophies are known from Southeastern Archaic cultures (Mensforth 2001, 2007; Smith 1993, 1995, 1997). Skull trophies are also known from Archaic contexts (Mensforth 2001, 2007; Ross-Stallings 2007; Smith 1993), and it is possible the missing skull in this burial is also attributable to trophy-taking, despite a lack of evidence of decapitation on the remaining cervical vertebrae.

Less than 50 percent of the remains were present for analysis. Sex estimation as probable male is based on the morphology of the preauricular sulcus (Buikstra and Ubelaker 1994) and diameter of the femoral head (Bass 2005). As the skull was absent, no dimorphic cranial traits could be considered. Age is assessed based on the morphology of the pubic symphysis, which indicates an age of 25 to 50 years. No metrics other than the femoral head were possible, so stature could not be calculated.

Due to the fragmentary nature of this skeleton, the paleopathological assessment is necessarily incomplete. However, this individual does bear evidence of moderately developed gluteal tuberosities bilaterally, and a cervical fossa of Allen on the neck of the right femur.

Burial 21

Burial 21 comprised a subadult interred in a tightly flexed position within a small, shallow pit feature (Feature 72). This individual was situated on his or her right

side, with the head oriented to the south. A portion of the cranium was disturbed by historic plowing or mechanical soil removal, which also resulted in fragmentation of the remaining skeletal remains. Feature 72 yielded 14 pieces of lithic debitage and a single bone flake of a medium mammal, none of which appeared associated with the skeletal remains.

Mixed deciduous and permanent dentition on this individual indicates an age of 4 to 5 years ± 12 months (Buikstra and Ubelaker 1994). Postcranial measurements indicate an approximate age of 2 1/2 to 3 years, while developmental stages of the temporal, frontal, and occipital suggest an age greater than 2 1/2 years (Scheuer and Black 2000). The teeth show no dental disease, including caries and linear enamel hypoplasia. Dental wear on the deciduous teeth is consistent with the moderate to heavy wear observed on this population. There is no skeletal pathology, and no abnormal porosity, density, or morphology of the bones of the postcranial skeleton. Surprisingly, there is bilateral expression of a cervical fossa of Allen on the femora, which is unusual in a subadult. At the age of this individual, this feature can be alternately explained as a developmental artifact in which rapid longitudinal and circumferential growth of the femur and femoral neck result in unusual porosity of bone at this location. It is notable that this feature appears in a population in which many adults exhibit the true cervical fossa defect, but cannot be uncritically ascribed to rugged locomotion or work stress in such a young child.

Burial 22

Burial 22 was an adult individual interred in a tightly flexed position on their right side approximately 3 cm above the floor of a heavily truncated pit (Feature 74). The head was originally oriented south, and arms appear to have been crossed over the stomach. Historic plowing or mechanical removal of topsoil resulted in the disturbance and removal of a significant portion (>70 percent) of the skeletal remains. The remaining skeletal material was extremely fragmented, and as a result sex could not be estimated.

Because of the fragmentary nature of these remains, age and sex are unknown, other than that this individual had reached adulthood. There is moderate osteophytosis and lipping present in the vertebral column, and osteoarthritis of the rib heads. Osteoarthritis is also present in both hips and the left knee. The right femur exhibits a large gluteal tuberosity which forms a third trochanter, and a true pilastered linea aspera, consistent with the lower body development seen elsewhere in this collection. No other pathology was noted. However, because of the poor preservation of this individual, this pathology assessment should not be considered representative. Dental wear was extreme, with the crowns on most of the teeth worn completely away and angled wear on the molars reaching as much as halfway down the tooth root. Exposure of the pulp chamber led to tooth death in several cases, and is probably the source of significant antemortem tooth loss and resulting alveolar resorption. Few caries and no calculus were observed due to the dental wear.

Feature 74 included lithic debitage, burned limestone, fire-cracked rock, fragments of a raccoon molar, and two mammal bones. A single limestone-tempered, cordmarked sherd was recovered from the base of the feature beneath the skeletal remains. All of these materials were recovered in the general feature fill and do not appear to have been directly associated with the skeletal remains. Nevertheless, the presence of the ceramic sherd suggests that interment took place during the Middle Woodland period. It is unusual in this case that the skeletal robusticity and extreme dental wear of this individual correspond so well with the skeletal pathology profile for the Archaic inhabitants of this site.

Burial 23

Burial 23 is the highly fragmentary remains of a perinatal infant, with only about 40 percent of the skeleton preserved. The burial was interred within the southern portion of Feature 92, approximately 17 cm above the base of the pit. Homogeneous dark brown feature fill was present both above and below the burial. Positioning of the skeleton could not be conclusively determined, though it may have been situated on its back in a flexed position. Both lithic and faunal remains were recovered from Feature 92, but none could be directly associated with Burial 23.

Age at death for this individual is estimated to be between 40 weeks gestation and three months of life. This estimate is based on the length of the tibial diaphysis (Scheuer and Black 2000:414–415), the only bone complete enough for measurements. This estimate cannot be confirmed by comparison with dental age, because no teeth were found, and much of the skull is missing. Porosity of the remains is typical for an infant at this stage of development, and there is no evidence of porotic hyperostosis, cribra orbitalia, or any metabolic disturbance such as rickets or scurvy. There is also no apparent acute infection or trauma. There is no evidence of pathology on the observable skeletal elements, but due to due to poor preservation this result should be considered a potential artifact of sampling error.

Burial 24

Burial 24 is a mostly complete adult (probable male) with greater than 75 percent of the remains present. This individual was interred in a flexed position resting on his right side with the head oriented north and arms pulled tight to the chest (Figure 41). Sex was classified based on cranial and postcranial dimorphic traits, including the narrow greater sciatic notch and small, shallow preauricular sulcus, as well as large mastoid processes, a broad and blunt supraorbital margin, remnant of the metopic suture, prominence of glabella, large mental eminence, and ruggedness of the nuchal crest (Buikstra and Ubelaker 1994). His age is estimated as middle to older adult, with an age of 25 to 55 years based on the morphology of the pubic symphyses, and 30–50 years based on the appearance of the auricular surface (Buikstra and Ubelaker 1994). Degenerative joint disease

throughout his skeleton supports an age greater than 50 years. Stature was estimated at 165.79 ± 2.35 cm (Auerbach and Ruff 2010), or around 5 feet 5 inches tall.

Figure 41. View of Burial 24.

This individual exhibits mild to moderate arthritis throughout the skeleton, including the anterior margin of the lunate surface of both innominates, the right knee, and the left acromial-clavicular joint. He also has mild osteophytosis of the vertebral column, in particular the lumbar vertebrae, which is consistent with mid-adult age. He was a robust individual, with a cervical fossa of Allen on the left and right femur, and strong bilateral development of the gluteal tuberosity.

There is considerable dental attrition, with complete or near-complete loss of crown height on all teeth, and angled wear on some molars extending more than halfway down the length of the root. There is antemortem tooth loss of all left mandibular molars and the right first and second mandibular molars, with resorption of the alveolar bone. On the right maxilla, there is a pronounced sinus infection with porosity and periostitis of the facial aspect of the maxilla. This infection has produced a large cloaca draining through the right alveolar process; the cloaca follows the path of the roots of the first molar, with antemortem loss of the tooth. It is difficult to determine if this infection originated in the sinus, or in an abscess related to attrition and pulp exposure of the tooth, which subsequently

infected the sinus. There is also an abscess of the right maxillary canine, and of the left mandibular second molar, both with antemortem tooth loss.

Burial 24 included a collection of artifacts just east of the ribcage, likely representing the remains of a cache or bundle (see Chapter 5, Figures 17 and 18). The cache measured approximately 23 cm north-south by 30 cm east-west, and included lithic materials, vertebrate and invertebrate remains, and indications of degraded red ochre pigment. Lithics included two projectile points, an ovate knife, a secondary biface, and a wing-tipped drill (see Figure 19). Faunal material contained within the bundle included a white-tailed deer antler tine, 17 dog/wolf/coyote phalanges, four sharpened turkey left tarsometatarsii and two right radii, and bivalve, mussel, and mucket shells (see Figure 33).

Burial 25

Although Feature 93 was labeled as Burial 25 during fieldwork, it did not contain any human skeletal remains and instead consisted of the burial of an adult dog (see Chapter 10).

Burial 26

Burial 26 is the fragmentary, though well-preserved, remains of a subadult between 8 and 14 years of age interred in a shallow pit feature. This burial was impacted by both historic plowing and mechanical topsoil removal, and the exact position and orientation within the grave could not be determined. There were no grave goods or diagnostic artifacts recovered from Burial 26.

Age for this individual was based on postcranial measurements and union of epiphyses, with a dental developmental age of 8 to 12 years ± 24 months (Buikstra and Ubelaker 1994). There is no apparent pathology, with normal porosity throughout the skeleton, and no evidence of porotic hyperostosis, cribra orbitalia, metabolic disturbance, chronic or acute infection, growth interruption, or trauma. The only skeletal anomaly is that this child exhibits a bilateral cervical fossa of Allen on the femoral neck, a trait which is atypical of children, but in this sample is also found on Burial 21, a subadult aged 4 to 5, and on seven of 22 adults. As on Burial 21, it should be noted that the presence of this defect may result from longitudinal and circumferential growth of the femora, and may be a developmental artifact rather than a pathological defect. Dental health for this child was good, with moderate dental wear on the remaining deciduous teeth and on the permanent teeth which had reached occlusion. There are no dental caries, calculus, linear enamel hypoplasia, or dental abscesses.

Burial 27

Burial 27 comprises the poorly preserved and fragmentary remains of an adult female interred in a tightly flexed position in Feature 98 (Figure 42). The

individual was positioned on her right side, with her head oriented to the south and hands situated together beneath her chin. There were no grave goods or diagnostic artifacts recovered from Burial 27.

Figure 42. View of Burial 27.

Sex was assessed based on dimorphic cranial and postcranial nonmetric traits, including small mastoid processes, gracile supraorbital ridge, a wide sciatic notch, and deep and wide preauricular sulcus. Also observed were rounded supraorbital margins and a moderate-sized mental eminence (Buikstra and Ubelaker 1994). This individual is clearly an adult, with third molars in occlusion and moderate retroauricular activity on the right innominate. Age is estimated to be 35 to 50 years based on the morphology of the auricular surface and cranial suture closure (Buikstra and Ubelaker 1994). Stature was estimated at 150.49 cm (4 feet 9 inches) (Auerbach and Ruff 2010).

This individual exhibits mild to moderate degeneration of the vertebrae, with marked compression, wedging, and subchondral bone destruction of several cervical vertebrae, and asymmetrical osteoarthritis of the cervical vertebral facets

predilecting the right. She also shows compression and osteophytosis of the lumbar vertebrae. There is osteoarthritic pitting and lipping of the articular surfaces at the left elbow, left and right acromial-clavicular joints, and left glenoid fossa of the scapula. As with many adults in this sample, she also has well-developed gluteal tuberosities and a strong linea aspera on both femora. She also exhibits a small, shallow pitted lesion in the center of her forehead slightly to the left of the midline; possibly the result from a skin infection or minor trauma.

Consistent with other individuals in this population, Burial 27 has extreme dental wear with all but three of her tooth crowns worn completely down to the root, and only remnants of enamel on three molars which show steeply angled wear. Seven molars were lost antemortem, as well as several anterior single-rooted teeth, all of which exhibit alveolar resorption. There is no enamel left on which to observe caries or linear enamel hypoplasia, no calculus, and no dental abscesses.

Burial 28

Burial 28 is moderately preserved, with slightly more than 50 percent of the remains present. This burial was estimated as a young female aged 18 to 24 years of age. This individual was interred in a flexed position on her right side within a shallow pit feature (Feature 107), with her head oriented south. The left arm was placed across the abdomen, while the right arm was positioned with the elbow resting over the left lower arm and the hand in front of the chin. Estimation of sex was based on cranial and postcranial morphology, including small mastoid processes and mental eminence, sharp supraorbital margin, delicate nuchal crest and glabella, a wide greater sciatic notch, and broad, deep preauricular sulcus (Buikstra and Ubelaker 1994). Age was based on the presence of epiphyseal lines throughout the skeleton, indicating recent skeletal maturity, unfused epiphyses of the iliac crest, the youthful morphology of the auricular surface, and the recent eruption and minimal wear on the third molars. The apex of the third molars is not quite closed, indicating a dental age between 15 and 20 (Buikstra and Ubelaker 1994). Stature was estimated at 154.27 ± 2.58 cm, or around 5 feet tall (Auerbach and Ruff 2010). This young individual shows no pathology, but exhibits a cervical fossa of Allen on the left femoral neck, and moderate development of the gluteal tuberosity bilaterally.

Dental wear is consistent with this population and appropriate to her age, with only moderate wear on the anterior teeth, and relatively little wear on the second and especially third molars. The light wear on this individual gives a better chance to gauge dental health, and in the case of this individual she exhibits no caries and no abscesses. However, because the crowns are preserved, we can see at least one prominent incident of linear enamel hypoplasia, visible on the maxillary central incisors and canines, forming almost a constricting band around the tooth crown.

Artifacts recovered from Burial 28 included a single Shallow Side Notched projectile point, likely originating in the Middle Woodland period. This artifact was positioned immediately west of the skeleton, resting against the eleventh and twelfth ribs on the left side. A total of 42 unmodified vertebrate and invertebrate specimens were recovered from this burial feature, including two turtle carapace fragments and one snake vertebra. Two right bivalve hinges were recovered from immediately west of the individual's shoulder. A circular stain of red ochre (8 cm in diameter) was present to the east of the remains, just above the individual's flexed knees.

As with Burial 22, this individual was interred during the Middle Woodland period, rather than the Early or Late Archaic for most other Fernvale burials. It is interesting that despite differences in temporal affiliation, this individual has skeletal features including extreme dental wear and lower body skeletal robusticity which are consistent with the Archaic Period component of this population.

Burial 29

Burial 29 is a well-preserved and remarkably complete skeleton of a perinatal infant. The age of this individual is estimated at 38 weeks gestation to 3 months of life (± 8 weeks) based on absence or nonunion of epiphyses, long bone lengths, and dental development (Buikstra and Ubelaker 1994). The burial was situated in the eastern portion of Feature 116 in a loosely flexed position resting on the back, with the head oriented to the east. Feature 117 intruded into the northwestern portion of Burial 29, but did not impact the skeletal remains. None of the artifacts recovered from Feature 116 could be directly associated with Burial 29.

Age estimates are supported by the developmental stage of the petrous and squamous portions of the left temporal, which are not united, although the tympanic ring is almost fully fused bilaterally (Scheuer and Black 2000:80, Figure 5.34). Similarly, on the occipital the hypoglossal canals of the pares laterales remain open bilaterally, also consistent with a child of this age (Scheuer and Black 2000:56). There is no observable pathology on this infant, with cortical porosity on the long bones and flat bones typical for this stage of development. There is no evidence of porotic hyperostosis, cribra orbitalia, or any metabolic disturbances such as rickets or scurvy, and no apparent acute infection or trauma.

Burials 30 and 31

Burials 30 and 31 were interred together in Feature 125, a roughly circular pit measuring 104 cm north/south by 106 cm east/west. Burial 31 was interred immediately east of Burial 30. Both burials had been disturbed by plowing and mechanical removal of topsoil. In addition, Feature 126 intrudes into the

southwest corner of Feature 125 and probably resulted in the removal of the lower legs and feet of Burial 30. Both burials appear to have been oriented with heads facing north, although exact body positioning could not be determined because of their fragmentary nature. The burials were situated approximately 35 cm above the base of the feature, suggesting they were placed within an already open pit rather than a dedicated mortuary feature.

Burial 30 is a poorly preserved and extremely fragmented individual with less than 30 percent of the remains present. An estimation of age based on the morphology of the auricular surface of the innominate suggests an age between 35 and 45 years (Buikstra and Ubelaker 1994). Measurement of the maximum diameter of the femoral head indicates indeterminate sex (Bass 2005). No metrics were possible to estimate stature. Because of the poor preservation of these remains, assessment of pathology is incomplete, but this individual does exhibit a cervical fossa of Allen on the right femur (left proximal femur is missing), and mild osteophytosis on the thoracic and lumbar vertebrae (cervical vertebrae are also missing).

All that is present for Burial 31 is an incomplete innominate, portions of both humeri, fragments of a scapula, femur, ribs and vertebrae, one surprisingly unworn tooth, and the left patella. This was a young individual likely between 19 and 25 of age based on the morphology of the auricular surface of the innominate. Sex is indeterminate based on the width of the greater sciatic notch (Buikstra and Ubelaker 1994). No measurements could be made to calculate stature, and no pathology was observed on these poorly preserved remains. Most notable in Burial 31 is that both humeri exhibit perimortem fractures, and the distal humeri, ulnae, radii, wrists, and hands are missing. Cut marks are present circumscribing the left humerus at midshaft above the break, suggesting that the bone had been deliberately scored before breaking. As with Burial 20, these perimortem cutmarks and breaks are consistent with patterns of arm trophies known from other Southeastern Archaic contexts. Due to the fragmentary nature of these remains, it is impossible to tell if this individual was buried lacking a head.

A number of artifacts recovered from feature fill may have been deposited as grave goods. These included two limestone hoes (one of which was recovered immediately beneath the right femur of Burial 30), two hammerstones, and a grooved cobble. Feature 125 contained unmodified faunal material including several bivalve fragments. A total of six faunal specimens were singled out as “bone tools” during excavation. These include three mammal fragments burned black, a white-tailed deer antler base, a carapace fragment from a water/box turtle, and an indeterminate turtle fragment. A single Kirk Serrated projectile point was recovered from the feature fill, although its relationship to the human remains is unclear.

Burial 32

During fieldwork, the dog interred alongside Burial 2 (Feature 8) was labeled as Burial 32. See Burial 32 and the zooarchaeological analysis for a discussion of this specimen.

DISCUSSION AND CONCLUSIONS

Although the Fernvale sample is small, it is fairly normally distributed. Nine of twenty-seven individuals were subadults age 14 or younger. This is exactly 30 percent subadult mortality and is typical for prehistoric populations, which average 30–50 percent mortality of infants and children (Angel 1969; Weiss 1972, 1973:49). However, five of six subadults at Fernvale under the age of five years were buried in non-mortuary features. This suggests there may be a degree of sampling error in the preservation or discovery of younger subadult remains, and that a greater number of subadults may have been buried than were recovered, thus artificially decreasing the subadult mortality rate. Of the nineteen adults for whom sex could reliably be estimated, ten were female or probable female, and nine were male or probable male. This is also in congruence with a typical 1:1 ratio of males to females in a normally distributed population.

The following discussion address three notable features of this sample: 1) unusual dental wear and robust cranial muscle markings; 2) strongly-developed lower extremities and degenerative joint disease of the spine; and 3) trophy-taking in two adult individuals (Hodge and Saul 2012, 2013). These three traits are interesting when considered together, since they are somewhat contradictory. The great degree of dental wear and the robust lower bodies of the Fernvale people are atypical of Archaic populations within the broader region, and suggest that the inhabitants of the Fernvale site may have been engaged in some lifestyle or occupation not shared by contemporaneous populations elsewhere in the vicinity. However, the practice of trophy-taking places the Fernvale residents squarely within a cultural tradition found throughout the mid-South during the Archaic period (Jacobi 2007; Mensforth 2001, 2007; Ross-Stallings, 2007; Smith 1993, 1995, 1997). Therefore it seems that the Fernvale site occupants were participating in cultural practices typical of a broader cultural pool, while tailoring their lifestyle and economy to the narrower ecological niche in which they had settled. Both of these decision-sets impacted their health and welfare as viewed from the perspective of the human skeleton.

The adults and children in this sample show extreme dental attrition, even at very young ages. Of eighteen adults whose heads were present in the burials, all exhibit heavy dental wear. In addition, three children aged 4–14 also exhibit dental wear on their deciduous and permanent dentition. This wear is unusual in its severity, with individuals as young as age 20 exhibiting dental wear which has completely flattened the tooth cusps and has caused considerable dentine

exposure. By age 30, dental wear within the sample has typically eroded at least half of the tooth crowns. By age 45 and greater most, if not all, dental crowns in the sample are worn away, producing chewing surfaces on the stubs of the tooth roots.

The pattern of wear is particularly observable on younger individuals who still have some tooth crown left, and is characterized as follows. Dental wear in this sample is very steeply angled; on the anterior dentition wear occurs on the backs of the top teeth and the fronts of the bottom teeth (i.e., maxillary wear is lingual and mandibular wear is labial). On the posterior dentition there is greater wear on the lingual aspect of the maxillary teeth and on the buccal aspect of the mandibular teeth. In several extreme cases, the wear is so steeply angled as to produce masticatory wear on the sides of molar roots. This wear is also unusual in that there is little dental chipping, and the remaining tooth crowns and root stubs are very smooth and highly polished. In addition to occlusal wear, the sample exhibits considerable interproximal wear, suggesting that whatever action resulted in this degree of wear also produced significant movement among the teeth, wearing them against one another. Several of the adults also show signs of strong attachment sites for the muscles associated with chewing or jaw-clenching, particularly the temporal and masseter muscles. However, the muscles of the neck and other facial and jaw muscles on these individuals are not strongly developed, suggesting the activity was not a muscle-intensive process throughout the head and neck, but rather specific to the mouth. Finally, a number of the adults have arthritis of the temporomandibular joint, which can result from chronic overuse and perhaps hyperextension or subluxation of this joint.

This population has very little evidence of dental caries and calculus. Excessive wear can result in premature wearing away of dental defects, effectively precluding the development of incipient caries. Similarly, calculus cannot accumulate in an environment of significant attrition. Other types of dental disease are more prominent, however. Abscesses are relatively common, and there is a high rate of antemortem tooth loss, which may be associated with premature dentine exposure resulting in caries and subsequent dental abscesses, leading to tooth loss and alveolar resorption. Linear enamel hypoplasia is also present in the few cases where children or young adults had a lesser progression of dental attrition, and therefore greater preservation of observable crown surfaces. This dental signature of growth interruption can be erased by dental wear, and we can guess that perhaps some of the individuals who have near-total loss of crown height may also have had enamel hypoplasia which cannot be detected due to premature wearing away of dental crowns.

It appears that the occupants of the Fernvale site were using their teeth as tools for some sort of materials processing. The general lack of chipping and high degree of polish on the worn teeth suggest the material being processed was relatively soft. There is also no unusual staining on the teeth which might suggest the type of material processed, and no occlusal or interproximal grooves which

might be associated with cordage or other textile production (Capasso et al. 1999:150–152; Larsen 1985). In the absence of microwear studies, it is impossible to gain a clearer picture of what kind of processing was going on at Fernvale. There is also no evidence in the material culture at this site for any atypical artifacts, features, or structures which might give a clue as to the processing taking place. This suggests the worked material was either perishable (which is likely for a soft material), or did not remain on-site. The entire community seems to have been engaged in this activity: all adults and the subadults greater than age four show this specific dental wear. For this degree of community engagement, it seems likely that the processing activity was conducted for the purpose of exchange, whether economic or social. This points to a general view of the Fernvale community being engaged in production and exchange, marking them as members of a reciprocal relationship with other communities in the region.

The inhabitants of Fernvale bear the skeletal signature of living and working along the physiographic intersection of the Central Basin and Western Highland Rim, as evidenced by patterns of degenerative joint disease and musculoskeletal markers suggesting habitual movement across this rugged geologic interface. Adults in this population exhibit degenerative conditions in the cervical and lumbar spine, including disk herniation, cartilage breakdown and osteophyte formation in the vertebral bodies, and true osteoarthritis of the vertebral and rib facets. One individual suffered spondylolysis of the fifth lumbar vertebra, which results from nonfusion of the vertebral arch due to overuse during growth and development, or is the result of traumatic avulsion of the vertebral arch during acute muscle stress in the lower back. This picture of stress on the neck and back is supported by a pattern of overdevelopment of the large muscles of the legs among fourteen of nineteen adults for whom muscle attachments could be assessed. In particular, the linea aspera and the gluteal tuberosity are highly developed. These are the muscle attachments for the major muscles of locomotion, as well as the muscles directly responsible for hyperextending the hip (as in stepping up on a high step, or rockclimbing), and also adduction, abduction, and rotation of the hip, particularly in this flexed position. Moreover, nine adults and children over the age of four have a unilateral or bilateral cervical fossa of Allen on the neck of the femur. This feature has an unknown etiology, but is thought to be associated with hyperextension of the leg at the hip, resulting in impingement on the femoral neck by the rim of the acetabulum of the hip ball joint (Scheuer and Black 2000:377; Villotte and Knüsel 2009).

Adult inhabitants of the Fernvale site also show a moderate rate of healed antemortem fractures. These include notable broken ribs, a broken ankle, and a profound and misaligned fracture of the clavicle. Also observed were two instances of Colles' fractures of the radius, which typically occur as a result of a fall onto an outstretched hand, as in throwing out a hand to catch oneself in tripping or an accidental fall from a low height. The clavicle fracture also typically occurs in a fall, in which the individual does not throw out a hand to catch themselves but instead absorbs the blow on the side of the shoulder.

Misalignment of the clavicle is typical in these instances, in which the broken ends of the element are driven past one another as a result of the blow, and cannot be properly aligned without traction or surgery and subsequent long-term immobilization. Broken ribs and a broken ankle are also common to accidental falls, whether from tripping or from losing one's balance from a low height. This category of accidental trauma is well-known in hunter-gatherer-forager populations who are more mobile across the landscape than later horticulturalists.Two adults exhibit facets on the big toe which are consistent with hyperextension of this joint in the course of squatting or kneeling. This posture may be associated with some sort of work done on the knees such as grinding seeds or pounding nuts, but can also result from canoeing.

Finally, it is clear that the Fernvale residents were engaged in some kind of social, political, or ceremonial pattern which required human bone trophies. Burial 20, an adult (probable) male, had been buried in a supine position seemingly lacking a head and exhibiting clear evidence of perimortem dismemberment of the arms, with transverse cut marks scoring the bone at the midshaft of the humerus on both arms. Each bone was then snapped off, leaving a classic spiral fracture pattern. The nature of the break and the color of the broken surfaces clearly indicate this break occurred within the perimortem interval (i.e., immediately before or after death). The distal ends of both humeri, lower arms, wrists, and hands are entirely missing from this burial. This person may have also been buried without a head, though there is no evidence of decapitation. Burial 31 was in a similar state. This adult of indeterminate sex had cut marks and a relatively straight break on the left humerus, and a classic spiral fracture on the right humerus, though without visible cut marks. Again, the distal ends of both humeri, both radii, ulnae, and all bones of both wrists and hands are missing from the burial. Burial 31 also has no head, although this burial is extremely fragmentary and the head may have been removed by plowing or by mechanical stripping of the site overburden.

There were no isolated human bone trophies recovered from this site. Barring sampling error (possible given the previously discussed limits of the excavated site area), this result suggests that Fernvale occupants were trophy-givers rather than trophy-takers. This interpretation depends on how we view trophy-taking in the Archaic. Some assert that trophy-taking in general is associated with acts of aggression, and that trophy removal is designed to shame the dead, co-opt power, or prevent the victim from moving on to a next state of being in a whole or unblemished state (e.g. Smith 1951). On the other hand, trophy-taking has been viewed in the context of ancestor veneration, in which the individual from whom the trophies were removed is honored either as a specific individual or as a representative of a class of ancestors (e.g., Deuel 1952). Finally, human bone trophies may be part of a larger ceremonial system in which they comprise a necessary part of a set of symbols or components employed to maintain and ensure proper relationships between the physical and supernatural worlds (e.g. Brown and Dye 2007; Knight et al. 2001). Evaluating trophy-giving within the context of non-aggressive behavior is intriguing in that it places the Fernvale

inhabitants within a larger social/ceremonial system, and in an interdependent relationship with other communities in the Harpeth River drainage, and/or the greater Middle Tennessee region.

In the larger biocultural scope, the inhabitants of Fernvale seem to have been in a particular class of producers and givers. They were engaged in some form of intensive production using their teeth as tools to process or manufacture some unknown product. This product seems to have been either taphonomically perishable or traded out of the community in its entirety, as no evidence of the specific product or of large-scale corporate processing has been found on the site. Given the near-total involvement of the entire population (including children), it would be surprising if the products were not intended for external consumption.

The skeletal sample from Fernvale shows the site inhabitants were actively traversing the rugged intersection of the South Harpeth Valley and surrounding Western Highland Rim, both as adults and children. In particular, they seem to have been subject to accidental falls, and also to have engaged in climbing or rugged walking, and perhaps also canoeing. At least some of this locomotion may have been in the course of interacting and trading with groups outside of the South Harpeth Valley.

In the course of this interaction, the inhabitants of Fernvale were likely part of a broader Southeastern Archaic cultural and social sphere that included including trophy-giving and trophy-taking behaviors. For example, the two individuals from Burials 20 and 31 may have been local residents who fell victim to aggressive trophy extraction by external enemies, and whose bodies were recovered and returned home (though both lack evidence of violent death). Alternately, it is possible these individuals were outsiders who lost their arms as trophies and were interred at the site. This latter interpretation seems unlikely, given consistency in patterns of tooth wear and lower body development between these individuals and the rest of the skeletal sample, which marks them as local residents rather than outsiders. In the most likely scenario, the removal of arm and perhaps skull trophies from individuals buried at Fernvale indicates the inhabitants of Fernvale were involved in the regional social sphere as providers of human bone trophies employed in ritual activities to benefit the broader regional community in shared beliefs and lifeways. In this behavior, we see a direct ideological analog to the economic production and distribution evidenced by the extreme dental wear and skeletal robusticity found in the Fernvale sample as well.

XIII. CONCLUSIONS

The Fernvale site was excavated between February and June of 1985 prior to a TDOT bridge replacement spanning the South Harpeth River in northwestern Williamson County. That effort resulted in the identification of more than 200 features, including 33 human burials and the footprints of three prehistoric structures. More than 101,000 artifacts were recovered from the site, including lithic, ceramic, botanical, and zooarchaeological remains. That the results of excavations were not published for nearly 30 years illustrates both the importance of curating archaeological project materials and the utility of reexamining old collections. Without the aid of original field notes, maps, drawings, photo logs, and written communications, and the benefits of new technology and expertise, it would have been impossible to reconstruct the Fernvale excavations or discuss the site in any meaningful way. However, as a result of successful curation and reanalysis, the assemblage presented in this report includes significant data towards our understanding of the prehistoric occupation of Middle Tennessee.

Temporally sensitive artifacts recovered from the site encompass nearly the entire scope of American prehistory, ranging from approximately 880 to 10,000 BP. However, most of this span is represented by small numbers of diagnostic projectile points rather than identifiable features or definable occupation zones. The Early and Middle Archaic and Early Woodland periods at the site collectively account for less than 15 percent of the total diagnostic artifact assemblage, and only two temporally-assigned features. No Late Woodland artifacts or features were identified at the site.

Excavations recorded one circular structure dating to the Middle Woodland period (Structure 1), as well as an Early Mississippian wall trench house with a potentially associated small circular structure (Structures 2 and 3, respectively). Despite the evidence for Middle Woodland and Mississippian occupations, excavators recovered few examples of artifact classes typically associated with these periods. Ceramics, arrow points, tools for processing vegetal materials, and evidence of cultigens are all notably sparse or absent from the assemblage.

Based on the small size of Middle Woodland and Mississippian activity areas and the relative lack of associated artifacts, it is tempting to see each of these components as resulting from short-term single family occupations. However, post features suggest there were additional structures present at the site (see Figure 20), and the scarcity of Middle Woodland and Mississippian materials recovered during the excavations is likely the result of historic site disturbance rather than ephemeral or short-term occupation. Phase II testing in 1984 resulted in the recovery of Middle Woodland projectile points, as well as the presence of shell- and limestone-tempered pottery from all test units. Although these materials were never tabulated, they were present in great enough quantity that

the subsequent data recovery plan was primarily designed around investigations of a Mississippian farmstead.

Site stratigraphy reveals that historic plowing conflated midden deposits throughout the entire excavation area. This undoubtedly resulted in the destruction of later prehistoric features, such as the hearth from Structure 2 and possibly additional structure footprints. Most artifacts originating in the Woodland and Mississippian periods were probably concentrated in the plowzone, and removed from the site during mechanical stripping prior to data recovery. Although some materials were collected from plowzone soils during that process, it was not done in a systematic fashion.

Because of site disturbance and plowzone removal, it is impossible to directly compare the density of Middle Woodland and Mississippian occupations at Fernvale with those of earlier time periods. However, the greatest portion of temporally-affiliated deposits and artifacts that extended beneath the plowzone originated in the terminal portion of the Late Archaic period. This includes 72 percent of the projectile point assemblage, 68 percent of the temporally-affiliated features (including three burials), and four out of six radiocarbon dates.

Lithic materials from Fernvale reveal that during the terminal portion of the Late Archaic period, inhabitants were almost exclusively relying on local, readily-accessible varieties of Fort Payne chert to manufacture lithic tools. Stemmed projectile point forms including Pickwick, Ledbetter, Wade, and Little Bear Creek are the predominant named Late Archaic point types in the region, although a variety of straight, expanding, and contracting stemmed forms also appear at Fernvale and in other Late Archaic assemblages. These forms persist for several thousand years, and suggest broad cultural continuity across the Late Archaic/Early Woodland transition.

Cultural continuity during this period is also reflected in the botanical and zooarchaeological collections from the site. Plant remains such as *Chenopodium*, maygrass, and other seeds and fruits gradually begin to increase in the archaeological record of the Central Basin during the terminal Archaic, and show possible evidence of domestication by 3400 BP (Wampler and McKee 2012). However, there is little evidence for exploitation of these various species at Fernvale, as only one whole and two fragmented examples of *Chenopodium* and a single fragmented grape seed were recovered from Late Archaic features. Instead, hickory nuts comprise the principal plant food remains at the site.

The lack of botanical material at Fernvale is possibly the result of sampling error and/or site disturbance. Historic plowing and topsoil removal may have caused a dramatic reduction in the number of plant remains available for recovery. It is also possible that additional plant remains were present in features that did not contain temporally diagnostic artifacts, and so were not examined for botanical materials. However, these various processes do not adequately account for the

virtual absence of tools for vegetal processing. Only three fragmented groundstone implements were recovered from the site.

In contrast to an earlier regional focus on systematic shellfish exploitation at riverbank sites in the western Central Basin, freshwater naiads and gastropods are notably sparse within the Fernvale assemblage. Faunal remains from the site reveal a preference for mammals, and particularly white-tailed deer. Other remains in the assemblage (reptiles, birds, fish, and amphibians) indicate inhabitants of Fernvale exploited a variety of species, albeit less intensively. Beyond the presence of possible wolf, dog, or coyote phalanges in Burial 26, no remains of large carnivores were recovered from the site. The lack of shellfish and botanical materials suggest that the Late Archaic through Early Woodland inhabitants of Fernvale were employing subsistence strategies similar to those of Middle Archaic populations in the region; that is, with primary reliance on large mammals, and only limited incorporation of plant food.

Late Archaic/Early Woodland cultural continuity is also evident in the Fernvale mortuary assemblage. In all cases where positioning could be determined, burials at Fernvale were interred in flexed or tightly flexed positions. There was no consistency in regard to orientation within the graves. Flexed interments appear as the predominant burial method in the interior Southeast during the Middle Archaic period, have been well documented at sites throughout the Central Basin (e.g. Allen 1999; Deter-Wolf 2004; Dowd 1989), and were the primary mode of interment at Fernvale over a period of at least 1,600 years. Burials 4 and 5 included grave offerings diagnostic of the Late Archaic period. Burial 24 likely originated in the initial portion of the Early Woodland period, while Burial 22 included a single limestone-tempered, cordmarked sherd. A single partial cremation from Fernvale (Burial 8) radiocarbon dated to 3490 ± 300 BP reveals that flexed burials were not the only mode of interment during the Late Archaic. One additional possible cremation (Feature 58) was situated within the footprint of Structure 1, but could not be conclusively determined to contain human remains.

The skeletal remains of the site inhabitants themselves also exhibit a remarkable degree of continuity, given that they span a period of greater than a millennium. All adults and subadults greater than the age of 4 whose heads were present in burials exhibit distinctive occlusal dental wear, which as described in Chapter 12, resulted from intensive processing of an unidentified soft material. Given the near-total involvement of the site population in this activity and lack of corresponding artifactual evidence for the practice, it would appear that whatever the inhabitants of Fernvale were producing was intended for external consumption. Degenerative conditions in the cervical and lumbar spine and the overdevelopment of large leg muscles among the adult population suggest that regardless of the specific nature of the processed material, the site occupants were leaving the South Harpeth Valley and traversing the adjacent Western Highland Rim to facilitate its exchange. In addition to the unknown material that they were intensively and communally producing, the Fernvale inhabitants may

also have been contributing prestige goods to a regional exchange system in the form of trophy limbs. Burials 20 and 31 from the site show clear indications of limbs --and potentially heads-- having been removed perimortem.

Whatever exchange system the Fernvale residents were participants in, they appear to have received little in return for their contributions. As described in Chapter 8, the few instances of exotic lithic material in the assemblage are represented by individual flakes rather than complete tools. This suggests these materials were incidentally collected during forays from the South Harpeth Valley rather than being the result of concerted acquisition efforts or reciprocal trade arrangements. Additionally, the absence of human bone trophies from the site suggests that while they may have benefited indirectly from the ritual use of these items by others within their exchange network, the role of the Fernvale inhabitants was that of trophy-givers as opposed to trophy-takers.

Only two features at Fernvale include finished artifacts crafted from exotic materials. Burials at the site included sporadic offerings of lithic tools and both modified and unmodified faunal remains. However, Burial 6 was interred wearing a bracelet of marine shell columella beads, and is the only example of an exotic mortuary offering. Feature 71 included an undecorated, center-drilled gorget crafted from the outer whorl of a lightning whelk, one tubular marine shell columella bead, and 51 shell disk beads. As noted in Chapter 5, while similar undecorated, center-drilled marine shell gorgets appear elsewhere in the Southeast during the Late Archaic period, the Fernvale gorget is the only example of this artifact type documented in the Middle Cumberland region to date.

The end of the Late Archaic and initial portion of the Early Woodland period is a segment of the archaeological record that is still poorly understood for the Middle Cumberland region and Middle Tennessee (e.g. Bowen 1979; Hofman 1984). Riverbank sites in the western Central Basin witnessed systematic exploitation of gastropod species during the period ca. 3000–8000 BP (Deter-Wolf and Peres 2013), resulting in the formation of extensive shell mounds and middens along the Cumberland River and its tributaries. Burials from this period include a variety of exotic materials and reflect social complexity and long-distance trade. This regional variant of the “Shell Mound Archaic” ends approximately 1,000 years prior to the main Late Archaic settlement at Fernvale.

In contrast to initial Late Archaic fluorescence in the western Central Basin, the period ca. 2300–4700 BP is typified by a decrease in site density and complexity, a decline in artifact diversity, general paucity of grave goods, and scarcity of exotic raw materials such as marine shell and non-local chert. All of these trends are evident in the Late Archaic through Early Woodland occupations at Fernvale. Similar cultural shifts appear elsewhere in Eastern North America around the Late Archaic/Early Woodland transition, and have been variously attributed to gradual *in-situ* development, cultural replacement, collapse of existing social hierarchies, and climate change (see discussion in Kidder 2006).

Kidder (2006) has presented evidence that massive flood events in the Lower Mississippi Basin during the Late Archaic period likely caused significant landscape change and contributed to cultural transformation in that region. Bank line stratigraphic columns recently examined at two major shell mound/midden sites along the Cumberland River near Nashville (40DV7 and 40DV14) have recorded deposits of artifact-sterile alluvium up to a meter thick immediately overlaying Late Archaic shell-bearing levels (Miller et al. 2012; Peres et al. 2012). Both these sites are situated along the interior (depositional) portion of river meanders, and so are prime locations at which to identify alluvial deposits resulting from major flood events.

Radiocarbon samples recovered from the top of the shell midden at 40DV14 returned dates of 5805 ± 43 BP and 5977 ± 44 BP (Miller et al. 2012). The continuation of shell midden construction along this portion of the Cumberland River until ca. 4500 BP suggests that repeated major flooding along the Cumberland and its tributaries during the Late Archaic period gradually altered the riverine environment. These changes may have resulted in shifts to gastropod species availability that precipitated the end of shell midden/mound formation and corresponding collapse of the regional Shell Mound Archaic culture. A significant environmental shift during this period is also evident in the composition of later shell middens, which reappear after approximately 3400 BP as deposits comprised of both bivalve and gastropod species rather than principally gastropod (Peres et al. 2012).

As Kidder (2006:221) rightfully points out, climate shifts and corresponding environmental alterations are not the sole agents of culture change, and the specifics of the Late Archaic period in the Middle Cumberland River valley will certainly be the subject of future research. Regardless, it appears that in the wake of the Shell Mound Archaic, groups in the western Central Basin experienced cultural contraction and began to exhibit a more insular focus. Trade networks connecting Middle Tennessee to the Gulf Coast apparently broke down, exotic artifacts and raw materials became scarce, and ritual and symbolic behavior associated with these items --such as mortuary patterns and offerings-- adapted to new realities and resource availability and perhaps a decline in social complexity. The insular nature of populations in the western Central Basin is evident in the continuity of the Late Archaic through Early Woodland period artifact and skeletal assemblages from Fernvale. This trend appears more broadly along the Middle Cumberland in the extremely slow appearance and incorporation of cultural markers traditionally associated with the onset of the Woodland period, such as permanent settlements, intensive horticulture, the widespread appearance of ceramics, and the construction of earthen mounds.

The end of Late Archaic/Early Woodland continuity in the western Central Basin is similarly difficult to define. At Fernvale this period is marked by the construction of at least one permanent vertical pole structure (Structure 1) and the sparse appearance of limestone-tempered ceramics. In the broader region, the end of this period may coincide with the principal occupation at Glass Mounds

(40WM3), located approximately 12 km (7.4 miles) southwest of Fernvale along the main channel of the Harpeth River. Architecture and copper artifacts from that site reveal not only the reemergence of trade networks during the Middle Woodland, but also an apparent shift in focus from the Gulf Coast towards the Ohio Valley. However, it is important to note that other than Glass Mounds, the Middle Woodland period in the western Central Basin is not nearly as well represented or defined as along the Elk and Duck Rivers (Faulkner 2002).

It is possible that Fernvale contains additional archaeological data that would further address Late Archaic/Early Woodland continuity and the broader prehistory of the region. The alluvial terrace containing the site continues at a relatively level grade to the north and northwest of the 1985 bridge replacement corridor. The character of the landform suggests that a significant portion of the site (~10,000 square meters) may remain in open pasture. This uninvestigated site area undoubtedly includes additional Late Archaic and Early Woodland human burials and pit features, and perhaps Middle Woodland and/or Mississippian structures, and so is worthy of further investigation and protection.

In the summer of 2012 TDOA archaeologists met with the property owner to appraise them of the reanalysis project and forthcoming publication of this report. During that conversation the landowner mentioned possible plans to build a house on the property within the likely boundaries of the undisturbed site area. Such a development would almost certainly result in the disturbance of prehistoric human burials and run afoul of Tennessee's state cemetery laws. However, legal provisions for cemetery termination and burial removal would provide an opportunity to mitigate the impact to the archaeological record. Some 3,300 years after the burial of the marine shell gorget and nearly 30 years after it was first excavated, it appears that the final chapter of the site has yet to be written.

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APPENDIX A: FEATURE DESCRIPTIONS

Feature 1 (Burials 1a, 1b, 1c)
Type: Pit / Burial
Dimensions (cm): 84 N/S by 73 E/W
Feature Category: 1
Depth (cm): 16 cm
Volume (cubic meters): 0.06
Water Screen Sample? Yes
Associated Artifacts: Feature one contained 296 pieces of lithic debitage, as well as three limestone flakes.
Remarks: This feature contains Burial one (see burial descriptions)

Feature 2
Type: Pit
Dimensions (cm): 70 N/S by 68 E/W
Feature Category: 1
Depth (cm): 4
Volume (cubic meters): 0.01
Water Screen Sample? Yes
Associated Artifacts: Feature two contained 219 pieces of lithic debitage. The feature also produced four finished bifaces, and quantities of burned limestone and shale.
Remarks: None

Feature 3
Type: Pit
Dimensions (cm): 120 NE/SW by 90 NW/SE
Feature Category: 2
Depth (cm): 38
Volume (cubic meters): 0.22
Water Screen Sample? Yes
Associated Artifacts: Feature three yielded a total of 1,192 pieces of lithic debitage. The NNW half of Zone B yielded a single Terminal Archaic Expanding Stemmed PP/K, a chert drill, and a limestone hoe. The feature also contained quantities of burned limestone, FCR, and shale.

Feature three also yielded a total of 222 (40.36 g) vertebrate faunal remains from 1/4-inch dry and 1/8-inch water screens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (30.18%), mammals (55.41%) (including: mammal, large mammal, medium to large mammal, medium mammal, small to medium mammal, small mammal, rodents, and white-tailed deer), birds (3.60%), reptiles (9.46%) (including: snakes, turtles, and eastern box turtle), bony fish (1.35%) (including indeterminate fish and the family of sucker fish). Fifty-six of the 222 (25.23%), were heat altered, and six (2.70%) exhibit cut marks.
Remarks: This feature exhibited internal stratigraphy consisting of two fill zones separated by washed soils. The SSE half of the feature was excavated as a single level, while the NNW half was separated according to natural stratigraphy.

Feature 4
Type: Pit
Dimensions (cm): 150 N/S by 148 E/W
Feature Category: 5
Depth (cm): 142
Volume (cubic meters): 0.84
Water Screen Sample? Yes
Associated Artifacts: Feature four yielded 1,071 pieces of lithic debitage, two primary bifaces, two secondary bifaces, one tertiary biface, and four finished but non-diagnostic bifaces. The eastern half of the feature also produced single examples of Sykes/White Springs and Late Archaic Stemmed bifaces. The feature contained quantities of burned limestone, FCR, and shale.

Feature four also yielded a total of 195 (41.11 g) vertebrate faunal remains from both 1/4-inch dry screen and 1/8-inch water screen. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (54.92%), mammals (38.34%), birds (1.55%), reptiles (3.11%), and fish (2.07%). Sixty of the 193 (31.09%) were heat altered, and 15 (7.77%) exhibit cut marks.

Remarks: This feature exhibited internal stratigraphy consisting of two fill zones separated by washed soils. The east half of the feature was excavated as a single level, while the west half was separated according to natural stratigraphy.

Feature 5

Type: Pit
Dimensions (cm):142 N/S by 145 E/W
Feature Category: 3
Depth (cm): 21
Volume (cubic meters): 0.28
Water Screen Sample? No

Associated Artifacts: Feature five yielded 421 pieces of lithic debitage. The feature also contained small quantities of burned limestone, FCR, and shale.

Feature five also yielded a total of 124 (39.12 g) faunal remains. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (25.81%), mammals (2.42%), and reptiles (71.77%). No specimens were heat altered and 21 (16.94%) were exhibited cut marks. Eastern box turtle dominates the assemblage (*n*=20, 71.77% of the total feature assemblage) and 20 of the specimens have been modified/cut.

Remarks: None

Feature 6

Type: Pit
Dimensions (cm): 74 N/S by 93 E/W
Feature Category: 2
Depth (cm): 32
Volume (cubic meters): 0.08
Water Screen Sample? Yes

Associated Artifacts: Feature six yielded 627 pieces of lithic debitage. The feature also contained a single secondary biface and burned limestone.

Feature six also yielded a total of 12 (7.14 g) faunal specimens. All of the specimens were identified as mammals including indeterminate mammals (83.33%), beaver (8.33%), and white-tailed deer (8.33%). An indeterminate fragment of mammal was heat altered.

Remarks: This feature exhibited internal stratigraphy consisting of two distinct fill zones.

Feature 7

Type: Pit
Dimensions (cm): 100 N/S by 110 E/W
Feature Category: 2
Depth (cm): 33
Volume (cubic meters): 0.22
Water Screen Sample? Yes

Associated Artifacts: Feature seven yielded 466 pieces of lithic debitage, as well as a tertiary biface and a single Terminal Archaic Straight Stemmed projectile point. The feature also contained burned clay and limestone.

Feature seven yielded a total of 471 (220.42 g) modified and unmodified faunal specimens. The distribution of non-tool specimens, by %NISP, across class is as follows: indeterminate vertebrates (25.27%), mammals (52.02%), birds (19.11%), reptiles (2.76%), and fish (0.85%). Within the class of mammals squirrels (*n*=4) and white-tailed deer (*n*=7) were identified. Within the class of birds, wild turkey (*n*=10) was identified. Eastern box turtle (*n*=4) is the only identified species in the reptile

class. No specimens were identifiable to species within the bony fish class. A total of 131 specimens were heat altered and 133 were modified including cut marks, scoring and snapping, and battering.

A total of 14 faunal specimens (77.87g) were labeled as modified/tools during excavation. Two sharpened bone fragments were identified only as Vertebrata. Eleven (73.54 g) antler specimens are identified as family of deer and elk. Modifications to these ranged from burned black to scored and snapped to cut marks and smoothing. Finally a single proximal and shaft of a turkey tarsometatarsus is present. This specimen was sharpened distally.

Remarks: None

Feature 8 (Burials 2 and 32)

Type: Pit
Dimensions (cm): 96 N/S by 86 E/W
Feature Category: 6
Depth (cm): 33
*Volume (cubic meters):*0.27
Water Screen Sample? Yes

Associated Artifacts: Feature eight yielded 580 pieces of lithic debitage, as well as a Kirk Corner Notched PP/K. The feature also contained burned limestone, FCR, and shale.

Feature eight included the burial of a mature dog that weighed approximately 12.35 pounds. It was interred with alongside a male individual, resting over his shoulder and neck One non-canid modified animal specimen was recovered, consisting of a modified left tarsometatarsus of a turkey (*Meleagris gallopavo*). This specimen was smoothed and polished and longitudinal striations are consistent with sharpening. The specimen was recovered from the area of the human's right hand. This artifact is very similar to those recovered from Feature 94. Other animal remains recovered from this feature include two large mammal bone flakes, one large mammal long bone shaft fragment, a cervid antler that is cracked from weathering, and one indeterminate bird fragment.

Remarks: This feature contains Burial eight (human) and Burial 32 (dog)

Feature 9

Type: Pit
Dimensions (cm): 89 N/S by 110 E/W
Feature Category: 1
Depth (cm): 27
Volume (cubic meters): 0.18
Water Screen Sample? Yes

Associated Artifacts: Feature nine yielded 572 pieces of lithic debitage, as well as single tertiary biface and a Terminal Archaic Straight Stemmed PP/K. The feature also contained burned limestone and FCR.

Feature nine also yielded a total of 364 (150.88 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (52.20%), mammals (29.95%), birds (12.91%), reptiles (2.20%), fish (2.47%), and invertebrates (0.27%). The class of mammals includes woodchuck (*n*=1), raccoon (*n*=2), eastern cottontail rabbit (*n*=2), and white-tailed deer (*n*=1). Wild turkey (*n*=2) was identified within the class of birds. Eastern box turtle (*n*=1) is the only identified species within the bony fish class. A total of 98 specimens were heat altered and 16 were modified including cut marks or spiral fractured.

Remarks: None

Feature 10

Type: Pit
Dimensions (cm): 119 N/S by 90 E/W
Feature Category: 1
Depth (cm): 23
Volume (cubic meters): 0.16
Water Screen Sample? No

Associated Artifacts: Feature 10 yielded 290 pieces of lithic debitage, as well as single examples of secondary, tertiary, and finished bifaces. The feature also contained burned limestone and FCR.

Feature 10 also yielded a total of 33 (14.79 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (9.09%), mammals (63.64%), and birds (27.27%). White-tailed deer (*n*=2) is the only species identified in this assemblage. All other specimens were identifiable to class level only. A total of 15 specimens were heat altered, and no specimen exhibited indications of further modification.

Remarks: None

Feature 11

Type: Pit
Dimensions (cm): 80 N/S by 82 E/W
Feature Category: 1
Depth (cm): 14
Volume (cubic meters): 0.05
Water Screen Sample? Yes

Associated Artifacts: Feature 11 yielded 289 pieces of lithic debitage, as well as a single Late Archaic Stemmed PP/K. The feature also contained burned limestone and 1g of shale.

Feature 11 also yielded a total of 318 (23.21 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (71.70%), mammals (19.18%), birds (0.63%), reptiles (6.60%), and fish (1.89%). White-tailed deer (*n*=2) is the only identified species in the class of mammals. Eastern box turtle (*n*=7) is the only species identified in the class of reptiles. A total of 74 specimens were heat altered and one specimen has cut marks.

Remarks: Excavators noted some rodent disturbance or bioturbation within the feature.

Feature 12

Type: Pit
Dimensions (cm): 110 N/S by 106 E/W
Feature Category: 1
Depth (cm): 9
Volume (cubic meters): 0.07
Water Screen Sample? No

Associated Artifacts: Feature 12 yielded 163 pieces of lithic debitage and two endscrapers. The feature also contained burned limestone and 14 g of shale.

Feature 12 also contained a total of 55 (66.38 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (72.73%) and reptiles (27.27%). Rodents (*n*=2) and white-tailed deer (*n*=6) are represented in the class of mammals. Eastern box turtle (*n*=13) is the only species identified in the class of reptiles. A total of five specimens were heat altered, and no specimen exhibited indications of further modification.

Remarks: Excavators noted some rodent disturbance or bioturbation within the feature.

Feature 13

Type: Pit
Dimensions (cm): 50 N/S by 50 E/W
Feature Category: 1
Depth (cm): 3

Volume (cubic meters): 0.01 *Water Screen Sample?* No
Associated Artifacts: Feature 13 yielded eight pieces of lithic debitage, as well as <5 g each of burned limestone and shale.
Remarks: None

Feature 14
Type: Pit *Dimensions (cm)*: 98 N/S by 103 E/W
Feature Category: 1 *Depth (cm)*: 26
Volume (cubic meters): 0.16 *Water Screen Sample?* No
Associated Artifacts: Feature 14 yielded 188 pieces of lithic debitage, as well as a single secondary biface and two finished bifaces. The feature also contained a unimarginal flake tool, a sidescraper, and quantities of burned limestone, FCR, and shale.

Feature 14 also yielded a total of 39 (53.36 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (94.87%) and reptiles (5.13%). Squirrels (*n*=1), raccoon (*n*=1), and white-tailed deer (*n*=5) are represented in the class of mammals. Eastern box turtle (*n*=1) is the only species identified in the class of reptiles. A total of three specimens were heat altered, and no specimen exhibited indications of further modification.
Remarks: None

Feature 15
Type: Pit *Dimensions (cm)*: 75 N/.S by 88 E/W
Feature Category: 2 *Depth (cm)*: 47
Volume (cubic meters): 0.25 *Water Screen Sample?* Yes
Associated Artifacts: Feature 15 yielded 864 pieces of lithic debitage, a tertiary biface, a finished biface, and burned limestone, FCR, and shale. The feature also contained five diagnostic PP/Ks, consisting of: a Late Archaic Stemmed; a Late Archaic Corner Notched; a Motley; and two Terminal Archaic Straight Stemmed points.

Feature 15 also yielded a total of 366 (187.37 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (28.42%), mammals (52.19%), birds (9.84%), reptiles (7.38%), and fish (2.19%). Within the class of mammals rodents (*n*=2), squirrels (*n*=3), opossum (*n*=2), raccoon (*n*=3), elk (*n*=1), and white-tailed deer (*n*=5) are represented. There are no species identified within the class of birds. Snakes (*n*=8), the family of mud and musk turtles (*n*=2) and eastern box turtle (*n*=9) are represented in the class of reptiles. The family of sucker fish (*n*=2) are represented in the class of bony fish. A total of 58 specimens were heat altered and one specimen exhibited cut marks.
Additionally the second phalanx of the third toe of an elk was recovered as a modified specimen during excavations. This specimen does seem to have been battered and smoothed, but for what purpose is unclear.
Remarks: None

Feature 16
Type: Pit *Dimensions (cm)*: 87 N/S by 110 E/W
Feature Category: 1 *Depth (cm)*: 22
Volume (cubic meters): 0.11 *Water Screen Sample?* Yes
Associated Artifacts: Feature 16 yielded 307 pieces of lithic debitage, a tertiary biface, two secondary bifaces, one tertiary biface, and a finished biface. The feature also contained a single Motley PP/K and burned limestone.

Feature 16 also yielded a total of 271 (105.52 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (36.06%), mammals (48.70%), birds (1.86%), amphibians (0.37%), reptiles (7.06%), and bony fish (5.20%). Within the class of mammals, white-tailed deer (*n*=3) is the only identified species. The eastern box turtle (*n*=14) is the only identified species in the class of reptiles. Birds, amphibians, and bony fish could not be identified beyond the class level. A total of 72 specimens were heat altered, and no specimens exhibited indications of further modification.

Remarks: None

Feature 17

Type: Pit
Dimensions (cm): 66 N/S by 65 E/W
Feature Category: 1
Depth (cm): 21
Volume (cubic meters): 0.05
Water Screen Sample? No

Associated Artifacts: Feature 17 yielded 167 pieces of lithic debitage, as well as single limestone hoe. The feature also contained burned limestone, FCR, and shale.

Feature 17 also contained a total of 18 (22.33 g) faunal specimens. Only two classes are represented in this assemblage: mammals (94.44%) and reptiles (5.56%). White-tailed deer (*n*=2) is the only identified species in this assemblage. A total of seven specimens (nearly 50%) were heat altered, and no specimens exhibited indications of further modification.

Remarks: This feature exhibited internal stratigraphy consisting of two fill zones distinguished by soil color and texture. The east half of the feature was excavated as a single level, while the west half was separated according to natural stratigraphy.

Feature 18

Type: Pit
Dimensions (cm): 90 N/S by 92 E/W
Feature Category: 2
Depth (cm): 49
Volume (cubic meters): 0.27
Water Screen Sample? Yes

Associated Artifacts: Feature 18 yielded 1,159 pieces of lithic debitage, a unimarginal flake tool, a spokeshave, and burned limestone and shale. It also contained primary, secondary, tertiary, and finished bifaces, as well as single examples of beveled edge and terminal Archaic straight stemmed PP/Ks.

Feature 18 also yielded a total of 278 (159.05 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (24.10%), mammals (53.96%), birds (14.03%), amphibians (0.72%), reptiles (5.76%), and bony fish (1.44%). Within the class of mammals, white-tailed deer (*n*=7) is the only identified species. The wild turkey (*n*=2) is the only identified bird species. Within reptiles, the family of mud and musk turtles (*n*=1) and the eastern box turtle (*n*=4) are identified. Amphibians and bony fish could not be identified beyond class level. A total of 22 specimens were heat altered and one specimen exhibited further modifications.

Remarks: This feature exhibited internal stratigraphy consisting of three wash and fill episodes. The profile shape of the silty clay lenses indicates they result from natural washing of exposed feature walls rather than deliberate fill episodes. The artifacts recovered from the feature were not separated by fill zone.

Feature 19

Type: Pit | *Dimensions (cm)*: 60 N/S by 60 E/W
Feature Category: 1 | *Depth (cm)*: 10
Volume (cubic meters): 0.03 | *Water Screen Sample?* No

Associated Artifacts: Feature 19 yielded 484 pieces of lithic debitage, six tertiary bifaces, and one finished biface. Burned limestone was also present in the feature fill.

Feature 19 also yielded a total of 30 (16.77 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (92%), reptiles (4%), and bony fish (4%). Within the class of mammals, white-tailed deer is the only identified species. Within reptiles, the soft-shelled turtle (*n*=1) is the only identified species. The bony fish specimen could not be identified beyond class level. A total of two specimens were heat altered, and no specimens exhibited indications of further modification.

Remarks: None.

Feature 20

Type: Pit | *Dimensions (cm)*: 89 N/S by 93 E/W
Feature Category: 1 | *Depth (cm)*: 18
Volume (cubic meters): 0.11 | *Water Screen Sample?* No

Associated Artifacts: Feature 20 yielded 301 pieces of lithic debitage, and three finished bifaces. Burned limestone was also present in the feature fill.

Feature 20 yielded a total of 27 (41.45 g) faunal specimens. This assemblage contains two class: mammals (88.89%) and reptiles (11.11%). Within the class of mammals, beaver (*n*=1) and white-tailed deer (*n*=2) are identified. The family of mud and musk turtles (*n*=2) and eastern box turtle (*n*=1) are identified. A single box turtle specimen has been heat altered, and no specimens exhibited indications of further modification.

Remarks: None.

Feature 21

Type: Pit | *Dimensions (cm)*: 110 E/W (circular)
Feature Category: 2 | *Depth (cm)*: 34
Volume (cubic meters): 0.28 | *Water Screen Sample?* Yes

Associated Artifacts: Feature 21 yielded 1,172 pieces of lithic debitage, one secondary biface, and one finished biface. The feature also included two terminal Archaic straight stemmed PP/Ks and one shallow side notched PP/K. Burned limestone was also present in the feature fill.

Feature 21 yielded a total of 501 (259.83 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (26.15%), mammals (61.08%), birds (1.60%), amphibians (0.40%), reptiles (4.19%), bony fish (4.59%), and invertebrates (2.00%). Within the class of mammal, identified species include: rodents (*n*=1), eastern mole (*n*=2), fox squirrel (*n*=4), and white-tailed deer (*n*=23). The wild turkey (*n*=3) is the only bird identified to species. The frog family (*n*=2) is the only species identified in the class of amphibians. Identified within the class of reptiles are snakes (*n*=5), family of mud and musk turtles (*n*=8), and eastern box turtle (*n*=2). Within the bony fish class are the channel catfish (*n*=1) and the family of drums and croakers (*n*=1). Within the invertebrates the family of freshwater mussels (*n*=3) is identified. A total of 132 specimens are heat altered and five exhibit indications of further modification.

Remarks: This feature was intrusive into the southern 1/3 of Feature 22.

Feature 22

Type: Pit — *Dimensions (cm)*: 58 E/W (circular)
Feature Category: 1 — *Depth (cm)*: 5
Volume (cubic meters): 0.01 — *Water Screen Sample?* No
Associated Artifacts: Feature 22 yielded 26 pieces of lithic debitage and a small amount of burned limestone.

Feature 22 yielded a total of four (0.7 g) faunal specimens. Two classes, mammals (25%) and birds (75%) are represented. Specimens could not be identified beyond class level. One mammal specimen was heat altered and one bird specimen exhibited cut marks.
Remarks: Feature 21 intrudes into the southern 1/3 of this feature.

Feature 23

Type: Pit — *Dimensions (cm)*: 120 E/W (circular)
Feature Category: 1 — *Depth (cm)*: 12
Volume (cubic meters): 0.04 — *Water Screen Sample?* Yes
Associated Artifacts: Feature 23 yielded 257 pieces of lithic debitage, one secondary biface, and burned limestone. Feature 23 also yielded a total of 21 (11.4 g) faunal specimens. Two classes, mammals (89.47%) and reptiles (10.53%) are represented. White-tailed deer (*n*=2) is the only species identified within the class of mammals, and soft-shelled turtle (*n*=1) is the only species identified within the class of reptiles. A total of eight specimens were heat altered, and none exhibit indications of further modifications.
Remarks: Feature 24 intrudes into the western 1/3 of this feature.

Feature 24

Type: Pit — *Dimensions (cm)*: 60 E/W (circular)
Feature Category: 2 — *Depth (cm)*: 34
Volume (cubic meters): 0.2 — *Water Screen Sample?* Yes
Associated Artifacts: Feature 24 yielded 750 pieces of lithic debitage, one secondary biface, one finished biface, four unimarginal flake tools, two Motley PP/Ks, and three limestone hoes. Burned limestone was also present in the feature fill.

Feature 24 yielded a total of 311 (75.37 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (42.53%), mammals (41.27%), birds (3.29%), amphibians (0.76%), reptiles (3.54%), bony fish (2.28%), and invertebrates (6.33%). Within the class of mammals, identified species include: squirrels (*n*=2), dog (*n*=2), family of elk and deer (*n*=2), and white-tailed deer (*n*=4). Within the class of amphibians frog/toad was identified (*n*=3). Identified reptiles include snakes (*n*=8), family of mud and musk turtles (*n*=3) and eastern box turtle (*n*=1). Invertebrates are represented by bivalves (*n*=25). The class of birds did not have any identifiable species. A total of 125 specimens were heat altered and four specimens exhibit indications of further modifications. A total of four (2.50g) faunal specimens were recovered during excavations as being modified. Two antler tines mend to one. These specimens were burned black, smooth/polished, and possibly gnawed. Two possible bird bone beads were also recovered.
Remarks: The three limestone hoes appear to have been deliberately “killed” by being snapped across their midsections. They were deposited throughout the northern half

of the feature. Feature 24 is intrusive into the western 1/3 of Feature 23.

Feature 25 (Burial 3)
Type: Pit
Feature Category: 1
Volume (cubic meters): 0.01
Dimensions (cm): 40 N/S by 50 E/W
Depth (cm): 6
Water Screen Sample? No
Associated Artifacts: Feature 25 contained 62 pieces of lithic debitage and a single finished biface.
Remarks: This feature contains Burial 3 (see burial descriptions)

Feature 26 (Burials 4a and 4b)
Type: Pit
Feature Category: 1
Volume (cubic meters): 0.03
Dimensions (cm): 54 N/S by 87 E/W
Depth (cm): 9
Water Screen Sample? No
Associated Artifacts: Feature 26 contained 40 pieces of lithic debitage and a two finished bifaces. A single projectile point was noted from between the third and fourth ribs on the right side of the rib cage. Neither the actual artifact nor any individual photographs or documentation of this artifact could be located. Field notes postulate that the projectile point is "possibly Late Archaic."
Remarks: This feature contains Burials 4a and 4b (see burial descriptions)

Feature 27
Type: Pit
Feature Category: 1
Volume (cubic meters): 0.01
Dimensions (cm): 66 N/S by 68 E/W
Depth (cm): 2
Water Screen Sample? No
Associated Artifacts: Feature 27 yielded 16 pieces of lithic debitage and a small amount of burned limestone.

Feature 27 yielded a single faunal specimen, weighing 0.5 g. The element is a molar fragment from a white-tailed deer. It does not exhibit any indications of heat alteration or further modifications.
Remarks: None.

Feature 28
Type: Pit
Feature Category: 1
Volume (cubic meters): 0.01
Dimensions (cm): 50 N/S by 47 E/W
Depth (cm): 7
Water Screen Sample? No
Associated Artifacts: Feature 28 yielded 143 pieces of lithic debitage, two finished bifaces, and a small amount of burned limestone.

Feature 28 yielded a total of 15 (11.5 g) faunal specimens. Both mammals (93.33%) and bony fish (6.67%) are represented. The identified species within the class of mammals is family of dogs and wolves (*n*=1). The bony fish is represented by the channel catfish (*n*=1). A total of seven specimens were heat altered and two exhibit further modification.
Remarks: None

Feature 29
Type: Pit
Feature Category: 1
Volume (cubic meters): 0.15
Dimensions (cm): 102 N/S by 105 E/W
Depth (cm): 21
Water Screen Sample? Yes

Associated Artifacts: Feature 29 yielded 437 pieces of lithic debitage, two finished bifaces, a unimarginal flake tool, and a sidescraper. The feature also contained burned limestone, FCR, and shale.

Feature 29 yielded a total of 82 (49.79 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (87.01%), reptiles (3.90%), bony fish (1.30%), and invertebrates (7.79%). Within the class of mammals the eastern chipmunk (*n*=1) and white-tailed deer (*n*=2) are identified. Within the class of reptiles only the family of water and box turtles (*n*=2) was identified. Gastropods (*n*=6) are the only invertebrates identified. A total of nine specimens were heat altered and one specimen exhibited cut marks.

Additionally, a total of four modified faunal specimens (30.39g) were collected during excavations. Two indeterminate mammal fragments were burned black; one cervid antler beam and tine was scored and snapped distally on the beam and scored and snapped proximally on the tine; one indeterminate turtle costal is roughly circular, smoothed, and has a hole drilled in one side.

Remarks: None.

Feature 30

Type: Pit — *Dimensions (cm)*: 67 N/S by 63 E/W
Feature Category: 1 — *Depth (cm)*: 9
Volume (cubic meters): 0.03 — *Water Screen Sample?* Yes

Associated Artifacts: Feature 30 yielded 433 pieces of lithic debitage, a secondary biface, and a hafted endscraper. The feature also contained burned limestone and shale.

Feature 30 yielded a total of 409 (175.15 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (45.10%), mammals (44.12%), birds (1.96%), reptiles (7.35%), and bony fish (1.47%). White-tailed deer (*n*=9) is the only identified species within the class of mammals. The wild turkey (*n*=1) is the only identified species within the class of birds. Identified taxa within the class of reptiles includes: snakes (*n*=3), the family of mud and musk turtles (*n*=4), the family of box and water turtles (*n*=5), and eastern box turtle (*n*=9). Bony fish specimens were not identifiable beyond class level. A total of 107 specimens were heat altered and eight specimens exhibited further modifications.

Remarks: None.

Feature 31

Type: Pit — *Dimensions (cm)*: 67 N/S by 70 E/W
Feature Category: 1 — *Depth (cm)*: 8
Volume (cubic meters): 0.02 — *Water Screen Sample?* No

Associated Artifacts: Feature 31 yielded 536 pieces of lithic debitage and a secondary biface. The feature also contained burned limestone, FCR, and shale.

Remarks: None.

Feature 32 (Burial 5)

Type: Pit — *Dimensions (cm)*: 130 N/S by 145 E/W
Feature Category: 3 — *Depth (cm)*: 26
Volume (cubic meters): 0.3 — *Water Screen Sample?* Yes

Associated Artifacts: Feature 32 yielded 2,384 pieces of lithic debitage, along with one

primary, one secondary, and five finished bifaces, three unimarginal flake tools, a graver, and a drill. This feature also contained five PP/Ks, including one Kirk Corner-Notched, two Late Archaic Stemmed, one Motley, and one Terminal Archaic Expanding Stemmed. Finally, the feature contained burned limestone, FCR, and shale.

Feature 32 yielded a total of 331 (19.91 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (62.84%), mammals (26.28%), birds (0.91%), reptiles (3.93%), bony fish (0.60%), and invertebrates (5.44%). Identified taxa within the class of mammals includes the family of squirrels (*n*=3), the family of elk and deer (*n*=1), and white-tailed deer (*n*=1). Identified taxa within the class of reptiles includes: snakes (*n*=6), and turtles (*n*=7). The classes of birds and bony fish did not have any taxa identifiable beyond class level. A total of 85 specimens were heat altered and no specimen exhibited further modification. Additionally, one cervid antler tine tip was calcined but not smoothed.

Remarks: This feature contains Burial 5 (see burial descriptions). The Motley point appears to have been in association with the human burial.

Feature 33

Type: Pit
Dimensions (cm): 105 N/S by 115 E/W
Feature Category: 3
Depth (cm): 17
Volume (cubic meters): 0.11
Water Screen Sample? Yes

Associated Artifacts: Feature 33 yielded 611 pieces of lithic debitage, along with one limestone hoe, one finished biface, and one Kirk Serrated PP/K. This feature also contained two limestone tempered plain sherds, along with burned limestone and shale.

Remarks: None.

Feature 34

Type: Pit
Dimensions (cm): 70 N/S by 72 E/W
Feature Category: 1
Depth (cm): 12
Volume (cubic meters): 0.04
Water Screen Sample? No

Associated Artifacts: Feature 34 yielded 456 pieces of lithic debitage, along with two finished bifaces, and one limestone tempered plain sherd. The feature also contained burned limestone, FCR, and shale.

Feature 34 yielded a total of 150 (3.09 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (98%) and reptiles (2%). Identified taxa within the class of mammals includes: the family of squirrels (*n*=2) and eastern chipmunk (*n*=1). Identified taxa within the class of reptiles includes: snakes (*n*=2) and the family of box and water turtles (*n*=1). A total of 31 specimens were heat altered and no specimen exhibited further modification.

Remarks: None.

Feature 35

Type: Pit
Dimensions (cm): 53 N/S by 48 E/W
Feature Category: 1
Depth (cm): 5
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 35 yielded 289 pieces of lithic debitage and burned limestone.

Remarks: None.

Feature 36

Type: Pit
Dimensions (cm): 65 N/S by 63 E/W
Feature Category: 1
Depth (cm): 29
Volume (cubic meters): 0.05
Water Screen Sample? Yes
Associated Artifacts: Feature 36 yielded 812 pieces of lithic debitage, along with one unimarginal flake tool, a Late Archaic Stemmed PP/K, and a Motley PP/K. The feature also contained a single sherd of Mississippi Plain ceramic, as well as burned limestone and shale.

Feature 36 yielded a total of 278 (14.9 g) of faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (54.68%), mammals (39.21%), amphibians (0.36%), reptiles (2.16%), and bony fish (3.60%). Identifiable taxa include: white-tailed deer (*n*=2), frog/toad (*n*=1), snakes (*n*=4), and the family of musk and mud turtle (*n*=2). A total of 67 specimens were heat altered and two specimens exhibited further modifications. Two specimens recovered during excavation were labeled as modified. A single indeterminate mammal was burned and polished. A distal metapodial epiphyseal condyle, identified as white-tailed deer, was battered.
Remarks: None.

Feature 37

Type: Pit
Dimensions (cm): 70 N/S (circular)
Feature Category: 1
Depth (cm): 26
Volume (cubic meters): 0.1
Water Screen Sample? No
Associated Artifacts: Feature 37 yielded 587 pieces of lithic debitage, along with two finished bifaces and one Motley PP/K. The feature also contained burned limestone and shale.

Feature 37 yielded a total of 408 (24.66 g) of faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (62.25%), mammals (29.66%), birds (1.96%), amphibians (0.25%), reptiles (1.23%), bony fish (1.72%), and invertebrates (2.94%). Identifiable taxa within this feature include: white-tailed deer (*n*=2), the family of frogs (*n*=1), snakes (*n*=1), the family of mud and musk turtles (*n*=1), the family of freshwater mussels (*n*=4), and Leptoxis praerosa (*n*=1). A total of 69 specimens were heat altered and no specimen exhibited further modification.
Remarks: None.

Feature 38

Type: Pit
Dimensions (cm): 37 N/S by 30 E/W
Feature Category: 1
Depth (cm): 4
Volume (cubic meters): 0.01
Water Screen Sample? No
Associated Artifacts: Feature 38 yielded 53 pieces of lithic debitage.
Remarks: None.

Feature 39 (Burial 6)

Type: Pit
Dimensions (cm): 80 N/S by 72 E/W
Feature Category: 1
Depth (cm): 7
Volume (cubic meters): .03
Water Screen Sample? Yes
Associated Artifacts: Feature 39 yielded 72 pieces of lithic debitage. The feature also

contained burned limestone

Remarks: This feature contains Burial 6, which included 4 columella beads recovered near the right wrist (see burial descriptions).

Feature 40 (Burial 7)

Type: Pit — *Dimensions (cm)*: 80 N/S by 66 E/W
Feature Category: 1 — *Depth (cm)*: 19
Volume (cubic meters): .07 — *Water Screen Sample?* No

Associated Artifacts: Feature 40 yielded 149 pieces of lithic debitage. The feature also contained burned limestone.

Remarks: This feature contains Burial 7 (see burial descriptions). This feature also intrudes into the Northeast portion of Feature 42 and Burial 8.

Feature 41

Type: Pit — *Dimensions (cm)*: 52 N/S by 50 E/W
Feature Category: 1 — *Depth (cm)*: 7
Volume (cubic meters): .01 — *Water Screen Sample?* No

Associated Artifacts: Feature 41 yielded 35 pieces of lithic debitage. The feature also contained burned limestone.

Remarks: None.

Feature 42 (Burial 8)

Type: Pit — *Dimensions (cm)*: 65 N/S by 60 E/W
Feature Category: 6 — *Depth (cm)*: 50
Volume (cubic meters): 0.15 — *Water Screen Sample?* No

Associated Artifacts: Feature 42 yielded 1,993 pieces of lithic debitage, three finished bifaces, one unimarginal flake tool, and one Terminal Archaic Straight Stemmed PP/K. The feature also contained shale and burned limestone.

Zone A of Feature 42 yielded at total of 26 (14.39g) faunal specimens. Two classes are represented in this assemblage, mammals (69.23%) and invertebrates (30.77%). The mammal class is identified as large mammal rib fragments (*n*=18), all of which are calcined; and eight partial bivalve fragments.

Remarks: This feature exhibited internal stratigraphy consisting of two fill zones. All artifacts and human remains (including Burial 8) were recovered from Zone A, with the exception of 86 pieces of debitage. Feature 40 and Burial seven intrude into the Northeast portion of this feature.

Feature 43

Type: Pit — *Dimensions (cm)*: 97 N/S by 97 E/W
Feature Category: 2 — *Depth (cm)*: 30
Volume (cubic meters): 0.21 — *Water Screen Sample?* Yes

Associated Artifacts: Feature 43 yielded 1,156 pieces of lithic debitage, along with two secondary bifaces, one tertiary biface, one finished biface, and one drill. The feature also contained shale, burned limestone, and FCR.

Feature 43 yielded a total of 494 (51.11 g) of faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (65.18%), mammals (19.84%), birds (0.61%), amphibians (0.20%), reptiles (2.23%), bony fish (3.85%), and invertebrates (8.10%). Identifiable taxa within this feature include: the family of toads (*n*=1), snakes (*n*=4), turtles (*n*=7), family of pleurocerid snails (*n*=1), and the

fluted kidneyshell (*n*=2). A total of 122 specimens were heat altered and one specimen exhibited further modification. One indeterminate mammal fragment was polished and one end was smoothed on the interior.

Additionally, a total of four faunal specimens were identified as modified. One small mammal longbone fragment was determined during analysis to not be modified. One indeterminate mammal fragment was burned and polished; one large mammal bone flake was pointed and polished. Finally, a white-tailed deer ulnar notch (notch only) was burned and polished.

Remarks: Feature 43 had a layer of shale at the base of the feature.

Feature 44 (Burials 9 and 10)

Type: Pit
Dimensions (cm): 98 N/S by 95 E/W
Feature Category: 1
Depth (cm): 21
Volume (cubic meters): 0.13
Water Screen Sample? No

Associated Artifacts: Feature 44 yielded 230 pieces of lithic debitage, along with one unimarginal flake tool. The feature also contained burned limestone and red ochre was present.

Remarks: This feature contains Burials 9 and 10 (see burial descriptions). According to excavator notes, one turtle shell was placed over the stomach of Burial 9. Feature 46 intrudes into the Southeast corner of this feature.

Feature 45

Type: Pit
Dimensions (cm): 95 N/S by 104 E/W
Feature Category: 2
Depth (cm): 44
Volume (cubic meters): 0.23
Water Screen Sample? Yes

Associated Artifacts: Feature 45 yielded 1,836 pieces of lithic debitage, along with one primary, one tertiary, and three finished bifaces, and two unimarginal flake tools. This feature also contained three PP/Ks, including one Late Archaic Corner Notched and two Terminal Archaic Straight Stemmed. The feature also contained shale, FCR, and burned limestone.

Feature 45 yielded a total of 261 (16.34 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (61.57%), mammals (28.24%), birds (1.57%), reptiles (1.57%), bony fish (3.53%), and invertebrates (0.39%). Identifiable taxa within this feature include: white-tailed deer (*n*=1), snakes (*n*=8), turtles (*n*=4), and bivalves (*n*=1). A total of 73 specimens were heat altered and three exhibited further modification.

Remarks: None.

Feature 46 (Burial 11)

Type: Pit
Dimensions (cm): 83 N/S by 82 E/W
Feature Category: 1
Depth (cm): 23
Volume (cubic meters): 0.23
Water Screen Sample? No

Associated Artifacts: Feature 46 yielded 601 pieces of lithic debitage, along with one tertiary biface and one finished biface and a sharpened and polished bone implement. The feature also contained burned limestone and FCR.

Remarks: This feature contains Burial 11 (see burial descriptions). This feature intrudes into the Southeast corner of Feature 44. Post Hole 56 also intrudes into this feature.

Feature 47

Type: Pit
Dimensions (cm): 75 N/S by 70 E/W
Feature Category: 1
Depth (cm): 9
Volume (cubic meters): .03
Water Screen Sample? Yes
Associated Artifacts: Feature 47 yielded 228 pieces of lithic debitage, along with one secondary biface and one finished biface. The feature also contained burned limestone and FCR.
Remarks: None.

Feature 48 (Burial 12)

Type: Pit
Dimensions (cm): 70 N/S by 66 E/W
Feature Category: 1
Depth (cm): 11
Volume (cubic meters): .04
Water Screen Sample? No
Associated Artifacts: Feature 48 yielded 195 pieces of lithic debitage. The feature also contained burned limestone and FCR.
Remarks: This feature contains Burial 12 (see burial descriptions).

Feature 49 (Burial 13)

Type: Pit
Dimensions (cm): 103 N/S by 88 E/W
Feature Category: 2
Depth (cm): 32
Volume (cubic meters): 0.18
Water Screen Sample? No
Associated Artifacts: Feature 49 yielded 859 pieces of lithic debitage, along with two tertiary bifaces and three finished bifaces. The feature also contained burned limestone and FCR. The feature yielded two faunal specimens, both of which were modified. One is a burned and polished fragment of mammal bone. The other is a possibly polished fragment of a medium to large mammal baculum.
Remarks: This feature contains Burial 13 (see burial descriptions) and exhibited internal stratigraphy consisting of two fill zones. Burial 13 was situated in the lower zone. Excavation notes and profile data suggest that the upper stratum of Feature 49 represents a later, intrusive non-mortuary pit rather than deliberate reuse of a burial feature.

Feature 50

Type: Pit
Dimensions (cm): 49 N/S by 45 E/W
Feature Category: 1
Depth (cm): 5
Volume (cubic meters): 0.01
Water Screen Sample? No
Associated Artifacts: Feature 50 yielded 29 pieces of lithic debitage.
Remarks: None.

Feature 51 (Burial 14)

Type: Pit
Dimensions (cm): 78 N/S by 89 E/W
Feature Category: 1
Depth (cm): 16
Volume (cubic meters): 0.08
Water Screen Sample? No
Associated Artifacts: Feature 51 yielded 125 pieces of lithic debitage, along with one hoe. The feature also contained burned limestone, FCR, and red ochre. A total of 15 faunal specimens were recovered from this feature, including one bone flake from a large mammal, thirteen indeterminate fragments of medium to large mammal (of which five were heat altered), and one raccoon phalanx.
Remarks: This feature contains Burial 14 (see burial descriptions). Feature 52 intrudes into the Northeast corner of Feature 51. Red ochre is present.

Feature 52

Type: Pit
Dimensions (cm): 63 N/S by 60 E/W
Feature Category: 1
Depth (cm): 14
Volume (cubic meters): 0.03
Water Screen Sample? No

Associated Artifacts: Feature 52 yielded 289 pieces of lithic debitage, along with one finished biface, two unimarginal flake tools, and one hammerstone. The feature also contained burned limestone and FCR.

Feature 52 yielded a total of 42 (45.54 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (94.74%) and reptiles (5.26%). Identifiable taxa in this feature include: white-tailed deer (*n*=2) and turtle (*n*=2). A total of 15 specimens were heat altered and no specimen exhibited further modification.

Remarks: Feature 52 intrudes into the Northeast corner of Feature 51.

Feature 53

Type: Pit
Dimensions (cm): 80 N/S by 80 E/W
Feature Category: 1
Depth (cm): 22
Volume (cubic meters): 0.09
Water Screen Sample? No

Associated Artifacts: Feature 53 yielded 517 pieces of lithic debitage, along with one tertiary biface, two finished bifaces, three unimarginal flake tools, and one bimarginal flake tool. The feature also contained shale, burned limestone, and FCR.

Feature 53 yielded a total of 85 (82.32 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (91.76%), birds (3.53%), and reptiles (4.71%). Identifiable taxa within this feature include: carnivores (*n*=8), raccoon (*n*=1), white-tailed deer (*n*=1), wild turkey (*n*=1), barred owl (*n*=1), and eastern box turtle (*n*=1). A total of 21 specimens were heat altered and one specimen exhibited further modification. A large mammal bone flake may exhibit polishing.

Remarks: This feature also contained a bone bead and burned limestone.

Feature 54 (Burial 15 and 16)

Type: Pit
Dimensions (cm): 90 N/S by 120 E/W
Feature Category: 6
Depth (cm): 49
Volume (cubic meters): 0.36
Water Screen Sample? No

Associated Artifacts: Feature 54 yielded 2,366 pieces of lithic debitage, along with one primary biface, three secondary bifaces, three tertiary bifaces, eleven finished bifaces, two unimarginal flake tools, one drill, and one hammerstone. The feature also contained shale, burned limestone, burned clay, and FCR.

This feature yielded a total of 190 faunal specimens. A total of 10 teeth and teeth fragments from the family of elk and deer (Cervidae) as well as white-tailed deer. Mammal longbone elements were also identified, including: one distal metapodial, one distal tibia, and one proximal ulna. A total of 39 bone flakes were identified as large mammal, two of which were heat altered. Two adult phalanx fragments were recovered from this feature one of which was a terminal (or third) phalanx. A fragment of a large mammal skull and two left mandibles were also recovered. A total of 122 indeterminate fragments of medium mammal were identified, 38 of which were heat altered. A tibia shaft fragment of a small to medium mammal was identified in this sample, as well as two fragments of small mammal. A left maxilla

fragment containing molars 1 and 4 was identified as a raccoon. Four carapace fragments were identified to the order of turtles (Testudines), while one neural was identified as an eastern box turtle. Finally a scapula fragment was identified only as Vertebrata.

Remarks: This feature contains Burial 15 and 16 (see burial descriptions).

Feature 55 (Burial 17)

Type: Pit
Dimensions (cm): 83 N/S by 73 E/W
Feature Category: 1
Depth (cm): 18
Volume (cubic meters): 0.09
Water Screen Sample? No

Associated Artifacts: Feature 55 yielded 79 pieces of lithic debitage, along with one finished biface. The feature also contained burned limestone and FCR.

Both mammals and turtles are represented in this assemblage. Three bone fragments were identified as medium mammal, one of these was heat altered. A single costal fragment was identified as belonging to the family of mud and musk turtle (Kinosternidae), while one carapace fragment was identified as box turtle.

Remarks: This feature contains Burial 17 (see burial descriptions).

Feature 56

Type: Pit
Dimensions (cm): 98 N/S by 126 E/W
Feature Category: 5
Depth (cm): 106
Volume (cubic meters): 0.44
Water Screen Sample? Yes.

Associated Artifacts: Feature 56 yielded 2,053 pieces of lithic debitage, along with three secondary bifaces, four finished bifaces, and two hoes. This feature also contained three PP/Ks, including one Morrow Mountain and two Terminal Archaic Expanding Stemmed. The feature also contained shale, burned limestone, and FCR.

Feature 56 yielded a total of 371 (197.18 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (32.61%), mammals (59.84%), birds (1.35%), amphibians (0.27%), reptiles (5.39%), and bony fish (0.54%). Identifiable taxa within this feature include: rodents (*n*=3), family of squirrels (*n*=1), eastern chipmunk (*n*=1), raccoon (*n*=1), dog (*n*=2), bobcat (*n*=1), family of elk and deer (*n*=1), white-tailed deer (*n*=8), wild turkey (*n*=2), family of toads (*n*=1), snakes (*n*=2), turtles (*n*=10), family of mud and musk turtles (*n*=1), and eastern box turtle (*n*=7). A total of 98 specimens were heat altered and three exhibited further modification.

Additionally, three (2.23g) mammal specimens were identified as modified. One indeterminate mammal bone fragment was sharpened; one medium mammal bone flake was polished, smoothed, and had some burning; and a large mammal bone flake was burned black and scratched/polished.

Remarks: None.

Feature 57

Type: Pit
Dimensions (cm): 280 N/S by 210 E/W
Feature Category:
Depth (cm): 44
Volume (cubic meters): 1.82
Water Screen Sample? Yes

Associated Artifacts: Feature 57 yielded a total of 6,894 lithic artifacts, and a total faunal assemblage of 2,049 (1338.02g). A total of 649 faunal specimens were heat altered, with 37 additional specimens exhibiting other modifications. The specific artifact data

is discussed below by excavation level.

The eastern half of Feature 57 was excavated as a single level, and yielded a total of 2,644 pieces of lithic debitage, one primary biface, two secondary bifaces, three tertiary bifaces, and four finished bifaces. It also contained single examples of Kirk Corner Notched, Pickwick, Eva, and Motley PP/Ks. It also contained one unimarginal flake tool, one hafted endscraper, a single abrasive siltstone bead, and burned limestone and FCR.

The eastern half of Feature 57 also yielded a total of 76 (224.69g) faunal specimens. The distribution, by %NISP, across class is: mammals (94.37%) and birds (5.63%). Mammals are represented by indeterminate large mammals (*n*=66) and white-tailed deer (*n*=1). Birds are represented by turkey (*n*=4). A total of 16 specimens were heat altered (all large mammal) and one exhibited cut marks.

In the western half of Feature 57, Level A yielded 410 pieces of lithic debitage, a single finished biface, and burned limestone, FCR, and shale. It also produced a total of 442 (70.06g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (65.38%), mammals (31.45%), birds (0.45%), reptiles (1.36%), and bony fish (1.36%). Identifiable taxa within this level include: eastern cottontail rabbit (*n*=1), white-tailed deer (*n*=1), snakes (*n*=5), and turtles (*n*=1). A total of 125 specimens were heat altered and no other specimen exhibited additional modifications. Additionally, a single (2.8g) large mammal bone flake exhibited some polishing.

Level B yielded a total of 960 pieces of lithic debitage, single examples of secondary, tertiary, and finished bifaces, two Late Archaic Stemmed PP/Ks, one Terminal Archaic Expanding Stemmed PP/K, a spokeshave, and both burned limestone and FCR. It also yielded 270 (199.57g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (41.85%), mammals (53.70%), birds (1.48%), amphibians (0.37%), reptiles (0.74%), and bony fish (1.85%). A total of 98 specimens were heat altered and one specimen exhibited further modification.

Level C yielded a total of 947 pieces of lithic debitage, one primary biface, one secondary biface, three tertiary bifaces, one Late Archaic Stemmed PP/K, and two Terminal Archaic Expanding Stemmed PP/Ks. It also contained four unimarginal flake tools, a limestone hoe, and burned limestone, FCR, and shale. Level C also yielded 783 (712.36g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (28.61%), mammals (63.09%), birds (4.47%), amphibians (0.26%), reptiles (1.66%), bony fish (1.40%), and other organic (0.51%). Identifiable taxa include: possum (*n*=1), family of deer and elk (*n*=1), white-tailed deer (*n*=30), turkey (*n*=9), frog/toad (*n*=2), snakes (*n*=3), and turtles (*n*=10). A total of 232 specimens were heat altered and 14 exhibited additional modifications.
Additionally, two (5.03g) large mammal bone flakes were collected as modified/tools. Both of these specimens were sharpened and polished.

Level D yielded a total of 771 pieces of lithic debitage, two tertiary bifaces, two finished bifaces, a unimarginal flake tool, burned limestone, FCR, and single examples of Terminal Archaic Straight Stemmed and Terminal Archaic Expanding Stemmed PP/Ks. Level D also yielded 210 (39.42g) faunal specimens. The

distribution, by %NISP, across classes is as follows: indeterminate vertebrates (32.86%), mammals (62.86%), birds (0.48%), reptiles (2.86%), and bony fish (0.95%). Identifiable taxa include: white-tailed deer (*n*=3), family of mud and musk turtles (*n*=2), and snake (*n*=4). A total of 87 specimens were heat altered and five specimens exhibited cut marks.

Level E yielded a total of 1,103 fragments of lithic debitage, two secondary bifaces, three tertiary bifaces, one Late Archaic Stemmed PP/K, one Terminal Archaic Expanding Stemmed PP/K, three unimarginal flake tools, burned limestone, FCR, and shale. Level E also yielded 268 (91.92g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (38.43%), mammals (57.46%), birds (0.75%), reptiles (2.99%), and bony fish (0.37%). Identifiable taxa include: white-tailed deer (*n*=7), family of water turtles (*n*=1), and snakes (*n*=1). A total of 90 specimens were heat altered and 16 exhibited cut marks. Additionally, a total of two specimens (3.17 g) were collected during excavation as modified/tools. One longbone shaft fragment identified as large mammal was smoothed, polished, sharpened/pointed, and had a red coloring to it. A cervid antler fragment was burned black and scored/snapped.

Remarks: This feature exhibited internal stratigraphy consisting of five fill zones. The eastern half of the feature was excavated as a single level, while the western half was separated according to natural stratigraphy. Postholes 34 and 35 intrude into the northern portion of this feature. Feature 86 and 88 intrude into the West half of this feature. Feature 61/Burial 18 intrudes into the East half of this feature.

Feature 58

Type: Pit — *Dimensions (cm)*: 40 N/S by 40 E/W
Feature Category: 1 — *Depth (cm)*: 11
Volume (cubic meters): 0.01 — *Water Screen Sample?* Yes.

Associated Artifacts: Feature 58 yielded 65 pieces of lithic debitage, along with one drill. The feature also contained burned limestone and shale, and 1,046 fragments of burned medium to large mammal bone.

Remarks: This feature exhibited internal stratigraphy consisting of two fill zones. In the original field paperwork, Feature 58 was thought to be a possible crematory pit. It was circular in shape with extremely dark soil at the top and burned bone fragments throughout. This soil faded into yellow clay interspersed with black specks and charcoal, which was present at the bottom of the feature. The material burned bone was too small and burned to be positively identified as human or non-human.

Feature 59

Type: Pit — *Dimensions (cm)*: 84 N/S by 89 E/W
Feature Category: 1 — *Depth (cm)*: 25
Volume (cubic meters): 0.12 — *Water Screen Sample?* No

Associated Artifacts: Feature 59 yielded 775 pieces of lithic debitage, along with two tertiary bifaces, one hoe, one hammerstone, and one Late Archaic Corner Notched PP/K. The feature also contained shale, burned limestone, and FCR.

Feature 59 yielded a total of 230 (10.42 g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (66.96%), mammals (24.35%), reptiles (7.38%), and bony fish (1.30%). Identifiable taxa within this feature include: rodents (*n*=1), snakes (*n*=3), and turtles (*n*=14). A total of 79 specimens were heat altered and no specimen exhibited further modification.

Remarks: None.

Feature 60

Type: Pit
Dimensions (cm): 79 N/S by 87 E/W
Feature Category: 1
Depth (cm): 19
Volume (cubic meters): 0.07
Water Screen Sample? No
Associated Artifacts: Feature 60 yielded 207 pieces of lithic debitage. The feature also contained burned limestone and FCR.
Remarks: None.

Feature 61 (Burial 18)

Type: Pit
Dimensions (cm): None.
Feature Category: 1
Depth (cm): 6
Volume (cubic meters): 0.01
Water Screen Sample? No
Associated Artifacts: Feature 61 yielded 333 pieces of lithic debitage, along with one finished biface. The feature also contained shale, burned limestone, and FCR.

The feature also produced a single bone flake identified as large mammal, six indeterminate fragments were identified as general mammal and one left proximal radius fragment was identified as small mammal. One fragmented beaver premolar/molar and a single distal portion of a bird tarsometatarsus and a single broken gastropod were also recovered.
Remarks: This feature contains Burial 18 (see burial descriptions). The boundaries were disturbed/indistinct. Animal burrow present identified within in the burial and heavily truncating by backhoe stripping. Feature 61 intrudes into the eastern half of Feature 57.

Feature 62

Type: Pit
Dimensions (cm): 78 N/S by 68 E/W
Feature Category: 1
Depth (cm): 16
Volume (cubic meters): 0.06
Water Screen Sample? No
Associated Artifacts: Feature 62 yielded 309 pieces of lithic debitage. The feature also contained shale, burned limestone, and FCR.

Feature 62 yielded a total of 36 (60.34 g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (91.67%), birds (2.78%), and reptiles (5.56%). Identifiable taxa within this feature include: raccoon (*n*=1), family of elk and deer (*n*=2), and white-tailed deer (*n*=1), wild turkey (*n*=1), and turtles (*n*=2). A total of eight specimens were heat altered and three specimens exhibited further modification. Additionally, two (1.57 g) cervid antler tips were recovered from this level. One was not burned and the other was burned, smoothed, and polished.
Remarks: None.

Feature 63

Type: Pit
Dimensions (cm): 65 N/S by 57 E/W
Feature Category: 1
Depth (cm): 7
Volume (cubic meters): 0.01
Water Screen Sample? No
Associated Artifacts: Feature 63 yielded 14 pieces of lithic debitage. The feature also contained shale and burned limestone.
Remarks: None.

Feature 64

Type: Pit | *Dimensions (cm)*: 74 N/S by 73 E/W
Feature Category: 1 | *Depth (cm)*: 7
Volume (cubic meters): 0.02 | *Water Screen Sample?* No
Associated Artifacts: Feature 64 yielded 57 pieces of lithic debitage. The feature also contained shale and burned limestone.

Feature 64 yielded one (0.57g) faunal specimen. This indeterminate fragment was identified as mammal, and had been heat altered and smoothed/polished.
Remarks: None.

Feature 65

Type: Pit | *Dimensions (cm)*: 71 N/S by 77 E/W
Feature Category: 1 | *Depth (cm)*: 11
Volume (cubic meters): 0.04 | *Water Screen Sample?* Yes
Associated Artifacts: Feature 65 yielded 303 pieces of lithic debitage. The feature also contained three PP/Ks, including one Terminal Archaic Straight Stemmed, one Late Archaic Stemmed, and one Terminal Archaic Expanding Stemmed. The feature also contained shale, burned limestone, and FCR.

Feature 65 yielded a total of 233 (134.28g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (62.66%), mammals (27.47%), birds (1.72%), amphibians (0.43%), reptiles (3.00%), bony fish (0.86%), and invertebrates (3.86%). Identifiable taxa within this feature include: white-tailed deer (*n*=2), snakes (*n*=4), turtles (*n*=3), bivalves (*n*=7), gastropods (*n*=1), and *Leptoxis praerosa* (*n*=1). A total of 69 specimens were heat altered and one exhibited further modification.
Remarks: None.

Feature 66

Type: Pit | *Dimensions (cm)*: 60 N/S by 54 E/W
Feature Category: 1 | *Depth (cm)*: 6
Volume (cubic meters): 0.01 | *Water Screen Sample?* No
Associated Artifacts: Feature 66 yielded 22 pieces of lithic debitage. The feature also contained burned limestone and FCR.

Feature 66 yielded a total of three (3.39g) faunal specimens. All of these are identified as mammals: indeterminate mammals (*n*=2) and white-tailed deer (*n*=1). No specimen was heat altered or modified.
Remarks: None.

Feature 67

Type: Pit | *Dimensions (cm)*: 128 N/S by 111 E/W
Feature Category: 3 | *Depth (cm)*: 22
Volume (cubic meters): 0.22 | *Water Screen Sample?* Yes
Associated Artifacts: Feature 67 yielded 489 pieces of lithic debitage, along with one tertiary biface, eight finished bifaces, and two hoes. The feature also contained shale, burned limestone, and FCR.

Feature 67 yielded a total of 257 (316.16g) faunal specimens. The distribution, by

%NISP, across class is as follows: indeterminate vertebrates (1.95%), mammals (59.14%), birds (3.11%), reptiles (8.17%), and invertebrates (27.63%). Identifiable taxa within this feature include: family of squirrels (*n*=1), family of elk and deer (*n*=1), white-tailed deer (*n*=13), wild turkey (*n*=1), snakes (*n*=3), turtles (*n*=13), eastern box turtle (*n*=5), bivalves (*n*=26), family of freshwater mussels (*n*=6), gastropods (*n*=20), family of land snails (*n*=3), family of freshwater snails (*n*=3), elimia (*n*=11), and *Leptoxis praerosa* (*n*=2). A total of 49 specimens were heat altered and nine specimens exhibited further modifications.

Additionally, a total of four specimens (17.34 g) were recovered as modified/tools. One indeterminate mammal fragment was burned black and polished; a large mammal bone flake was sharpened and polished; a medium to large mammal distal tibia fragment sharpened proximally and polished; and a medium to large mammal scapula fragment calcined grey and polished.

Remarks: None.

Feature 68

Type: Pit
Dimensions (cm): 50 N/S by 65 E/W
Feature Category: 1
Depth (cm): 4
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 68 yielded nine pieces of lithic debitage. The feature also contained burned limestone.

Feature 68 yielded a total of three (0.53g) faunal specimens. Both indeterminate vertebrates (33.33%) and mammals (66.67%) are represented. A single mammal fragment was heat altered and no specimen exhibited further modification.

Remarks: None.

Feature 69

Type: Pit
Dimensions (cm): 64 N/S by 73 E/W
Feature Category: 1
Depth (cm): 17
Volume (cubic meters): 0.05
Water Screen Sample? No

Associated Artifacts: Feature 69 yielded 252 pieces of lithic debitage, along with one finished biface. The feature also contained shale, burned limestone, and FCR.

Feature 69 yielded a total of 60 (127.24g) faunal specimens. Mammalia is the only identified class in this feature. Large mammals (*n*=50) and white-tailed deer (*n*=10) are represented. It is likely that the fragments identified as large mammal belong to white-tailed deer, but lack diagnostic characteristics to make the identification secure. A number of the large mammal specimens (*n*=15) are categorized as bone flakes, or long bone shaft fragments that are a result of spiral fracturing of green bone, presumable for marrow extraction. A total of 24 specimens were heat altered and 20 exhibit further modifications.

Remarks: None.

Feature 70 (Burial 19)

Type: Pit
Dimensions (cm): 60 N/S by 69 E/W
Feature Category: 1
Depth (cm): 4
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 70 yielded 82 pieces of lithic debitage, along with one hoe. The feature also contained burned limestone. One nearly complete specimen

identified as cf. Goniobasis clavaeformis and one complete specimen of indeterminate gastropod were also recovered.

Remarks: This feature contains Burial 19 (see burial descriptions), which was impacted by topsoil removal.

Feature 71

Type: Pit
Dimensions (cm): 99 NW/SE by 44 SW/NE
Feature Category: 7
Depth (cm): 10
Volume (cubic meters): 0.04
Water Screen Sample? Yes

Associated Artifacts: Feature 71 yielded 93 pieces of lithic debitage, and a total of 55 (43.41 g) faunal specimens. The two vertebrate specimens (0.73 g) are identified as medium mammal fragments. Neither of these was heat altered for modified in any way. An undecorated marine shell gorget (36.39 g), along with one tubular bead and 51 disk beads (total weight = 6.19 g), were excavated from the western portion of Feature 71. The gorget is undecorated, and was crafted from the outer whorl of a lightning whelk (*Busycon sinistrum*). The tubular bead was crafted from the columella of a marine gastropod – likely lightning whelk but the level of modification makes the identification tenuous.

Remarks: The gorget was situated in the southeastern end of the feature, and positioned immediately above the beads.

Feature 72 (Burial 21)

Type: Pit
Dimensions (cm): 59 N/S by 45 E/W
Feature Category: 1
Depth (cm): 9
Volume (cubic meters): 0.02
Water Screen Sample? No

Associated Artifacts: Feature 72 yielded 14 pieces of lithic debitage and a single bone flake of a medium mammal.

Remarks: This feature contains Burial 21 (see burial descriptions).

Feature 73 (Burial 20)

Type: Pit
Dimensions (cm): 76 N/S by 73 E/W
Feature Category: 1
Depth (cm): 17
Volume (cubic meters): 0.08
Water Screen Sample? No

Associated Artifacts: Feature 73 yielded 188 pieces of lithic debitage, along with one secondary biface, one finished biface, and one hoe. The feature also contained burned limestone and FCR. Both vertebrates and invertebrates were recovered from this burial feature. Twelve bone flakes were identified as medium to large mammal. A single left antler fragment was identified as a white-tailed deer. Two partial hinges were identified as the family of freshwater mussels (Unionidae), both burned.

Remarks: This feature contains Burial 20 (see burial descriptions).

Feature 74 (Burial 22)

Type: Pit
Dimensions (cm): 46 N/S by 62 E/W
Feature Category: 1
Depth (cm): 12
Volume (cubic meters): 0.03
Water Screen Sample? Yes

Associated Artifacts: Feature 74 yielded 101 pieces of lithic debitage. The feature also contained one limestone tempered cordmarked sherd, burned limestone, and FCR. Faunal material included in the feature fill consisted of fragments of a raccoon molar and two mammal bones.

Remarks: This feature contains Burial 22 (see burial descriptions).

Feature 75

Type: Pit | *Dimensions (cm)*: 65 N/S by 72 E/W
Feature Category: 1 | *Depth (cm)*: 9
Volume (cubic meters): 0.02 | *Water Screen Sample?* No

Associated Artifacts: Feature 75 yielded 13 pieces of lithic debitage. The feature also contained shale and burned limestone. Feature 75 yielded a total of two (0.33g) faunal specimens. Both mammals (*n*=50%) and reptiles (*n*=50%) were identified. The family of mud and musk turtles (*n*=1) is the only identifiable taxa in this feature. This specimen was also heat altered.

Remarks: None.

Feature 76

Type: Pit | *Dimensions (cm)*: 71 N/S by 75 E/W
Feature Category: 2 | *Depth (cm)*: 33
Volume (cubic meters): 0.08 | *Water Screen Sample?* No

Associated Artifacts: Feature 76 yielded 242 pieces of lithic debitage, along with two finished bifaces. The feature also contained shale, burned limestone, and FCR.

Feature 76 yielded a total of eight (10.39g) faunal specimens. Both mammals (87.50%) and reptiles (12.50%) are represented. Identifiable taxa in this feature include: white-tailed deer (*n*=1) and eastern box turtle (*n*=1). A single specimen was heat altered and no specimen exhibited further modification.

Remarks: None.

Feature 77

Type: Pit | *Dimensions (cm)*: 93 N/S by 73 E/W
Feature Category: 1 | *Depth (cm)*: 15
Volume (cubic meters): 0.05 | *Water Screen Sample?* No

Associated Artifacts: Feature 77 yielded 137 pieces of lithic debitage. The feature also contained shale, burned limestone, and FCR.

Feature 77 yielded a total of 32 (13.36g) faunal specimens. Only mammals are represented. Identifiable taxa in this feature include: rodents (*n*=2) and white-tailed deer (*n*=2). No specimens were heat altered or exhibited further modifications.

Remarks: Feature 77 intrudes into western half Feature 81.

Feature 78

Type: Pit | *Dimensions (cm)*: 90 N/S by 95 E/W
Feature Category: 2 | *Depth (cm)*: 43
Volume (cubic meters): 0.23 | *Water Screen Sample?* Yes

Associated Artifacts: Feature 78 yielded 1,377 pieces of lithic debitage, along with one secondary biface, three finished bifaces, one Shallow Side Notched PP/K, and one unimarginal flake tool. The feature also contained shale, burned limestone, and FCR.

Feature 78 yielded a total of 290 (108.35g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (36.51%), mammals (59.37%), reptiles (2.86%), and bony fish (1.27%). Identifiable taxa within this assemblage include: rodents (*n*=4), fox squirrel (*n*=1), white-tailed deer (*n*=9), snakes (*n*=1), turtles (*n*=1), family of mud and musk turtles (*n*=3), and eastern box turtle (*n*=4). A total of 109 specimens were heat altered and no specimen exhibited further

modification.
Remarks: None.

Feature 79
Type: Pit
Feature Category: 5
Volume (cubic meters): 0.38
Dimensions (cm): 73 N/S by 106 E/W
Depth (cm): 98
Water Screen Sample? Yes
Associated Artifacts: Feature 79 yielded 1,779 pieces of lithic debitage, along with one primary biface, two secondary bifaces, two tertiary bifaces, four finished bifaces, five unimarginal flake tools, and one bimarginal flake tool. The feature also contained three PP/Ks, including one Eva, one Late Archaic Stemmed, and one Terminal Archaic Straight Stemmed. The feature also contained shale, burned limestone, and FCR.

Feature 79 yielded a total of 293 (138.72g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (32.65%), mammals (58.08%), birds (2.06%), and reptiles (7.22%). Identifiable taxa within this feature include: rodents (*n*=7), fox squirrel (*n*=3), beaver (*n*=1), dog (*n*=2), white-tailed deer (*n*=7), wild turkey (*n*=1), snakes (*n*=2), turtles (*n*=3), family of mud and musk turtles (*n*=1), and eastern box turtle (*n*=15). A total of 67 specimens were heat altered and one exhibits further modification. The beaver specimen was a proximal ulna that was sharpened and smoothed longitudinally.
Remarks: Three wash zones separate fill episodes.

Feature 80
Type: Pit
Feature Category: 1
Volume (cubic meters): 0.13
Dimensions (cm): 100 N/S by 103 E/W
Depth (cm): 21
Water Screen Sample? Yes
Associated Artifacts: Feature 80 yielded 2,357 pieces of lithic debitage, along with one secondary biface, two tertiary bifaces, three finished bifaces, one Late Archaic Stemmed / Pickwick PP/K, and one Terminal Archaic Straight Stemmed PP/K. The feature also contained shale, burned limestone, and FCR.

Feature 80 yielded a total of 710 (733.04) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (17.18%), mammals (72.82%), reptiles (8.59%), bony fish (1.27%), and invertebrates (0.14%). Identifiable taxa within this feature include: rodents (*n*=1), dog (*n*=1), white-tailed deer (*n*=62), snakes (*n*=2), turtles (*n*=3), family of mud and musk turtles (*n*=3), eastern box turtle (*n*=53), bass (*n*=2), and bivalves (*n*=1). A total of 158 specimens were heat altered and 89 specimens exhibit further modification.
Remarks: None.

Feature 81
Type: Pit
Feature Category: 1
Volume (cubic meters): 0.04
Dimensions (cm): 54 N/S by 73 E/W
Depth (cm): 17
Water Screen Sample? No
Associated Artifacts: Feature 81 yielded eight pieces of lithic debitage.
Remarks: Feature 77 intrudes into the western half of this feature.

Feature 82

Type: Pit
Dimensions (cm): 202 NW/SE by 180 SW/NE
Feature Category: 4
Depth (cm): 40
Volume (cubic meters): 0.68
Water Screen Sample? Yes
Associated Artifacts: Feature 82 yielded 4,573 pieces of lithic debitage, along with one primary biface, two secondary bifaces, four tertiary bifaces, six finished bifaces, and two sidescrapers. The feature also contained six PP/Ks, including four Late Archaic Stemmed / Pickwick, one Terminal Archaic Straight Stemmed, and one Copena Triangular. The feature also contained shale, burned limestone, and FCR.

Feature 82 yielded a total of 297 (18.44g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (65.32%), mammals (27.95%), reptiles (4.04%), bony fish (1.68%), and invertebrates (1.01%). Identifiable taxa within this feature include: rodents (*n*=1), white-tailed deer (*n*=1), snakes (*n*=4), turtles (*n*=7), family of mud and musk turtles (*n*=1), and gastropods (*n*=2). A total of 86 specimens were heat altered and no specimen exhibited further modification.
Remarks: Excavators noted extensive rodent disturbance or bioturbation in the south and southwest.

Feature 83

Type: Pit
Dimensions (cm): 40 N/S by 50 E/W
Feature Category: 1
Depth (cm): 14
Volume (cubic meters): 0.01
Water Screen Sample? No
Associated Artifacts: Feature 83 yielded 21 pieces of lithic debitage. The feature also contained burned limestone.
Remarks: None.

Feature 84

Type: Pit
Dimensions (cm): 75 N/S by 80 E/W
Feature Category: 1
Depth (cm): 13
Volume (cubic meters): 0.05
Water Screen Sample? No
Associated Artifacts: Feature 84 yielded 182 pieces of lithic debitage, along with one secondary biface and one finished biface. The feature also contained shale, burned limestone, and FCR.
Remarks: None.

Feature 85

Type: Pit
Dimensions (cm): 40 N/S by 35 E/W
Feature Category: 1
Depth (cm): 20
Volume (cubic meters): 0.01
Water Screen Sample? Yes
Associated Artifacts: Feature 85 yielded 41 pieces of lithic debitage. The feature also contained shale and FCR.
Remarks: None.

Feature 86

Type: Pit
Dimensions (cm): 72 N/S by 65 E/W
Feature Category: 1
Depth (cm): 26
Volume (cubic meters): 0.07
Water Screen Sample? No
Associated Artifacts: Feature 86 yielded 373 pieces of lithic debitage, along with one tertiary biface, three finished bifaces, one drill, one endscraper, and one sidescraper.

The feature also contained shale, burned limestone, and FCR.

Remarks: Excavators noted some rodent disturbance or bioturbation in the east portion of this feature. Feature 86 intruded into the western half of Feature 57.

Feature 87

Type: Pit
Dimensions (cm): 53 N/S by 53 E/W
Feature Category: 1
Depth (cm): 5
Volume (cubic meters): 0.01
Water Screen Sample? Yes

Associated Artifacts: Feature 87 yielded two pieces of lithic debitage.

Remarks: None.

Feature 88

Type: Pit
Dimensions (cm): 52 N/S by 50 E/W
Feature Category: 1
Depth (cm): 7
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 88 yielded 33 pieces of lithic debitage, along with one tertiary biface. Feature 88 also yielded three (0.82g) faunal specimens. All three specimens are identified as large bird. No specimen was heat altered or exhibited further modification.

Remarks: Excavators noted some rodent disturbance or bioturbation in the eastern portion of this feature. Feature 88 intruded into the western half of Feature 57.

Feature 89

Type: Pit
Dimensions (cm): 75 N/S by 80 E/W
Feature Category: 1
Depth (cm): 22
Volume (cubic meters): 0.09
Water Screen Sample? Yes

Associated Artifacts: Feature 89 yielded 1,021 pieces of lithic debitage, along with one Terminal Archaic Straight Stemmed PP/K and one Terminal Archaic Expanding Stemmed PP/K. The feature also contained shale, burned limestone, and FCR.

Feature 89 yielded 308 (37.07g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (52.60%), mammals (23.38%), birds (0.65%), reptiles (3.25%), bony fish (0.65%), and invertebrates (19.48%). Identifiable taxa within this feature include: rodents (*n*=1), white-tailed deer (*n*=2), snakes (*n*=1), turtles (*n*=9), bivalves (*n*=26), family of freshwater mussels (*n*=7), family of terrestrial snails (*n*=6), *Mesodon clausus* (*n*=1), family of freshwater snails (*n*=9), *Goniobasis clavaeformis* (*n*=4), *Leptoxis praerosa* (*n*=2), family of mud snails (*n*=4), and the family of river snails (*n*=1). A total of 75 speicmens were heat altered and no specimen exhibited further modification.

Remarks: None.

Feature 90

Type: Pit
Dimensions (cm): 130 N/S by 144 E/W
Feature Category: 3
Depth (cm): 29
Volume (cubic meters): 0.32
Water Screen Sample? Yes

Associated Artifacts: Feature 90 yielded 1,701 pieces of lithic debitage, along with four secondary bifaces, six finished bifaces, four unimarginal flake tools, one hoe, one hammerstone, one abrasive siltstone pipe fragment, one Late Archaic Corner Notched PP/K, and two Copena Triangular PP/K. The feature also contained 15 sherds of ceramics, including 12 limestone tempered plain sherds, two limestone tempered cordmarked sherds, and one unidentified sherd. The feature also contained

shale, burned clay, burned limestone, and FCR.

Feature 90 yielded 158 (6.54g) of faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (56.64%), mammals (30.77%), reptiles (11.89%), and bony fish (0.70%). Identifiable taxa within this feature include: rodents (*n*=2), snakes (*n*=1), and turtles (*n*=16). A total of 42 specimens were heat altered and no specimen exhibited further modification.

Remarks: Post 55 intrudes into the northern portion of Feature 90. Phase two test trench intersected the central portion of this feature on an E/W axis.

Feature 91

Type: Pit
Dimensions (cm): 100 N/S by 120 E/W
Feature Category: 1
Depth (cm): 19
Volume (cubic meters): 0.11
Water Screen Sample? Yes

Associated Artifacts: Feature 91 yielded 334 pieces of lithic debitage, along with one drill, eight hoes, and one hammerstone. The feature also contained shale, burned limestone, and FCR.

Feature 91 yielded a total of 195 (160.87g) faunal specimens. Interestingly, only invertebrates were recovered from this feature. The distribution, by %NISP, across the class of invertebrates is as follows: bivalves (47.69%) and gastropods (52.31%). Identifiable taxa in this feature include: bivalves (*n*=81), fluted kidneyshell (*n*=11), mucket (*n*=1), gastropods (*n*=55), family of terrestrial snails (*n*=8), family of mud snails (*n*=2), family of river snails (*n*=22), *Leptoxis praerosa* (*n*=4), and *Goniobasis clavaeformis* (*n*=11). A total of 91 specimens were heat altered, and the mucket specimen exhibited further modification. The hinge teeth were removed and it is a possible shell spoon.

Remarks: This feature intrudes into the southern portion of Feature 106.

Feature 92 (Burial 23)

Type: Pit
Dimensions (cm): 68 N/S by 72 E/W
Feature Category: 1
Depth (cm): 24
Volume (cubic meters): 0.07
Water Screen Sample? No

Associated Artifacts: Feature 92 yielded 763 pieces of lithic debitage, along with one tertiary biface, one finished biface, and one hafted endscraper. The feature also contained shale, burned limestone, and FCR. Feature 92 also yielded a one (0.91g) partial Unionidae shell fragment, which was heat altered.

Remarks: The southern portion of this feature contains Burial 23 (see burial descriptions).

Feature 93 (Burial 25)

Type: Pit
Dimensions (cm): 50 N/S by 40 E/W
Feature Category: 1
Depth (cm): 8
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 93 yielded 33 pieces of lithic debitage. The feature also contained burned limestone.

Remarks: Although this feature was labeled as Burial 25 during fieldwork, it did not contain any human skeletal remains. Instead, the feature included the burial of an adult dog that weighed approximately 28.44 pounds. Feature 96 intrudes into the southwest portion of this feature.

Feature 94 (Burial 24)

Type: Pit
Dimensions (cm): 100 N/S by 98 E/W
Feature Category: 2
Depth (cm): 30
Volume (cubic meters): 0.16
Water Screen Sample? Yes

Associated Artifacts: Feature 94 yielded 1,854 pieces of lithic debitage, along with one secondary biface, two tertiary bifaces, six finished bifaces, one wing-tipped drill, an Ovate knife, and one spokeshave. The feature also contained seven PP/Ks, including one Late Archaic Stemmed / Pickwick, four Terminal Archaic Straight Stemmed, one Terminal Archaic Expanding Stemmed, and one Early Woodland Contracting Stemmed. The feature also contained red ochre, shale, burned limestone, and FCR. Both modified and unmodified faunal remains (*n*=279) were recovered from this feature. Unmodified vertebrate specimens include burned and unburned small and indeterminate mammal and turtle carapace elements, two snake vertebrae, three bony fish cranial fragments, and 156 vertebrate fragments. Invertebrates recovered from the feature include bivalve, freshwater mussel family, and mucket (cf. Actinonaias sp.).

A number of artifacts from this feature were interred alongside Burial 24 and represent the remains of a cache or bundle. Two PP/Ks, the ovate knife, a secondary biface, and the drill were included in this deposit, as well as a white-tailed deer antler tine, 17 dog/wolf/coyote phalanges (cf. Canis spp.), four left tarsometatarsii and two right radii, all from turkey and sharpened on their distal ends, and bivalve, mussel, and mucket shells. Excavators noted the presence of red ochre on the distal end of one sharpened turkey radius and the bivalve shells.

Remarks: This feature contains Burial 24 (see burial descriptions). Red ochre was present in this feature. Cranium truncated by a backhoe. A possible bundle deposited in the eastern portion of the grave.

Feature 95

Type: Pit
Dimensions (cm): 100 NW/SE by 120 SW/NE
Feature Category: 1
Depth (cm): 28
Volume (cubic meters): 0.17
Water Screen Sample? Yes

Associated Artifacts: Feature 95 yielded 829 pieces of lithic debitage, along with one Terminal Archaic Straight Stemmed PP/K. The feature also contained burned limestone. The feature also yielded a total of 191 (9.14g) faunal specimens. The distribution, by %NISP, across class is as follows: indeterminate vertebrates (48.17%), mammals (40.84%), amphibians (4.71%), reptiles (4.19%), bony fish (0.52%), and invertebrates (1.57%). Identifiable taxa within this feature include: rodents (*n*=4), family of squirrels (*n*=1), carnivores (*n*=1), frog/toad (*n*=9), snakes (*n*=2), turtles (*n*=6), freshwater drum (*n*=1), bivalves (*n*=2), and the family of freshwater snails (*n*=1). A total of 62 specimens were heat altered and one specimen exhibited further modification.

Remarks: Only the NW half of this feature was excavated. A possible dog burial was noted in the northeast corner. This feature intrudes into an unexcavated feature to the southwest.

Feature 96

Type: Pit
Dimensions (cm): 90 N/S by 82 E/W
Feature Category: 1
Depth (cm): 20
Volume (cubic meters): 0.09
Water Screen Sample? No

Associated Artifacts: Feature 96 yielded 401 pieces of lithic debitage, along with five finished bifaces, two hoes, and one hammerstone. The feature also contained burned limestone.

Feature 96 yielded a total of 13 (41.06g) faunal specimens. The distribution, by %NISP, across class is as follows: mammals (38.46%) and invertebrates (61.54%). Identifiable taxa within this feature include: bobcat (*n*=1), bivalves (*n*=1), family of river snails (*n*=3), *Goniobasis clavaeformis* (*n*=3), and *Leptoxis praerosa* (*n*=1). A single bivalve specimen was heat altered and a total of five specimens exhibited further modification. These specimens include: a bobcat tibia that was hollowed out from distal end (the distal end had been removed), unfused proximally and polished; an indeterminate mammal fragment that was sharpened and polished; a medium to large mammal longbone shaft that was sharpened and polished; a large mammal bone flake with cut marks, polish and sharpening (this had been previously mended); and a large mammal bone flake that was sharpened.

Remarks: This feature intrudes into the southwest corner of Feature 93.

Feature 97 (Burial 26)

Type: Pit
Dimensions (cm): 36 N/S by 33 E/W
Feature Category: 1
Depth (cm): 12
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 97 yielded 12 pieces of lithic debitage, along with one finished biface. The feature also contained burned limestone. No zooarchaeological remains were recovered from this feature.

Remarks: This feature contains Burial 26 (see burial descriptions). Truncated by backhoe by phase two testing and data recovery.

Feature 98 (Burial 27)

Type: Pit
Dimensions (cm): 80 N/S by 80 E/W
Feature Category: 1
Depth (cm): 17
Volume (cubic meters): 0.06
Water Screen Sample? No

Associated Artifacts: Feature 98 yielded 246 pieces of lithic debitage, along with one secondary biface, one tertiary biface, and one spokeshave. The feature also contained shale, burned limestone, and FCR. Feature 98 also yielded a total of 16 (3.39g) faunal specimens. All of these specimens are identified as mammal, and none exhibited heat alteration or further modification.

Remarks: This feature contains Burial 27 (see burial descriptions).

Feature 99

Type: Pit
Dimensions (cm): 78 N/S by 88 E/W
Feature Category: 1
Depth (cm): 16
Volume (cubic meters): 0.07
Water Screen Sample? No

Associated Artifacts: Feature 99 yielded 50 pieces of lithic debitage, along with one tertiary biface and one hoe. The feature also contained shale and burned limestone.

Feature 99 yielded a total of eight (2.37g) faunal specimens. All of these speicmens

are invertebrates. Identifiable taxa within this class include: bivalves (*n*=5), family of freshwater mussels (*n*=2), and *Goniobasis clavaeformis* (*n*=1). None of these specimens exhibited heat alteration or further modification.

Remarks: The north half of this feature was not excavated.

Feature 100

Type: Pit
Dimensions (cm): 86 N/S by 90 E/W
Feature Category: 1
Depth (cm): 13
Volume (cubic meters): 0.06
Water Screen Sample? No

Associated Artifacts: Feature 100 yielded 219 pieces of lithic debitage, along with one secondary biface and one unimarginal flake tool. The feature also contained burned limestone and FCR.

Remarks: The north half of this feature was not excavated.

Feature 101

Type: Pit
Dimensions (cm): 78 NW/SE by 116 SW/NE
Feature Category: 5
Depth (cm): 100
Volume (cubic meters): 0.44
Water Screen Sample? Yes

Associated Artifacts: Feature 101 yielded 1,649 pieces of lithic debitage, along with four secondary bifaces, two tertiary bifaces, five finished bifaces, and one hammerstone. The feature also contained four PP/Ks, including one Late Archaic Stemmed / Pickwick, one Terminal Archaic Straight Stemmed, and two Terminal Archaic Expanding Stemmed. The feature also contained shale, burned limestone, and FCR.

Feature 101 yielded a total of 567 (265.56g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (19.05%), mammals (50.79%), birds (1.76%), amphibians (0.35%), reptiles (8.29%), bony fish (2.475), and invertebrates (17.28%). Identifiable taxa within this assemblage include: family of dogs and wolves (*n*=2), family of rodents (*n*=2), family of squirrels (*n*=2), white-tailed deer (*n*=12), frog/toad (*n*=2), snakes (*n*=5), turtles (*n*=29), family of mud and musk turtles (*n*=2), eastern box turtle (*n*=11), bivalves (*n*=58), family of freshwater mussels (*n*=1), pocketbook (*n*=13), flutedshell (*n*=1), family of pleurocerids (*n*=13), and two species of terrestrial snails, the proud globe (*n*=1) and dwarf globelet (*n*=1). A total of 104 specimens were heat altered and three specimens exhibited cut marks. Additionally, a large mammal fragment was burned blacked and had scratching.

Zone A of Feature 101 yielded a total of 32 (5.29g) faunal specimens. All of these specimens are freshwater gastropods. Identifiable taxa include: family of pleurocerids (*n*=3), family of mud snails (*n*=3), and *Goniobasis clavaeformis* (*n*=23). None of the specimens exhibited thermal alteration or further modifications.

Remarks: Three washes separate the fill episodes. This feature intrudes into an unexcavated feature to the north.

Feature 102

Type: Pit
Dimensions (cm): 94 N/S by 96 E/W
Feature Category: 2
Depth (cm): 51
Volume (cubic meters): 0.03
Water Screen Sample? Yes

Associated Artifacts: Feature 102 yielded 2,256 pieces of lithic debitage, along with three secondary bifaces, one tertiary biface, six finished bifaces, three unimarginal flake tools, and one hoe. The feature also contained four PP/Ks, including one Late Archaic Stemmed / Pickwick, one Motley, one Terminal Archaic Straight Stemmed, and one

Terminal Archaic Expanding Stemmed. The feature also contained shale, burned limestone, and FCR.

Feature 102 yielded a total of 486 (196.44g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (38.13%), mammals (52.50%), birds (1.25%), reptiles (4.38%), bony fish (2.92%), and invertebrates (0.83%). Identifiable taxa within this assemblage include: raccoon (*n*=1), white-tailed deer (*n*=6), family of mud and musk turtle (*n*=1), eastern box turtle (*n*=6), snakes (*n*=2), bivalves (*n*=2), gastropods (*n*=2), and pleurocerid family (*n*=1). A total of 179 specimens are heat altered, and three specimens exhibited further modifications, including two possible awls.

Remarks: None.

Feature 103

Type: Pit
Dimensions (cm): 47 N/S by 50 E/W
Feature Category: 1
Depth (cm): 8
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 103 yielded 110 pieces of lithic debitage. The feature also contained shale and burned limestone. An additional 162 pieces of lithic debitage were recovered from mixed proveniences along the northern boundary of the feature at its intersection with Feature 105.

Feature 103 yielded a total of 32 (11.87g) faunal specimens. The distribution, by %NISP, across classes is as follows: mammals (40.63%), birds (50%), and reptiles (9.38%). Identifiable taxa include: white-tailed deer (n=1), birds (n=16), and turtles (n=3). A total of 15 specimens were heat altered, and none exhibited further modifications. Feature 103 from within mixed proveniences at the Feature 103/105 intersection. This specimen did not exhibit further modifications.

Remarks: Feature 103 intrudes into the southern portion of Feature 105. There was some mixing of proveniences at this contact before the features were defined.

Feature 104

Type: Pit
Dimensions (cm): 47 N/S by 46 E/W
Feature Category: 1
Depth (cm): 20
Volume (cubic meters): 0.04
Water Screen Sample? No

Associated Artifacts: Feature 104 yielded 94 pieces of lithic debitage. The feature also contained burned limestone.

Feature 104 yielded a total of 42 (20.31g) faunal specimens. The distribution, by %NISP, across classes is as follows: mammals (15.24%), birds (1.75%), reptiles (2.94%), and bony fish (0.38%). Identifiable taxa include: white-tailed deer (n=1) and turtles (n=5). A total of 14 specimens were heat altered and none exhibited further modifications.

Remarks: This feature intrudes into the northeast corner of Feature 106.

Feature 105

Type: Pit
Dimensions (cm): 73 N/S by 64 E/W
Feature Category: 1
Depth (cm): 12
Volume (cubic meters): 0.05
Water Screen Sample? No

Associated Artifacts: Feature 105 yielded 217 pieces of lithic debitage. The feature also contained burned limestone. An additional 162 pieces of lithic debitage were

recovered from mixed proveniences along the northern boundary of the feature at its intersection with Feature 105.

Feature 105 yielded a total of 18 (57.38g) faunal specimens. The distribution, by %NISP, across classes is as follows: mammals (78.95%) and invertebrates (21.05%). Identifiable taxa include: rodents (n=1), white-tailed deer (n=7), family of freshwater mussels (n=1), and the club elimia (n=2). A total of four specimens were heat altered and none exhibited further modifications.

Remarks: Feature 103 intrudes into the southern portion of Feature 105. There was some mixing of proveniences at this contact before the features were defined.

Feature 106

Type: Pit
Dimensions (cm): 100 N/S by 97 E/W
Feature Category: 1
Depth (cm): 26
Volume (cubic meters): -
Water Screen Sample? Yes

Associated Artifacts: Feature 106 yielded 626 pieces of lithic debitage, along with one secondary biface and three sidescrapers. The feature also contained burned limestone.

Feature 106. Feature 106 yielded a total of 109 (107.56g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (0.92%), mammals (88.07%), birds (1.83%), reptiles (6.42%), and invertebrates (2.75%). Identifiable taxa include: white-tailed deer (n=9), snakes (n=1), turtles (n=6), bivalves (n=1), gastropods (n=1), and globe (n=1). A total of 57 specimens were heat altered and two exhibited further modifications.

Remarks: Feature 91 and 104 intrude into this feature.

Feature 107 (Burial 28)

Type: Pit
Dimensions (cm): 87 N/S by 87 E/W
Feature Category: 1
Depth (cm): 27
Volume (cubic meters): 0.12
Water Screen Sample? Yes

Associated Artifacts: Feature 107 yielded 79 pieces of lithic debitage, along with one Shallow Side Notched PP/K. The feature also contained red ochre and burned limestone.

A total of 42 vertebrate and invertebrate specimens were recovered from this burial feature. Fifteen of these are indeterminate mammal fragments, two are turtle carapace fragments, one is a snake vertebra, and twenty-two are indeterminate vertebrate fragments. All of these are unmodified. Two right bivalve hinges were recovered which may have functioned as shell spoons. Additionally three burned fragments of mammals were recovered.

Remarks: This feature contains Burial 28 (see burial descriptions). Excavators noted the presence of red ochre. Feature 118 and 119 intrude into the northernmost portion of this feature.

Feature 108

Type: Pit
Dimensions (cm): 76 N/S by - E/W
Feature Category: 1
Depth (cm): 8
Volume (cubic meters): 0.03
Water Screen Sample? No

Associated Artifacts: Feature 108 yielded 88 pieces of lithic debitage. The feature also contained burned limestone.

Feature 108 yielded a total of 96 (54.77g) faunal specimens. The distribution, by %NISP, across classes is as follows: mammals (94.79%), reptiles (3.13%), and invertebrates (2.08%). Identifiable taxa include turtles (n=3). A total of 84 specimens were heat altered, and none exhibited further modification.

Remarks: Feature 110 removed the western half of this feature.

Feature 109

Type: Pit
Dimensions (cm): 78 NW/SE by 69 SW/NE
Feature Category: 1
Depth (cm): 8
Volume (cubic meters): 0.03
Water Screen Sample? Yes

Associated Artifacts: Feature 109 yielded 123 pieces of lithic debitage, along with three finished bifaces, one unimarginal flake tool, and one Motley PP/K. The feature also contained burned limestone.

Feature 109 yielded a total of 127 (40.3g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (69.17%), mammals (18.89%), birds (6.11%), reptiles (2.78%), bony fish (2.78%), and invertebrates (0.28%). Identifiable taxa include: family of dogs and wolves (n=1), beaver (n=1), turkey (n=8), snake (n=2), turtles (n=5), eastern box turtle (n=3), and gastropods (n=1). A total of 82 specimens were heat altered and none exhibited further modifications.

Remarks: None.

Feature 110

Type: Pit
Dimensions (cm): 80 N/S by 87 E/W
Feature Category: 1
Depth (cm): 25
Volume (cubic meters): 0.09
Water Screen Sample? No

Associated Artifacts: Feature 110 yielded 363 pieces of lithic debitage, along with one finished biface. The feature also contained shale, burned limestone, and FCR.

Feature 110 yielded a total of 194 (177.11g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (0.52%), mammals (90.21%), birds (0.52%), reptiles (1.03%), bony fish (1.03%), and invertebrates (6.70%). Identifiable taxa include: squirrel (n=1), beaver (n=1), family of deer and elk (n=11), white-tailed deer (n=5), turkey (n=1), eastern box turtle (n=1), family of terrestrial snails (n=1), family of pleurocerids (n=4), family of mud snails (n=1), elimia (n=2), and family of freshwater mussels (n=1). A total of 148 specimens were heat altered and two exhibited further modifications. Of these, one was a mammal bone flake that had been smoothed; and a cervid antler beam that had been scored and snapped distally, rounded proximally, burned black, battered, smoothed and polished (mended previously).

Remarks: This feature intrudes onto the western half of Feature 108.

Feature 111

Type: Pit
Dimensions (cm): 64 N/S by 66 E/W
Feature Category: 1
Depth (cm): 8
Volume (cubic meters): 0.02
Water Screen Sample? No

Associated Artifacts: Feature 111 yielded one piece of lithic debitage.

Remarks: The northern half of this feature was not excavated.

Feature 112

Type: Pit | *Dimensions (cm)*: 98 N/S by 104 E/W
Feature Category: 2 | *Depth (cm)*: 31
Volume (cubic meters): 0.23 | *Water Screen Sample?* No

Associated Artifacts: Feature 112 yielded 662 pieces of lithic debitage, along with one finished biface and one Copena Triangular PP/K. The feature also contained burned limestone.

Feature 112 yielded a total of 13 (8.64g) faunal specimens. All specimens are identified as indeterminate mammal. Two specimens were heat altered and none exhibited further modifications.

Remarks: None.

Feature 113

Type: Pit | *Dimensions (cm)*: 58 N/S by 70 E/W
Feature Category: 1 | *Depth (cm)*: 7
Volume (cubic meters): 0.02 | *Water Screen Sample?* No

Associated Artifacts: Feature 113 yielded 20 pieces of lithic debitage.

Remarks: The north half of this feature was not excavated.

Feature 114

Type: Pit | *Dimensions (cm)*: 126 N/S by 123 E/W
Feature Category: 1 | *Depth (cm)*: 23
Volume (cubic meters): 0.22 | *Water Screen Sample?* Yes

Associated Artifacts: Feature 114 yielded 818 pieces of lithic debitage, along with one tertiary biface, one finished biface, two unimarginal flake tools, one Terminal Archaic Expanding Stemmed PP/K, one Shallow Side Notched PP/K, and one hoe. The feature also contained shale and burned limestone.

Feature 114 yielded a total of 204 (23.44g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (35.18%), mammals (53.77%), amphibians (0.50%), reptiles (6.03%), bony fish (1.51%), and invertebrates (1.51%). Identifiable taxa include: family of frogs (n=1), snakes (n=2), turtles (n=10), and family of pleurocerids (n=1). A total of 54 specimens were heat altered and none exhibited further modifications.

Remarks: The northern half of this feature was not excavated.

Feature 115

Type: Pit | *Dimensions (cm)*: 90 N/S by 122 E/W
Feature Category: 5 | *Depth (cm)*: 122
Volume (cubic meters): 0.56 | *Water Screen Sample?* Yes

Associated Artifacts: Feature 115 yielded 1,361 pieces of lithic debitage, along with three secondary bifaces, five tertiary bifaces, three finished bifaces, one Motley PP/K, one unimarginal flake tool, one bifacial chisel, four hoes, and two miscellaneous groundstones. The feature also contained shale and burned limestone.

Feature 115 yielded a total of 627 (204.64g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (47.24%), mammals (44.09%), birds (0.31%), amphibians (0.16%), reptiles (4.57%), bony fish (1.10%), and invertebrates (2.52%). Identifiable taxa include: family of squirrels (n=2), rabbit

(n=8), family of deer and elk (n=1), white-tailed deer (n=8), turkey (n=1), frog/toad (n=1), snakes (n=6), turtles (n=8), eastern box turtle (n=8), family of mud and musk turtles (n=7), and family of freshwater mussels (n=1). A total of 168 specimens were heat altered and two exhibited further modifications. A large mammal bone flake was sharpened; a large mammal bone fragment was burned black and may be a tool fragment; and a cervid antler tine tip was broken/smashed and burned/calcined.

Remarks: The northern half of this feature was not excavated.

Feature 116 (Burial 29)

Type: Pit
Dimensions (cm): 75 N/S by 61 E/W
Feature Category: 1
Depth (cm): 12
Volume (cubic meters): 0.03
Water Screen Sample? No

Associated Artifacts: Feature 116 yielded 171 pieces of lithic debitage, along with two primary bifaces, one secondary biface, and one finished biface. The feature also contained burned limestone.

A total of 23 (15.75 g) faunal specimens were recovered from this feature. Three classes of vertebrates are represented in this feature, including (%NISP): mammals (69.57%), birds (4.35%), and reptiles (26.09%). Identifiable taxa include: family of deer and elk (n=1) and eastern box turtle (n=3). A total of three mammal fragments were heat altered. No other specimens in this feature exhibited other modifications.

Remarks: This feature contains Burial 29 (see burial descriptions). This feature intrudes into the eastern portion of Feature 117.

Feature 117

Type: Pit
Dimensions (cm): 117 N/S by - E/W
Feature Category: 3
Depth (cm): 39
Volume (cubic meters): 0.33
Water Screen Sample? Yes

Associated Artifacts: Feature 117 yielded 1241 pieces of lithic debitage, along with one primary biface, four finished bifaces, and one Late Archaic Stemmed / Pickwick PP/K. The feature also contained burned clay, shale, burned limestone, and FCR.

Feature 117 yielded a total of 773 (228.51g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (23.70%), mammals (69.82%), birds (0.52%), reptiles (4.53%), bony fish (0.91%), and invertebrates (0.52%). Identifiable taxa include: family of squirrels (n=1), raccoon (n=1), white-tailed deer (n=10), turkey (n=1), snakes (n=8), family of mud and musk turtles (n=17), eastern box turtle (n=2), and family of pleurocerids (n=1). A total of 225 specimens were heat altered and one exhibited further modifications.

Remarks: Feature 116 intrudes into the eastern portion of this feature. The northern half of Feature 117 was not excavated.

Feature 118

Type: Pit
Dimensions (cm): 94 N/S by 95 E/W
Feature Category: 2
Depth (cm): 47
Volume (cubic meters): 0.28
Water Screen Sample? Yes

Associated Artifacts: Feature 118 yielded 1,191 pieces of lithic debitage, along with one primary biface, three secondary bifaces, three finished bifaces, two drills, one Terminal Archaic Straight Stemmed PP/K, and one Terminal Archaic Expanding Stemmed PP/K. The feature also contained burned limestone and FCR.

Feature 118 yielded a total of 453 (233.97g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (13.94%), mammals (77.43%), birds (1.33%), amphibians (0.66%), reptiles (5.97%), bony fish (0.44%), and invertebrates (0.22%). Identifiable taxa include: rabbit (n=7), family of elk and deer (n=1), white-tailed deer (n=12), turkey (n=4), family of frogs (n=1), frog/toad (n=2), snakes (n=4), family of mud and musk turtles (n=6), eastern box turtle (n=13), and bivalves (n=1). A total of 95 specimens were heat altered and three specimens exhibited further modifications. These modified specimens include: a mammal longbone fragment that was smoothed and possibly part of a bone point; and a cervid antler tine tip that was scored and snapped and the tip was rounded from use.

Remarks: This feature intrudes into the eastern half of Feature 119 and the northern portion of Feature 107. The northern half of Feature 118 was not excavated.

Feature 119

Type: Pit
Dimensions (cm): 93 N/S by - E/W
Feature Category: 1
Depth (cm): 20
Volume (cubic meters): 0.09
Water Screen Sample? No

Associated Artifacts: Feature 119 yielded 274 pieces of lithic debitage. The feature also contained shale, burned limestone, and FCR.

Feature 119 yielded a total of 66 (29.53g) faunal specimens. The distribution, by %NISP, across classes is as follows: mammals (83.33%), birds (4.55%), and reptiles (12.12%). Identifiable taxa include: white-tailed deer (n=4), snakes (n=1), family of mud and musk turtles (n=1), and eastern box turtle (n=1). A total of 20 specimens were heat altered and none exhibited further modifications.

Remarks: The eastern half of Feature 119 was removed by creation of Feature 118. Feature 119 intrudes into the northern portion of Feature 107. The northern half of this feature was not excavated.

Feature 120

Type: Pit
Dimensions (cm): 80 N/S by 85 E/W
Feature Category: 1
Depth (cm): 10
Volume (cubic meters): 0.04
Water Screen Sample? No

Associated Artifacts: Feature 120 yielded 77 pieces of lithic debitage. The feature also contained burned limestone.

Feature 120 yielded a total of 11 (7.27g) faunal specimens. All specimens belong to Class: Mammalia. White-tailed deer (n=1) is the only identifiable taxa in the feature. A total of four specimens were heat altered and one specimen exhibited cut marks.

Remarks: The northern half of this feature was not excavated.

Feature 121

Type: Pit
Dimensions (cm): 55 N/S by 50 E/W
Feature Category: 6
Depth (cm): 31
Volume (cubic meters): 0.05
Water Screen Sample? No

Associated Artifacts: Feature 121 yielded 233 pieces of lithic debitage, along with one finished biface and one Copena Triangular PP/K. The feature also contained shale, burned limestone, and FCR.

Feature 121 yielded a total of 40 (56.73g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (4.88%), mammals

(82.93%), and reptiles (12.20%). Identifiable taxa include: family of elk and deer (n=2), white-tailed deer (n=3), and eastern box turtle (n=5). A total of five specimens were heat altered and two exhibited further modifications. A cervid antler tip had been hollowed out (and previously mended), and a cerivd antler tine had been distally cut and smoothed and exhibited some weathering.

Remarks: This feature intrudes into southern portion of Feature 122.

Feature 122

Type: Pit
Dimensions (cm): - N/S by 40 E/W
Feature Category: 1
Depth (cm): 12
Volume (cubic meters): 0.01
Water Screen Sample? No

Associated Artifacts: Feature 122 yielded 28 pieces of lithic debitage. The feature also contained burned limestone.

Feature 122 yielded a total of three (0.43g) faunal specimens. Two classes were identified in this feature: mammals (66.67%) and reptiles (33.33%). The only identifiable taxon is the family of mud and musk turtles (n=1). No specimens were heat altered or exhibited further modifications.

Remarks: Feature 121 intrudes into the southern portion of this feature.

Feature 123

Type: Pit
Dimensions (cm): 120 N/S by 120 E/W
Feature Category: 3
Depth (cm): 24
Volume (cubic meters): 0.17
Water Screen Sample? Yes

Associated Artifacts: Feature 123 yielded 1212 pieces of lithic debitage, along with one secondary biface, one tertiary biface, one finished biface, one Late Archaic Corner Notched PP/K, and one Terminal Archaic Straight Stemmed PP/K. The feature also contained burned clay, shale, burned limestone, and FCR.

Feature 123 yielded a total of 442 (120.12g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (11.76%), mammals (73.30%), birds (0.90%), amphibians (0.23%), reptiles (12.22%), and bony fish (1.58%). Identifiable taxa include: rodents (n=1), white-tailed deer (n=5), turkey (n=2), snakes (n=7), family of mud and musk turtles (n=5), eastern box turtle (n=4), and family of soft-shell turtles (n=1). A total of 149 specimens were heat altered and four exhibited further modifications. Three mammal bone flakes were burned and polished.

Remarks: The northern half of this feature was not excavated. Excavators noted rodent disturbance in the excavated portion.

Feature 124

Type: Pit
Dimensions (cm): 103 N/S by 140 E/W
Feature Category: 5
Depth (cm): 137
Volume (cubic meters): 0.76
Water Screen Sample? Yes

Associated Artifacts: Feature 124 yielded 1370 pieces of lithic debitage, along with one primary biface, two secondary bifaces, four finished bifaces, one unimarginal flake tool, and one sideacraper. The feature also had four PP/Ks, including two Motley, one Terminal Archaic Expanding Stemmed, and one Adena Contracting Stemmed. The feature also contained shale, burned limestone, and FCR.

Feature 124 yielded at total of 202 (151.61g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (16.83%), mammals

(61.88%), birds (4.95%), reptiles (11.88%), and invertebrates (4.46%). Identifiable taxa include: possum (n=1), beaver (n=1), white-tailed deer (n=7), snakes (n=1), family of mud and musk turtle (n=1), eastern box turtle (n=7), bivalve (n=2), family of pleurocerids (n=5), Goniobasis clavaeformis (n=2). A total of 37 specimens were heat altered and an additional three exhibited further modifications. The modified specimens include: one mammal fragment that was smoothed, polished, and burned; one mammal longbone fragment that was smoothed and polished; and one mammal longbone fragment that was smoothed.

Remarks: Feature 24 included two fill episodes separated by a wash layer. The internal stratigraphy was identified in profile. The eastern half of this feature was not excavated.

Feature 125 (Burial 30 and 31)

Type: Pit
Dimensions (cm): 104 N/S by 106 E/W
Feature Category: 6
Depth (cm): 42
Volume (cubic meters): 0.43
Water Screen Sample? Yes

Associated Artifacts: Feature 125 yielded 1,887 pieces of lithic debitage, along with one primary biface, four finished bifaces, one Kirk Serrated PP/K, one unimarginal flake tool, two drills, one sideacraper, two hoes, and three hammerstones. The feature also contained shale, burned limestone, and FCR.

Feature 125 contained the most faunal material of any other feature with similar characteristics (n=541). The distribution of the non-modified fauna (n=535), by %NISP, across class is as follows: mammals (82.80%), birds (9.16%), reptiles (5.61%), and invertebrates (2.43%). Identifiable taxa include: possum (n=1), raccoon (n=2), fox squirrel (n=5), white-tailed deer (n=34), family of mud and musk turtle (n=8), eastern box turtle (n=13), and pocketbook (Lampsilis ovata) (n=5).

A total of six specimens were singled out as “bone tools” during excavation. These include three mammal fragments burned black, a white-tailed deer antler base where it was cut from the pedicle, a carapace fragment from a water/box turtle (though any modification is not readily apparent), and an indeterminate turtle fragment burned black.

Remarks: This feature contains Burial 30 and 31 (see burial descriptions). Feature 126 intrudes into the southwest corner of this feature.

Feature 126

Type: Pit
Dimensions (cm): 107 N/S by 110 E/W
Feature Category: 1
Depth (cm): 12
Volume (cubic meters): 0.02
Water Screen Sample? Yes

Associated Artifacts: Feature 126 yielded 134 pieces of lithic debitage. The feature also contained shale, burned limestone, and FCR.

Feature 126 yielded a total of 43 (66.73g) faunal specimens. The distribution, by %NISP, across classes is as follows: mammals (88.37%), birds (6.98%), and reptiles (4.65%). Identifiable taxa include: fox squirrel (n=1), white-tailed deer (n=1), turkey (n=1), and turtle (n=2). A total of five specimens were heat altered and none exhibited further modification.

Remarks: This feature intrudes into southwest corner of Feature 125.

Feature 127

Type: Pit
Dimensions (cm): 88 N/S by 50 E/W
Feature Category: 1
Depth (cm): 20
Volume (cubic meters): 0.08
Water Screen Sample? No

Associated Artifacts: Feature 127 yielded 179 pieces of lithic debitage, along with one Late Archaic Stemmed / Pickwick PP/K. The feature also contained burned limestone and FCR.

Feature 127 yielded a total of 206 (109.57g) faunal specimens. The distribution, by %NISP, across classes is as follows: indeterminate vertebrates (34.60%), mammals (46.45%), birds (5.69%), amphibians (0.47%), reptiles (5.69%), bony fish (2.37%), and invertebrates (4.74%). Identifiable taxa include: eastern mole (n=2), rodents (n=10), bobcat (n=1), white-tailed deer (n=10), frog/toad (n=1), snake (n=7), family of mud and musk turtle (n=1), eastern box turtle (n=4), family of freshwater mussels (n=1), family of pleurocerids (n=4), and Goniobasis clavaeformis (n=5). A total of 38 specimens were heat altered and two additional specimens exhibited further modifications. The modified specimens include: a mammal longbone fragment that was sharpened and broken during recovery, and a mammal bone flake that was sharpened and polished.

Remarks: Feature 127 intrudes into a larger unexcavated and unnumbered pit feature.

Features 128–196

These pit features were identified during fieldwork and probed for depth but not excavated. Summary information from field notes is presented below.

Feature	Dimensions (cm)	Depth (cm)	Remarks
128	86 x 98	18	
129	93 x 130	35	
130	68 x 124	54	
131	104 x 63	25	
132	91 x 57	16	
133	111 x 111	80	
134	118 x 110	15	
135	91 x 110	21	
136	90 x 80	31	
137	48 x 39	17	
138	52 x 48	10	
139	97 x 90	23	
140	102 x 115	52	
141	71 x 80	41	
142	80 x 46	20	
143	100 x 102	28	
144	120 x 101	33	
145	70 x 56	12	
146	66 x 64	38	Possible human burial – human bone present
147	80 x 74	28	Possible human burial – human bone present
148	80 x 92	19	Bivalve shell present
149	58 x 55	35	Bivalve shell present
150	60 x 73	26	
151	64 x 54	20	Bivalve shell and lithics present
152	72 x 72	15	
153	60 x 73	15	

Feature	Dimensions (cm)	Depth (cm)	Remarks
154	77 x 82	34	
155	61 x 45	11	Animal bone, lithics, and charcoal present
156	80 x 92	11	
157	-	35	
158	-	30	
159	-	21	
160	-	52	
161	-	45	
162	-	37	
163	-	33	
164	80 x 85	16	
165	-	19	
166	-	47	
167	-	52	
168	-	40	
169	-	43	
170	-	42	
171	-	30	
172	-	112	Human burial present
173	90 x 93	28	
174	100 x 85	30	
175	77 x 22	26	
176	126 x 125	30	Late Archaic Stemmed PP/K and human bone present
177	65 x 20	28	
178	71 x 45	28	
179	115 x 100	20	Limestone-tempered sherds present
180	77 x 85	29	
181	95 x 63	50	Possible human burial – human bone present
182	73 x 48	30	
183	38 x 71	21	Dense charcoal present
184	57 x 60	27	
185	35 x 22	22	
186	85 x 86	26	
187	73 x 70	50	
188	65 x 60	29	
189	96 x 72	32	
190	75 x 30	28	
191	80 x 70	48	
192	90 x 96	50	
193	55 x 55	30	
194	50 x 46	12	
195	42 x 62	30	
196	102 x 100	33	Late Archaic Stemmed PP/K present

Structure 2

Type: Wall trench structure
Interior Dimensions (m): 3.8 by 3.8
Feature Category: N/A.
Depth (cm): N/A.
Volume (cubic meters): None.
Water Screen Sample? No

Associated Artifacts: Structure two consisted of a Mississippian wall trench structure situated outside of the direct impact of the project. The structure yielded three shell tempered Mississippi plain sherds. A single modified deer bone was recovered from above the northwestern wall trench. This specimen is the proximal portion of an ulna

that was sharpened and smoothed longitudinally and distally, and shows evidence of battering.

Remarks: Wood charcoal collected from the northern wall trench returned an uncalibrated radiocarbon age of 880+/-70 BP (TX-5533).

Post 1

Type: Post *Diameter (cm)*: 25

Feature Category: Post *Depth (cm)*: 26

Associated Artifacts: Post one yielded 34 pieces of lithic debitage. The post also contained one piece of limestone tempered plain ceramic sherd, burned limestone, and FCR.

Remarks: None.

Post 2

Type: Post *Diameter (cm)*: 23

Feature Category: Post *Depth (cm)*: 14

Associated Artifacts: Post two yielded nine pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 3

Type: Post *Diameter (cm)*: 16

Feature Category: Post *Depth (cm)*: 10

Associated Artifacts: Post three yielded 15 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 4

Type: Post *Diameter (cm)*: 32

Feature Category: Post *Depth (cm)*: 25

Associated Artifacts: Post four yielded two pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 5

Type: Post *Diameter (cm)*: 25

Feature Category: Post *Depth (cm)*: 16

Associated Artifacts: Post five yielded four pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 6

Type: Post *Diameter (cm)*: 15

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: Post six yielded 13 pieces of lithic debitage. The post also contained FCR.

Remarks: None.

Post 7

Type: Post *Diameter (cm)*: 26

Feature Category: Post *Depth (cm)*: 24

Associated Artifacts: Post seven yielded 16 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 8

Type: Post *Diameter (cm)*: 22

Feature Category: Post *Depth (cm)*: 9

Associated Artifacts: Post eight yielded seven pieces of lithic debitage.

Remarks: None.

Post 9

Type: Post *Diameter (cm)*: 31

Feature Category: Post *Depth (cm)*: 25

Associated Artifacts: Post nine yielded 17 pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 10

Type: Post *Diameter (cm)*: 8

Feature Category: Post *Depth (cm)*: 9

Associated Artifacts: None.

Remarks: None.

Post 11

Type: Post *Diameter (cm)*: 24

Feature Category: Post *Depth (cm)*: 13

Associated Artifacts: Post 11 yielded 12 pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 12

Type: Post *Diameter (cm)*: 10

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: None.

Remarks: None.

Post 13

Type: Post *Diameter (cm)*: 26

Feature Category: Post *Depth (cm)*: 44

Associated Artifacts: Post 13 yielded 32 pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 14

Type: Post *Diameter (cm)*: 18

Feature Category: Post *Depth (cm)*: 18

Associated Artifacts: Post 14 yielded 25 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 15

Type: Post *Diameter (cm)*: 14

Feature Category: Post *Depth (cm)*: 36

Associated Artifacts: Post 15 yielded 32 pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 16

Type: Post *Diameter (cm)*: 21

Feature Category: Post *Depth (cm)*: 38

Associated Artifacts: Post 16 yielded nine pieces of lithic debitage.

Remarks: None.

Post 17

Type: Post *Diameter (cm)*: 23

Feature Category: Post *Depth (cm)*: 16

Associated Artifacts: Post 17 yielded 88 pieces of lithic debitage. The post also contained burned limestone, one limestone tempered plain ceramic sherd, and one shell tempered Mississippi plain sherd.

Remarks: Excavators noted that intrusive post in structure one footprint.

Post 18

Type: Post *Diameter (cm)*: 17

Feature Category: Post *Depth (cm)*: 7

Associated Artifacts: Post 18 yielded 33 pieces of lithic debitage, along with one Copena Triangular PP/K. The post also contained FCR and one shell tempered Mississippi plain ceramic sherd.

Remarks: Intrusive in the Structure 1 footprint.

Post 19

Type: Post *Diameter (cm)*: 20

Feature Category: Post *Depth (cm)*: 11

Associated Artifacts: Post 19 yielded 24 pieces of lithic debitage. The post also contained FCR.

Remarks: Exterior post in Structure 1.

Post 20

Type: Post *Diameter (cm)*: 19

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: Post 20 yielded 45 pieces of lithic debitage. The post also contained burned limestone.

Remarks: Exterior post in Structure 1.

Post 21

Type: Post *Diameter (cm)*: 25

Feature Category: Post *Depth (cm)*: 15

Associated Artifacts: Post 21 yielded 26 pieces of lithic debitage. The post also contained one limestone tempered plain ceramic sherd, one limestone tempered cordmarked ceramic sherd, burned limestone, and FCR.

Remarks: Exterior post in Structure 1.

Post 22

Type: Post *Diameter (cm)*: 16

Feature Category: Post *Depth (cm)*: 20

Associated Artifacts: Post 22 yielded 58 pieces of lithic debitage. The post also contained burned limestone.

Remarks: Exterior post in Structure 1.

Post 23

Type: Post *Diameter (cm)*: 23

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: Post 23 yielded 27 pieces of lithic debitage, along with one finished biface. The post also contained one limestone tempered plain ceramic sherd and burned limestone.

Remarks: Exterior post in Structure 1.

Post 24

Type: Post *Diameter (cm)*: 23

Feature Category: Post *Depth (cm)*: 11

Associated Artifacts: Post 24 yielded 39 pieces of lithic debitage. The post also contained burned limestone, burned clay, and one limestone tempered plain ceramic sherd.

Remarks: Exterior post in Structure 1.

Post 25

Type: Post *Diameter (cm)*: 23

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: Post 25 yielded 69 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: Exterior post in Structure 1.

Post 26

Type: Post *Diameter (cm)*: 21

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: Post 26 yielded 44 pieces of lithic debitage, along with one tertiary biface. The post also contained one piece of limestone tempered plain ceramic sherd, one shell tempered Mississippi plain ceramic sherd, and burned limestone.

Remarks: Exterior post in Structure 1.

Post 27

Type: Post *Diameter (cm)*: 20

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: Post 27 yielded 51 pieces of lithic debitage. The post also contained two pieces of limestone tempered plain ceramic sherds and burned limestone.
Remarks: Exterior post in Structure 1.

Post 28
Type: Post *Diameter (cm)*: 15
Feature Category: Post *Depth (cm)*: 10
Associated Artifacts: Post 28 yielded 24 pieces of lithic debitage. The post also contained one limestone tempered plain ceramic sherd, burned limestone, and FCR.
Remarks: Exterior post in Structure 1.

Post 29
Type: Post *Diameter (cm)*: 24
Feature Category: Post *Depth (cm)*: 21
Associated Artifacts: Post 29 yielded 66 pieces of lithic debitage. The post also contained burned limestone and FCR.
Remarks: Exterior post in Structure 1.

Post 30
Type: Post *Diameter (cm)*: 22
Feature Category: Post *Depth (cm)*: 12
Associated Artifacts: Post 30 yielded 20 pieces of lithic debitage. The post also contained burned limestone and FCR.
Remarks: Exterior post in Structure 1.

Post 31
Type: Post *Diameter (cm)*: 24
Feature Category: Post *Depth (cm)*: 14
Associated Artifacts: Post 31 yielded 61 pieces of lithic debitage. The post also contained burned limestone.
Remarks: Interior post in Structure 1.

Post 32
Type: Post *Diameter (cm)*: 25
Feature Category: Post *Depth (cm)*: 17
Associated Artifacts: Post 32 yielded 72 pieces of lithic debitage. The post also contained burned limestone, shale, and FCR.
Remarks: Intrusive post in Structure 1 footprint. Post 32 intrudes into Post 55.

Post 33
Type: Post *Diameter (cm)*: 25
Feature Category: Post *Depth (cm)*: 23
Associated Artifacts: Post 33 yielded 95 pieces of lithic debitage. The post also contained burned limestone, shale, and FCR.
Remarks: Exterior post in Structure 1.

Post 34
Type: Post *Diameter (cm)*: 35
Feature Category: Post *Depth (cm)*: 15
Associated Artifacts: Post 34 yielded 39 pieces of lithic debitage, along with one finished biface. The post also contained burned limestone.
Remarks: Exterior post in Structure 3. Post 34 intrudes into Post 57.

Post 35
Type: Post *Diameter (cm)*: 27
Feature Category: Post *Depth (cm)*: 14
Associated Artifacts: Post 35 yielded 40 pieces of lithic debitage. The post also contained shale and FCR.
Remarks: Exterior post in Structure 3. Post 35 intrudes into Post 57.

Post 36
Type: Post *Diameter (cm)*: 21
Feature Category: Post *Depth (cm)*: 20
Associated Artifacts: Post 36 yielded 62 pieces of lithic debitage. The post also contained five shell tempered Mississippi plain ceramic sherds, burned limestone, and FCR.
Remarks: Exterior post in Structure 3.

Post 37
Type: Post *Diameter (cm)*: 14
Feature Category: Post *Depth (cm)*: 25
Associated Artifacts: Post 37 yielded 23 pieces of lithic debitage. The post also contained burned limestone.
Remarks: None.

Post 38
Type: Post *Diameter (cm)*: 23
Feature Category: Post *Depth (cm)*: 12
Associated Artifacts: Post 38 yielded 103 pieces of lithic debitage, along with one finished biface. The post also contained one limestone tempered plain ceramic sherd, one limestone tempered cordmarked ceramic sherd, burned limestone, shale, and FCR.
Remarks: Interior post in Structure 1.

Post 39
Type: Post *Diameter (cm)*: 20
Feature Category: Post *Depth (cm)*: 6
Associated Artifacts: Post 39 yielded three pieces of lithic debitage.
Remarks: None.

Post 40
Type: Post *Diameter (cm)*: 40 30
Feature Category: Post *Depth (cm)*: 10
Associated Artifacts: Post 40 yielded 64 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: Exterior post in Structure 3.

Post 41
Type: Post *Diameter (cm)*: 13
Feature Category: Post *Depth (cm)*: 9
Associated Artifacts: Post 41 yielded 10 pieces of lithic debitage. The post also contained FCR.
Remarks: Interior post in Structure 3.

Post 42
Type: Post *Diameter (cm)*: 18
Feature Category: Post *Depth (cm)*: 21
Associated Artifacts: Post 42 yielded 81 pieces of lithic debitage. The post also contained burned limestone, shale, and FCR.
Remarks: None.

Post 43
Type: Post *Diameter (cm)*: 25
Feature Category: Post *Depth (cm)*: 18
Associated Artifacts: Post 43 yielded 39 pieces of lithic debitage. The post also contained burned limestone and FCR.
Remarks: Exterior post in Structure 3.

Post 44
Type: Post *Diameter (cm)*: 15
Feature Category: Post *Depth (cm)*: 11
Associated Artifacts: Post 44 yielded 20 pieces of lithic debitage. The post also contained burned limestone and FCR.
Remarks: None.

Post 45
Type: Post *Diameter (cm)*: 17
Feature Category: Post *Depth (cm)*: 6
Associated Artifacts: Post 45 yielded 18 pieces of lithic debitage. The post also contained burned limestone, shale, and FCR.
Remarks: Exterior post in Structure 3.

Post 46
Type: Post *Diameter (cm)*: 27 22
Feature Category: Post *Depth (cm)*: 14
Associated Artifacts: Post 46 yielded 34 pieces of lithic debitage. The post also contained one shell tempered Mississippi plain ceramic sherd, burned limestone and FCR.
Remarks: Exterior post in Structure 3.

Post 47
Type: Post *Diameter (cm)*: 26 18
Feature Category: Post *Depth (cm)*: 8
Associated Artifacts: Post 47 yielded nine pieces of lithic debitage. The post also

contained burned limestone and FCR.
Remarks: None.

Post 48
Type: Post *Diameter (cm)*: 18
Feature Category: Post *Depth (cm)*: 8
Associated Artifacts: Post 48 yielded two pieces of lithic debitage.
Remarks: None.

Post 49
Type: Post *Diameter (cm)*: 15
Feature Category: Post *Depth (cm)*: 5
Associated Artifacts: Post 49 yielded five pieces of lithic debitage. The post also contained burned limestone.
Remarks: None.

Post 50
Type: Post *Diameter (cm)*: 10
Feature Category: Post *Depth (cm)*: 7
Associated Artifacts: Post 50 yielded 10 pieces of lithic debitage. The post also contained burned limestone.
Remarks: None.

Post 51
Type: Post *Diameter (cm)*: 10
Feature Category: Post *Depth (cm)*: 6
Associated Artifacts: Post 51 yielded two pieces of lithic debitage.
Remarks: None.

Post 52
Type: Post *Diameter (cm)*: 20
Feature Category: Post *Depth (cm)*: 10
Associated Artifacts: Post 52 yielded three pieces of lithic debitage. The post also contained burned limestone and FCR.
Remarks: None.

Post 53
Type: Post *Diameter (cm)*: 20
Feature Category: Post *Depth (cm)*: 7
Associated Artifacts: Post 53 yielded four pieces of lithic debitage. The post also contained burned limestone.
Remarks: None.

Post 54
Type: Post *Diameter (cm)*: 14
Feature Category: Post *Depth (cm)*: 5
Associated Artifacts: Post 54 yielded three pieces of lithic debitage.
Remarks: None.

Post 55

Type: Post *Diameter (cm)*: 22

Feature Category: Post *Depth (cm)*: 22

Associated Artifacts: Post 55 yielded nine pieces of lithic debitage.

Remarks: Excavators note that Post 55 is an exterior post in Structure 1. Post 55 intrudes into Feature 90. Post 32 intrudes into this post.

Post 56

Type: Post *Diameter (cm)*: 25

Feature Category: Post *Depth (cm)*: 15

Associated Artifacts: Post 56 yielded 21 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 57

Type: Post *Diameter (cm)*: 18

Feature Category: Post *Depth (cm)*: 10

Associated Artifacts: Post 57 yielded nine pieces of lithic debitage. The post also contained burned limestone and shale.

Remarks: None.

Post 58

Type: Post *Diameter (cm)*: 16

Feature Category: Post *Depth (cm)*: 20

Associated Artifacts: Post 58 yielded 17 pieces of lithic debitage, along with one finished biface. The post also contained shale.

Remarks: None.

Post 59

Type: Post *Diameter (cm)*: 17

Feature Category: Post *Depth (cm)*: 8

Associated Artifacts: Post 59 yielded 12 pieces of lithic debitage. The post also contained burned limestone, shale, and FCR.

Remarks: None.

Post 60

Type: Post *Diameter (cm)*: 15

Feature Category: Post *Depth (cm)*: 5

Associated Artifacts: Post 60 yielded eight pieces of lithic debitage. The post also contained burned clay and FCR.

Remarks: None.

Post 61

Type: Post *Diameter (cm)*: 20

Feature Category: Post *Depth (cm)*: 9

Associated Artifacts: Post 61 yielded 41 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 62

Type: Post *Diameter (cm)*: 12

Feature Category: Post *Depth (cm)*: 6

Associated Artifacts: Post 62 yielded 16 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 63

Type: Post *Diameter (cm)*: 23

Feature Category: Post *Depth (cm)*: 15

Associated Artifacts: Post 63 yielded 51 pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 64

Type: Post *Diameter (cm)*: 16

Feature Category: Post *Depth (cm)*: 8

Associated Artifacts: Post 64 yielded 26 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 65

Type: Post *Diameter (cm)*: 20

Feature Category: Post *Depth (cm)*: 24

Associated Artifacts: Post 65 yielded 37 pieces of lithic debitage. The post also contained one limestone tempered plain ceramic sherd, burned limestone, and FCR.

Remarks: None.

Post 66

Type: Post *Diameter (cm)*: 25

Feature Category: Post *Depth (cm)*: 14

Associated Artifacts: Post 66 yielded 154 pieces of lithic debitage. The post also contained one Terminal Archaic Straight Stemmed PP/K, burned limestone, and FCR.

Remarks: None.

Post 67

Type: Post *Diameter (cm)*: 20

Feature Category: Post *Depth (cm)*: 10

Associated Artifacts: Post 67 yielded 54 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 68

Type: Post *Diameter (cm)*: 14

Feature Category: Post *Depth (cm)*: 9

Associated Artifacts: Post 68 yielded six pieces of lithic debitage. The post also contained burned limestone and burned clay.

Remarks: None.

Post 69

Type: Post *Diameter (cm)*: 17

Feature Category: Post *Depth (cm)*: 12

Associated Artifacts: Post 69 yielded 18 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 70

Type: Post *Diameter (cm)*: 22

Feature Category: Post *Depth (cm)*: 7

Associated Artifacts: Post 70 yielded 41 pieces of lithic debitage, along with one tertiary biface and one finished biface. The post also contained burned limestone.

Remarks: None.

Post 71

Type: Post *Diameter (cm)*: 13

Feature Category: Post *Depth (cm)*: 11

Associated Artifacts: Post 71 yielded four pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 72

Type: Post *Diameter (cm)*: 21

Feature Category: Post *Depth (cm)*: 30

Associated Artifacts: Post 72 yielded 31 pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 73

Type: Post *Diameter (cm)*: 21

Feature Category: Post *Depth (cm)*: 16

Associated Artifacts: Post 73 yielded 14 pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 74

Type: Post *Diameter (cm)*: 20

Feature Category: Post *Depth (cm)*: 15

Associated Artifacts: Post 74 yielded seven pieces of lithic debitage. The post also contained burned limestone.

Remarks: None.

Post 75

Type: Post *Diameter (cm)*: 17

Feature Category: Post *Depth (cm)*: 17

Associated Artifacts: Post 75 yielded two pieces of lithic debitage. The post also contained burned limestone and FCR.

Remarks: None.

Post 76

Type: Post *Diameter (cm)*: 30 37

Feature Category: Post *Depth (cm)*: 14

Associated Artifacts: Post 76 yielded 15 pieces of lithic debitage.

Remarks: None.

Post 77

Type: Post *Diameter (cm)*: 28 26

Feature Category: Post *Depth (cm)*: 13

Associated Artifacts: Post 77 yielded 23 pieces of lithic debitage.

Remarks: None.

Post 78

Type: Post *Diameter (cm)*: 25

Feature Category: Post *Depth (cm)*: 21

Associated Artifacts: Post 78 yielded 19 pieces of lithic debitage and burned limestone.

Remarks: None.

Posts 79–94

These post features were identified during fieldwork and probed for depth but not excavated. Summary information is presented below.

Post	Diameter (cm)	Depth (cm)	Remarks
79	15	36	
80	22	30	
81	18	23	
82	22	49	
83	14	10	
84	16	17	
85	27	20	
86	27	10	
87	32	10	
88	18	26	
89	15	18	
90	20	25	Associated with Structure 2
91	18	25	Associated with Structure 2
92	24	31	Associated with Structure 2
93	20	20	Associated with Structure 2
94	20	35	Associated with Structure 2

APPENDIX B: LITHIC ARTIFACTS

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
Plow Zone						7	35							4	1			1									**48**
F. 01	1a-1c	296																						11		5	**296**
F. 02		219				4																		40			**223**
F. 03 SSE 1/2		627						1			1													328	9		**629**
F. 03 NNW 1/2 Zone A		174																						524		6	**174**
F. 03 NNW 1/2 Zone B		391					1				1						1							251	251		**394**
F. 04 E 1/2		814	2	1		3	2	1																478	478	27	**823**
F. 04 W 1/2 Zone A		130			1	1																		232	232	36	**132**
F. 04 W 1/2 Zone B		127		1																				478		28	**128**
F. 05		421																						100	349	2	**421**
F. 06		627		1																				158			**628**
F. 07		466			1		1	1														4	5320				**469**
F. 08	2, 32	580					1																	3996	151	978	**581**
F. 09		572			1		1																	4741	794		**574**
F. 10		290		1	1	1																		1139	368		**293**
F. 11		289					1																	1543		1	**290**
F. 12		163										2												1421		14	**165**
F. 13		8																						3		4	**8**
F. 14		188		1		2		1				1												2963	649	25	**193**
F. 15		864			1	4	5																	14792	1295	13	**874**
F. 16		307		2	1	1	1	1																9334			**313**
F. 17 E 1/2		43															1							906	112	2	**44**
F. 17 W 1/2 Zone A		59																						125	66		**59**
F. 17 W 1/2 Zone B		65																						141	26		**65**
F. 18		1159	1	2	1	4	2	1							1									5800		2100	**1171**
F. 19		484			6	1																		900			**491**
F. 20		301				3																		2650			**304**
F. 21		1172		1		1	3	4					2				2							36400			**1185**

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
F. 22		26																						500			**26**
F. 23		275		1																				3600			**276**
F. 24		750		1		1	2	4									3							8300		1	**761**
F. 25	3	62				1																					**63**
F. 26	4a, 4b	40				2	1																	375		1	**43**
F. 27		16																						125			**16**
F. 28		143				2								1										600			**146**
F. 29		437				2		1				1												9605	338	12	**441**
F. 30		433		1										1										1400		2	**435**
F. 31		546		1																				2000	1	2	**547**
F. 32	5	2384	1	1		5	5	3		1	1													20125	1485	58	**2401**
F. 33		611				1	1										1							6483		5	**614**
F. 34		456				2																		2960	65	165	**458**
F. 35		289																						104			**289**
F. 36		812					2	1																3928		2	**815**
F. 37		587				2	1										1							11210		30	**591**
F. 38		53																									**53**
F. 39	6	72																						45			**72**
F. 40	7	157																						287			**157**
F. 41		35																						2301			**35**
F. 42 Zone A	8	1907				3	1	1																4405		7	**1912**
F. 42 Zone B		86																									**86**
F. 43		1156		2	1	1					1													21000	300	18380	**1161**
F. 44	9, 10	230						1														Y		1200			**231**
F. 45		1836	1		1	3	3	2																7480	90	8	**1846**
F. 46	11	601			1	1																		1600	140		**603**
F. 47		228		1		2																		580	100		**231**
F. 48	12	195																						320	30		**195**
F. 49	13	859			2	3																		1200	440		**864**
F. 50		29																									**29**

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
F. 51	14	125															1					Y		780	20		**126**
F. 52		289				1		2										1						1120	100		**293**
F. 53		517			1	2		3	1															2500	61	6	**524**
F. 54	15, 16	2366	1	3	3	11		2			1							1					9	9160	1220	20	**2388**
F. 55	17	79				1																		4320	80		**80**
F. 56		2053		3		4	3										2							17350	800	20	**2065**
F. 57 E 1/2		2644	1	2	3	4	4	1						1					1					10775	320	3	**2661**
F. 57 W 1/2 Zone A		410				1																		2045	22	11	**411**
F. 57 W 1/2 Zone B		960		1	1	1	3								1									1260	300		**967**
F. 57 W 1/2 Zone C		947	1	1	3	3	3	4									1							8120	320	60	**963**
F. 57 W 1/2 Zone D		771			2	2	3	1																940	120		**779**
F. 57 W 1/2 Zone E		1103		2	3		2	3																3280	100	60	**1113**
F. 58		65									1													40		1	**66**
F. 59		775			2		1										1	1						13407	114	6	**780**
F. 60		207																						4900	60		**207**
F. 61	18	333				1																		2969	61	5	**334**
F. 62		309																						4535	80	299	**309**
F. 63		14																						105		56	**14**
F. 64		57																						104		1	**57**
F. 65		333					3															Y		3666	13	1	**336**
F. 66		22																						219	2		**22**
F. 67		489			1	8											2							30411	501	1	**500**
F. 68		9																						75			**9**
F. 69		252				1																		1100	64	20	**253**
F. 70	19	82															1							400			**83**

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
F. 71		93																									**93**
F. 72	21	14																									**14**
F. 73	20	188		1		1											1							38260	200		**191**
F. 74	22	101																						1350	20		**101**
F. 75		13																						1420		1	**13**
F. 76		242				2																		2459	35	2	**244**
F. 77		137																						650	17	1	**137**
F. 78		1377		1		3	1	2																5312	99	4	**1384**
F. 79		1779	1	2	2	4	3	5	1															24200	300	40	**1797**
F. 80		2357		1	2	3	2																	2796	136	5	**2365**
F. 81		8																									**8**
F. 82		4573	1	2	4	6	6					2												14750	240	80	**4594**
F. 83		21																						504			**21**
F. 84		182		1		1																		1180	24	6	**184**
F. 85		41																							3	1	**41**
F. 86		373			1	3					1	1	1											1251	92	1	**380**
F. 87		2																									**2**
F. 88		33			1																						**34**
F. 89		1021					2																	18400	40	2	**1023**
F. 90		1701		4		6	3	4									1	1		1			1	3480	391	4	**1721**
F. 91		334									1						8	1			1			19140	273	26	**345**
F. 92	23	763			1	1								1										2200	40	10	**766**
F. 93	25	33																						20			**33**
F. 94	24	1854		1	2	6	7				1											Y		4344	21	3	**1871**
F. 95 NW 1/2		829					1																	482			**830**
F. 96		401				5											2	1						700			**409**
F. 97	26	12				1																		8			**13**
F. 98	27	246		1	1										1									57	28	2	**249**
F. 99 S 1/2		50			1												1							1782		15	**52**
F. 100 S 1/2		219		1				1																1934	28		**221**

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
F. 101		1649		4	2	5	4											1						27485	170	33	**1665**
F. 102		2256		3	1	6	4	3									1							5850	120	2	**2274**
F. 103 and 105 mixed		162																									**162**
F. 103		110																					5	480			**110**
F. 104		94																						820			**94**
F. 105		217																						2160			**217**
F. 106		626		1								3												3200			**630**
F. 107	28	190					1															Y		600			**191**
F. 108		88																						717			**88**
F. 109		468				3	1	1																2320			**473**
F. 110		363				1																		8054	40	10	**364**
F. 111 S 1/2		1																									**1**
F. 112 E 1/2		662				1	1																	3585			**664**
F. 113 S 1/2		20																									**20**
F. 114 S 1/2		1011			1	1	2	2									1							6660		24	**1018**
F. 115 S 1/2		1618		3	5	3	1	1								1	4				2			27860		60	**1638**
F. 116	29	171	2	1		1																		3080			**175**
F. 117 S 1/2		1528	1			4	1																3	7480	181	2	**1534**
F. 118 S 1/2		1457	1	3		3	2				2													12220	280		**1468**
F. 119 S 1/2		274																						993	55	1	**274**
F. 120		77																						339			**77**
F. 121		233				1	1																	2729	51	1	**235**
F. 122		28																						180			**28**
F. 123 S 1/2		1497		1	1	1	2																7	6600	289	1	**1502**
F. 124 W 1/2		1469	1		2	4	4	1				1												63300	560	120	**1482**
F. 125	30, 31	2289	1			4	1	1			2	1					2	2						64500	840	12	**2304**
F. 126		134																						10	36	100	**134**
F. 127		287					1																	9629	10		**288**
	Subtotal	**79334**	**16**	**61**	**64**	**183**	**142**	**60**	**2**	**1**	**13**	**12**	**3**	**8**	**4**	**1**	**38**	**11**	**1**	**1**	**3**	**0**	**29**	**737618**	**16746**	**23053**	**79958**
P. 01		34																						109	8		**34**

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
P. 02		9																						2			**9**
P. 03		15																						8	4		**15**
P. 04		2																						1			**2**
P. 05		4																						9			**4**
P. 06		13																							1		**13**
P. 07		16																						4	1		**16**
P. 08		7																									**7**
P. 09		17																						4			**17**
P. 10		0																									**0**
P. 11		12																						2			**12**
P. 12		0																									**0**
P. 13		32																						8			**32**
P. 14		25																						5	2		**25**
P. 15		32																						24			**32**
P. 16		9																									**9**
P. 17		88																						1			**88**
P. 18		33					1																		6		**34**
P. 19		24																							12		**24**
P. 20		45																						26			**45**
P. 21		26																						76	4		**26**
P. 22		58																						2			**58**
P. 23		27				1																		8			**28**
P. 24		39																					1	1			**39**
P. 25		69																						39			**69**
P. 26		44			1																			9			**45**
P. 27		51																						18			**51**
P. 28		24																						1	4		**24**
P. 29		66																						5	27		**66**
P. 30		20																						6	3		**20**
P. 31		61																						1			**61**

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
P. 32		72																						25	9	1	**72**
P. 33		95																						31	6	1	**95**
P. 34		39				1																		1			**40**
P. 35		40																							1	2	**40**
P. 36		62																						44	22		**62**
P. 37		23																						5			**23**
P. 38		103				1																		29	28	1	**104**
P. 39		3																									**3**
P. 40		64																						21	15		**64**
P. 41		10																							65		**10**
P. 42		81																						155	2	2	**81**
P. 43		39																						3	1		**39**
P. 44		20																						1	1		**20**
P. 45		18																						10	3	1	**18**
P. 46		34																						22	4		**34**
P. 47		9																						77	4		**9**
P. 48		2																									**2**
P. 49		5																						1			**5**
P. 50		10																						2			**10**
P. 51		2																									**2**
P. 52		3																						7	15		**3**
P. 53		4																						10			**4**
P. 54		3																									**3**
P. 55		9																									**9**
P. 56		21																						9	15		**21**
P. 57		9																						3		1	**9**
P. 58		17				1																				1	**18**
P. 59		12																						26	2	1	**12**
P. 60		8																				1			6		**8**
P. 61		41																						8	1		**41**

Provenience	Burial #	Lithic Debitage	Primary Biface	Secondary Biface	Tertiary Biface	Finished Biface	PP/K (Table 10)	Unimarginal Flake Tool	Bimarginal Flake Tool	Graver	Drill	Sidescraper	Endscraper	Hafted Endscraper	Spokeshave	Bifacial Chisel	Hoe	Hammerstone	Abrasive Siltstone Bead	Pipe Fragment	Misc. Groundstone	Red Ochre	Burned Clay (g)	Burned Limestone (g)	FCR (g)	Shale (g)	Total
P. 62		16																						14	1		**16**
P. 63		51																						1			**51**
P. 64		26																						3	4		**26**
P. 65		37																						19	4		**37**
P. 66		154					1																	181	36		**155**
P. 67		54																						8	1		**54**
P. 68		6																					1	11			**6**
P. 69		18																						1	1		**18**
P. 70		41			1	1																		10			**43**
P. 71		4																						16			**4**
P. 72		31																						64	4		**31**
P. 73		14																						2			**14**
P. 74		7																						26			**7**
P. 75		2																						1	1		**2**
P. 76		15																									**15**
P. 77		23																									**23**
P. 78		19																						10			**19**
Subtotal		**2278**	**0**	**0**	**2**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1226**	**324**	**11**	**2287**
GRAND TOTAL		**81612**	**16**	**61**	**66**	**188**	**144**	**60**	**2**	**1**	**13**	**12**	**3**	**8**	**4**	**1**	**38**	**10**	**1**	**1**	**3**	**0**	**32**	**738844**	**17070**	**23064**	**82245**

APPENDIX C: LITHIC DEBITAGE

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
F. 01	1a-1c			19	97	1					3	**120**	47	116	13	**176**	**296**
F. 02		1		13	37	2						**53**	35	107	24	**166**	**219**
F. 03 SSE 1/2		1		53	222	27			2	1		**306**	71	208	42	**321**	**627**
F. 03 NNW 1/2 Zone A		2		44	106	20					2	**174**				**0**	**174**
F. 03 NNW 1/2 Zone B				32	118	7					7	**164**	73	96	58	**227**	**391**
F. 04 E 1/2		6	5	103	482	64		2			9	**671**	43	78	22	**143**	**814**
F. 04 W 1/2 Zone A		2		37	73	13		1	3		1	**130**				**0**	**130**
F. 04 W 1/2 Zone B				7	11	7			1			**26**	21	64	16	**101**	**127**
F. 05		2	5	53	219	9						**288**	62	44	27	**133**	**421**
F. 06		1	2	71	201	21					3	**299**	94	196	38	**328**	**627**
F. 07		2	8	34	218	112		2	1		3	**380**	16	58	12	**86**	**466**
F. 08	2, 32	2	3	120	188	17	1	1	2		13	**347**	67	121	45	**233**	**580**
F. 09		1		16	173	4				1	5	**200**	57	312	3	**372**	**572**
F. 10		1	1	75	206	7						**290**				**0**	**290**
F. 11		2	1	29	71	15			1	1	2	**122**	38	108	21	**167**	**289**
F. 12		3	2	41	108	7					2	**163**				**0**	**163**
F. 13				4	3	1						**8**				**0**	**8**
F. 14				58	127	3						**188**				**0**	**188**
F. 15		3	6	148	418	37				1	12	**625**	77	126	36	**239**	**864**
F. 16				89	201	16				1		**307**				**0**	**307**
F. 17 E 1/2				17	25	1						**43**				**0**	**43**
F. 17 W 1/2 Zone A				13	41	4			1			**59**				**0**	**59**
F. 17 W 1/2 Zone B				13	52							**65**				**0**	**65**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
F. 18		2	3	192	618	99		3		1	1	**919**	61	155	24	**240**	**1159**
F. 19		2	3	143	317	19						**484**				**0**	**484**
F. 20			3	43	103	5						**154**	63	75	9	**147**	**301**
F. 21		18	15	172	679	79		1	1	1	12	**978**	94	84	16	**194**	**1172**
F. 22				9	11	5			1			**26**				**0**	**26**
F. 23			2	62	203	6					2	**275**				**0**	**275**
F. 24		14	29	195	312	94		1	1		17	**663**	14	66	7	**87**	**750**
F. 25	3			3	4	2						**9**	19	31	3	**53**	**62**
F. 26	4		3	18	18	1						**40**				**0**	**40**
F. 27				6	8	2						**16**				**0**	**16**
F. 28				12	69						1	**82**	25	23	13	**61**	**143**
F. 29		1	4	78	260	13						**356**	38	21	22	**81**	**437**
F. 30				70	178	7						**255**	27	85	66	**178**	**433**
F. 31		1		31	88	3					2	**125**	137	211	73	**421**	**546**
F. 32	5	32	49	650	1059	107	2		1		17	**1917**	141	277	49	**467**	**2384**
F. 33		3	6	111	355	28			1			**504**	63	41	3	**107**	**611**
F. 34				44	148	2					1	**195**	112	131	18	**261**	**456**
F. 35				11	31							**42**	71	143	33	**247**	**289**
F. 36		5	10	215	264	49		2			3	**548**	67	184	13	**264**	**812**
F. 37			2	97	438	47		3				**587**				**0**	**587**
F. 38				3	2							**5**	12	27	9	**48**	**53**
F. 39	6	1		35	36							**72**				**0**	**72**
F. 40	7	1	2	39	39						1	**82**	27	41	7	**75**	**157**
F. 41				9	22	4						**35**				**0**	**35**
F. 42 Zone A	8	2	5	146	566	18						**737**	351	662	157	**1170**	**1907**
F. 42 Zone B			4	25	57							**86**				**0**	**86**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
F. 43		8	10	176	681	40		2			15	**932**	44	121	59	**224**	**1156**
F. 44	9, 10	1	5	76	141	6					1	**230**				**0**	**230**
F. 45		12	22	352	1055	36			1	2	13	**1493**	102	177	64	**343**	**1836**
F. 46	11	1	9	125	396	5						**536**	23	35	7	**65**	**601**
F. 47				35	135	5					1	**176**	17	32	3	**52**	**228**
F. 48	12			25	84	1					1	**111**	27	44	13	**84**	**195**
F. 49	13	1	8	169	668	9					4	**859**				**0**	**859**
F. 50				8	19	2						**29**				**0**	**29**
F. 51	14		3	34	79	9						**125**				**0**	**125**
F. 52			1	98	162	25		1	1	1		**289**				**0**	**289**
F. 53		6	14	183	234	79			1			**517**				**0**	**517**
F. 54	15, 16	13	20	848	1358	122	2	1	1	1		**2366**				**0**	**2366**
F. 55	17			28	47	4						**79**				**0**	**79**
F. 56		16	47	482	1175	101	3	2	1	3		**1830**	39	153	31	**223**	**2053**
F. 57 E 1/2		7	36	634	1648	311		4	1	3		**2644**				**0**	**2644**
F. 57 W 1/2 Zone A		2	6	49	160	12	1	2	1	1		**234**	**67**	**82**	**27**	**176**	**410**
F. 57 W 1/2 Zone B		4	15	169	451	44	1			3		**687**	**68**	**134**	**71**	**273**	**960**
F. 57 W 1/2 Zone C		6	10	245	437	113		2				**813**	**37**	**75**	**22**	**134**	**947**
F. 57 W 1/2 Zone D		2	5	126	505	37				1		**676**	**22**	**64**	**9**	**95**	**771**
F. 57 W 1/2 Zone E		21	27	105	801	144	2		1	2		**1103**				**0**	**1103**
F. 58				3	5							**8**	25	32		**57**	**65**
F. 59		2	3	193	204	57		1				**460**	107	181	27	**315**	**775**
F. 60		3		54	142	8						**207**				**0**	**207**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
F. 61	18	2		142	183	4					2	**333**				**0**	**333**
F. 62		7	16	97	143	36		2			8	**309**				**0**	**309**
F. 63				5	8	1						**14**				**0**	**14**
F. 64				21	36							**57**				**0**	**57**
F. 65		3	2	78	117	37				1		**238**	41	33	21	**95**	**333**
F. 66				9	13							**22**				**0**	**22**
F. 67		12	19	194	203	43	1		2	3	12	**489**				**0**	**489**
F. 68				4	5							**9**				**0**	**9**
F. 69		4	16	87	103	41		1				**252**				**0**	**252**
F. 70	19			38	40	3					1	**82**				**0**	**82**
F. 71				1	3							**4**	12	68	9	**89**	**93**
F. 72	21		1	4	5	3					1	**14**				**0**	**14**
F. 73	20	21	9	52	77	29						**188**				**0**	**188**
F. 74	22		2	30	69							**101**				**0**	**101**
F. 75				5	8							**13**				**0**	**13**
F. 76		8	7	64	79	82					2	**242**				**0**	**242**
F. 77		2	14	44	53	21					3	**137**				**0**	**137**
F. 78		24	24	552	377	211			2			**1190**	14	151	22	**187**	**1377**
F. 79		33	21	516	883	112	1	4		4		**1574**	23	118	64	**205**	**1779**
F. 80		18	21	812	786	83					2	**1722**	197	366	72	**635**	**2357**
F. 81			2	2	4							**8**				**0**	**8**
F. 82		54	36	1567	2465	174	1	5	1	8	15	**4326**	21	193	33	**247**	**4573**
F. 83				10	11							**21**				**0**	**21**
F. 84				49	130	3						**182**				**0**	**182**
F. 85				9	31	1						**41**				**0**	**41**
F. 86			1	88	276	6		1		1		**373**				**0**	**373**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
F. 87				2								**2**				**0**	**2**
F. 88				7	18	8						**33**				**0**	**33**
F. 89		3	6	86	560	30						**685**	36	229	71	**336**	**1021**
F. 90		4	7	386	1139	18				2	10	**1566**	74	58	3	**135**	**1701**
F. 91		1	2	60	195	7		1			68	**334**				**0**	**334**
F. 92	23	1		213	530	13	1	2			3	**763**				**0**	**763**
F. 93	25			14	17	2						**33**				**0**	**33**
F. 94	24	18	12	328	902	56		1		2	8	**1327**	101	336	90	**527**	**1854**
F. 95 NW 1/2		1	3	395	173	12					2	**586**	55	164	24	**243**	**829**
F. 96		1	3	79	296	18		1		1	2	**401**				**0**	**401**
F. 97	26			5	7							**12**				**0**	**12**
F. 98	27			62	181	1					2	**246**				**0**	**246**
F. 99 S 1/2			2	13	27	7				1		**50**				**0**	**50**
F. 100 S 1/2		3		53	154	9						**219**				**0**	**219**
F. 101		20	28	405	714	183				3	34	**1387**	62	159	41	**262**	**1649**
F. 102		23	17	381	1248	144	1	1			18	**1833**	94	294	35	**423**	**2256**
F. 103 and 105 W 1/2		1		37	122					2		**162**				**0**	**162**
F. 103 E 1/2				35	67	7		1				**110**				**0**	**110**
F. 104		3	8	57	25					1		**94**				**0**	**94**
F. 105 E 1/2		2	4	46	162	2		1				**217**				**0**	**217**
F. 106		6	13	123	462	20					2	**626**				**0**	**626**
F. 107	28			22	54	3						**79**	29	74	8	**111**	**190**
F. 108		2		19	67							**88**				**0**	**88**
F. 109			1	29	79	13		1				**123**	94	241	10	**345**	**468**
F. 110		3	4	95	245	13				3		**363**				**0**	**363**
F. 111 S 1/2					1							**1**				**0**	**1**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
F. 112 E 1/2		6	2	145	485	21	2	1				**662**				**0**	**662**
F. 113 S 1/2				8	12							**20**				**0**	**20**
F. 114 S 1/2		4	7	11	715	69				3	9	**818**	74	88	31	**193**	**1011**
F. 115 S 1/2		3	4	182	1013	146		2		4	7	**1361**	55	164	38	**257**	**1618**
F. 116	29		2	48	116	3		1		1		**171**				**0**	**171**
F. 117 S 1/2		8	8	252	947	19		1			6	**1241**	81	149	57	**287**	**1528**
F. 118 S 1/2		4	10	210	796	168	1			2		**1191**	70	155	41	**266**	**1457**
F. 119 S 1/2			2	69	201	1		1				**274**				**0**	**274**
F. 120				15	61						1	**77**				**0**	**77**
F. 121		1	2	45	184	1						**233**				**0**	**233**
F. 122				14	13						1	**28**				**0**	**28**
F. 123 S 1/2			14	281	901	6		4		2	4	**1212**	144	125	16	**285**	**1497**
F. 124 W 1/2		34	27	396	797	76		3	1	6	30	**1370**	28	64	7	**99**	**1469**
F. 125	30, 31	21	36	284	1283	233	1	4	1	4	20	**1887**	74	281	47	**402**	**2289**
F. 126			2	24	105	2					1	**134**				**0**	**134**
F. 127		2	2	30	132	13						**179**	53	48	7	**108**	**287**
	Subtotal	**579**	**833**	**17171**	**41183**	**4369**	**21**	**70**	**31**	**78**	**428**	**64763**	**4033**	**8579**	**1959**	**14571**	**79334**
P. 01			1	15	18							**34**				**0**	**34**
P. 02				3	6							**9**				**0**	**9**
P. 03				3	12							**15**				**0**	**15**
P. 04					2							**2**				**0**	**2**
P. 05					4							**4**				**0**	**4**
P. 06				4	7	2						**13**				**0**	**13**
P. 07				7	9							**16**				**0**	**16**
P. 08				4	3							**7**				**0**	**7**
P. 09			1	5	11							**17**				**0**	**17**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
P. 10												**0**				**0**	**0**
P. 11				3	8	1						**12**				**0**	**12**
P. 12												**0**				**0**	**0**
P. 13				7	25							**32**				**0**	**32**
P. 14				5	20							**25**				**0**	**25**
P. 15				6	26							**32**				**0**	**32**
P. 16				1	6	2						**9**				**0**	**9**
P. 17			1	14	70	3						**88**				**0**	**88**
P. 18				10	21	2						**33**				**0**	**33**
P. 19				8	16							**24**				**0**	**24**
P. 20				12	33							**45**				**0**	**45**
P. 21				9	17							**26**				**0**	**26**
P. 22				11	47							**58**				**0**	**58**
P. 23				4	21	2						**27**				**0**	**27**
P. 24				6	32	1						**39**				**0**	**39**
P. 25				18	51							**69**				**0**	**69**
P. 26				14	30							**44**				**0**	**44**
P. 27		2		10	39							**51**				**0**	**51**
P. 28				7	16	1						**24**				**0**	**24**
P. 29			1	14	51							**66**				**0**	**66**
P. 30				4	15	1						**20**				**0**	**20**
P. 31				14	47							**61**				**0**	**61**
P. 32			1	21	49	1						**72**				**0**	**72**
P. 33				22	72	1						**95**				**0**	**95**
P. 34		1	2	14	21					1		**39**				**0**	**39**
P. 35				13	26	1						**40**				**0**	**40**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
P. 36				11	49	2						**62**				**0**	**62**
P. 37				9	14							**23**				**0**	**23**
P. 38				20	81	2						**103**				**0**	**103**
P. 39					3							**3**				**0**	**3**
P. 40				14	48	2						**64**				**0**	**64**
P. 41				3	7							**10**				**0**	**10**
P. 42				20	61							**81**				**0**	**81**
P. 43				1	37	1						**39**				**0**	**39**
P. 44				5	13			2				**20**				**0**	**20**
P. 45				7	9	2						**18**				**0**	**18**
P. 46				11	23							**34**				**0**	**34**
P. 47				1	7						1	**9**				**0**	**9**
P. 48					2							**2**				**0**	**2**
P. 49					5							**5**				**0**	**5**
P. 50				2	8							**10**				**0**	**10**
P. 51					2							**2**				**0**	**2**
P. 52				3								**3**				**0**	**3**
P. 53					4							**4**				**0**	**4**
P. 54					3							**3**				**0**	**3**
P. 55				3	6							**9**				**0**	**9**
P. 56				4	16					1		**21**				**0**	**21**
P. 57				2	7							**9**				**0**	**9**
P. 58				4	12	1						**17**				**0**	**17**
P. 59				2	10							**12**				**0**	**12**
P. 60				1	7							**8**				**0**	**8**
P. 61				34	7							**41**				**0**	**41**

Provenience	Burial #	Primary Flake	Secondary Flake	Tertiary Flake	Flake Fragment	Shatter	Multidirectional Core	Tested Cobble	Exhausted Core	Core Fragment	Flaked Limestone	1/4" Total	Tertiary Flake	Flake Fragment	Shatter	1/8" Total	Grand Total
P. 62				5	9	2						**16**				**0**	**16**
P. 63				10	38	2				1		**51**				**0**	**51**
P. 64				5	20	1						**26**				**0**	**26**
P. 65				14	23							**37**				**0**	**37**
P. 66		1		35	116	2						**154**				**0**	**154**
P. 67				14	39	1						**54**				**0**	**54**
P. 68					6							**6**				**0**	**6**
P. 69				5	13							**18**				**0**	**18**
P. 70			1	10	28	2						**41**				**0**	**41**
P. 71				3	1							**4**				**0**	**4**
P. 72				7	24							**31**				**0**	**31**
P. 73				3	10	1						**14**				**0**	**14**
P. 74		1		2	4							**7**				**0**	**7**
P. 75					2							**2**				**0**	**2**
P. 76				4	11							**15**				**0**	**15**
P. 77				4	17	2						**23**				**0**	**23**
P. 78				6	12					1		**19**				**0**	**19**
	Subtotal	**5**	**8**	**572**	**1645**	**41**	**0**	**2**	**0**	**4**	**1**	**2278**	**0**	**0**	**0**	**0**	**2278**
	GRAND TOTAL	**584**	**841**	**17743**	**42828**	**4410**	**21**	**72**	**31**	**82**	**429**	**67041**	**4033**	**8579**	**1959**	**14571**	**81612**

APPENDIX D: RAW MATERIAL COUNTS FOR LITHIC DEBITAGE RECOVERED FROM 1/4-INCH DRY SCREEN

Provenience	Burial #	Ft. Payne	Unidentifiable Thermally Altered	Warsaw	Unidentified Chert	St. Louis	Red-brown Agate	Chalcedony	Limestone	Total
F. 01	1a-1c	104	5	2	6				3	**120**
F. 02		36	11	5	1					**53**
F. 03 SSE 1/2		269	29	4	4					**306**
F. 03 NNW 1/2 Zone A		162	8		2				2	**174**
F. 03 NNW 1/2 Zone B		146	9	2					7	**164**
F. 04 E 1/2		573	59	17	13				9	**671**
F. 04 W 1/2 Zone A		124	3	1	1				1	**130**
F. 04 W 1/2 Zone B		22	1		3					**26**
F. 05		244	23	16		5				**288**
F. 06		278	11	3	4				3	**299**
F. 07		347	10	18	2				3	**380**
F. 08	2, 32	289	22	23					13	**347**
F. 09		175	7	12		1			5	**200**
F. 10		270	13	3		4				**290**
F. 11		107	6	4	3				2	**122**
F. 12		140	14	3	4				2	**163**
F. 13		7	1							**8**
F. 14		173	7	4		4				**188**
F. 15		498	54	45	12			4	12	**625**
F. 16		293	7	6	1					**307**
F. 17 E 1/2		32	9	2						**43**
F. 17 W 1/2 Zone A		50	8		1					**59**
F. 17 W 1/2 Zone B		57	5	3						**65**
F. 18		778	63	57	16	4			1	**919**
F. 19		447	21	7		9				**484**
F. 20		144	7	3						**154**
F. 21		818	70	67	9	2			12	**978**
F. 22		21	5							**26**
F. 23		262	6	3	2				2	**275**
F. 24		541	57	41	7				17	**663**
F. 25	3	5	4							**9**
F. 26	4	21	11	2	6					**40**
F. 27		14	1	1						**16**
F. 28		66	8	3		4			1	**82**
F. 29		231	63	35	12	15				**356**
F. 30		237	10	8						**255**
F. 31		94	9	8	9	3			2	**125**
F. 32	5	1698	95	84	23				17	**1917**
F. 33		451	38	15						**504**

Provenience	Burial #	Ft. Payne	Unidentifiable Thermally Altered	Warsaw	Unidentified Chert	St. Louis	Red-brown Agate	Chalcedony	Limestone	Total
F. 34		176	10	1	7				1	**195**
F. 35		37			5					**42**
F. 36		510	28	7					3	**548**
F. 37		553	27	3	3			1		**587**
F. 38		5								**5**
F. 39	6	66	5				1			**72**
F. 40	7	75	2	2	2				1	**82**
F. 41		20	11		4					**35**
F. 42 Zone A	8	669	38	27	3					**737**
F. 42 Zone B		81	2	3						**86**
F. 43		884	23	9	1				15	**932**
F. 44	9, 10	195	31	3					1	**230**
F. 45		1378	39	46	17				13	**1493**
F. 46	11	422	94	9	11					**536**
F. 47		146	27		2				1	**176**
F. 48	12	74	11	3	22				1	**111**
F. 49	13	722	90	25	18				4	**859**
F. 50		24	5							**29**
F. 51	14	95	27	1	2					**125**
F. 52		234	54		1					**289**
F. 53		403	79	12	23					**517**
F. 54	15, 16	1977	274	37	76	2				**2366**
F. 55	17	46	23	7	3					**79**
F. 56		1794	24	12						**1830**
F. 57 E 1/2		2539	72	33						**2644**
F. 57 W 1/2 Zone A		210	14	10						**234**
F. 57 W 1/2 Zone B		627	39	19		2				**687**
F. 57 W 1/2 Zone C		779	24	10						**813**
F. 57 W 1/2 Zone D		628	41	7						**676**
F. 57 W 1/2 Zone E		1021	53	11	15	1	2			**1103**
F. 58		6	2							**8**
F. 59		440	3	17						**460**
F. 60		109	62	25	11					**207**
F. 61	18	185	77	48	21				2	**333**
F. 62		133	82	45	41				8	**309**
F. 63		12	1		1					**14**
F. 64		31	19		7					**57**
F. 65		222	14	1	1					**238**
F. 66		18	4							**22**
F. 67		241	99	83	52	2			12	**489**
F. 68		8			1					**9**
F. 69		129	73	21	29					**252**
F. 70	19	42	26	13					1	**82**
F. 71		3	1							**4**

Provenience	Burial #	Ft. Payne	Unidentifiable Thermally Altered	Warsaw	Unidentified Chert	St. Louis	Red-brown Agate	Chalcedony	Limestone	Total
F. 72	21	7	3		3				1	**14**
F. 73	20	71	57	33	27					**188**
F. 74	22	58	31	12						**101**
F. 75		9	4							**13**
F. 76		140	81	6	13				2	**242**
F. 77		88	25	12	9				3	**137**
F. 78		1110	58	13	9					**1190**
F. 79		1487	65	18	4					**1574**
F. 80		1612	76	21	11				2	**1722**
F. 81		7	1							**8**
F. 82		4066	179	55	7	4			15	**4326**
F. 83		16	5							**21**
F. 84		141	39		2					**182**
F. 85		27	13	1						**41**
F. 86		248	97	12	14	2				**373**
F. 87		2								**2**
F. 88		19	9	5						**33**
F. 89		635	42	8						**685**
F. 90		1476	51	19	6	4			1	**1566**
F. 91		124	67	46	23	6			68	**334**
F. 92	23	521	93	74	71	1			3	**763**
F. 93	25	21	12							**33**
F. 94	24	1244	67	6	2				8	**1327**
F. 95 NW 1/2		551	31	2					2	**586**
F. 96		321	74	2	2				2	**401**
F. 97	26	11	1							**12**
F. 98	27	229	12	3					2	**246**
F. 99 S 1/2		32	6		12					**50**
F. 100 S 1/2		175	29	6	9					**219**
F. 101		1190	135	16	7	5			34	**1387**
F. 102		1637	165	6	5	2			18	**1833**
F. 103 and 105 (mixed)		104	38	12	8					**162**
F. 103		87	23							**110**
F. 104		67	19		3	5				**94**
F. 105		166	47	2	2					**217**
F. 106		464	87	72	1				2	**626**
F. 107	28	62	3	9	5					**79**
F. 108		60	21	3	4					**88**
F. 109		119	4							**123**
F. 110		313	45	2	3					**363**
F. 111 S 1/2		1								**1**
F. 112 E 1/2		511	101	27	18	5				**662**
F. 113 S 1/2		14	2	3	1					**20**
F. 114 S 1/2		766	29	8	6				9	**818**

Provenience	Burial #	Ft. Payne	Unidentifiable Thermally Altered	Warsaw	Unidentified Chert	St. Louis	Red-brown Agate	Chalcedony	Limestone	Total
F. 115 S 1/2		1276	60	12	4	2			7	**1361**
F. 116	29	99	47	12	13					**171**
F. 117 S 1/2		955	178	64	35	3			6	**1241**
F. 118 S 1/2		1104	71	8	8					**1191**
F. 119 S 1/2		153	46	23	52					**274**
F. 120		43	17	1	15				1	**77**
F. 121		216	15	2						**233**
F. 122		26			1				1	**28**
F. 123 S 1/2		982	164	56	6				4	**1212**
F. 124 W 1/2		1207	96	27	9	1			30	**1370**
F. 125	30, 31	1658	170	21	18				20	**1887**
F. 126		102	22	4	5				1	**134**
F. 127		174	4		1					**179**
Total		**56197**	**5257**	**1801**	**974**	**98**	**3**	**5**	**428**	**64763**
Percent of Whole		**86.77**	**8.12**	**2.78**	**1.50**	**0.15**	**0.00**	**0.01**	**0.66**	**100.00**

APPENDIX E: METRIC ATTRIBUTES FOR TEMPORALLY-SENSITIVE PROJECTILE POINTS

Type Abbreviations for Appendix E:

- **A** Quad
- **B** Big Sandy I
- **C** Kirk Corner Notched
- **D** Kirk Stemmed
- **E** Kirk Serrated
- **F** Beveled Edge
- **G** Morrow Mountain
- **H** Sykes/White Springs
- **I** Eva
- **J** Late Archaic Stemmed
- **K** Late Archaic Corner Notched
- **L** Motley
- **M** Terminal Archaic Straight Stemmed
- **N** Terminal Archaic Expanding Stemmed
- **O** Early Woodland Contracting Stemmed
- **P** Adena
- **Q** Copena Triangular
- **R** Shallow Side Notched

Additional Symbol Abbreviations for Appendix E:

- \- Attribute Cannot Be Measured; Artifact Incomplete
- x Attribute Does Not Apply

Type	Provenience	Burial #	Max. Length	Max. Width	Max. Thickness	Shoulder Width	Blade Length	Haft Length	Max. Width at Blade Mid-point	Distal Haft Width	Proximal Haft Width	Max. Thickness at Distal Haft	Weight (g)
A	Plow Zone		5.7	2.63	0.79	2.62	3.9	1.8	2.62	2.4	2.51	0.65	11.8
B	Plow Zone		5	1.8	0.75	2.47	-	1.62	-	2.62	2.02	0.62	12.3
C	Plow Zone		2.73	2.38	0.69	-	-	1.12	-	-	-	-	4.1
	F. 08	2, 32	2.2	2.48	0.53	2.47	-	0.68	-	1.27	1.23	0.45	3.7
	F. 32	5	3.2	3.17	0.72	3.17	-	0.84	-	2.2	1.9	0.56	7.9
	F. 57 E 1/2		2.59	2.91	0.66	2.91	-	1.19	-	1.36	1.65	0.52	5.5
D	Plow Zone		5.86	2.57	1.7	2.56	4.24	1.62	2.07	2.3	1.91	0.82	14.2
E	F. 33		7.04	2.81	0.93	2.81	6.05	0.99	1.93	1.58	1.11	0.63	15
E	F. 125	30, 31	5.82	2.82	0.86	2.82	4.85	0.9	2.28	1.7	1.78	0.64	12.4
F	F. 18		-	-	0.72	-	-	-	-	-	-	-	3.6
G	F. 56		3.65	2.82	1.72	2.82	-	0.83	2.5	2.82	1.03	0.53	7.5
H	F. 04 E 1/2		1.81	2.51	0.7	2.5	-	0.88	-	1.97	2.15	0.66	4.1
I	Plow Zone		2.54	2.97	0.72	2.97	-	0.61	-	1.1	0.56	0.64	6.0
	Plow Zone		3.86	2.75	0.61	2.75	3.26	0.6	2.2	1.1	0.86	0.42	5.9
	F. 57 E 1/2		3.56	2.98	0.57	2.98	2.82	0.74	2.5	0.95	0.59	0.42	4.8
	F. 79		4.74	2.69	0.73	2.69	4.05	0.69	2.1	1.18	0.71	0.51	7.3
J	Plow Zone		1.25	3.07	0.75	-	-	-	-	1.5	-	0.75	2.3
	Plow Zone		2.52	2.33	0.79	-	-	-	-	1.65	1.35	-	3.7
	Plow Zone		4.21	2.79	1.22	-	-	1.32	-	1.79	1.82	-	13.5
	Plow Zone		4.65	3.64	1.22	3.64	-	1.55	-	2	1.82	1.91	20
	Plow Zone		5.39	2.97	1.3	-	-	1.87	-	2.06	1.43	0.84	18.9
	Plow Zone		6	3.85	1.46	3.85	-	1.48	-	2.42	1.61	0.92	32
	F. 4		6.88	4.78	1.65	4.42	-	1.32	-	2.66	1.34	1.34	59.5
	F. 11		5.01	3.25	0.95	3.25	-	1.28	3.01	1.88	1.47	0.72	15.9
	F. 15		7.98	4.04	1.02	4.04	6.5	1.48	3.1	2.15	1.49	0.82	25.9
	F. 32	5	5.9	4.35	1.65	4.27	-	1.73	4.14	2.64	1.79	1.01	45

Type	Provenience	Burial #	Max. Length	Max. Width	Max. Thickness	Shoulder Width	Blade Length	Haft Length	Max. Width at Blade Mid-point	Distal Haft Width	Proximal Haft Width	Max. Thickness at Distal Haft	Weight (g)
J	F. 32	5	8.12	4.66	1.88	4.48	-	1.47	3.95	2.91	2.46	0.76	58.4
	F. 36		6.16	4.15	1.52	4.15	-	-	2.58	2.02	-	0.74	27.7
	F. 45		4.82	2.68	0.95	2.68	-	1.19	2.01	2.04	1.69	0.8	12.2
	F. 57 E 1/2		2.4	3.38	0.79	3.38	-	1.6	-	1.22	3.38	0.79	4.3
	F. 57 W 1/2 Zone B		3.06	3.71	0.86	3.71	-	1.26	-	2.1	1.29	0.85	9.9
	F. 57 W 1/2 Zone B		5.54	3.6	1.2	3.6	-	1.46	2.67	2.03	1.29	0.67	21.1
	F. 57 W 1/2 Zone C		6.85	3.28	1.12	3.28	5.44	1.41	2.82	2.04	1.46	0.91	21.7
	F. 57 W 1/2 Zone E		3.87	3.54	1.03	3.34	-	-	-	2.27	-	0.95	13.2
	F. 65		6.45	3.57	1.69	3.48	-	1.34	3.52	2.4	1.88	1.14	41.7
	F. 79		2.88	3.05	0.97	3.05	-	1.64	-	1.7	1.51	0.97	6.3
	F. 80		3.65	3.88	1.21	3.91	-	2.9	-	1.77	1.2	0.77	14.3
	F. 82		10.63	4.26	1.28	4.26	-	1.08	3.62	2.13	1.74	0.99	64.3
	F. 82		5.99	3.53	1.09	3.53	-	1.19	-	1.85	1.48	1.5	22
	F. 82		7.35	3.36	1.12	3.36	-	2.01	2.73	2.24	1.35	0.71	26
	F. 82		7.4	4.37	1.81	4.37	-	1.45	3.96	3.06	1.82	0.93	42.5
	F. 94	24	2.66	2.64	0.98	2.64	-	1.72	-	2.64	1.82	0.56	5.6
	F. 101		3.46	3.89	1.04	3.89	-	1.96	-	1.75	1.28	1.04	9.2
	F. 102		4.06	2.9	1.5	2.9	-	1.72	-	1.73	1.4	1.5	13.4
	F. 117		3.5	2.92	1.28	2.92	-	1.7	-	2.21	1.71	1.06	11
	F. 127		5.44	2.42	1.08	2.41	4.06	1.38	2.01	1.58	1.1	0.85	13.3
K	Plow Zone		3.58	2.51	0.91	2.51	-	1.8	1.47	1.74	1.46	0.73	7.6
	Plow Zone		4.07	2.92	1.35	-	-	1.85	-	-	-	-	14.7
	Plow Zone		5.54	3.35	1.18	3.35	-	1.3	2.65	1.6	1.61	0.92	21.2
	F. 15		4.94	2.78	1.18	2.78	-	1.25	1.8	1.4	1.21	1.01	13.1
	F. 59		2.31	2.97	0.83	-	-	1.6	-	1.89	1.35	0.83	5.8
	F. 90		3.41	3.18	0.87	3.18	-	1.01	-	1.72	2.06	0.6	9.5
	F. 123		2.18	2.82	0.98	-	-	1.35	-	1.78	1.8	0.84	5.5
L	Plow Zone		2.3	2.24	0.75	-	-	1.18	-	1.26	1.25	0.48	3.1
	F. 15		5.26	2.45	0.89	2.45	3.93	1.33	1.9	1.07	1.67	0.69	10.3
	F. 16		4.02	2.44	0.83	2.44	2.6	1.42	1.81	1.03	1.81	0.64	6.3
	F. 24		4.92	2.53	0.85	2.53	-	0.84	2.31	1.12	1.44	0.64	10
	F. 24		6.9	2.01	0.72	1.99	5.7	1.2	1.55	1.08	2.94	0.65	9.5
	F. 32	5	6.89	2.28	0.92	2.28	5.58	1.31	1.91	1.13	1.7	0.73	23.6
	F. 36		5.22	1.78	0.9	1.78	3.98	1.24	1.4	1.17	1.41	0.7	7.4
	F. 37		3.06	2.34	0.89	2.34	-	1.33	-	1.35	1.54	0.58	6.2
	F. 57 E 1/2		4.93	2.04	0.72	2.04	3.88	1.05	1.66	1.05	1.1	0.59	6.7
	F. 102		2.3	2.11	0.74	2.11	-	1.11	-	1.18	1.46	0.7	3.2
	F. 109		4.61	2.05	0.71	2.05	3.62	0.99	1.63	0.95	1.28	0.64	5.9
	F. 115		4.9	1.92	0.6	1.92	3.83	1.07	1.49	0.94	1.38	0.44	5.2
	F. 124		3.77	3.26	0.89	3.26	-	1.38	-	1.24	-	0.72	9.3
	F. 124		5.95	2.48	0.92	2.48	4.82	1.13	2.14	1.13	1.2	0.55	12.2
M	Plow Zone		2.59	2.97	0.91	2.97	-	1.04	-	1.45	1.2	0.72	7.1
	Plow Zone		3.06	2.68	1.1	2.68	-	1.33	-	1.62	1.2	0.97	7.8
	Plow Zone		4.28	3.05	1.11	3.05	-	1.52	-	1.95	1.5	0.69	14.7
	Plow Zone		5.07	2.02	0.58	2.02	3.75	1.32	1.62	1.14	1.12	0.47	5.6

Type	Provenience	Burial #	Max. Length	Max. Width	Max. Thickness	Shoulder Width	Blade Length	Haft Length	Max. Width at Blade Mid-point	Distal Haft Width	Proximal Haft Width	Max. Thickness at Distal Haft	Weight (g)
M	Plow Zone		5.37	2.33	0.95	2.33	3.55	1.82	1.99	1.94	1.58	0.76	11.1
	Plow Zone		6.11	2.81	1.14	2.81	4.51	1.6	2.65	1.68	1.28	0.61	14.8
	Plow Zone		6.46	3.02	1.07	3.02	5.2	1.26	2.34	1.07	0.75	0.64	14.8
	F. 07		5.99	2.7	0.87	2.7	4.43	1.56	1.72	1.8	1.41	0.72	11.9
	F. 09		6.33	2.74	1.18	2.74	4.76	1.57	2.31	1.43	1.1	1.02	15.6
	F. 15		5.84	2.46	0.88	2.46	4.85	-	2.12	1.48	-	0.71	11.7
	F. 15		6.6	2.72	0.9	2.72	4.72	1.88	1.98	1.61	1.46	0.62	12.6
	F. 18		6.68	2.45	0.87	2.14	-	1.15	2.36	1.54	1.52	0.61	14.5
	F. 21		3.29	3.04	1.16	3.04	-	1.55	-	1.68	1.43	0.68	10.1
	F. 21		5.96	2.02	1.09	2.02	-	1.08	1.71	1.07	1.28	0.6	12.1
	F. 42 Zone A	8	7.64	1.79	0.93	1.79	6.56	1.08	1.59	0.94	-	0.6	9.4
	F. 45		5.59	2.64	1.1	2.64	-	1.48	2.21	1.71	1.46	0.77	14.1
	F. 45		4.55	2.6	0.74	2.6	3.32	1.23	1.78	1.33	1.28	0.51	7.2
	F. 57 W 1/2 Zone D		3.26	2.74	1.07	2.74	-	1.32	-	1.52	1.17	0.72	9.3
	F. 65		5.04	2.94	1.01	2.94	4.1	0.94	0.27	1.36	1.19	0.8	11.5
	F. 79		5.42	3.14	0.99	3.14	4.18	1.24	2.32	1.24	1.14	0.55	12.8
	F. 80		6.39	2.4	1.25	2.4	5.2	1.19	2.34	1.49	1.07	0.52	16.6
	F. 82		4	2.91	0.97	2.91	-	0.96	-	1.73	1.52	0.75	11.7
	F. 89		4.93	2.35	0.96	2.35	-	1.32	1.87	1.3	1.18	0.74	9.8
	F. 94	24	4.94	2.78	0.98	2.78	-	1.35	2.09	1.38	1.24	0.65	11.7
	F. 94	24	6.61	2.87	0.8	2.87	5.02	1.59	2.03	1.52	1.38	0.64	10.9
	F. 94	24	7.2	2.49	0.85	2.49	5.52	1.68	2.04	1.33	1.18	0.64	11.8
	F. 94	24	8.24	2.69	1.21	2.69	6.88	1.36	2.3	1.24	1.13	0.86	19.8
	F. 95		3.95	2.57	0.83	2.29	-	1.46	-	1.29	1.23	0.57	8.9
	F. 101		7.97	2.38	1.13	2.38	6.7	1.27	2.1	1.72	1.74	0.96	20
	F. 102		8.9	2.5	1.17	2.5	7.49	1.41	2.31	1.62	1.39	0.66	21.5
	F. 118		6.44	3.16	1.35	3.16	-	1.58	2.56	1.89	1.74	0.69	23.7
	F. 123		4.99	2.44	0.9	2.44	-	2.4	2.11	1.16	1.1	0.59	11.2
	Posthole 66		5.59	2.94	1.06	2.45	-	1.39	-	1.42	1.09	0.63	17.7
N	Plow Zone		2.98	2.11	0.82	2.11	-	1.33	-	1.11	1.34	0.69	5
	F. 03 NNW ½ Zone B		3.52	2.46	0.89	2.46	-	1.08	2.16	1.41	1.4	0.6	8.7
	F. 32	5	5.58	1.45	0.78	-	-	1.22	2.01	1.24	1.46	0.55	10.5
	F. 56		6.13	2.1	0.74	2.1	5.08	1.05	1.79	1.29	1.16	0.62	8.8
	F. 56		3.42	2.94	1.12	-	-	1.37	-	1.46	1.52	0.73	8.7
	F. 57 W 1/2 Zone B		2.38	2.2	0.81	-	-	1.54	-	1.5	1.56	0.58	2.9
	F. 57 W 1/2 Zone C		5.56	2.45	0.77	2.45	4.61	0.95	1.92	1.25	1.25	0.56	8.5
	F. 57 W 1/2 Zone C		6.2	3.11	1.03	3.11	5.1	1.1	2.77	1.78	1.98	0.8	19.3
	F. 57 W 1/2 Zone D		6.55	3.52	1.02	3.52	-	1.1	3.02	-	-	0.78	23.7
	F. 57 W 1/2 Zone E		6.69	2.66	0.74	-	5.54	1.15	2.24	1.43	1.43	0.5	13.5
	F. 65		3.08	4.3	1.01	4.3	-	1.8	-	1.59	1.89	0.62	6.5
	F. 89		2.75	1.84	0.63	-	-	1.08	-	1.25	1.58	0.63	2.3
	F. 94	24	7.04	3.21	1.01	3.21	5.42	1.62	2.61	1.39	1.48	0.67	19.8
	F. 101		4.97	2.75	1.04	2.75	3.96	-	2.18	1.5	-	0.82	11.6
	F. 101		6.49	2.97	0.7	2.97	4.91	1.58	2.06	1.04	1.32	0.42	9.1
	F. 102		1.78	1.81	0.63	-	-	1.23	-	1.18	1.34	0.63	2.1

Type	Provenience	Burial #	Max. Length	Max. Width	Max. Thickness	Shoulder Width	Blade Length	Haft Length	Max. Width at Blade Mid-point	Distal Haft Width	Proximal Haft Width	Max. Thickness at Distal Haft	Weight (g)
N	F. 114		4.58	2.1	0.82	2.1	3.38	1.2	1.76	1.28	1.18	0.55	6.9
	F. 118		2.17	2.2	0.82	0.81	-	1.45	-	1.54	1.67	0.74	3.2
	F. 124		6.3	3.24	1.2	3.24	-	1.5	2.78	1.61	1.68	0..85	25.9
O	Plow Zone		2.47	2.69	0.97	2.69	-	1.45	-	1.74	1.04	0.73	6.4
	Plow Zone		3.17	2.41	0.63	2.41	-	2.38	-	1.76	0.57	0.63	4.5
	Plow Zone		4.58	2.65	1.06	2.65	3.64	0.94	2.18	1.27	0.56	0.6	10.8
	F. 94	24	5.57	2.97	1.02	2.97	-	1.39	-	1.78	0.77	0.56	14.7
P	F. 124		2.32	1.75	0.74	-	-	1.82	-	1.32	0.43	0.74	2.6
Q	Plow Zone		1.65	2.38	0.66	2.38	x	x	-	x	2.38	x	2.1
	Plow Zone		2.2	2.36	0.55	-	x	x	-	x	-	x	2.1
	Plow Zone		2.25	2.59	0.98	2.59	x	x	-	x	2.59	x	6.8
	Plow Zone		2.57	2.56	0.82	2.56	x	x	-	x	2.56	x	6
	Plow Zone		3.81	2.61	0.79	2.61	x	x	-	x	2.61	x	8.2
	Plow Zone		4.12	2.69	0.89	2.48	x	x	-	x	2.48	x	12.1
	Plow Zone		4.18	2.48	0.81	2.48	x	x	2.19	x	2.48	x	8
	Plow Zone		5.82	2.5	0.8	2.5	x	x	1.94	x	2.5	x	11.4
	F. 57 W 1/2 Zone D		2.04	2.84	0.62	2.84	x	x	-	x	2.84	x	4.4
	F. 82		2.34	2.25	0.75	2.25	x	x	-	x	2.25	x	4.3
	F. 90		1.93	2.08	0.79	-	-	-	-	-	-	-	4.2
	F. 90		3.03	2.72	0.75	2.72	x	x	-	x	2.72	x	6.5
	F. 112 E 1/2		4.38	2.32	0.83	2.32	x	x	-	x	2.32	x	7.2
	F. 121		3.89	3.28	0.71	3.28	x	x	-	x	3.28	x	10.1
	Posthole 18		3.91	2.41	0.65	2.41	x	x	1.98	x	2.41	x	5.9
R	F. 21		4.67	1.92	0.78	1.92	2.81	1.86	1.67	1.28	1.58	0.59	6.1
	F. 78		3.69	2.16	0.62	2.16	3.01	0.68	1.81	1.46	1.55	0.53	4.8
	F. 107	28	4.59	1.82	0.81	1.82	3.38	1.21	1.65	1.1	1.45	0.79	6.3
	F. 114		4.66	1.68	0.72	1.68	3.8	0.86	1.63	0.98	1.09	0.49	5.6

APPENDIX F: FAUNAL REMAINS

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
F. 3		1/8" WS	Aves	indeterminate			3	0.13	1			
		1/8" WS	cf. Catostomidae	dentary			1	0.01				
		1/8" WS	Mammalia, medium to large	indeterminate			30	1.73	9			
		1/8" WS	Mammalia, medium to large	tooth			2	0.08				frags
		1/8" WS	Mammalia, small	epiphysis			1	0.07				
		1/8" WS	Mammalia, small	femur	1		1	0.02				
		1/8" WS	Mammalia, small	phalange			2	0.18				
		1/8" WS	Mammalia, small	indeterminate			56	4.87	16			
		1/8" WS	Osteichthyes	cranium			1	0.02				
		1/8" WS	Osteichthyes	indeterminate			1	0.04				need further analysis
		1/8" WS	Rodentia	incisor			2	0.01				
		1/8" WS	Rodentia	mandible		1	1	0.01				frag
		1/8" WS	Serpentes	vertebra			6	0.26				
		1/8" WS	Testudines	carapace			5	0.32	2			
		1/8" WS	Testudines	peripheral			3	0.24				
		1/8" WS	Vertebrata	indeterminate			57	1.03	13			
F. 3 SSE 1/2 Zones A & B		1/4"	Aves	fragment			4	0.48	3	3		cut marks, calcined
		1/4"	Mammalia	fragment			6	2.43	6			4 calcined; 2 blackened
		1/4"	Odocoileus virginianus	radius		1	1	2.44				proximal end
		1/4"	Odocoileus virginianus	rib			1	2.16			1	epiphisi unfused on proximal end
F. 3 NNW 1/2 Zone A		1/4"	Mammalia, large	fragment			4	3.93	3	1		shaft frag. black; cut marks bone flake
		1/4"	Mammalia, large	cranial fragment			1	1.02				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, small	fragment			1	0.14				near complete long bone, likely scuriou spp. Likely humerus
		1/4"	Odocoileus virginianus	molar			1	0.38				fragment
		1/4"	Odocoileus virginianus	molar		1	1	1.63		1		lower-dentine exposure with horizontal cut marks
		1/4"	Odocoileus virginianus	molar	1		1	1.06				1st upper
		1/4"	Odocoileus virginianus	radius		1	1	3.04				proximal epiphisi
		1/4"	Serpentes	vertebra, thoracic			1	0.25				near complete
		1/4"	Vertebrata	fragment			5	1.58	2			2 calcined
F. 3 NNW 1/2 Zone B		1/4"	Aves	vertebra			1	0.19				
		1/4"	Mammalia	fragment			3	0.44				
		1/4"	Mammalia, large	fragment			1	3.72				indeterminate epiphisi
		1/4"	Mammalia, medium	fragment			1	0.25	1			
		1/4"	Mammalia, small to medium	dentary			1	0.22				fragmented
		1/4"	Mammalia, small	fragment			1	0.18				likely radius
		1/4"	Odocoileus virginianus	tooth fragment			1	0.28				with root and partial enamel
		1/4"	Odocoileus virginianus	molar		1	2	2.5			1	2=1 deciduous and sharp, upper 2nd from back
		1/4"	Terrapene carolina	neural		1	1	0.35		1		fragment, weathered chalk like
		1/4"	Terrapene carolina	peripheral			1	0.51				
		1/4"	Terrapene carolina	plastron			4	0.56				
		1/4"	Vertebrata	fragment			4	0.66				
		1/4"	Vertebrata	fragment			1	0.94		1		2 holes on anterior
F. 4 East 1/2		1/4"	Aves	fragment			1	0.12	1			diaphysis black
		1/4"	Aves	shaft fragment			1	0.39	1			calcined
		1/4"	indeterminate	fragment			2	0.45		2		weathered epiphisi proximal end
		1/4"	Mammalia	metatarsal			2	0.66	2			shaft fragment 2=1 calcined

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, large	bone flake			1	5.12				
		1/4"	Mammalia, large	bone flake			2	4.63		2		diaphysis 2=1 cut marks horizontal
		1/4"	Mammalia, large	fragment			3	2.35	3			3=1 portion heat treated black some calcined
		1/4"	Mammalia, medium	bone flake			1	1.64	1	1		shaft portion, heat treated with many lateral marks, polished
		1/4"	Odocoileus virginianus	astragalus	1		2	10.39		2		anterior cut marks 2=1 missing distal portion
		1/4"	Odocoileus virginianus	phalange			1	0.78				weathered epiphisi proximal end
		1/4"	Vertebrata	fragment			1	0.29	1			black
		1/4"	Vertebrata	fragment			1	0.28	1			calcined
		1/4"	Vertebrata	fragment			8	0.93		8		weathered and splintering
		1/4"	Vertebrata	fragment			1	0.08				
		1/8" WS	Aves	long bone			2	0.07				diaphysis
		1/8" WS	Ictaluridae	spine			1	0.02	1			
		1/8" WS	Mammalia	indeterminate			26	1.31				
		1/8" WS	Mammalia	indeterminate			28	1.36	28			
		1/8" WS	Osteichthyes	cranium			2	0.03				
		1/8" WS	Osteichthyes	vertebra			1	0.01	1			
		1/8" WS	Other organic	indeterminate			1	0.01				
		1/8" WS	Testudines	carapace			2	0.15				frags
		1/8" WS	Testudines	carapace			4	0.13	4			frags
		1/8" WS	Vertebrata	indeterminate			17	0.27	17			
		1/8" WS	Vertebrata	indeterminate			76	1.22				
F. 4 West 1/2 Zone A		1/4"	Mammalia	fragment			7	0.95				
		1/4"	Odocoileus virginianus	dentary		1	1	7.47				3 fused molars 3rd fully erupt, 2nd fragmented

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
F. 5		1/4"	Mammalia, large	metapodial			1	2.1				bone flake
		1/4"	Mammalia, small to medium	calcaneus		1	1	0.34				diagnostic proximal worn
		1/4"	Odocoileus virginianus	inominate	1		1	15.67		1		socket with cut marks and weathered
		1/4"	Terrapene carolina	carapace	1		1	0.83				bridge
		1/4"	Terrapene carolina	carapace			27	5.26				
		1/4"	Terrapene carolina	neural			18	5.99		18		cut marks on anterior
		1/4"	Terrapene carolina	peripheral	3	6	9	3.28				
		1/4"	Terrapene carolina	plastron	1		1	0.49				bridge
		1/4"	Terrapene carolina	plastron			31	3.69				
		1/4"	Terrapene carolina	plastron			2	0.7		2		cut marks on anterior
		1/4"	Vertebrata	fragment			32	0.77				
F. 6		1/4"	Castor canadensis	tooth fragment	1		1	1.93				P4 complete with root
		1/4"	Mammalia	fragment			8	1.24				
		1/4"	Mammalia, large	calcaneus			1	0.8				fragment
		1/4"	Mammalia, large	fragment			1	0.49	1			calcined
		1/4"	Odocoileus virginianus	phalange, ultimate	1		1	2.68				2=1 near complete
F. 7		1/8" WS	Aves, small	indeterminate			4	0.11	1			
		1/8" WS	Aves, small	long bone			1	0.1				diaphysis
		1/8" WS	Aves, small	tibiotarsus	1		1	0.01	1			distal
		1/8" WS	Mammalia	indeterminate			39	1.46	14			
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.02				
		1/8" WS	Rodentia	incisor		1	1	0.03				
		1/8" WS	Serpentes	vertebra			4	0.14				
		1/8" WS	Terrapene carolina	long bone			1	0.12	1			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Testudines	carapace			3	0.12	2			
		1/8" WS	Testudines	peripheral			2	0.15	2			
		1/8" WS	Vertebrata	indeterminate			114	2	14			
		1/4"	Aves	fragment			49	12.98	49			black
		1/4"	Aves	fragment			20	1.66				
		1/4"	Aves, small to medium	fragment			2	1.44				
		1/4"	Aves, small to medium	humerus			1	0.32				shaft fragment
		1/4"	Aves, small to medium	indeterminate			1	0.9		1		fragment - worked bone or may be beak-polished
		1/4"	Aves, small to medium	scapula			1	0.6				
		1/4"	Cervidae	antler			8	7.71		8		weathered and cut marks
		1/4"	Cervidae	ulna		1	1	10.34		1	1	potentially elk unfused at proximal end
		1/4"	Mammalia	maxilla			1	0.01				may be mandible holes define tooth
		1/4"	Mammalia	tooth fragment			2	0.12		2		cut and bash marks
		1/4"	Mammalia, large	bone flake			3	1.48	3			black
		1/4"	Mammalia, large	bone splinter			22	4.4		22		weathered and extreme splinter
		1/4"	Mammalia, large	dentary		1	1	1.34		1		weathered
		1/4"	Mammalia, large	fragment			4	1.54	4	4		weathered and heat altered
		1/4"	Mammalia, large	fragment			2	0.94		2		deep cuts and weathered
		1/4"	Mammalia, large	metatarsal			1	5.46		1		cut marks weathered
		1/4"	Mammalia, medium	fragment			2	1.63		1		weathered and cut marks
		1/4"	Mammalia, medium	fragment			5	1.16	1			calcined with red decoration
		1/4"	Mammalia, medium to large	bone flakes			10	6	10			black
		1/4"	Mammalia, medium to large	fragment			10	4.34	10			black
		1/4"	Mammalia, medium to large	fragment			68	11.73		68		weathered and cut marks
		1/4"	Mammalia, small	bone flake			1	0.14				shaft fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, small	cranium			5	0.77				fragment tooth holes
		1/4"	Mammalia, small to medium	bone flake			1	0.18				
		1/4"	Mammalia, small to medium	bone splinter			13	1.11				incomplete cut marks
		1/4"	Mammalia, small to medium	fragment			1	0.38	1			heat treated black
		1/4"	Mammalia, small to medium	fragment			3	1.31		3		shaft weathered and cracking
		1/4"	Mammalia, small to medium	fragment			3	0.49	3			black
		1/4"	Mammalia, small to medium	fragment			2	1.48	2			calcined
		1/4"	Mammalia, small to medium	fragment			1	0.25				
		1/4"	Mammalia, small to medium	fragment			3	0.52		3		weathered
		1/4"	Mammalia, small to medium	fragment			1	0.15		1		cut marks
		1/4"	Meleagris gallopavo	coracoid			1	1.64				proximal head fragment
		1/4"	Meleagris gallopavo	humerus		1	1	2.27	1		1	sub adult black
		1/4"	Meleagris gallopavo	humerus	1		1	3.56	1		1	proximal head black
		1/4"	Meleagris gallopavo	humerus		1	1	0.92			1	proximal head
		1/4"	Meleagris gallopavo	humerus			1	1.03	1			shaft fragment
		1/4"	Meleagris gallopavo	humerus		1	1	1.57			1	proximal head
		1/4"	Meleagris gallopavo	humerus	1		1	6.13				distal epiphisi
		1/4"	Meleagris gallopavo	humerus		1	1	4.01	1			distal epiphisi treated Black
		1/4"	Meleagris gallopavo	inominate		1	1	0.68				pelvis portion
		1/4"	Odocoileus virginianus	astragalus	1		1	2.46		1		cut marks
		1/4"	Odocoileus virginianus	astragalus			1	2.9	1			black
		1/4"	Odocoileus virginianus	bone flake			3	7.3				
		1/4"	Odocoileus virginianus	ilium		1	1	10.24	1	1		distal end and shaft burned with cut marks
		1/4"	Odocoileus virginianus	phalange, ultimate			1	2.63	1			calcined
		1/4"	Osteichthyes	vertebra			1	0.17	1			black
		1/4"	Procyon lotor	phalange			1	0.17				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Rodentia	tooth fragment			3	0.54				
		1/4"	Sciurus niger	humerus	1		1	0.51	1			shaft portion heat treated black
		1/4"	Sciurus spp.	humerus		1	1	0.43				shaft portion
		1/4"	Sciurus spp.	phalange			2	0.26				
		1/4"	Terrapene carolina	costal			1	0.82				costal carapace
		1/4"	Terrapene carolina	peripheral		1	1	1.84		1		cut marks on marginal #7
		1/4"	Terrapene carolina	plastron			1	0.32	1			bridge black
		1/4"	Vertebrata	indeterminate			8	3	1			1 black
			Vertebrata	indet. fragments			2	0.09	1	1		burned, sharpened, bone tips
			Cervidae	antler fragments			6	7.16		6		beaten, weathered
			Cervidae	antler			1	33.61		1		cut/scored, snapped; abrasion/cut marks near this end; smoothed exterior, weathered
			Cervidae	antler			1	6.47		1		weathered; likely scored/snapped
			Cervidae	antler			1	15.14		1		cut marks, weathered, some smoothing
			Cervidae	antler tine tip			1	2.14	1			burned black
			Cervidae	antler tine			1	9.02		1		cut marks, weathered, some smoothing
			Meleagris gallopavo	tarsometatarsus, proximal and shaft		1	1	4.24		1		smoothed and sharpened distally
F. 8	2, 32	1/4"	Aves	fragment			1	0.5				
		1/4"	Cervidae	antler	1		1	14.4				weathered and cracking
		1/4"	Mammalia, large	bone flake			2	5.19				long bone fragments
		1/4"	Mammalia, large	fragment			1	6.16				shaft fragment
			Meleagris gallopavo	tarsometatarsus	1		1	5.43		1		smoothed, polished, longitudinally sharpened (see drawing in notes); artifact found in area of right hand; just like those with Feature 94
F. 9		1/8" WS	Aves, medium to large	phalanx			1	0.15				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Crustacea	cheliped			1	0.03	1			frag
		1/8" WS	Mammalia	indeterminate			48	2.21	20			
		1/8" WS	Mammalia, medium	rib			1	0.27				frag
		1/8" WS	Mammalia, small to medium	carpal/tarsal			1	0.05				
		1/8" WS	Osteichthyes	cranium			2	0.09				
		1/8" WS	Osteichthyes	vertebra			3	0.1				
		1/8" WS	Serpentes	vertebra			2	0.09				
		1/8" WS	Testudines	carapace			3	0.15	2			
		1/8" WS	Vertebrata	indeterminate			178	4.7	42			
		1/4"	Aves	fragment			15	4.54				
		1/4"	Aves	fragment			1	1.86				long bone
		1/4"	Aves	fragment			3	1.58		3		red ocher interior and exterior
		1/4"	Aves	fragment			2	0.61	2			calcined
		1/4"	Aves	fragment			7	3.69	7			black
		1/4"	Aves	fragment			5	0.94		5		cut marks
		1/4"	Aves	fragment			4	1.19	4			all black
		1/4"	Aves	fragment			1	0.28	1	1		long bone shaft black with cut marks
		1/4"	Aves	fragment			1	0.31			1	possibly humerus sub adult
		1/4"	Aves, small	coracoid		1	2	0.23			1	
		1/4"	Aves, small to medium	bone splinter			1	0.23				
		1/4"	Aves, small to medium	femur			1	0.15				shaft missing epiphisi
		1/4"	Aves, small to medium	fragment			1	0.22				long bone shaft
		1/4"	Mammalia, large	fragment			1	4.37				
		1/4"	Mammalia, large	bone flake			18	26.96				weathered and cracking
		1/4"	Mammalia, large	diaphis			1	2.22		1		fragment cut marks
		1/4"	Mammalia, large	fragment			1	7.36				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, large	fragment			2	7.97		2		cut marks
		1/4"	Mammalia, large	fragment			1	7.3	1	1		cut marks and calcined
		1/4"	Mammalia, large	indeterminate			1	2.41			1	epiphisi
		1/4"	Mammalia, large	metapodial			1	8.44		1		fragment- red ocher
		1/4"	Mammalia, medium to large	bone flake			3	1.68	3			black some calcined
		1/4"	Mammalia, medium to large	fragment			3	2.18	3			calcined
		1/4"	Mammalia, small	fragment			3	1.02			3	epiphisi and shaft sub adult
		1/4"	Mammalia, small	phalange			1	0.19				
		1/4"	Mammalia, small	ulna			1	0.06	1			proximal head black
		1/4"	Mammalia, small to medium	fragment			1	0.15	1			black
		1/4"	Mammalia, small to medium	fragment			1	0.7	1			calcined
		1/4"	Mammalia, small to medium	phalange			1	0.27				diseased, or healed break
		1/4"	Mammalia, small to medium	rib			1	0.56				
		1/4"	Mammalia, small to medium	shaft fragment			12	3.38				missing epiphyses
		1/4"	Marmota monax	scapula	1		1	1.1	1			proximal head black
		1/4"	Meleagris gallopavo	coracoid	1		1	4.37	1			some black
		1/4"	Meleagris gallopavo	humerus		1	1	11.23		1		complete cut marks on shaft proximal head and distal head
		1/4"	Odocoileus virginianus	rib			1	4.4		1	1	proximal head sub adult cut marks
		1/4"	Osteichthyes	hyomandibular			1	0.39				may be ceratohyal
		1/4"	Osteichthyes	indeterminate			2	0.24				
		1/4"	Osteichthyes	parasphenoid			1	0.23				
		1/4"	Procyon lotor	clavicle		1	1	1.74				healed break?
		1/4"	Procyon lotor	dentary	1		1	15.05				missing 4th molar with others
		1/4"	Sylvilagus floridanus	calcaneus		1	1	0.6				
		1/4"	Sylvilagus floridanus	phalange			1	0.32	1			black

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Terrapene carolina	plastron			1	4.25				bridge Hp/xn
		1/4"	Testudines	plastron			1	0.21				
		1/4"	Testudines	rib			1	0.3			1	sub adult
		1/4"	Vertebrata	bone splinter			2	0.25	2			black
		1/4"	Vertebrata	fragment			5	0.47				
		1/4"	Vertebrata	fragment			4	3.69	4			black
		1/4"	Vertebrata	fragment			1	0.05			1	sub adult
F. 10		1/4"	Aves	fragment			9	2.18	9			black
		1/4"	Mammalia	fragment			3	1.17	3			calcined
		1/4"	Mammalia, large	fragment			2	4.57				
		1/4"	Mammalia, medium	fragment			12	3.57				weathered
		1/4"	Mammalia, small	diaphis			2	0.64	2			fragment black
		1/4"	Odocoileus virginianus	tooth fragment			2	0.37				
		1/4"	Vertebrata	diaphis			1	0.32	1			black
		1/4"	Vertebrata	fragment			2	1.97				weathered
F. 11		1/8" WS	Aves	indeterminate			2	0.09				
		1/8" WS	Mammalia	indeterminate			32	2.17	9	1		1 cut
		1/8" WS	Mammalia	long bone			1	0.11				diaphysis
		1/8" WS	Mammalia	long bone shaft			1	0.02				
		1/8" WS	Mammalia, small	cervical vertebra			1	0.01				
		1/8" WS	Odocoileus virginianus	tooth			1	0.09				frag
		1/8" WS	Osteichthyes	dentary			1	0.01				
		1/8" WS	Osteichthyes	vertebra			5	0.07				
		1/8" WS	Sciuridae	incisor			1	0.06				frag
		1/8" WS	Serpentes	rib			3	0.03				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Serpentes	vertebra			3	0.08				
		1/8" WS	Testudines	carapace			6	0.27				
		1/8" WS	Testudines	carapace			1	0.01	1			
		1/8" WS	Testudines	neural			1	0.08				
		1/8" WS	Vertebrata	indeterminate			237	7.62	64			
		1/8" WS	Mammalia, large	indeterminate			9	2.22				
		1/4"	Mammalia	bone flakes			5	5.17				
		1/4"	Odocoileus virginianus	tooth			1	1.86				incomplete
		1/4"	Terrapene carolina	costal			3	1.27				
		1/4"	Terrapene carolina	peripheral			3	1.34				
		1/4"	Terrapene carolina	plastron			1	0.63				
F. 12		1/4"	Mammalia	bone flakes			11	19.06	2			large mammal
		1/4"	Mammalia	indeterminate			15	7.68				
		1/4"	Mammalia	vertebrata			1	0.07	1			heated
		1/4"	Odocoileus virginianus	molar			1	2.65				incomplete
		1/4"	Odocoileus virginianus	phalange		1	1	3.14				proximal
		1/4"	Odocoileus virginianus	phalanx			1	0.51				distal, dorsal
		1/4"	Odocoileus virginianus	premaxilla			1	1.66	1			heated
		1/4"	Odocoileus virginianus	radius		1	1	7.15				distal
		1/4"	Odocoileus virginianus	tibia			1	13.66				distal; contains unfused epiphysis
		1/4"	Rodentia	tibia			1	0.04	1			distal, heated
		1/4"	Rodentia	tibia			1	0.15				distal
		1/4"	Terrapine carolina	carapace			2	1.09				
		1/4"	Terrapine carolina	carapace			2	2				(2) fragments that make up (1); exhibiting pluerals and vertebrata
		1/4"	Terrapine carolina	carapace			9	2.28				various fragments

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Testudines	marginals			2	2.51				
		1/4"	Mammalia, large	rib fragments			3	2.12				
		1/4"	Mammalia, large	indeterminate			2	0.61				
F. 14		1/4"	Mammalia	bone flakes			15	19.2	1			
		1/4"	Mammalia	indeterminate			14	6.43	1			
		1/4"	Mammalia	rib			1	3.84				large mammal rib fragment
		1/4"	Odocoileus virginianus	antler			1	5.69				
		1/4"	Odocoileus virginianus	pelvis			1	4.09				
		1/4"	Odocoileus virginianus	radius		1	1	6.39	1			proximal; burnt; epiphysis
		1/4"	Odocoileus virginianus	rib			1	2.01				
		1/4"	Odocoileus virginianus	tibia			1	2.81				proximal
		1/4"	Procyon lotor	ulna	1		1	1.54				proximal
		1/4"	Sciuridae	ulna	1		1	0.35				proximal
		1/4"	Terrapene carolina	costal			1	0.34				
		1/4"	Testudines	peripheral			1	0.67				
F. 15		1/8" WS	Aves	indeterminate			9	0.36	2			
		1/8" WS	Aves	phalange			2	0.16				
		1/8" WS	cf. Catostomidae	dentary			2	0.08				
		1/8" WS	Kinosternidae	costal			2	0.33				
		1/8" WS	Mammalia	indeterminate			48	3.72	16			
		1/8" WS	Mammalia, medium	femur			1	0.07				femoral head only
		1/8" WS	Mammalia, medium	phalange			1	0.1				
		1/8" WS	Mammalia, medium	vertebra			1	0.05				frag
		1/8" WS	Osteichthyes	basioccipital			1	0.01				
		1/8" WS	Osteichthyes	cranium			2	0.04				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.08				
		1/8" WS	Rodentia	tooth			1	0.08				
		1/8" WS	Sciuridae	incisor	1		1	0.24				
		1/8" WS	Serpentes	vertebra			8	0.38				
		1/8" WS	Testudines	indeterminate			5	0.28	2			
		1/8" WS	Testudines	neural			1	0.03	1			
		1/8" WS	Testudines	peripheral			1	0.1	1			
		1/8" WS	Vertebrata	indeterminate			104	3.5	12			
		1/8" WS	Mammalia	indeterminate			2	0.39				
		1/4"	Aves	femur	1		1	0.21				distal
		1/4"	Aves	indeterminate			22	9.24				
		1/4"	Aves	terminal phalanx			1	0.12				
		1/4"	Aves	vertebrata			1	0.26				
		1/4"	Mammalia	bone flakes			23	33.2	8			
		1/4"	Mammalia	epiphyses			3	2.61			3	
		1/4"	Mammalia	indeterminate			92	57.45	14			
		1/4"	Mammalia	mandible			1	0.62	1			heated; small mammal
		1/4"	Mammalia	phalanx			1	0.06				small mammal
		1/4"	Mammalia	tooth fragment			1	0.25				
		1/4"	Mammalia	vertebrata			1	0.12				
		1/4"	Odocoileus virginianus	humerus	1		1	33.22				distal; very battered distal end as if used as a hammer
		1/4"	Odocoileus virginianus	phalange		1	1	1.83				proximal
		1/4"	Odocoileus virginianus	phalange	1		1	2.45				
		1/4"	Odocoileus virginianus	radius	1		1	5.55				distal

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	scapula			1	3.34				
		1/4"	Procyon lotor	canine			1	0.07				
		1/4"	Procyon lotor	molar			1	0.1				
		1/4"	Procyon lotor	tooth fragment			1	0.02				
		1/4"	Didelphis virginiana	mandible		1	2	1.99				
		1/4"	Rodentia	femur			1	0.05				distal fragment
		1/4"	Sciuridae	femur		1	1	0.86				proximal
		1/4"	Sciuridae	ulna		1	1	0.14	1			heated
		1/4"	Terrapene carolina	carapace			3	1.1				
		1/4"	Terrapene carolina	costal			2	0.72				
		1/4"	Terrapene carolina	plastron			2	7.54				(2) fragments of (1) bigger whole; hypoplastron and hyoplastron
		1/4"	Terrapene carolina	plastron			2	3.4				
		1/4"	Testudines	longbone			1	0.24				distal
			Cervus canadensis	2nd phalanx of third toe			1	10.6		1		battered, smoothing
F. 16		1/8" WS	Amphibia	vertebra			1	0.01				
		1/8" WS	Aves	indeterminate			3	0.06	1			
		1/8" WS	Aves, small	coracoid			1	0.05				
		1/8" WS	Aves, small	nasal			1	0.02				
		1/8" WS	Mammalia	indeterminate			81	6.05	39			
		1/8" WS	Mammalia, small	humerus		1	1	0.02			1	
		1/8" WS	Mammalia, small	rib			1	0.12				
		1/8" WS	Mammalia, small	tarsal			1	0.09				
		1/8" WS	Mammalia, small	tooth			1	0.03				frag, enamel
		1/8" WS	Mammalia, small	vertebra			1	0.01				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Osteichthyes	cranium			9	0.23				
		1/8" WS	Osteichthyes	dentary			1	0.07				
		1/8" WS	Osteichthyes	hyomandibular			1	0.02				
		1/8" WS	Osteichthyes	operculum			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.01				
		1/8" WS	Other organic	indeterminate			2	0.01				needs further analysis
		1/8" WS	Serpentes	vertebra			2	0.03				
		1/8" WS	Testudines	carapace			4	0.33	4			
		1/8" WS	Testudines	neural			1	0.05				
		1/8" WS	Vertebrata	indeterminate			97	2.88	23			
		1/4"	Mammalia, large	indeterminate			5	11.67	1			
		1/4"	Mammalia, medium to large	rib fragments			4	1.56				
		1/4"	Mammalia, small to medium	indeterminate			28	6.58	3			
		1/4"	Mammalia, small	humerus			1	0.05				distal
		1/4"	Mammalia	bone flakes			4	4.34	1			
		1/4"	Odocoileus virginianus	metapodial fragment	1		1	6.44				proximal
		1/4"	Odocoileus virginianus	radius		1	1	29.42				proximal
		1/4"	Odocoileus virginianus	scapula	1		1	16.19				
		1/4"	Terrapene carolina	carapace			4	9.31				
		1/4"	Terrapene carolina	costal			5	4.62				
		1/4"	Terrapene carolina	femur	1		1	0.59				
		1/4"	Terrapene carolina	longbone	1		1	0.2				distal
		1/4"	Terrapene carolina	neural			3	4.45				
F. 17 East 1/2		1/4"	Mammalia, large	bone flakes			3	7.89	2			
		1/4"	Reptilia	vertebrata			1	0.12				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
F. 17 West 1/2 Zone A		1/4"	Mammalia, small	indeterminate			1	0.3	1			
F. 17 West 1/2 Zone B		1/4"	Mammalia, large	rib fragments			4	3.12				
		1/4"	Mammalia	indeterminate			5	1.65	1			
		1/4"	Mammalia	rib			1	0.63	1			heated
		1/4"	Mammalia	tooth			1	0.3	1			fragment; heated
		1/4"	Odocoileus virginianus	rib			1	2.72				
		1/4"	Odocoileus virginianus	ulna		1	1	5.6	1			heated; proximal
F. 18		1/8" WS	Mammalia	indeterminate			47	4.17	13			
		1/8" WS	Mammalia, medium	tooth			1	0.07				
		1/8" WS	Mammalia, small	vertebra			1	0.02				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.05				
		1/8" WS	Serpentes	vertebra			5	0.11	1			
		1/8" WS	Testudines	carapace			1	0.03				
		1/8" WS	Vertebrata	indeterminate			67	2.62	5			
		1/4"	Aves	indeterminate			36	5.15				
		1/4"	Aves	longbone shaft			1	0.78				large Aves
		1/4"	Kinosternidae	plastron			1	0.49				incomplete
		1/4"	Mammalia	bone flakes			22	49.07				
		1/4"	Mammalia, large	indeterminate			1	0.67	1			burned
		1/4"	Mammalia, large	indeterminate			4	19.12				
		1/4"	Mammalia	indeterminate			66	24.21				
		1/4"	Mammalia	ulna			1	0.37				proximal fragment
		1/4"	Meleagris gallopavo	femur	1		1	8.42		1		exhibits cut marks
		1/4"	Meleagris gallopavo	patella			1	0.43				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	astragalus		1	1	16.83				proximal
		1/4"	Odocoileus virginianus	mandible	1		1	1.09				
		1/4"	Odocoileus virginianus	metatarsal	1		1	12.7				
		1/4"	Odocoileus virginianus	phalanx			1	2.05				distal
		1/4"	Odocoileus virginianus	pre-molar			1	1.14				incomplete
		1/4"	Odocoileus virginianus	rib			1	1.01				
		1/4"	Odocoileus virginianus	tarsal			1	1.89				
		1/4"	Osteichthyes	vertebra			1	0.36	1			burned
		1/4"	Rana / Bufo sp.	femur		1	1	0.09				
		1/4"	Rana / Bufo sp.	pelvis	1		1	0.11				
		1/4"	Terrapene carolina	neural			1	1.54	1			burned
		1/4"	Terrapene carolina	peripheral			2	2.16				
		1/4"	Terrapene carolina	plastron			1	0.67				(2) fragments that were originally together
		1/4"	Testudines	indeterminate			5	1.62				
F. 19		1/4"	Aves	indeterminate			5	1.97				
		1/4"	Mammalia	bone flakes			5	7.75				
		1/4"	Mammalia	indeterminate			16	3.76	2			
		1/4"	Odocoileus virginianus	tooth			1	0.78				incomplete
		1/4"	Osteichthyes	cranial fragment			1	0.23				
		1/4"	Trionyx ferox	xiphiplastron			1	2.11				
		1/4"	Mammalia	indeterminate			1	0.17				
F. 20		1/4"	Castor canadensis	mandible	1		1	27.07				
		1/4"	Kinosternidae	costal			1	0.32				
		1/4"	Kinosternidae	peripheral			1	0.28				
		1/4"	Mammalia	indeterminate			21	7.07				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	mandible		1	1	3.45				
		1/4"	Odocoileus virginianus	rib			1	2.84				
		1/4"	Terrapene carolina	costal			1	0.42	1			
F. 21		1/8" WS	Aves	indeterminate			1	0.01				
		1/8" WS	Aves, small	fibula			1	0.01				
		1/8" WS	Aves, small	phalanx			1	0.01				distal
		1/8" WS	cf. Scalopus aquaticus	mandible		2	2	0.02				resembles the mole, though smaller
		1/8" WS	Mammalia	indeterminate			60	3.19	26			
		1/8" WS	Mammalia, large	tooth			3	0.21				frags
		1/8" WS	Mammalia, small	maxilla	1		1	0.01				frag
		1/8" WS	Mammalia, small	phalange			1	0.03				
		1/8" WS	Mammalia, small	vertebra			1	0.01				frag
		1/8" WS	Mammalia, small to medium	incisor			1	0.03				
		1/8" WS	Osteichthyes	cranium			13	0.21	1			
		1/8" WS	Osteichthyes	hyomandibular			1	0.01				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.03				
		1/8" WS	Ranidae	ilium			1	0.02				
		1/8" WS	Ranidae	vertebra			1	0.01				
		1/8" WS	Rodentia	incisor		1	1	0.01				
		1/8" WS	Serpentes	vertebra			3	0.07				
		1/8" WS	Testudines	carapace			3	0.13	2			
		1/8" WS	Testudines	long bone			2	0.14				diaphysis
		1/8" WS	Testudines	peripheral			1	0.06	1			
		1/8" WS	Vertebrata	indeterminate			131	2.62	24			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Aves	humerus	1		1	0.07				distal
		1/4"	Aves	scapula	1		1	0.5				
		1/4"	Ictaulurus punctatus	hyomandibular		1	1	0.2				
		1/4"	Kinosternidae	costal		2	5	1.5				
		1/4"	Kinosternidae	peripheral		3	3	1				
		1/4"	Mammalia	bone fragment			165	57.7	63			
		1/4"	Mammalia, large	longbone fragment			36	71.9	2			
		1/4"	Mammalia, large	longbone fragment			3	3.1	1	3		bone tools
		1/4"	Mammalia, large	longbone fragment			1	1.5		1		cut marks
		1/4"	Mammalia, small	articular		1	1	0.03				
		1/4"	Mammalia, small	dentary		1	1	0.02				
		1/4"	Mammalia, small	phalanx			1	0.5				
		1/4"	Mammalia, small	ulna	1		1	1.31				proximal
		1/4"	Meleagris gallopavo	radius		1	1	1.5				
		1/4"	Meleagris gallopavo	tibiotarsus		2	2	3.5				
		1/4"	Odocoileus virginianus	astragalus			1	1.8	1			
		1/4"	Odocoileus virginianus	carpal			3	4.6				
		1/4"	Odocoileus virginianus	fibula		1	1	3.5				proximal
		1/4"	Odocoileus virginianus	inominate	1		5	16.7				left illiac crest
		1/4"	Odocoileus virginianus	metapodial	2		2	19.5				cut marks-marrow extraction
		1/4"	Odocoileus virginianus	metatarsal			1	1.8	1			
		1/4"	Odocoileus virginianus	radius		1	1	15.6		1		cut marks-marrow extraction
		1/4"	Odocoileus virginianus	rib	1		1	6.7				first rib
		1/4"	Odocoileus virginianus	scapula	1		3	24.6				
		1/4"	Odocoileus virginianus	vertebra, cervical			5	5.3			1	
		1/4"	Osteichthyes	ceratohyal	1		1	0.1				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Osteichthyes	frontal		1	1	0.1				
		1/4"	Osteichthyes	hyomandibular		1	1	0.2				
		1/4"	Osteichthyes	parasphenoid			1	0.03				
		1/4"	Sciaenidae	pharyngeal grinders			1	0.19				
		1/4"	Sciurus niger	radius	1		1	0.16				proximal
		1/4"	Sciurus niger	rib	1		1	0.04				
		1/4"	Sciurus niger	scapula		1	1	0.2				
		1/4"	Sciurus niger	ulna	1		1	0.3				proximal
		1/4"	Serpentes	vertebra			2	0.4				
		1/4"	Terrapene carolina	costal		1	1	3.2				
		1/4"	Terrapene carolina	neural			1	1.5				
		1/4"	Unionidae	hinge	1		1	0.71	1			
		1/4"	Invertebrata	fragments			5	0.35	5			
		1/4"	Unionidae	hinge	1		1	0.15	1			
		1/4"	Bivalvia	fragments			2	0.62	2			highly fragmented
		1/4"	Unionidae	hinge			1	0.3	1			highly fragmented
F. 22		1/4"	Aves, small	bone fragment			3	0.4		1		cut marks
		1/4"	Mammalia, small	bone fragment			1	0.3	1			
F. 23		1/4"	Mammalia	bone fragment			6	1.3	4			
		1/4"	Mammalia, large	longbone fragment			9	6.5	3			
		1/4"	Mammalia, small	bone fragment			1	0.3	1			
		1/4"	Mammalia, small	longbone fragment			1	0.2				
		1/4"	Odocoileus virginianus	rib	1		2	2.3				
		1/4"	Testudines	costal			1	0.2				
		1/4"	Trionyx ferox	costal			1	0.6				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
F. 24		1/4"	Aves	bone fragment			4	1.2	1			
		1/4"	Kinosternidae	costal			3	1.1				
		1/4"	Mammalia, large	bone fragment			34	16.4	9			
		1/4"	Mammalia, large	longbone fragment			10	19.8		1		cut marks
		1/4"	Mammalia, large	longbone fragment			7	4.1	7			
		1/4"	Mammalia, small	radius			1	0.2				
		1/4"	Mammalia, small	rib			3	0.2				
		1/4"	Odocoileus virginianus	metatarsal			1	2				
		1/4"	Odocoileus virginianus	molar			1	0.3				tooth fragment
		1/4"	Odocoileus virginianus	rib			1	2.2				
		1/4"	Rana / Bufo sp.	longbone fragment			3	0.5				
		1/4"	Sciurus spp.	rib		1	1	0.2				
		1/4"	Sciurus spp.	tibia			1	0.4				
		1/4"	Terrapene carolina	peripheral		1	1	0.8				
		1/4"	Bivalvia	fragments			25	10.6	25			
		1/8" WS	Aves	indeterminate			4	0.26				
		1/8" WS	Aves	long bone			2	0.23				diaphysis
		1/8" WS	Aves	long bone			1	0.03				
		1/8" WS	Canis familiaris	molar	1		1	0.13				upper 2nd
		1/8" WS	Canis familiaris	premolar		1	1	0.05				upper 1st
		1/8" WS	Mammalia	epiphysis			1	0.02			1	
		1/8" WS	Mammalia	indeterminate			97	6.89	48			
		1/8" WS	Odocoileus virginianus	tooth			1	0.09				frag
		1/8" WS	Osteichthyes	cranium			3	0.06				
		1/8" WS	Osteichthyes	indeterminate			1	0.01				
		1/8" WS	Osteichthyes	vertebra			3	0.04				frags

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Osteichthyes	vertebra			2	0.01				
		1/8" WS	Other organic	indeterminate			5	0.02				
		1/8" WS	Serpentes	rib			1	0.01				medial portion
		1/8" WS	Serpentes	vertebra			7	0.19				
		1/8" WS	Testudines	carapace			1	0.07	1			
		1/8" WS	Testudines	peripheral			1	0.08				
		1/8" WS	Vertebrata	indeterminate			79	4.68	33			
		1/8" WS	Cervidae	antler tine tip			2	2.3	1	1		two mend to one; burned black, polished, gnawed?, smoothed
		1/8" WS	Aves, small to medium	bone fragment			2	0.2		2		beads? smoothed and polished
F. 26	4	1/4"	Mammalia, large	longbone fragment			1	3.2		1		tool
F. 27		1/4"	Odocoileus virginianus	molar			1	0.5				tooth fragment
F. 28		1/4"	Canidae	tibia	1		1	1.9	1	1		proximal--cut marks
		1/4"	Ictaulurus punctatus	hyomandibular	1		1	0.2				
		1/4"	Mammalia, large	bone fragment			9	2.8	5			
		1/4"	Mammalia, large	longbone fragment			1	5.7		1		cut marks
		1/4"	Mammalia, large	longbone fragment			1	0.6	1			
		1/4"	Mammalia, small	bone fragment			2	0.3				
F. 29		1/4"	Emydidae	costal			2	1	1			
		1/4"	Mammalia	bone flake			8	2.4	4			
		1/4"	Mammalia, large	bone fragment			10	9.7	4			
		1/4"	Mammalia, large	cranium			1	0.4				cranial fragment
		1/4"	Mammalia, large	longbone fragment			1	2.7		1		cut marks
		1/8" WS	Mammalia	fragments			43	2.56				
		1/8" WS	Mammalia	fragment			1	0.04				broken pointed awl?
		1/8" WS	Mammalia	indet. fragments			2	0.8	1	1		burned black, smoothed

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Odocoileus virginianus	incisor			2	0.36				two mend to one
		1/8" WS	Odocoileus virginianus	antler beam and partial tine			1	28.7		1		scored and snapped distally, a bit battered, tine is scored and snapped proximally (drawing in notes)
		1/8" WS	Osteichthyes	vertebra, incomplete			1	0.02				
		1/8" WS	Serpentes	vertebra, incomplete			1	0.01				
		1/8" WS	Tamias striatus	femur, proximal	1		1	0.08	1			
		1/8" WS	Gastropoda	fragments			6	0.08				freshwater or terrestrial
		1/8" WS	Bivalvia (FOSSIL)	fragment			1	0.05				
		1/8" WS	Testudines	costal			1	0.89				roughly circular, smooth, hole drilled through one side
F. 30		1/4"	Aves	longbone fragment			1	0.1				
		1/8" WS	Aves	indeterminate			6	0.25				
		1/8" WS	Mammalia	indeterminate			94	7.1	43			
		1/4"	Mammalia	bone flake			20	4.9	8			
		1/4"	Mammalia, large	bone fragment			24	20.3	11			
		1/4"	Mammalia, large	longbone fragment			27	87.3	2	8		cut marks
		1/4"	Mammalia, medium	bone fragment			2	0.7				
		1/4"	Mammalia, medium	metatarsal			1	0.3	1			
		1/8" WS	Mammalia, small	humerus			1	0.01				distal
		1/8" WS	Mammalia, small	metacarpal/metatarsal			1	0.05				
		1/8" WS	Mammalia, small	vertebra			1	0.04				
		1/4"	Odocoileus virginianus	metapodial	1		1	3.6				
		1/4"	Odocoileus virginianus	radius	1		1	8.7				
		1/4"	Odocoileus virginianus	rib			4	4.1	2			
		1/4"	Odocoileus virginianus	tibia		1	1	5.8			1	
		1/4"	Odocoileus virginianus	tibia		2	2	7.9	2			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Terrapene carolina	costal			7	5.9				
		1/4"	Terrapene carolina	peripheral		1	1	4.2				
		1/4"	Emydidae	costal			5	5.5				
		1/4"	Kinosternidae	costal		1	2	0.4	2			
		1/4"	Kinosternidae	plastron	1		2	0.9				
		1/4"	Meleagris gallopavo	humerus		1	1	1.7				distal
		1/8" WS	Osteichthyes	dentary			1	0.01				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			4	0.07				
		1/8" WS	Other organic	indeterminate			1	0.01				
		1/8" WS	Serpentes	vertebra			3	0.04				
		1/8" WS	Terrapene carolina	long bone			1	0.29				diaphysis
		1/8" WS	Testudines	carapace			6	0.28				
		1/8" WS	Testudines	carapace			3	0.19	3			
		1/8" WS	Vertebrata	indeterminate			184	4.5	33			
F. 32	5	1/4"	Gastropoda	partial			1	0.01				and dust
		1/4"	Gastropoda	fragments			4	0.27				too encrusted to id
		1/4"	Bivalvia	partial			12	3.79				
		1/4"	cf. Pleuroceridae	nearly complete			1	0.22				
		1/8" WS	Aves	indeterminate			2	0.16				
		1/8" WS	Aves	long bone			1	0.05	1			diaphysis
		1/8" WS	Mammalia	indeterminate			73	5.42	30			
		1/8" WS	Mammalia, large	tooth			5	0.49				
		1/8" WS	Mammalia, small	metapodial			2	0.05	1			
		1/8" WS	Mammalia, small	phalange			2	0.05				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Odocoileus virginianus	tooth			1	0.07				frag
		1/8" WS	Osteichthyes	dentary			1	0.03				
		1/8" WS	Osteichthyes	vertebra			1	0.01				
		1/8" WS	Sciuridae	incisor			1	0.09				frag
		1/8" WS	Sciuridae	incisor			1	0.06	1			frag
		1/8" WS	Sciuridae	mandible	1		1	0.04				frag
		1/8" WS	Serpentes	rib			1	0.03				
		1/8" WS	Serpentes	vertebra			2	0.06				
		1/8" WS	Serpentes	vertebra			3	0.13				
		1/8" WS	Testudines	carapace			6	0.58	2			
		1/8" WS	Testudines	radius			1	0.04				
		1/8" WS	Vertebrata	indeterminate			14	4.33	49			14 calcined
		1/8" WS	Vertebrata	indeterminate			194	0.82	18			
			Cervidae	antler tine tip			1	1.23	1			calcined, not smoothed
F. 34		1/8" WS	Mammalia	fragments			141	2.7	31			3 calcined white and green-blue
		1/8" WS	Mammalia	tooth enamel fragments			2	0.04				
		1/8" WS	Mammalia	phalange			1	0.01				
		1/8" WS	Serpentes	vertebra, incomplete			2	0.13				
		1/8" WS	Emydidae	marginal fragment			1	0.07				
		1/8" WS	Tamias striatus	ulna, proximal	1		1	0.02				
		1/8" WS	Sciurus sp.	incisor			2	0.12				
F. 36		1/8" WS	Kinosternidae	costal			1	0.08				
		1/8" WS	Kinosternidae	peripheral			1	0.06	1			
		1/8" WS	Mammalia	indeterminate			100	6.86	27			
		1/8" WS	Mammalia, small	cervical vertebra			1	0.01				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia, small	femur	1	1	2	0.03				distal
		1/8" WS	Mammalia, small	humerus	1		1	0.01				distal
		1/8" WS	Mammalia, small	metacarpal/metatarsal			1	0.01				
		1/8" WS	Mammalia, small	ulna		1	1	0.04				proximal
		1/8" WS	Odocoileus virginianus	tooth			1	0.15	1			frag
		1/8" WS	Osteichthyes	cranium			6	0.08				
		1/8" WS	Osteichthyes	quadrate			1	0.01				
		1/8" WS	Osteichthyes	vertebra			3	0.05				
		1/8" WS	Rana / Bufo sp.	inominate			1	0.01				
		1/8" WS	Serpentes	vertebra			4	0.15				
		1/8" WS	Vertebrata	indeterminate			152	3.13	37			
			Mammalia	Indet. fragments			1	0.25	1	1		burned and polished
			Odocoileus virginianus	metapodial, distal epiphyseal condyle			1	3.98		1		battered
F. 37		1/8" WS	Aves	indeterminate			5	0.45				
		1/8" WS	Aves, small	tibiotarsus		1	1	0.01				distal
		1/8" WS	Aves, small	vertebra			2	0.01				
		1/8" WS	Kinosternidae	peripheral			1	0.11				
		1/8" WS	Mammalia	indeterminate			104	9.45	31			
		1/8" WS	Mammalia	long bone			1	0.03				diaphysis frag
		1/8" WS	Mammalia, large	tooth			11	1.15				frags
		1/8" WS	Mammalia, small	cervical vertebra			1	0.01				
		1/8" WS	Mammalia, small	tarsal			2	0.21				
		1/8" WS	Odocoileus virginianus	tooth			2	0.45				
		1/8" WS	Osteichthyes	articular			1	0.02				
		1/8" WS	Osteichthyes	cranium			2	0.05				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Osteichthyes	molar			1	0.01				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.02				
		1/8" WS	Ranidae	humerus			1	0.09				
		1/8" WS	Serpentes	vertebra			1	0.07				
		1/8" WS	Testudines	carapace			3	0.25				
		1/8" WS	Vertebrata	indeterminate			254	8.61	32			
		1/4"	Unionidae	hinge, partial			4	2.05	4			
		1/4"	Invertebrata	fragments			1	0.39				
		1/4"	Bivalvia	fragments			6	0.8	2			and dust
		1/4"	Leptoxis praerosa	partial			1	0.41				
F. 39	6		Gastropoda	columella beads			1	0.7		1		complete; can see siphonal canal
			Gastropoda	columella beads			1	0.66		1		complete
			Gastropoda	columella beads			1	0.27		1		incomplete, can see siphonal canal
			Gastropoda	columella beads			1	0.22		1		incomplete, can see siphonal canal
F. 40	7	1/8" WS	Mammalia	fragments			167	7.19	4			
F. 42 Zone A	8	1/4"	Mammalia, large	rib frags			18	12.16	18			calcined
		1/4"	Bivalvia	partial			8	2.23	8			
F. 43		1/4"	cf. Pleuroceridae				1	0.13				
		1/4"	cf. Ptychobranchus subtentum	anterior fragment		1	1	1.82				
		1/4"	cf. Ptychobranchus subtentum	anterior fragment	1		1	2.79				
		1/4"	Bivalvia	partial				17.3				highly fragmented
		1/4"	Bivalvia	hinge fragments			5	3.41				
		1/4"	Bivalvia	fragments			30	9.95				
		1/4"	Bivalvia	hinge fragments			2	0.43	2			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Aves	indeterminate			2	0.17				
		1/8" WS	Aves, large	indeterminate			1	0.13				
		1/8" WS	Bufonidae	ilium			1	0.01				frag
		1/8" WS	Mammalia	indeterminate			90	4.71	68			21 calcined
		1/8" WS	Mammalia, medium to large	tooth			2	0.2				
		1/8" WS	Mammalia, small	phalange			3	0.04	2			1 proximal
		1/8" WS	Mammalia, small	tooth			1	0.02				
		1/8" WS	Osteichthyes	atlas			1	0.01				
		1/8" WS	Osteichthyes	cranium			7	0.1				
		1/8" WS	Osteichthyes	spine			3	0.02				
		1/8" WS	Osteichthyes	vertebra			8	0.12				
		1/8" WS	Serpentes	rib			1	0.03				
		1/8" WS	Serpentes	vertebra			3	0.07				
		1/8" WS	Testudines	carapace			4	0.24	3			
		1/8" WS	Testudines	indeterminate			3	0.25				
		1/8" WS	Vertebrata	indeterminate			322	7.84	47			
		1/8" WS	Mammalia, medium to large	phalanx			1	0.58				
			Mammalia	indet. fragments			1	0.74		1		polished, one end smoothed on the interior
F. 44	9, 10	1/4"	Bivalvia	fragment			1	0.19				
	9		Testudines	carapace			1			1		not available for reanalysis
F. 45		1/4"	Bivalvia	partial			1	0.54				
		1/8" WS	Aves	indeterminate			4	0.19				
		1/8" WS	Mammalia	indeterminate			65	4.96	28			
		1/8" WS	Mammalia, medium	tooth			1	0.14				
		1/8" WS	Mammalia, small	humerus	1		1	0.01				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia, small	vertebra			1	0.05	1			
		1/8" WS	Osteichthyes	cranium			5	0.11				
		1/8" WS	Osteichthyes	vertebra			4	0.04				
		1/8" WS	Other organic	indeterminate			6	0.12				
		1/8" WS	Serpentes	vertebra			8	0.23	2			
		1/8" WS	Testudines	carapace			4	0.13	2			
		1/8" WS	Vertebrata	indeterminate			157	4.1	38			
			Mammalia	indet. fragments			1	0.73	1	1		burned and polished
			Mammalia, small	longbone fragment			1	0.71				not worked
			Mammalia, large	bone flake			1	0.56		1		pointed and polished
			Odocoileus virginianus, cf.	ulna, ulnar notch only			1	3.72	1	1		burned and polished
F. 46	11		Mammalia, large	bone flake			1	6.15		1		sharpened and polished
			Odocoileus virginianus	ulna			1			1		sharpened awl; not available for reanalysis
			Mammalia, large				1			1		awl or pin; not available for reanalysis
F. 49	13		Mammalia	indet. fragments			1	1.18	1	1		burned and polished
			Mammalia, medium to large	baculum, possible			1	0.32		1		polished? fragment
F. 51	14	1/4"	Mammalia, large	bone flake			1	20.43				
		1/4"	Mammalia, medium to large	bone fragments			13	6.26	5			
		1/4"	Procyon lotor	phalanx			1	0.46				siding indeterminate
		1/4"	Mammalia	indeterminate			5	1.14				
F. 52		1/4"	Mammalia, large	bone flake			1	14.13				cut marks
		1/4"	Mammalia, large	bone fragments			4	10.34	14			
		1/4"	Mammalia, medium	bone fragments			30	10.34	4			
		1/4"	Mammalia, medium	diaphysis			2	3.54				fragments fit together
		1/4"	Mammalia, small	diaphysis			1	0.47				fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	phalanx	1		1	4.54			1	fragment; nearly complete
		1/4"	Odocoileus virginianus	phalanx, terminal	1		1	1.61	1			
		1/4"	Testudines	carapace			2	0.57				fragment
F. 53		1/4"	Aves	bone fragment			1	3.9				
		1/4"	Carnivora	scapula	1		8	13.62				fragmented; possible Felis concolor
		1/4"	Mammalia, large	bone flakes			10	18.44				
		1/4"	Mammalia, large	bone fragments			8	7.51				1 w/cut marks
		1/4"	Mammalia, large	rib			2	6.7				fragmented; 1 w/cut marks
		1/4"	Mammalia, medium	bone fragments			25	9.04				
		1/4"	Mammalia, medium to large	bone flakes			21	12.41	21			
		1/4"	Meleagris gallopavo	coracoid		1	1	2.19				fragment
		1/4"	Odocoileus virginianus	molar		1	1	3.57				2nd mandibular
		1/4"	Odocoileus virginianus	phalanx, terminal	1		1	1.96				
		1/4"	Procyon lotor	molar		1	1	0.61				1st maxillary
		1/4"	Strix varia	radius	1		1	0.21				proximal epiphysis and partial diaphysis
		1/4"	Terrapene carolina	neural			1	0.46				#3
		1/4"	Testudines	carapace			2	0.57				fragments
		1/4"	Testudines	plastron			1	0.52				fragment
			Mammalia, large	bone flake			1	0.61		1		with sheen?
F. 54	15, 16	1/4"	Cervidae	dental fragment			1	1.35				
		1/4"	Mammalia, large	bone flakes			39	70.3	2			1 w/cut marks
		1/4"	Mammalia, large	cranium			1	0.79				fragment
		1/4"	Mammalia, large	mandible	2		2	7.66				fragments
		1/4"	Mammalia, medium to large	bone fragments			122	60.18	38			
		1/4"	Mammalia, small	bone fragments			2	0.71				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, small to medium	tibio-fibula			1	0.94				diaphysis fragment; siding indt
		1/4"	Odocoileus virginianus	dental fragments			6	3.35				siding indeterminate
		1/4"	Odocoileus virginianus	metapodial		2	2	12.15				distal fragments; fit back together; bashed in
		1/4"	Odocoileus virginianus	molar		1	1	2.37				1st mandibular
		1/4"	Odocoileus virginianus	molar	1		1	2.65				2nd mandibular; juvenile; worn
		1/4"	Odocoileus virginianus	molar		1	1	1.48				maxillary fragment
		1/4"	Odocoileus virginianus	phalanx	1		1	3.29				proximal fragment
		1/4"	Odocoileus virginianus	phalanx, terminal		1	1	1.54				fragment
		1/4"	Odocoileus virginianus	tibia		1	1	15.03				distal epiphysis fragment
		1/4"	Odocoileus virginianus	ulna		1	1	3.17				proximal fragment
		1/4"	Procyon lotor	maxilla	1		1	2.08				fragment w/ 1st molar and 4th premolar
		1/4"	Terrapene carolina	nural			1	0.49				#5
		1/4"	Testudines	carapace			4	2.09				fragments
		1/4"	Vertebrata	scapula			1	0.13				fragment; siding indeterminate
F. 55	17	1/4"	Kinosternidae	costal			1	0.38				fragment
		1/4"	Mammalia, medium	bone fragments			3	1.12	1			
		1/4"	Terrapene carolina	carapace			1	2.32				fragment
F. 56		1/4"	Aves	bone fragments			3	0.86				
		1/4"	Canis familiaris	premolar		1	2	1.21				fragments fit together
		1/4"	Cervidae	vertebra			1	12.98	1			body
		1/4"	Lynx rufus	ulna		1	1	2.2	1			proximal fragment
		1/4"	Mammalia, large	antler			1	2.41	1			fragment
		1/4"	Mammalia, large	bone flakes			34	47.53	19			
		1/4"	Mammalia, large	bone fragment			1	3.36				severe cut marks
		1/4"	Mammalia, large	rib			2	4.2	1			fragments

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, large	vertebrae			2	2.11				fragments
		1/4"	Mammalia, medium to large	bone fragments			119	51.42	25			4 w/ cut marks
		1/4"	Mammalia, medium to large	diaphysis			1	1.68				fragment; weathered
		1/4"	Mammalia, small	bone fragments			3	0.59				
		1/4"	Meleagris gallopavo	tibiotarsus			1	1.21	1			distal fragment
		1/4"	Meleagris gallopavo	ulna			1	2.94				diaphysis fragment
		1/4"	Odocoileus virginianus	astragalus		1	1	15.4				
		1/4"	Odocoileus virginianus	metapodial			1	5.59	1			distal fragment; burned
		1/4"	Odocoileus virginianus	metapodial			2	15.7				fragments go together
		1/4"	Odocoileus virginianus	metapodial			1	4.22				diaphysis fragment
		1/4"	Odocoileus virginianus	phalanx		1	1	0.14				distal fragment
		1/4"	Odocoileus virginianus	phalanx			1	0.73				distal fragment; siding indeterminate
		1/4"	Odocoileus virginianus	phalanx, terminal	1		1	2.8				
		1/4"	Osteichthyes	vertebrae			1	0.14				
		1/4"	Procyon lotor	vertebra, caudal			1	0.4				
		1/4"	Rodentia	incisor	1		1	0.05				
		1/4"	Rodentia	phalanx			1	0.14				siding indeterminate
		1/4"	Rodentia	rib			1	0.03				fragment
		1/4"	Sciuridae	humerus		1	1	0.24				distal fragment
		1/4"	Tamais striatus	mandible	1		1	0.17				
		1/4"	Terrapene carolina	nuchal			1	1.62				fragment
		1/4"	Terrapene carolina	plastron			4	2.25				1 w/cut marks
		1/4"	Terrapene carolina	xiphiplastron			2	1.68				fragment
		1/4"	Testudines	carapace			4	1.6	1			fragments
		1/8" WS	Bufonidae	scapula			1	0.02				
		1/8" WS	Kinosternidae	peripheral			1	0.09	1			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia	indeterminate			34	3.02	14			
		1/8" WS	Mammalia, large	tooth			1	0.07				frag
		1/8" WS	Mammalia, small	auditory bulla			1	0.03				
		1/8" WS	Mammalia, small	phalange			1	0.12				distal
		1/8" WS	Osteichthyes	vertebra			1	0.02				
		1/8" WS	Serpentes	vertebra			2	0.03				
		1/8" WS	Testudines	carapace			6	0.41	2			
		1/8" WS	Vertebrata	indeterminate			121	4.12	28			
		1/8" WS	Mammalia	indeterminate			1	0.19				
			Mammalia	indet. fragments			1	0.27		1		sharpened bone frag
			Mammalia, large	bone flake			1	0.98	1	1		burned black; scratched/polished
			Mammalia, medium	bone flake			1	0.21	1	1		polished, smoothed, small amount of burning
F. 57 East 1/2		1/4"	Mammalia, large	antler			1	3.79				fragment
		1/4"	Mammalia, large	bone flakes			30	115.92	1			1 w/cut marks
		1/4"	Mammalia, large	bone fragments			22	38.35	15			
		1/4"	Mammalia, large	vertebrae			1	3.4				fragment
		1/4"	Mammalia, large	rib			9	15.61				fragments
		1/4"	Mammalia, large	cranium			1	1.5				fragment
		1/4"	Odocoileus virginianus	tibia	1		1	16.09				proximal fragment
		1/4"	Meleagris gallopavo	coracoid	1	1	2	7.78				diaphysis fragment
		1/4"	Meleagris gallopavo	pelvis			1	1.47				fragment
		1/4"	Meleagris gallopavo	sternum			1	6.35				fragment
		>1/4"	Mammalia, large	rib fragments			1	0.62				
		>1/4"	Mammalia, large	longbone shaft fragment			1	2.81				
			Mammalia, large	bone flake			1	2.8		1		some polishing

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
			Mammalia, large	bone flake			1	1.07		1		sharpened and polished
			Mammalia, large	bone flake			1	3.96		1		smoothed, highly polished
			Mammalia, large	longbone fragment			1	2.89		1		shaft fragment, sharpened/pointed, smoothed, polished, "reddish"?
			Cervidae	antler			1	0.28	1	1		burned black, scored, snapped
F. 57 West 1/2 Zone A		1/4"	Animalia	fragments			n/a	1.4				weighed but not counted b/c like dust
		1/4"	Mammalia, large	rib			2	3.26				fragments; both w/cut marks
		1/4"	Mammalia, large	bone fragments			4	4.25				
		1/4"	Mammalia, large	bone flakes			9	16.15				2 w/cut marks
		1/4"	Mammalia, medium	bone fragments			24	11.64	13			
		1/4"	Odocoileus virginianus	vertebra, lumbar			1	14.47			1	
		1/8" WS	Vertebrata	indeterminate			11	0.32	11			
		1/8" WS	Vertebrata	indeterminate			278	6.55	53			
		1/8" WS	Aves	indeterminate			2	0.09				
		1/8" WS	Mammalia, large	tooth			2	0.33				frag
		1/8" WS	Mammalia	tooth			2	0.06				frags
		1/8" WS	Mammalia	indeterminate			90	6.14	47			
		1/8" WS	Mammalia, small	long bone			1	0.14				metaphysis
		1/8" WS	Mammalia, small	phalange			1	0.03				
		1/8" WS	Mammalia, small	vertebra			1	0.01			1	
		1/8" WS	Osteichthyes	cranium			4	0.07				
		1/8" WS	Osteichthyes	vertebra			2	0.02	1			
		1/8" WS	Serpentes	vertebra			2	0.04				
		1/8" WS	Serpentes	vertebra			3	0.14				
		1/8" WS	Sylvilagus floridanus	scapula		1	1	0.06				frag

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Testudines	carapace			1	0.02				
			Mammalia, medium to large	longbone shaft fragment			1	4.87				
F. 57 West 1/2 Zone B		1/4"	Vertebrata	bone fragment			1	1.78				
		1/4"	Vertebrata	maxilla		1	1	0.87				
		1/4"	Aves	diaphysis			2	2.76				fragments
		1/4"	Mammalia, large	rib			2	1.16				1 distal end; fragments
		1/4"	Mammalia, large	vertebra			1	1.14				
		1/4"	Mammalia, large	tibia		1	1	14.77				distal fragment
		1/4"	Mammalia, large	bone flakes			34	78.82	15	1		10 w/cut marks
		1/4"	Mammalia, large	bone fragments			61	21.93	29			7 w/cut marks
		1/4"	Mammalia, large	cranium			1	1.36				fragment
		1/4"	Mammalia, large	phalanx			1	0.74				proximal fragment
		1/4"	Odocoileus virginianus	axis			1	21.43				
		1/4"	Odocoileus virginianus	dental fragments			7	3.36				
		1/4"	Odocoileus virginianus	humerus			1	4.43				humeral head
		1/4"	Odocoileus virginianus	molar	1		1	1.78				mandibular 2nd
		1/4"	Odocoileus virginianus	molar	1		1	1.14				fragment; maxillary 2nd
		1/4"	Odocoileus virginianus	pedicle			1	3.78				
		1/4"	Odocoileus virginianus	mandible		1	1	3.94				fragment
		1/4"	cf. Cervus canadensis	phalanx, terminal		1	1	2.4				
		1/4"	Emydidae	carapace			1	0.43				
		1/4"	Emydidae	plastron			1	0.61				
		1/4"	Odocoileus virginianus	vertebra, thoracic			1	18.11				
		1/4"	Procyon lotor	molar	1		1	0.43				mandibular 1st
		1/4"	Procyon lotor	tibia			1	3.18				diaphysis fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Rana / Bufo sp.	radio-ulna			1	0.23				
		1/4"	Meleagris gallopavo	coracoid			1	2.9				proximal fragment
		1/4"	Meleagris gallopavo	ulna		1	1	0.87				proximal fragment
		1/8" WS	Vertebrata	indeterminate			39	1	39			
		1/8" WS	Vertebrata	indeterminate			72	1.93				
		1/8" WS	Mammalia	indeterminate			25	1.97	13			
		1/8" WS	Mammalia, small to medium	patella			1	0.16	1			
		1/8" WS	Osteichthyes	cranium			1	0.02				
		1/8" WS	Osteichthyes	cranium			1	0.01	1			
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.03				
		1/8" WS	Sciuridae	incisor			1	0.09				frag
F. 57 West 1/2 Zone C		1/4"	Aves	bone fragments			19	12.2				
		1/4"	Mammalia, large	bone flakes			37	109.3	5			6 w/cut marks
		1/4"	Mammalia, large	bone fragments			11	14.12	3			
		1/4"	Mammalia, large	diaphysis fragment			1	1.57			1	distal 1/3
		1/4"	Mammalia, large	rib			9	28.25				fragments
		1/4"	Mammalia, large	vertebrae			1	2.83				spinous process
		1/4"	Mammalia, medium	diaphysis fragments			4	9.54				
		1/4"	Mammalia, medium	vertebrae			2	0.92				fragments
		1/4"	Mammalia, medium to large	bone fragments			97	60.4	97			
		1/4"	Mammalia, medium	bone fragments			158	46.57	6			6 w/cut marks
		1/4"	Mammalia, small	pelvis			1	0.95				fragment
		1/4"	Odocoileus virginianus	phalanx	1		1	4.41				proximal epiphysis fragment; row #1
		1/4"	Odocoileus virginianus	ulna		1	1	22.56				old; proximal fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	tibia	1		1	32.11				proximal fragment
		1/4"	Odocoileus virginianus	vertebrae			1	3.5			1	body
		1/4"	Odocoileus virginianus	phalanx, terminal			1	0.73	1			fragment
		1/4"	Odocoileus virginianus	premaxilla	2		2	1.84				
		1/4"	Odocoileus virginianus	premolar		1	1	1.28	1			mandibular 2nd
		1/4"	Odocoileus virginianus	premolar		1	1	1.14				maxillary 2nd
		1/4"	Odocoileus virginianus	premolar		1	1	0.84				maxillary 1st
		1/4"	Odocoileus virginianus	radius	1		1	8.91			1	distal fragment
		1/4"	Odocoileus virginianus	radius	2		2	22.91				distal epiphysis fragments
		1/4"	Odocoileus virginianus	mandible	2	2	4	39.76				one appears to be quite young and has c1, p3, and m1; another has 3rd molar
		1/4"	Odocoileus virginianus	mandible	2		2	6.76				one has severe cut marks
		1/4"	Odocoileus virginianus	maxilla		1	1	7.31				fragment; teeth present are 3rd premolar and 1st molar
		1/4"	Odocoileus virginianus	metapodial			3	15.4			1	3 distal fragments; 1 proximal frag; siding indt
		1/4"	Odocoileus virginianus	molar	1		1	2.07				juvenile mandibular
		1/4"	Odocoileus virginianus	molar		1	1	3.46				mandibular 2nd
		1/4"	Odocoileus virginianus	phalanx	1		1	3.44				
		1/4"	Odocoileus virginianus	atlas			1	22.63				cut marks
		1/4"	Odocoileus virginianus	dental fragment			3	0.94	3			
		1/4"	Cervidae	antler w/pedicale			1	145.92				
		1/4"	Testudines	carapace			3	1.76				marginal, nural, and costal
		1/4"	Testudines	hypoplastron			1	0.44				
		1/4"	Testudines	scapula			1	1.72				fragment
		1/4"	Didelphis marsupialis	maxilla		1	1	0.81				fragment
		1/4"	Meleagris gallopavo	coracoid	1		1	1.74				fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Meleagris gallopavo	femur			2	7.22				fragments fit together
		1/4"	Meleagris gallopavo	femur	1		1	1.82				distal 1/3 diaphysis fragment
		1/4"	Meleagris gallopavo	humerus		1	1	3.32				distal 1/3 diaphysis fragment
		1/4"	Meleagris gallopavo	humerus		1	1	0.58				distal diaphysis fragment
		1/4"	Meleagris gallopavo	humerus		1	1	0.96				proximal 1/3 diaphysis fragment
		1/4"	Meleagris gallopavo	humerus		1	1	1.54				distal epiphysis
		1/4"	Meleagris gallopavo	humerus		1	1	14.03				diaphysis fragment
		1/8" WS	Vertebrata	indeterminate			3	0.1	3			
		1/8" WS	Vertebrata	indeterminate			31	0.68				
		1/8" WS	Vertebrata	indeterminate			158	4.72				
		1/8" WS	Vertebrata	indeterminate			32	1.44	32			
		1/8" WS	Aves	indeterminate			6	0.45	2			
		1/8" WS	Aves, large	tibiotarsus			1	0.79	1			distal
		1/8" WS	Mammalia	epiphysis			1	0.06				
		1/8" WS	Mammalia	indeterminate			110	6.92	77			
		1/8" WS	Mammalia	long bone			1	0.01				frag
		1/8" WS	Mammalia, medium to large	rib fragments			4	6.84				
		1/8" WS	Mammalia, medium to large	cranial fragments			12	7.52				
		1/8" WS	Mammalia, medium to large	cranial fragments			6	5.31				
		1/8" WS	Mammalia, medium to large	femoral head			1	0.98				
		1/8" WS	Mammalia, medium to large	indeterminate			6	5.3				
		1/8" WS	Osteichthyes	cranium			2	0.06				
		1/8" WS	Osteichthyes	cranium			5	0.17				
		1/8" WS	Osteichthyes	dentary			1	0.04				
		1/8" WS	Osteichthyes	hyomandibular			1	0.04				
		1/8" WS	Osteichthyes	vertebra			2	0.04				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Other organic	indeterminate			4	0.01				scale-like, needs analysis
		1/8" WS	Rana / Bufo sp.	urostyle			1	0.01				
		1/8" WS	Rana / Bufo sp.	vertebra			1	0.01				
		1/8" WS	Serpentes	rib			1	0.02				
		1/8" WS	Serpentes	vertebra			2	0.03				
		1/8" WS	Testudines	carapace			2	0.05				
		1/8" WS	Testudines	costal			1	0.03	1			
		1/8" WS	Testudines	indeterminate			2	0.13				
F. 57 West 1/2 Zone D		1/4"	Aves	shaft fragment			1	0.28				
		1/4"	Kinosternidae	peripheral			2	0.63				
		1/4"	Mammalia, large	bone flakes			1	1.01				w/cut marks
		1/4"	Mammalia, large	bone fragments			2	2.96				
		1/4"	Mammalia, large	mandible			1	1.08				fragment
		1/4"	Mammalia, large	trabecular bone			1	0.67				
		1/4"	Mammalia, medium	bone fragments			52	16.66	26	1		4 w/cut marks
		1/4"	Odocoileus virginianus	molar	1		1	3.28				mandibular 2nd
		1/4"	Odocoileus virginianus	phalanx	1		1	7.53				complete
		1/4"	Odocoileus virginianus	phalanx, terminal	1		1	1.22				fragment
		1/8" WS	Vertebrata	indeterminate			13	0.24	13			
		1/8" WS	Vertebrata	indeterminate			56	1.15				
		1/8" WS	Mammalia	indeterminate			71	2.57	48			
		1/8" WS	Mammalia, small	humerus	1		1	0.01				distal
		1/8" WS	Osteichthyes	cranium			2	0.03				
		1/8" WS	Serpentes	vertebra			4	0.1				
F. 57 West 1/2 Zone E		1/4"	Mammalia, large	bone flakes			27	24.18	11			8 w/ cut marks

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, large	bone fragments			57	39.35	34			8 w/ cut marks
		1/4"	Mammalia, large	antler			1	5.27				fragment
		1/4"	Odocoileus virginianus	dental enamel			1	0.21	1			
		1/4"	Odocoileus virginianus	mandible			1	1.18				fragment
		1/4"	Odocoileus virginianus	metapodial			2	10.04				diaphysis fragments
		1/4"	Odocoileus virginianus	phalanx			1	1.3				fragment
		1/4"	Odocoileus virginianus	premolar		1	1	1.43				maxillary 1st
		1/4"	Odocoileus virginianus	rib			1	0.95				fragment
		1/4"	Emydidae	carapace			1	0.27				fragment
		1/8" WS	Vertebrata	indeterminate			103	2.88	15			
		1/8" WS	Aves, small	indeterminate			1	0.1				
		1/8" WS	Aves, small	long bone			1	0.04	1			
		1/8" WS	Mammalia	indeterminate			62	4.3	27			
		1/8" WS	Osteichthyes	vertebra			1	0.01				
		1/8" WS	Serpentes	vertebra			1	0.07				
		1/8" WS	Testudines	carapace			4	0.23				
		1/8" WS	Testudines	carapace			1	0.04	1			
		1/8" WS	Testudines	long bone			1	0.07				
F. 58			Mammalia, medium to large				1046		1046			
F. 59		1/8" WS	Vertebrata	indeterminate			154	4.16	44			
		1/8" WS	Mammalia	indeterminate			54	4.64	26			
		1/8" WS	Mammalia, medium to large	tooth			1	0.09				frag
		1/8" WS	Osteichthyes	cranium			2	0.09				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Rodentia	incisor			1	0.09				frag

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Serpentes	vertebra			3	0.13	1			
		1/8" WS	Testudines	carapace			13	0.98	8			
		1/8" WS	Testudines	peripheral			1	0.23				
F. 61	18	1/4"	Aves	tarsometatarsus			1	0.58				distal portion
		1/4"	Castoridae	molar/premolar		1	1	0.91				broken
		1/4"	Mammalia	fragment			19	10.13	13			
		1/4"	Mammalia, large	bone flake			1	2.39				
		1/4"	Mammalia, small	radius		1	1	0.64			1	epiphyseal fragment
		1/4"	Gastropoda	partial			1	0.04				
F. 62		1/4"	cf. Odocoileus virginianus	phalange			1	2.13		1		cut marks; proximal fragment
		1/4"	Mammalia	fragment			6	8.09	2			
		1/4"	Mammalia, large	bone flake			13	11.37				broken for marrow extraction
		1/4"	Mammalia, large	bone flake			5	7.3	5			broken for marrow extraction
		1/4"	Mammalia, large	rib			1	2.95				broken on each end
		1/4"	Mammalia, medium	long bone			1	1.41				shaft only; broken on distal and proximal ends
		1/4"	Mammalia, small	cranium			1	1.33				fragment
		1/4"	Mammalia, small	metacarpal/metatarsal			1	0.27				broken
		1/4"	Meleagris gallopavo	humerus		1	1	5.89				brachial depression present; shaft only
		1/4"	Odocoileus virginianus	radius	1		1	14.69		1		cut marks; proximal epiphyseal portion; covered in red ochre
		1/4"	Procyon lotor	mandible		1	1	1.95				fragment
		1/4"	Testudines	costal			1	0.38				
		1/4"	Testudines	plastron			1	1.01				fragment
			Cervidae	antler tine tip			1	0.84				not burned
			Cervidae	antler tine tip			1	0.73	1	1		smoothed, polished, burned

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
F. 64			Mammalia	indet. fragments			1	0.57	1	1		burned and smoothed
F. 65		1/4"	Vertebrata	fragment			2	0.98				
		1/4"	Aves	long bone			2	4.3				shaft fragments
		1/4"	Aves	sternum			1	0.23				
		1/4"	Mammalia	cranium			1	1.06				fragment; broken at suture
		1/4"	Mammalia	fragment			23	16	19			
		1/4"	Mammalia, large	bone flake			3	8.37				broken for marrow extraction
		1/4"	Mammalia, medium	maxilla			1	0.27				fragment
		1/4"	Odocoileus virginianus	antler pedicle		1	1	20.26				older individual-presence of osteophytes
		1/4"	Odocoileus virginianus	innominate	1		1	65.78		1		lateral portion; including illium and ischium; cut marks on dorsal surface; older individual-presence of osteophytes
		1/4"	Bivalvia	partial			1	0.81				and dust eroding off shell, not counted, but part of weight
		1/4"	Bivalvia	partial			1	4.1				fragments
		1/4"	Bivalvia	fragments			5	4.01				
		1/4"	Gastropoda	partial			1	0.3				
		1/4"	Leptoxis praerosa	nearly complete			1	0.47				
		1/8" WS	Amphibia	vertebra			1	0.01				
		1/8" WS	Aves	long bone			1	0.01				diaphysis
		1/8" WS	Mammalia	indeterminate			31	2.75	14			
		1/8" WS	Mammalia, small	phalange			1	0.01	1			distal
		1/8" WS	Mammalia, small	tibia			1	0.15				distal
		1/8" WS	Mammalia, small	tooth			1	0.05				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			1	0.01				
		1/8" WS	Serpentes	vertebra			4	0.18	2			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Testudines	carapace			3	0.22	1			
		1/8" WS	Vertebrata	indeterminate			144	3.94	32			
F. 66		1/4"	Mammalia	fragment			1	0.36				in determinant
		1/4"	Mammalia, large	fragment			1	1.14				in determinant
		1/4"	Odocoileus virginianus	ascending ramus		1	1	1.89				includes angular process
F. 67		1/4"	Aves	fragment			7	4.79				
		1/4"	Cervidae	femur		1	1	27.35				spiral fracture
		1/4"	Mammalia	bone flake			1	2.98	1			possible worm burrow taphonomy
		1/4"	Mammalia	fragment			27	10.91	3			
		1/4"	Mammalia	rib			2	1.13		1		fragments; cut marks on one
		1/4"	Mammalia, large	bone flake			31	32.28				broken for marrow extraction
		1/4"	Mammalia, large	bone flake			20	52.23	20			broken for marrow extraction
		1/4"	Mammalia, large	fragment			1	9.06				in determinant (looked at deer pelvis, vertebrae, scapula, and other cervid pelvises); need to ID
		1/4"	Mammalia, medium to large	rib fragments			3	1.66				
		1/4"	Mammalia, medium to large	indeterminate			1	0.55			1	
		1/4"	Mammalia, medium	bone flake			5	2.29				
		1/4"	Mammalia, medium	cranium			1	1.4				
		1/4"	Mammalia, medium	vertebra, caudal			1	0.61				occipital fragment; cut marks
		1/4"	Mammalia, small	fragment			1	0.13				
		1/4"	Mammalia, small	innominate			1	0.57				broken
		1/4"	Mammalia, small	tibia			1	0.98				
		1/4"	Mammalia, small to medium	fragment			34	12.28	18			two are calcined
		1/4"	Mammalia, small to medium	phalange			2	0.68	2			
		1/4"	Mammalia, small to medium	phalanx			1	0.13				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Meleagris gallopavo	radius			1	2.03		1		cut marks; only shaft present
		1/4"	Odocoileus virginianus	epiphysis			1	0.84		1		cut marks
		1/4"	Odocoileus virginianus	metacarpal		1	1	27.19				broken for marrow extraction; distal portion and portion of shaft
		1/4"	Odocoileus virginianus	metacarpal		1	1	6.41				broken; proximal portion
		1/4"	Odocoileus virginianus	metapodial			1	8.09				broken for marrow extraction; distal
		1/4"	Odocoileus virginianus	metatarsal			1	7.42				distal; foramen present; broken for marrow extraction
		1/4"	Odocoileus virginianus	metatarsal			1	6.48				portion of shaft; broken for marrow extraction
		1/4"	Odocoileus virginianus	radius	1		1	14.96				proximal epiphysis
		1/4"	Odocoileus virginianus	radius	1		1	3.89				broken for marrow extraction; proximal; shaft fragment
		1/4"	Odocoileus virginianus	tibia			1	2.66				broken for marrow extraction; distal portion; shaft fragment
		1/4"	Odocoileus virginianus	tibia		1	1	8.8				broken for marrow extraction; distal portion; shaft fragment
		1/4"	Odocoileus virginianus	vertebra			3	6.78				fragments
		1/4"	Sciuridae	atlas			1	0.23		1		cut marks
		1/4"	Serpentes	vertebra			3	1.4				
		1/4"	Terrapene carolina	costal			1	1.68				fragment
		1/4"	Terrapene carolina	neural			1	1.4				fragment
		1/4"	Terrapene carolina	peripheral			3	3.73				fragments
		1/4"	Testudines	carapace			1	0.24				fragment
		1/4"	Testudines	costal			5	2.92	1			fragment
		1/4"	Testudines	fragment			6	5.99	1	1		cut marks
		1/4"	Testudines	plastron			1	0.68		1		cut marks
		1/4"	Vertebrata	fragment			5	0.77				in determinant
		1/4"	Bivalvia	partial			1	7.94				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Bivalvia	fragments			1	0.26	1			burned black
		1/4"	Bivalvia	fragments			24	3.36				
		1/4"	Gastropoda	fragments			18	3.21				
		1/4"	Polygyridae	partial			2	0.33				mni=2
		1/4"	cf. Pleuroceridae	nearly complete			3	0.76				mni=3
		1/4"	cf. Goniobasis clavaeformis	nearly complete			11	1.36				mni-=11
		1/4"	Leptoxis praerosa	nearly complete			2	0.75				
		1/4"	Unionidae	hinge fragments			6	3.53				too broken to be diagnostic
		1/4"	Polygyridae	body fragment			1	0.06				
		1/4"	Gastropoda	body fragment			1	0.07				
		1/4"	Gastropoda	body fragment			1	0.59				marine?
			Mammalia, large	bone flake			1	5.87		1		sharpened and polished
			Mammalia, medium - large	tibia, distal		1	1	7.09		1	1	polished and sharpened, proximally
			Mammalia, medium to large	scapula frag			1	4	1			burned grey and calcined, polished? sheen
			Mammalia	bone fragment			1	0.38	1	1		burned black; polish/sheen
F. 68		1/4"	Mammalia	fragment			2	0.48	1			
		1/4"	Vertebrata	fragment			1	0.05				in determinant
F. 69		1/4"	Mammalia, large	bone flake			5	4.51	5			broken for marrow extraction
		1/4"	Mammalia, large	bone flake			10	13.71				broken for marrow extraction
		1/4"	Mammalia, large	fragment			35	17.59	19			
		1/4"	Odocoileus virginianus	ascending ramus	1		1	5.02				includes angular process and mandibular condyle
		1/4"	Odocoileus virginianus	femur			1	14.44		1		large bone shaft flakes; cut marks
		1/4"	Odocoileus virginianus	humerus	1		1	23.39				cut marks; older individual-presence of osteophytes
		1/4"	Odocoileus virginianus	metatarsal	1		1	4.13		1		epiphyseal portion cut marks
		1/4"	Odocoileus virginianus	molar	1		1	2.33				second molar; upper

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	premolar		1	1	2.15				first premolar; upper
		1/4"	Odocoileus virginianus	premolar		1	1	1.23				first premolar; lower
		1/4"	Odocoileus virginianus	radius		1	1	28.54		1		cut marks; distal portion; broken shaft
		1/4"	Odocoileus virginianus	radius		1	1	9.58		1		cut marks; epiphyseal portion; broken for marrow extraction
		1/4"	Odocoileus virginianus	tooth root			1	0.62				broken; possibly a premolar
F. 70	19	1/4"	Gastropoda	complete			1	0.17				
		1/4"	cf. Goniobasis clavaeformis	nearly complete			1	0.18				
F. 71		1/4"	Mammalia, medium	Bone Fragments			2	0.73				
			Busycon sinistrum	outer whorl			1	36.39				drilled in center
			Gastropoda				51	6.19				disk beads
			Gastropoda	columella			1	0.1				tubular bead
F. 72	21	1/4"	Mammalia, medium	Bone Flakes			1	0.74	1			
F. 73	20	1/4"	Canis familiaris	tibia			1	3.22				
		1/4"	Mammalia	indet. fragments			1	0.07				
		1/4"	Mammalia, medium to large	Bone flakes			5	7.01				
		1/4"	Mammalia, medium to large	Bone flakes			7	5.54	7			
		1/4"	Odocoileus virginianus	antler Fragments	1		1	51.77				
		1/4"	Unionidae	partial			1	0.49				
		1/4"	Unionidae	hinge, partial			2	0.49	2			hinges and burned
F. 74	22	1/4"	Mammalia, large	Tooth Fragments			1	0.39	1			
		1/4"	Mammalia, medium to large	Bone Fragments			2	1.88				
		1/4"	Procyon lotor	molar			1	0.57				
F. 75		1/4"	Kinosternidae	peripheral			1	0.31	1			
		1/4"	Mammalia	indet. fragments			1	0.02				
F. 76		1/4"	Mammalia, medium to large	Bone Flakes			5	6.98				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, medium to large	Bone Fragment			1	0.64	1			
		1/4"	Odocoileus virginianus	phalange			1	2.18				
		1/4"	Terrapene carolina	costal			1	0.59				
F. 77		1/4"	Mammalia, medium to large	Bone Flakes			21	5.64				
		1/4"	Mammalia, medium to large	Bone Fragments			7	1.59				
		1/4"	Odocoileus virginianus	vertebra			2	5.93				
		1/4"	Rodentia	indeterminate			2	0.2				
F. 78		1/4"	Kinosternidae	costal			3	0.51				
		1/4"	Mammalia, large	Bone Flakes			93	71.21	37			
		1/4"	Mammalia, small	longbone fragment			1	0.24				
		1/4"	Odocoileus virginianus	metacarpal			1	3.63				
		1/4"	Odocoileus virginianus	metatarsal			1	2.51				
		1/4"	Odocoileus virginianus	molar		1	4	5.7				
		1/4"	Odocoileus virginianus	phalange			2	5.14				
		1/4"	Odocoileus virginianus	tibia	1		1	5.4	1			
		1/4"	Sciurus niger	ischium	1		1	0.2				
		1/4"	Terrapene carolina	peripheral			4	2.17	1			
		1/8" WS	Mammalia	indeterminate			31	3.7	35			
		1/8" WS	Mammalia	tooth			1	0.04				frag
		1/8" WS	Mammalia, medium to large	tooth			1	0.05				
		1/8" WS	Mammalia, small	acetabelum	1		1	0.01				
		1/8" WS	Mammalia, small	atlas			1	0.01				
		1/8" WS	Mammalia, small	caudal vertebra			1	0.01				
		1/8" WS	Mammalia, small	cervical vertebra			1	0.01				
		1/8" WS	Mammalia, small	femur			1	0.02			1	epiphysis

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia, small	long bone			1	0.01				metaphysis frag
		1/8" WS	Mammalia, small	maxilla	1		1	0.01				
		1/8" WS	Mammalia, small	scapula	1		1	0.01				frag
		1/8" WS	Osteichthyes	cranium			2	0.03				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			1	0.1				
		1/8" WS	Other organic	indeterminate			5	0.01				scale-like, needs analysis
		1/8" WS	Rodentia	humerus		1	1	0.03				frag
		1/8" WS	Rodentia	incisor			2	0.06	1			
		1/8" WS	Rodentia	mandible	1		1	0.02				
		1/8" WS	Serpentes	vertebra			1	0.05				
		1/8" WS	Testudines	carapace			1	0.1				
		1/8" WS	Vertebrata	indeterminate			115	2.75	34			
		1/8" WS	Mammalia	rib fragments			2	0.8				
		1/8" WS	Mammalia	indeterminate frags			6	3.8				
F. 79		1/4"	Aves	indeterminate			4	0.54				
		1/4"	Canis familiaris	canine			2	1				
		1/4"	Kinosternidae	hypoplastron			1	3.33				
		1/4"	Mammalia, large	Bone Flakes			74	55.86	20			
		1/4"	Mammalia, large	indeterminate			4	4.21				
		1/4"	Mammalia, large	rib			2	0.84				
		1/4"	Mammalia, large	teeth			5	0.75				
		1/4"	Mammalia, small	teeth			4	0.07				
		1/4"	Meleagris gallopavo	tibiotarsus	1		1	2.57				
		1/4"	Odocoileus virginianus	canine			2	1.01				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	Metapodial			2	25.93				
		1/4"	Odocoileus virginianus	phalange			1	0.43				
		1/4"	Odocoileus virginianus	rib			1	5.38				
		1/4"	Odocoileus virginianus	tooth			1	0.21				
		1/4"	Rodentia	longbone			1	0				
		1/4"	Rodentia	mandible			5	0.57				
		1/4"	Sciurus niger	humerus	1		1	0.59				
		1/4"	Sciurus niger	tibio-fibula			2	0.19				
		1/4"	Terrapene carolina	costal		1	11	11.44				
		1/4"	Terrapene carolina	humerus			1	0.54				
		1/4"	Terrapene carolina	hypoplastron			1	3.87				
		1/4"	Terrapene carolina	peripheral			1	1.21				
		1/4"	Terrapene carolina	xiphiplastron		1	1	4.42				
		1/8" WS	Aves	indeterminate			1	0.03				
		1/8" WS	Mammalia	indeterminate			53	3.21	34			
		1/8" WS	Mammalia	tooth			1	0.03				frag
		1/8" WS	Mammalia, small	metacarpal/metatarsal			1	0.1				distal
		1/8" WS	Mammalia, small	vertebra			1	0.01				frag
		1/8" WS	Rodentia	incisor			1	0.03				frag
		1/8" WS	Serpentes	rib			1	0.01				
		1/8" WS	Serpentes	vertebra			1	0.01				
		1/8" WS	Testudines	carapace			3	0.18	2			
		1/8" WS	Vertebrata	indeterminate			95	2.75	11			
		1/8" WS	Mammalia, small to medium	vertebra, incomplete			1	0.08				
		1/8" WS	Mammalia	indeterminate frags			5	3.26				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
			Castor canadensis	ulna, proximal		1	1	4.06		1	1	sharpened, smoothed longitudinally and distally
F. 80		1/4"	Canis familiaris	calcaneus			1	2.3				
		1/4"	Kinosternidae	costal			3	0.43				
		1/4"	Mammalia, large	Bone Flakes			89	177.38				
		1/4"	Mammalia, large	Bone Fragment			271	139.42	95			
		1/4"	Mammalia, medium to large	Bone Fragment			8	4.94	7			
		1/4"	Odocoileus virginianus	axis			1	6.01				
		1/4"	Odocoileus virginianus	Bone Fragment			9	52.99				
		1/4"	Odocoileus virginianus	carpal, lunar	1		1	2.55				
		1/4"	Odocoileus virginianus	carpal, scaphoid	1		1	4.51				
		1/4"	Odocoileus virginianus	carpal, trapezoid-magnum		1	1	3.42				
		1/4"	Odocoileus virginianus	cranium			1	4.36				
		1/4"	Odocoileus virginianus	Glenoid fossa			1	0.87				
		1/4"	Odocoileus virginianus	indeterminate			17	27.98				
		1/4"	Odocoileus virginianus	innominate			2	10.71				
		1/4"	Odocoileus virginianus	mandible	1		1	11.16				
		1/4"	Odocoileus virginianus	metapodial			1	25.04				
		1/4"	Odocoileus virginianus	metapodial			2	14.5	2			
		1/4"	Odocoileus virginianus	molar			2	4.9				
		1/4"	Odocoileus virginianus	phalange			4	9.76				
		1/4"	Odocoileus virginianus	phalanx			1	0.29	1			
		1/4"	Odocoileus virginianus	radius			1	10.52				
		1/4"	Odocoileus virginianus	scapula		1	1	45.02				
		1/4"	Odocoileus virginianus	tarsal			2	6.45				
		1/4"	Odocoileus virginianus	teeth			6	4.27				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	tibia		1	1	34.02				
		1/4"	Odocoileus virginianus	ulna	1	1	2	27.89				
		1/4"	Odocoileus virginianus	vertebra			4	65.75				
		1/4"	Terrapene carolina	costal			42	16.98	2			
		1/4"	Terrapene carolina	peripheral			11	7.63				
		1/4"	Bivalvia	partial			1	1.61				
		1/8" WS	cf. Micropterus sp.	dentary			1	0.03				
		1/8" WS	cf. Micropterus sp.	vomer			1	0.04				
		1/8" WS	Mammalia	indeterminate			83	5.83	42			
		1/8" WS	Mammalia	tooth			1	0.06				frag
		1/8" WS	Mammalia	vertebra			1	0.03				frag
		1/8" WS	Osteichthyes	cranium			3	0.04				
		1/8" WS	Osteichthyes	vertebra			4	0.07				
		1/8" WS	Rodentia	incisor			1	0.06				
		1/8" WS	Serpentes	vertebra			2	0.03				
		1/8" WS	Testudines	carapace			3	0.17				
		1/8" WS	Vertebrata	indeterminate			122	3.02	9			
F. 82		1/4"	Gastropoda	partial			2	0.2				
		1/4"	Invertebrata	partial			1	0.66				
		1/8" WS	Kinosternidae	neural			1	0.08				
		1/8" WS	Mammalia	indeterminate			78	8.69	43			
		1/8" WS	Mammalia, small	femur			1	0.03	1			femoral head only
		1/8" WS	Mammalia, small	phalange			1	0.1				proximal
		1/8" WS	Mammalia, small	tooth			1	0.02				frag
		1/8" WS	Odocoileus virginianus	tooth			1	0.19				frag

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Osteichthyes	basioccipital			1	0.02				
		1/8" WS	Osteichthyes	cranium			2	0.04				
		1/8" WS	Osteichthyes	vertebra			2	0.02				
		1/8" WS	Rodentia	tooth			1	0.02	1			frag
		1/8" WS	Serpentes	vertebra			4	0.18	2			
		1/8" WS	Testudines	carapace			4	0.14	2			
		1/8" WS	Testudines	indeterminate			3	0.22				
		1/8" WS	Vertebrata	indeterminate			191	7.13	36			
		1/8" WS	Vertebrata	mineralized bone			1	0.49				
		1/8" WS	Vertebrata	phalange			2	0.21	1			
F. 88			Aves, large	indeterminate frags			3	0.82				
F. 89		1/4"	cf. Mesodon clausus	nearly complete			1	1.06				
		1/4"	cf. Pleuroceridae	nearly complete			1	0.21				
		1/4"	Bivalvia	fragments			11	0.52				
		1/4"	Viviparidae	complete			1	1.71				
		1/4"	Unionidae	hinge fragments			7	3.62				
		1/4"	Bivalvia	fragments			13	2.83				
		1/4"	Polygyridae	nearly complete			1	0.03				
		1/4"	Polygyridae	body fragment			1	0.03				
		1/4"	cf. Goniobasis clavaeformis	nearly complete			3	1.06				
		1/4"	cf. Pleuroceridae	nearly complete			2	1.15				
		1/4"	cf. Hydrobiidae	nearly complete			2	0.66				
		1/4"	Polygyridae	nearly complete			4	0.72				
		1/4"	cf. Pleuroceridae	nearly complete			6	2.96				
		1/4"	cf. Goniobasis clavaeformis	partial			1	0.22				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	cf. Hydrobiidae	partial			2	0.3				
		1/4"	Leptoxis praerosa	nearly complete			2	1.59				
		1/4"	Bivalvia	fragment			1	0.07				
		1/4"	Bivalvia	partial			1	1.17				
		1/8" WS	Aves	indeterminate			1	0.11	1			
		1/8" WS	Aves	indeterminate			1	0.01				
		1/8" WS	Mammalia	indeterminate			61	7.05	25			
		1/8" WS	Mammalia	tooth			2	0.08				frags
		1/8" WS	Mammalia, large	rib fragment			1	0.73				
		1/8" WS	Mammalia, small	phalange			1	0.02	1			distal
		1/8" WS	Mammalia, small	ulna		1	1	0.12				proximal
		1/8" WS	Mammalia, small to medium	tooth			1	0.07				
		1/8" WS	Odocoileus virginianus	tooth			1	0.37				
		1/8" WS	Odocoileus virginianus	auditory bulla fragment			1	2.27				
		1/8" WS	Osteichthyes	cranium			1	0.06				
		1/8" WS	Osteichthyes	vertebra			1	0.01				
		1/8" WS	Rodentia	molar			1	0.01				
		1/8" WS	Serpentes	rib			1	0.08	1			
		1/8" WS	Testudines	carapace			9	0.39	5			
		1/8" WS	Vertebrata	indeterminate			162	4.87	42			
		1/8" WS	Mammalia	indeterminate			2	0.91				
F. 90		1/8" WS	Osteichthyes	vertebra			1	0.01				
		1/8" WS	Mammalia	indeterminate			39	3.01	15			
		1/8" WS	Mammalia	tooth			1	0.04				
		1/8" WS	Mammalia, small	long bone			1	0.07				diaphysis

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia, small	metacarpal/metatarsal			1	0.02	1			distal
		1/8" WS	Other organic	indeterminate			15	0.07				scale-like, needs analysis
		1/8" WS	Rodentia	incisor			1	0.01				
		1/8" WS	Rodentia	molar			1	0.03				
		1/8" WS	Serpentes	vertebra			1	0.07	1			
		1/8" WS	Testudines	carapace			16	0.77	8			
		1/8" WS	Vertebrata	indeterminate			81	2.44	17			
F. 91		1/4"	Gastropoda	complete			15	2.72				plus fragments
		1/4"	cf. Ptychobranchus subtentum	hinge	6	5	11	11.79				
		1/4"	Bivalvia	partial			18	41.82	5			fragments and dust not counted, but weighed
		1/4"	cf. Actinonaias sp.	hinge	1		1	55		1		teeth removed, shell spoon?
		1/4"	Bivalvia	partial			1	15.57				
		1/4"	Gastropoda	complete			7	0.91				
		1/4"	Gastropoda	partial			17	6.62				
		1/4"	Bivalvia	fragments			60	9.13	60			and dust
		1/4"	Bivalvia	dust/fragments				3.14				dust and lots burned
		1/4"	Bivalvia	hinge fragments			2	1.79	2			
		1/4"	Polygyridae	fragments			4	0.17				
		1/4"	cf. Pleuroceridae	partial			4	0.45	4			
		1/4"	cf. Hydrobiidae	partial			2	0.15				
		1/4"	Gastropoda	fragments			3	0.1				
		1/4"	Polygyridae	nearly complete			4	0.28				2 nearly complete and 2 whorls; MNI=2
		1/4"	Gastropoda	fragments			13	0.39				
		1/4"	cf. Pleuroceridae	partial			5	0.44	4			
		1/4"	cf. Goniobasis clavaeformis	complete			1	0.47				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	cf. Goniobasis clavaeformis	aperture			1	0.16				
		1/4"	cf. Goniobasis clavaeformis	partial			6	1.43	6			
		1/4"	cf. Goniobasis clavaeformis	nearly complete			3	1				
		1/4"	cf. Pleuroceridae	partial			10	2.02				
		1/4"	cf. Pleuroceridae	partial			3	0.53	3			
		1/4"	Invertebrata	dust/fragments				1.89				and burned
		1/4"	Leptoxis praerosa	complete			1	1.29				
		1/4"	Leptoxis praerosa	nearly complete			3	1.25	3			
F. 92	23	1/4"	Unionidae	partial			1	0.19	1			
F. 94	24	1/4"	Vertebrata				1	0.05				
		1/4"	Invertebrata	partial			4	2.84				"cemented" together in mass of fragments. in 4 pieces
		1/4"	Bivalvia	partial			1	14.59				
		1/4"	Vertebrata	fragments			4	0.05				
		1/4"	Unionidae	hinge, partial	1		3	33				in three pieces with some matrix
		1/4"	Bivalvia	fragments			2	6.1				
		1/4"	cf. Actinonaias sp.	partial	1		1	54.3				
		1/4"	Bivalvia	hinge		1	1	5.5				stacked with two cf. Acinonaias
		1/4"	cf. Actinonaias sp.	valves	1	1	2	143.8				stacked with other bivalve in matrix, weighed in matrix
		1/4"	Mammalia, large	rib fragment			7	6.04				
		1/4"	Mammalai, medium to large	cranial fragments			1	0.8				
		1/4"	Mammalia, large	indet. fragments			12	5	3			3 calcined
		1/8" WS	Mammalia	indeterminate			42	3.35	17			
		1/8" WS	Mammalia, small	rib			1	0.02				
		1/8" WS	Mammalia, small	tooth			2	0.07				
		1/8" WS	Osteichthyes	cranium			3	0.03				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Other organic	indeterminate			10	0.05				
		1/8" WS	Serpentes	vertebra			2	0.07				
		1/8" WS	Testudines	carapace			2	0.13				
		1/8" WS	Testudines	costal			1	0.1				
		1/8" WS	Testudines	peripheral			1	0.14				
		1/8" WS	Vertebrata	indeterminate			152	3.95	41			
			Odocoileus virginianus	antler tine			1	66.22		1		scored and snapped distally, tip has polish from use rounded
			Meleagris gallopavo	radius		1	1	3.41		1		sharpened at distal end, red ocher staining
			Meleagris gallopavo	radius		1	1	2.77		1		sharpened at distal end
			Meleagris gallopavo	tarsometatarsus, proximal and shaft	1		1	7.22		1		shaft sharpened at distal end
			Meleagris gallopavo	tarsometatarsus, proximal and shaft	1		1	4.77		1		shaft sharpened at distal end
			Meleagris gallopavo	tarsometatarsus, proximal and shaft	1		1	4.73		1		missing proximal epiphysis, sharpened distally; red ochre
			Meleagris gallopavo	tarsometatarsus, proximal and shaft	1		1	2.98		1		shaft only, sharpened proximally
			cf. Canis spp.	phalange, #1			4	3.32				
			cf. Canis spp.	phalange, #2			2	1.23				
			cf. Canis spp.	phalange #3			11	6.77				4 of one side, 7 of the other, seem to have red pigment/ochre
F. 95		1/4"	cf. Pleuroceridae	partial			1	0.1				
		1/4"	Bivalvia	partial			2	0.33	2			
		1/8" WS	Carnivora	premolar			1	0.05			1	deciduous, cf. Canis familiaris
		1/8" WS	cf. Aplodinotus grunniens	dentary			1	0.05				
		1/8" WS	Mammalia	indeterminate			67	4.77	43			
		1/8" WS	Mammalia, small	indeterminate			2	0.11	1			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia, small	innominate	1		1	0.02				frag, acetabelum
		1/8" WS	Mammalia, small	long bone			1	0.36	1			
		1/8" WS	Mammalia, small	rib			1	0.01				medial
		1/8" WS	Rana / Bufo sp.	pelvis			1	0.04				acetabelum frag
		1/8" WS	Rana / Bufo sp.	radio-ulna			1	0.04				
		1/8" WS	Rana / Bufo sp.	urostyle			1	0.01				
		1/8" WS	Rana / Bufo sp.	vertebra			6	0.13				
		1/8" WS	Rodentia	incisor			1	0.01				
		1/8" WS	Rodentia	mandible			1	0.04	1			
		1/8" WS	Rodentia	molar			1	0.02				
		1/8" WS	Rodentia	premolar			1	0.01				
		1/8" WS	Sciuridae	incisor			1	0.05				
		1/8" WS	Serpentes	vertebra			2	0.07				
		1/8" WS	Testudines	carapace			4	0.28		1		Red color on one
		1/8" WS	Testudines	ilia	1		1	0.04				
		1/8" WS	Testudines	long bone		1	1	0.18				
		1/8" WS	Vertebrata	indeterminate			91	2.35	14			
		1/8" WS	Vertebrata	phalange			1	0.07				
F. 96		1/4"	Bivalvia	partial			1	0.21	1			
		1/4"	Leptoxis praerosa	complete			1	0.4				
		1/4"	cf. Pleuroceridae	body fragment			3	0.14				
		1/4"	cf. Goniobasis clavaeformis	body fragment			3	0.28				
			Lynx rufus	tibia, missing distal		1	1	14.42		1	1	polished, hollowed out from distal end; distal end removed, unfused
			Mammalia, large	bone flake			1	10.4		1		pointed, sharpened

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
			Mammalia, large	bone flake			1	5.67		1		cut marks, polished and sharpened, broken but mended by previous analyst
			Mammalia, medium - large	longbone shaft			1	6.4		1		polished and sharpened
			Mammalia	indet. fragments			1	3.14		1		sharpened and polished
F. 98	27		Mammalia	indeterminate frags			16	3.39				
F. 99		1/4"	Bivalvia	partial			5	1.2				
		1/4"	cf. Goniobasis clavaeformis	complete			1	0.29				
		1/4"	Unionidae	hinges			2	0.88				
F. 101		1/4"	Aves	in determinant			2	0.9		1		fragments with cut marks
		1/4"	Aves	tarsometatarsus		1	1	1.04				proximal epiphysis
		1/4"	Mammalia	vertebra			1	1.35	1			fragments
		1/4"	Mammalia, large	cranium			2	10.4				fragments
		1/4"	Mammalia, large	in determinant			53	87.68	6	1		flakes; cut marks
		1/4"	Mammalia, medium	acetabulum			1	0.3				fragments
		1/4"	Mammalia, medium	in determinant			68	27.14	23			fragments
		1/4"	Mammalia, medium	rib			1	1.06				fragments
		1/4"	Odocoileus virginianus	cranium			1	1.18				fragment
		1/4"	Odocoileus virginianus	ilium			1	3.42				fragment
		1/4"	Odocoileus virginianus	in determinant			1	8.67				long bone flake
		1/4"	Odocoileus virginianus	radius		1	1	14.1				proximal epiphysis
		1/4"	Odocoileus virginianus	radius			1	2.77				anterior flake
		1/4"	Odocoileus virginianus	tibia			1	4.28				fragment
		1/4"	Odocoileus virginianus	tooth			5	4.76	1			fragments
		1/4"	Odocoileus virginianus	vertebra			1	1.01				spinous process fragment
		1/4"	Rodentia	mandible		1	1	0.05				partial with incisor and premolar/molar

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Sciuridae	metacarpal/metatarsal			2	0.27				
		1/4"	Sciuridae	tooth			1	0.19				fragment (incisor)
		1/4"	Terrapene carolina	costal			4	1.81				fragments
		1/4"	Terrapene carolina	entoplastron			1	0.49				fragment
		1/4"	Terrapene carolina	hyoplastron		1	1	1.25				fragments
		1/4"	Terrapene carolina	peripheral			4	3.86				fragments
		1/4"	Testudines	plastron			3	3.37				fragments
		1/4"	Vertebrata	fragment			7	2.45				
		1/4"	cf. Mesodon downjeanus	complete			1	0.2				
		1/4"	cf. Mesodon elevatus	nearly complete			1	0.68				
		1/4"	cf. Pleuroceridae	nearly complete			13	2.46				
		1/4"	Invertebrata	fragments				3.05				all dust
		1/4"	Bivalvia	hinges			8	5.98				
		1/4"	Bivalvia	fragments			50	14.79				
		1/4"	Unionidae	hinge, partial	1		1	2.05				
		1/4"	Lasmigona costata	hinge, partial	1		1	8.91				
		1/4"	Gastropoda	partial			10	0.55				
		1/4"	Lampsilis ovata	hinge, partial		1	13	23.17				
		1/4"	Mammalia	fragment			1	0.35				
		1/8" WS	Aves	indeterminate			5	0.41	1			
		1/8" WS	Aves	long bone			1	0.01				diaphysis
		1/8" WS	Aves	vertebra			1	0.03				
		1/8" WS	Canidae	tooth			2	0.15			1	
		1/8" WS	Kinosternidae	neural			1	0.03	1			
		1/8" WS	Kinosternidae	peripheral			1	0.02	1			
		1/8" WS	Mammalia	indeterminate			130	9.24	50			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia	long bone			1	0.01	1			diaphysis
		1/8" WS	Mammalia	maxilla			1	0.01				frag
		1/8" WS	Mammalia	tooth			4	0.13				
		1/8" WS	Mammalia, small	metacarpal/metatarsal			1	0.03	1			
		1/8" WS	Mammalia, small	tooth			1	0.02	1			frag
		1/8" WS	Mammalia, small	vertebra			1	0.05				
		1/8" WS	Osteichthyes	cranium			7	0.07				
		1/8" WS	Osteichthyes	dentary			1	0.01				
		1/8" WS	Osteichthyes	vertebra			6	0.07				
		1/8" WS	Rana / Bufo sp.	urostyle			1	0.03				
		1/8" WS	Rana / Bufo sp.	vertebra			1	0.03				
		1/8" WS	Rodentia	mandible		1	1	0.03				w/ incisor
		1/8" WS	Serpentes	vertebra			5	0.13				
		1/8" WS	Terrapene carolina	long bone			1	0.09				diaphysis
		1/8" WS	Testudines	carapace			23	1.02	6			
		1/8" WS	Testudines	peripheral			3	0.1				
		1/8" WS	Vertebrata	indeterminate			101	3.02	10			
			Mammalia, large	bone flake			2	4.38				not tools
			Mammalia, large	indet. fragments			1	0.45	1	1		burned black, etched/scratched
F. 101 Zone A		1/4"	Gastropoda	fragment			3	0.29				
		1/4"	cf. Pleuroceridae	nearly complete			3	0.75				
		1/4"	cf. Hydrobiidae	nearly complete			3	0.6				
		1/4"	cf. Goniobasis clavaeformis	fragments			3	0.08				
		1/4"	cf. Goniobasis clavaeformis	nearly complete			20	3.57				
F. 102		1/4"	Aves	in determinant			6	0.63	1			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, large	indet. fragments			1	3.44	1			burned black
		1/4"	cf. Odocoileus virginianus	cranial fragments			2	6.86				mend/recent break
		1/4"	cf. Odocoileus virginianus	tooth			2	0.65				fragments
		1/4"	Kinosternidae	costal			1	0.13	1			fragment
		1/4"	Mammalia, large	in determinant			56	91.54	19	1		Fragments; 4 with cut marks, 50 flakes
		1/4"	Mammalia, large	maxilla			1	1.22				fragment with no teeth
		1/4"	Mammalia, medium	phalange			1	0.46	1			diaphysis and epiphysis
		1/4"	Mammalia, medium	rib			1	0.58				fragment
		1/4"	Mammalia, medium to large	in determinant			85	30.65	61			fragments
		1/4"	Odocoileus virginianus	tooth			2	0.65				fragments
		1/4"	Osteichthyes	cranium			2	0.31				
		1/4"	Procyon lotor	humerus	1		1	1.48	1			distal epiphysis
		1/4"	Terrapene carolina	carapace			1	43.09				most freshly broken; nearly complete
		1/4"	Terrapene carolina	coracoid		1	1	0.2				
		1/4"	Testudines	in determinant			2	0.18				fragments
		1/4"	Vertebrata	in determinant			1	0.27				fragment
		1/4"	Gastropoda	partial			1	0.1				
		1/4"	Bivalvia	fragment			2	0.42	1			
		1/4"	cf. Pleuroceridae	distal aperture			1	0.11				weathered
		1/8" WS	Mammalia	indeterminate			90	6.93	33			
		1/8" WS	Mammalia, small	femur			1	0.02			1	metaphysis, distal
		1/8" WS	Mammalia, small	phalange			1	0.09				
		1/8" WS	Mammalia, small	tibia			1	0.01				diaphysis
		1/8" WS	Mammalia, small	vertebra			2	0.03				frags
		1/8" WS	Osteichthyes	cranium			10	0.11	2			
		1/8" WS	Osteichthyes	vertebra			2	0.02				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Rodentia	mandible	1		1	0.05				
		1/8" WS	Rodentia	tibia	1	1	2	0.18				proximal
		1/8" WS	Serpentes	vertebra			2	0.03				
		1/8" WS	Testudines	carapace			8	0.54	1			
		1/8" WS	Testudines	long bone			1	0.09				diaphysis
		1/8" WS	Testudines	scapula	1		1	0.09				
		1/8" WS	Vertebrata	indeterminate			192	4.39	45			
			Mammalia	longbone fragment			1	0.25		1		broken tip?
			Mammalia	longbone fragment			1	0.64		1		broken awl tip?
F. 103 East 1/2		1/4"	Aves	in determinant			16	3.05	4			fragments
		1/4"	Mammalia, medium to large	in determinant			12	6.07	8			fragments
		1/4"	Odocoileus virginianus	molar			1	1.31				fragment
		1/4"	Testudines	costal			1	0.79	1			fragments
		1/4"	Testudines	peripheral			2	0.65	2			fragments
		1/4"	Bivalvia	partial			1	1.48				
F. 104		1/4"	Aves	in determinant			4	1.75	0			fragments
		1/4"	Mammalia, large	in determinant			1	1.47	0			flake
		1/4"	Mammalia, medium to large	in determinant			26	9.19	13			fragments
		1/4"	Mammalia, medium to large	tooth			1	0.37				fragment
		1/4"	Odocoileus virginianus	scapula			1	4.21				fragments
		1/4"	Osteichthyes	in determinant			4	0.38				fragments
		1/4"	Testudines	carapace			1	0.29				fragments
		1/4"	Testudines	costal			2	2.01				fragments
		1/4"	Testudines	peripheral			1	0.29				fragments
		1/4"	Testudines	plastron			1	0.35	1			fragments

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
F. 105		1/4"	cf. Odocoileus virginianus	inominate		1	1	6.07				possible acetabular fragment
		1/4"	Mammalia, medium	in determinant			7	2.45	4			fragments
		1/4"	Odocoileus virginianus	in determinant			2	6.97				long bone flakes
		1/4"	Odocoileus virginianus	radius		1	1	26.41				distal epiphysis
		1/4"	Odocoileus virginianus	rib			2	1.68				fragments
		1/4"	Odocoileus virginianus	tibia		1	1	12.96				partial proximal portion freshly broken into three pieces
		1/4"	Rodentia	mandible		1	1	0.13				two teeth included
		1/4"	cf. Goniobasis clavaeformis	partial			2	0.27				
		1/4"	Unionidae	hinge		1	1	0.44				
F. 106		1/4"	Aves	in determinant			2	0.44				fragments
		1/4"	Mammalia, large	in determinant			12	8.86				flakes
		1/4"	Mammalia, medium	rib			1	0.5				fragments
		1/4"	Mammalia, medium	vertebra			1	0.27				fragments
		1/4"	Mammalia, medium to large	in determinant			69	26.56	43			fragments
		1/4"	Mammalia, medium to large	tooth			1	0.47				fragments
		1/4"	Odocoileus virginianus	antler			1	4.19	1			fragment
		1/4"	Odocoileus virginianus	astragalus			1	11.77				incomplete
		1/4"	Odocoileus virginianus	calcaneus	1		1	12.74		1		incomplete; cut marks
		1/4"	Odocoileus virginianus	mandible			1	1.11				fragment
		1/4"	Odocoileus virginianus	metapodial			1	1.73				distal epiphysis
		1/4"	Odocoileus virginianus	molar			1	2.4				maxillary; heavily worn
		1/4"	Odocoileus virginianus	premolar			1	0.79				split into two pieces
		1/4"	Odocoileus virginianus	tooth			1	0.27				fragment
		1/4"	Serpentes	vertebra			1	0.41				incomplete
		1/4"	Testudines	costal			1	0.66	1			fragments

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Testudines	in determinant			1	0.24				fragments
		1/4"	Testudines	peripheral			2	1.44	2			fragments
		1/4"	Testudines	plastron			2	1.26	1			fragments
		1/4"	Vertebrata	in determinant			1	0.18				
		1/4"	Gastropoda	partial			1	0.12				
		1/4"	Bivalvia	partial			1	1.05				
		1/4"	cf. Mesodon spp.	aperture			1	0.42				
		1/4"	Mammalia, large	indet. fragments			1	1.29	1			burned black
			Mammalia	indet. fragments			2	1.74	3			1 burned; 2 possibly sharpened
			Odocoileus virginianus	metacarpal, distal			1	16.65		1		completely fused, spiral fracture, some battering of epiphysis
F. 107		1/4"	Mammalia, medium to large	in determinant			6	2.19				fragments
		1/4"	Bivalvia	fragment		2	2	47.5				possible spoon? highly fragmented
		1/8" WS	Mammalia	indeterminate			9	0.51				3 burned
		1/8" WS	Serpentes	vertebra			1	0.01				
		1/8" WS	Testudines	carapace			1	0.01				
		1/8" WS	Testudines	carapace			1	0.07	1			
		1/8" WS	Vertebrata	indeterminate			22	0.69	8			
F. 108		1/4"	Mammalia, large	in determinant			14	21.98	11			flakes
		1/4"	Mammalia, medium to large	in determinant			67	24.4	67			fragments
		1/4"	Mammalia, medium to large	in determinant			4	1.83				fragments
		1/4"	Testudines	carapace			1	0.16				fragments
		1/4"	Testudines	plastron			2	1.46				fragments
		1/4"	Gastropoda	partial			1	0.09				
		1/4"	Gastropoda	fragment			1	0.09				
		1/4"	Mammalia, large	indet. fragments			6	4.76	6			all burned black

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
F. 109		1/4"	Aves	in determinant			7	1.26				
		1/4"	Canidae	canine			1	0.81				
		1/4"	Castor canadensis	tibia		1	1	4.38				diaphysis fragment
		1/4"	Mammalia, large	in determinant			8	5.3	6			fragments
		1/4"	Mammalia, small	cranium			3	0.81				fragments with possible ochre
		1/4"	Mammalia, small	in determinant			3	0.32				long bone diaphysis
		1/4"	Mammalia, small to medium	in determinant			4	1.1				fragments
		1/4"	Meleagris gallopavo	coracoid		1	1	9.5				
		1/4"	Meleagris gallopavo	furculum			1	0.4				incomplete
		1/4"	Meleagris gallopavo	scapula		1	6	7.53				fragment
		1/4"	Terrapene carolina	femur/humerus			1	0.36				diaphysis only
		1/4"	Terrapene carolina	ilium			1	0.24				fragment
		1/4"	Terrapene carolina	scapula			1	0.16				
		1/4"	Vertebrata	in determinant			1	3.27				
		1/4"	Gastropoda	partial			1	0.06				
		1/8" WS	Aves	indeterminate			4	0.33				
		1/8" WS	Aves	long bone			3	0.13				diaphysis
		1/8" WS	Mammalia	indeterminate			40	3.12	18			
		1/8" WS	Mammalia	tooth			1	0.05			1	
		1/8" WS	Mammalia, large	tooth			1	0.23				frag
		1/8" WS	Mammalia, small	caudal vertebra			2	0.16				
		1/8" WS	Mammalia, small	metacarpal/metatarsal			2	0.22				complete and proximal
		1/8" WS	Mammalia, small	phalange			1	0.07	1			proximal
		1/8" WS	Mammalia, small	tooth			1	0.02				
		1/8" WS	Osteichthyes	cranium			6	0.07				
		1/8" WS	Osteichthyes	dentary			1	0.01				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Osteichthyes	vertebra			3	0.02				
		1/8" WS	Other organic	indeterminate			15	0.01				
		1/8" WS	Serpentes	rib			2	0.09				
		1/8" WS	Testudines	carapace			5	0.27	2			
F. 110		1/4"	Castor canadensis	tibia			1	4.15				diaphysis fragment
		1/4"	Cervidae	antler			10	17.09	10			fragments
		1/4"	Mammalia, large	in determinant			59	79.57	51			flakes
		1/4"	Mammalia, medium	in determinant			34	10.88	29			fragments
		1/4"	Mammalia, medium	rib			1	1.16				fragments
		1/4"	Mammalia, medium to large	in determinant			48	14.5	43			fragments
		1/4"	Meleagris gallopavo	femur		1	1	1.91				flake
		1/4"	Odocoileus virginianus	phalange			1	3.75				epiphysis
		1/4"	Odocoileus virginianus	radius		1	1	7.06				flakes
		1/4"	Odocoileus virginianus	tooth			2	1.08				fragments
		1/4"	Odocoileus virginianus	ulna			1	0.97	1			fragments
		1/4"	Osteichthyes	cleithrum			1	0.06				
		1/4"	Sciurus spp.	humerus		1	1	0.17				distal epiphysis
		1/4"	Terrapene carolina	peripheral			1	0.31				fragments
		1/4"	Vertebrata	indeterminate			1	0.13				possible fish vertebra
		1/4"	Osteichthyes	atlas			1	0.13				
		1/4"	Unionidae	partial			1	1.92				
		1/4"	cf. Pleuroceridae	nearly complete			4	1.27				
		1/4"	cf. Goniobasis clavaeformis	body fragment			2	0.33				
		1/4"	cf. Hydrobiidae	body fragment			1	0.03				
		1/4"	Leptoxis praerosa	partial			1	0.21				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Polygyridae	body fragment			1	0.08				
		1/4"	Gastropoda	body fragment			3	0.15				
		1/4"	Testudines	carapace			1	1.72				
		1/4"	Mammalia	indet. fragments			1	0.35				
		1/4"	Mammalia, large	indet. fragments			13	5.73	13			all burned black
			Mammalia	bone flake			1	0.88		1		spiral fracture, smoothed
			Cervidae	antler beam			1	21.52	1	1		scored and snapped distally, rounded proximally, burned black, battered, smoothed and polished (mended by previous analyst)
F. 112			Mammalia	indet. fragments			13	8.64	2			
F. 114		1/4"	Unionidae	hinge		1	1	14.13				weathered
		1/4"	Bivalvia	hinge		1	1	0.23	1			
		1/4"	cf. Pleuroceridae	partial			1	0.62	1			
		1/8" WS	Mammalia	indeterminate			102	5.74	29			
		1/8" WS	Mammalia, large	tooth			1	0.07				enamel frag
		1/8" WS	Mammalia, small	long bone			2	0.15				metaphysis
		1/8" WS	Mammalia, small	metacarpal/metatarsal			1	0.02				distal
		1/8" WS	Mammalia, small	tarsal			1	0.09				
		1/8" WS	Osteichthyes	cranium			3	0.05				
		1/8" WS	Osteichthyes	preopercle			1	0.06				
		1/8" WS	Osteichthyes	vertebra			2	0.03	1			
		1/8" WS	Other organic	indeterminate			5	0.01				needs analysis
		1/8" WS	Ranidae	clavicle			1	0.04				
		1/8" WS	Serpentes	vertebra			2	0.05				
		1/8" WS	Testudines	carapace			9	0.49	4			frags
		1/8" WS	Testudines	peripheral			1	0.14				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Vertebrata	indeterminate			70	1.52	18			
F. 115		1/4"	Kinosternidae	costal			4	1.17				
		1/4"	Kinosternidae	marginals			3	0.72				
		1/4"	Mammalia	bone flakes			53	49.75	8			
		1/4"	Mammalia	bone fragments			129	58.72	55			
		1/4"	Mammalia	carpal/tarsal			1	1.1				
		1/4"	Mammalia	rib portion			1	1.43				
		1/4"	Mammalia	vertebral fragment			1	0.42				
		1/4"	Mammalia, medium	rib sections			3	2.36				
		1/4"	Mammalia, small to medium	mandible	1		1	1.06				
		1/4"	Meleagris gallopavo	humerus			1	2.69				
		1/4"	Odocoileus virginianus	auditory bulla		1	1	5.09				
		1/4"	Odocoileus virginianus	calcaneus	1		1	12.65			1	
		1/4"	Odocoileus virginianus	mandibular molar		1	1	4.06				
		1/4"	Odocoileus virginianus	metapodial			3	16.49			1	
		1/4"	Odocoileus virginianus	phalanx			1	1.31				
		1/4"	Odocoileus virginianus	premaxilla		1	1	1.12				
		1/4"	Serpentes	vertebra			2	0.37				
		1/4"	Sylvilagus spp.	mandible	1		1	0.89				
		1/4"	Sylvilagus spp.	phalanx			1	0.26				
		1/4"	Sylvilagus spp.	teeth			5	0.49				
		1/4"	Sylvilagus spp.	tibia		1	1	1.6				
		1/4"	Terrapene carolina	marginals			2	1.89				
		1/4"	Terrapene carolina	nuchal plastron			1	1.92				
		1/4"	Terrapene carolina	plastron			5	2.87				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Vertebrata	indeterminate			12	1.91				
		1/4"	Unionidae	hinge fragments			1	5.04				
		1/4"	Bivavlia	fragments			15	8.75				
		1/8" WS	Aves	indeterminate			1	0.06				
		1/8" WS	Mammalia	epiphysis			1	0.07				
		1/8" WS	Mammalia	indeterminate			53	4.89	35			
		1/8" WS	Mammalia, small	cranium			1	0.01				
		1/8" WS	Mammalia, small	mandible	1		1	0.02				
		1/8" WS	Mammalia, small	tooth			2	0.06				
		1/8" WS	Osteichthyes	indeterminate			1	0.04				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			5	0.04	1			
		1/8" WS	Rana / Bufo sp.	urostyle			1	0.02				
		1/8" WS	Sciuridae	incisor		2	2	0.06				
		1/8" WS	Serpentes	vertebra			4	0.09				
		1/8" WS	Testudines	carapace			8	0.85	2			
		1/8" WS	Vertebrata	indeterminate			288	6.47	65			
			Mammalia	phalanges		2	2	0.99				
			Mammalia	indet. fragments		2	2	1.14				
			Mammalia, large	bone flake			1	1.29		1		sharpened and pointed
			Mammalia, large	indet. fragments			1	1.17	1			burned black, tool?
			Cervidae	antler tine tip			1	1.23	1	1		broken, smashed, burned/calcined
F. 116	29	1/4"	Aves	indeterminate			1	0.36				
		1/4"	Cervidae	tooth fragments			1	0.23				
		1/4"	Mammalia	bone fragments			12	5.09	3			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, large	long bone flakes			3	8.64				
		1/4"	Terrapene carolina	marginal			3	0.72				
		1/4"	Testudines	indeterminate			3	0.71				
F. 117		1/4"	Aves, small to medium	indeterminate			1	0.32				
		1/4"	cf. Lepisosteidae	dentary			1	0.32				
		1/4"	Kinosternidae	costals			12	3.4				
		1/4"	Kinosternidae	marginals			5	1.76				
		1/4"	Mammalia	bone flakes			123	67.68	46			
		1/4"	Mammalia	bone fragments			209	65.65	69			
		1/4"	Mammalia	indeterminate			1	5.78				
		1/4"	Mammalia, medium	scapula			1	0.87				portion with glenoid fossa
		1/4"	Mammalia, medium to large	baculum			1	1.94				
		1/4"	Mammalia, medium to large	fragments			12	16.57				
		1/4"	Mammalia, small	humerus			1	1.03				distal portion
		1/4"	Meleagris gallopavo	sternum		1	1	2.49				
		1/4"	Odocoileus virginianus	astragalus		1	1	14.54				weathered
		1/4"	Odocoileus virginianus	auditory bulla		1	1	5.42				
		1/4"	Odocoileus virginianus	mandibular molar	1		1	2.32				
		1/4"	Odocoileus virginianus	metapodial			1	0.83				distal
		1/4"	Odocoileus virginianus	molar sections			2	0.65				
		1/4"	Odocoileus virginianus	pedocile			1	1.84				
		1/4"	Odocoileus virginianus	proximal phalanx			1	2.59				
		1/4"	Odocoileus virginianus	trapezoid magnum	1		1	3.86	1			carpal
		1/4"	Odocoileus virginianus	vertebra, lumbar			1	4.21				transverse process
		1/4"	Osteichthyes	vertebra			1	0.06				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Procyon lotor	tooth			1	0.33				
		1/4"	Serpentes	vertebra			1	0.1				
		1/4"	Terrapene carolina	long bone			1	0.57				nearly complete
		1/4"	Terrapene carolina	neural			1	1.43				has fused costals
		1/4"	Testudines	scapula			1	0.23				
		1/4"	Vertebrata	rib section			1	0.09				
		1/4"	Bivalvia	partial			1	0.14				
		1/4"	Bivalvia	hinge fragments			1	0.14	1			
		1/4"	Gastropoda	partial			1	0.1				
		1/4"	cf. Pleuroceridae	apex			1	0.11				
		1/4"	cf. CARP?	atlas			1	0.07				
		1/8" WS	Aves	indeterminate			1	0.01				
		1/8" WS	Aves	terminal phalanx			1	0.02				
		1/8" WS	Mammalia	indeterminate			170	12.51	78			
		1/8" WS	Mammalia	tooth			1	0.02				frag
		1/8" WS	Mammalia, small	femur		1	1	0.01			1	
		1/8" WS	Mammalia, small	patella			1	0.12				
		1/8" WS	Mammalia, small	tooth			1	0.03				frag
		1/8" WS	Osteichthyes	dentary			1	0.01				
		1/8" WS	Osteichthyes	spine			1	0.01				
		1/8" WS	Osteichthyes	vertebra			2	0.02				
		1/8" WS	Sciuridae	calcaneus	1		1	0.17				
		1/8" WS	Serpentes	rib			2	0.01				
		1/8" WS	Serpentes	vertebra			5	0.11				
		1/8" WS	Testudines	carapace			7	0.59	3			
		1/8" WS	Vertebrata	indeterminate			182	4.92	24			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia	indet. fragments			7	2.51	3	1		2 burned; 1 burned and polished
F. 118		1/4"	Kinosternidae	costal			2	0.48	1			
		1/4"	Kinosternidae	marginal			4	1.24	3			
		1/4"	Mammalia	bone flakes			32	52.02	5			
		1/4"	Mammalia	bone fragments			147	68.65				
		1/4"	Mammalia	fragments			3	1.83				
		1/4"	Mammalia	mandible			2	1.29				
		1/4"	Mammalia	tooth			1	0.35				
		1/4"	Mammalia, small to medium	caudal vertebrae			1	0.26				
		1/4"	Meleagris gallopavo	tarsometatarsus			3	3.88				spur = male bird
		1/4"	Meleagris gallopavo	tibiotarsus			1	1.05	1			
		1/4"	Odocoileus virginianus	astragalus		1	1	19.21				
		1/4"	Odocoileus virginianus	calcaneus	1	2	3	40.03		1	3	1with cut marks
		1/4"	Odocoileus virginianus	metatarsal			1	4.66				
		1/4"	Odocoileus virginianus	terminal phalanx			1	2.87				
		1/4"	Odocoileus virginianus	tooth sections			6	5.55				
		1/4"	Serpentes	vertebra			2	0.28				
		1/4"	Sylvilagus spp.	mandible			1	0.91				
		1/4"	Sylvilagus spp.	phalanges			2	0.12				
		1/4"	Sylvilagus spp.	teeth			4	0.52				
		1/4"	Terrapene carolina	costal			7	5.32				
		1/4"	Terrapene carolina	marginal			1	0.73				
		1/4"	Terrapene carolina	plastron			5	5.91				
		1/4"	Vertebrata	fragments			4	0.93				
		1/4"	Bivalvia	partial			1	1.14				and dust

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Aves	indeterminate			1	0.05				shaft frag
		1/8" WS	Aves	long bone			1	0.03				
		1/8" WS	Mammalia	indeterminate			136	9.19	79			
		1/8" WS	Mammalia, medium to large	rib			1	0.19				frag
		1/8" WS	Mammalia, medium to large	tooth			1	0.02				frag
		1/8" WS	Mammalia, small	metacarpal/metatarsal			1	0.07				distal
		1/8" WS	Mammalia, small	vertebra			1	0.05				
		1/8" WS	Osteichthyes	vertebra			2	0.02				
		1/8" WS	Rana / Bufo sp.	vertebra			2	0.04				
		1/8" WS	Ranidae	astragalus-calcaneus			1	0.04				
		1/8" WS	Serpentes	vertebra			2	0.06				
		1/8" WS	Testudines	carapace			4	0.17				frags
		1/8" WS	Vertebrata	indeterminate			59	1.52	4			
		1/8" WS	Vertebrata	vertebra			1	0.01				
		1/8" WS	Mammalia	indeterminate			1	0.49				
		1/8" WS	Mammalia	longbone fragment			1	0.8		1		smoothed, possibly part of a bone point?
		1/8" WS	Cervidae	antler tine tip			1	0.92		1		rounded from working, scored and snapped?
		1/8" WS	Mammalia	indet. fragments			2	1.07	2			not "tools"
F. 119		1/4"	Aves	indeterminate			3	1.21	2			
		1/4"	Kinosternidae	marginal			1	0.32	1			
		1/4"	Mammalia	bone flakes			4	3.76				
		1/4"	Mammalia	bone fragments			42	15.24	14			
		1/4"	Mammalia, small	vertebra			1	0.2				fragment
		1/4"	Odocoileus virginianus	metapodial			1	1.79				shaft portion
		1/4"	Odocoileus virginianus	phalanges			3	3.37				2 proximal, 1 distal

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Serpentes	vertebra			1	0.14				
		1/4"	Terrapene carolina	indeterminate			1	0.73	1			
		1/4"	Testudines	indeterminate			5	1.3	2			
		1/4"	Mammalia	indeterminate			4	1.47				
F. 120		1/4"	Mammalia	bone fragments			10	4.05	4			
		1/4"	Odocoileus virginianus	metapodial			1	3.22		1		cut marks, shaft
F. 121		1/4"	Mammalia	fragment			12	1.89	2			small fragments. Gray and white burn on 2.
		1/4"	Mammalia, large	long bone flake			13	23.57	3			fragments. Black burn on 3
		1/4"	Mammalia, medium	phalange			1	0.33				complete
		1/4"	Mammalia, medium	radius			1	1.24				distal end. Small fragment.
		1/4"	Odocoileus virginianus	premolar			1	1.86				3rd premolar on mandible
		1/4"	Odocoileus virginianus	rib		1	1	0.7				proximal end- fragment. Medial end broken off.
		1/4"	Odocoileus virginianus	vertebra, sacral			1	6.38			1	Unfused. Juvenile. Almost complete.
		1/4"	Terrapene carolina	costal			2	0.68				small fragments
		1/4"	Terrapene carolina	peripheral			1	0.59				almost complete
		1/4"	Terrapene carolina	plastron			1	0.69				fragment
		1/4"	Vertebrata	indeterminate			3	5.93				fragment
		1/4"	Terrapene carolina	marginal			1	0.82				not modified
		1/4"	Cervidae	antler tine			1	9.07		1		distally cut and smoothed, some weathering
		1/4"	Cervidae	antler tip			1	2.98		1		mended, hollowed
F. 122		1/4"	Kinosternidae	costal			1	0.12				almost complete
		1/4"	Mammalia, medium	long bone fragment			2	0.31				small fragment
F. 123		1/4"	Aves, large	cuniform		1	1	0.56	1			complete
		1/4"	Aves, small to medium	long bone fragment			1	0.19				fragment
		1/4"	Kinosternidae	costal			2	0.3				fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Kinosternidae	peripheral			3	0.56	2			black burn/weathering on 2
		1/4"	Mammalia	fragment			60	11.71	18			Fragments. 15 black burn. 3 white burn
		1/4"	Mammalia, large	fragment			74	26.95	31			Fragments. 15 black burn. 8 white and blue burn. 8 white burn
		1/4"	Mammalia, large	long bone flake			44	36.93	13			4 white burn. 9 black burn
		1/4"	Meleagris gallopavo	coracoid		1	1	0.78				fragment
		1/4"	Meleagris gallopavo	long shaft			1	2.19				fragment
		1/4"	Odocoileus virginianus	carpal/tarsal			2	4.53				same size and same side. Two
		1/4"	Odocoileus virginianus	phalange			1	1.37				small fragment
		1/4"	Odocoileus virginianus	phalanx			1	0.86				fragment
		1/4"	Odocoileus virginianus	tooth fragment			1	0.17				small fragments
		1/4"	Serpentes	vertebra			1	0.37				complete
		1/4"	Terrapene carolina	costal			2	1.56	2			black burn/weathering on few
		1/4"	Terrapene carolina	peripheral			2	0.95				
		1/4"	Testudines	costal			6	1.61				
		1/4"	Testudines	fragment			9	2.26	6			1 white burn. 5 black burn
		1/4"	Testudines	peripheral			2	0.76				fragment
		1/4"	Testudines	plastron			10	2.54	3			
		1/4"	Trionyx ferox	costal			1	0.22				almost complete
		1/4"	Vertebrata	indeterminate			3	0.21	1			
		1/8" WS	Mammalia	femur			1	0.03			1	epiphysis
		1/8" WS	Mammalia	indeterminate			133	18.64	56	1		
		1/8"WS	Mammalia	bone flake			3	1.59	3	3		burned and polished
		1/8" WS	Mammalia	maxilla			1	0.03	1			frag
		1/8" WS	Mammalia	metacarpal/metatarsal			1	0.07				proximal

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia	tooth			1	0.02			frag	
		1/8" WS	Osteichthyes	cranium			4	0.15				
		1/8" WS	Osteichthyes	dentary			1	0.02				frag
		1/8" WS	Osteichthyes	vertebra			2	0.08				
		1/8" WS	Rana / Bufo sp.	vertebra			1	0.01				
		1/8" WS	Rodentia	incisor			1	0.01				frag
		1/8" WS	Serpentes	vertebra			6	0.23				
		1/8" WS	Testudines	carapace			10	0.49	1			
		1/8" WS	Vertebrata	indeterminate			49	1.17	11			
F. 124		1/4"	Aves	indeterminate			8	6.73	2			Fragment2
		1/4"	Aves, large	coracoid		1	1	1.31				complete
		1/4"	Aves, large	vertebra			1	0.54	1			complete
		1/4"	Castor candensis	premolar	1		1	1.76				complete
		1/4"	Didelphis marsupalis	dentary	1		1	0.98				small fragment
		1/4"	Kinosternidae	costal			1	0.76				not complete
		1/4"	Mammalia	indeterminate			6	8.24				fragment
		1/4"	Mammalia	long bone fragment			30	12.91	5			Fragments. 2 white burn. 3 black burn.
		1/4"	Mammalia, large	long bone flake			35	72.5	9			8 black burn. 1 white burn
		1/4"	Mammalia, medium	cranium			1	0.21				small fragment
		1/4"	Mammalia, medium	dentary	1		1	2.05				not complete. One tooth.
		1/4"	Mammalia, medium	indeterminate			2	0.95				same shape
		1/4"	Mammalia, medium	inominate	1		1	0.64	1			fragment
		1/4"	Mammalia, medium	long bone fragment			1	4.58				most of shaft
		1/4"	Mammalia, small to medium	tibia	1		1	0.54				distal end and shaft
		1/4"	Odocoileus virginianus	metacarpal		1	1	4.19				proximal end. Not complete. Some shaft

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Odocoileus virginianus	metapodial			3	4.2	1			1 blue/white burn
		1/4"	Odocoileus virginianus	molar	1		1	2.63				some wear. Not complete. Dentary
		1/4"	Odocoileus virginianus	premolar	1		1	1.68				not complete
		1/4"	Odocoileus virginianus	scapula			1	5.27				proximal end
		1/4"	Rodentia	femur	1	1	2	0.3				one left and one right. Same size
		1/4"	Rodentia	humerus		1	1	0.05				complete
		1/4"	Rodentia	indeterminate			1	0.08				
		1/4"	Rodentia	inominate	1	1	2	0.16				one left and one right. Same size. One is missing part of proximal epiphysis
		1/4"	Rodentia	tibia	1	1	2	0.19				more tibia small fragment of fibulas. One left and right. Same size
		1/4"	Terrapene carolina	costal			4	3.33				fragments
		1/4"	Terrapene carolina	neural			1	0.38				fragment
		1/4"	Terrapene carolina	peripheral			2	3.57				1 is just a single peripheral. The other is more than one fused peripheral.
		1/4"	Testudines	carapace			4	1.8				fragments
		1/4"	Testudines	indeterminate			3	0.81	3			1 gray burn. 1 black burn. 1 white burn.
		1/4"	Bivalvia	partial			2	2				
		1/4"	cf. Goniobasis clavaeformis	nearly complete			2	0.26	1			
		1/4"	cf. Pleuroceridae	nearly complete			5	1.76				
		1/8" WS	Mammalia	indeterminate			27	1.81	4			
		1/8" WS	Mammalia	longbone fragment			1	0.98		1		smoothed
		1/8" WS	Mammalia	longbone fragment			1	0.46		1		smoothed and polished
		1/8" WS	Mammalia	indet. fragments			1	0.2	1	1		smoothed, polished, burned
		1/8" WS	Serpentes	vertebra			1	0.01				
		1/8" WS	Testudines	carapace			8	0.47	2			
		1/8" WS	Vertebrata	indeterminate			34	0.32	7			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
125	30, 31	1/4"	Aves	vertebra			2	0.32				fragments
		1/4"	Aves, large	long bone fragment			2	2.25				fragments
		1/4"	Aves, small	humerus			2	0.24				diaphysis
		1/4"	Aves, small	long bone shaft			3	0.68				diaphysis
		1/4"	Aves, small to medium	coracoid		1	1	0.36				needs to be identified. Not complete
		1/4"	Aves, small to medium	long bone fragment			36	12.28				fragment
		1/4"	Aves, small to medium	long bone fragment			2	0.85	2			fragment
		1/4"	Aves, small to medium	long bone shaft			1	1.68				diaphysis
		1/4"	c.f. Procyon lotor	dentary	1		1	5.82				has one tooth. Heavy wear
		1/4"	cf. Odocoileus virginianus	calcaneus	1		1	17.95				almost complete
		1/4"	Didelphis marsupalis	baculum			1	0.79				proximal
		1/4"	Kinosternidae	costal			4	0.58				2 mend to 1.
		1/4"	Kinosternidae	neural			1	0.26				fragment
		1/4"	Kinosternidae	peripheral		1	3	0.82				2 fragments. 1 is 9th peripheral
		1/4"	Mammalia	canine			1	0.28				end off
		1/4"	Mammalia	bone fragment			3	1.55	1			burned black
		1/4"	Mammalia, large	femur			1	3.75				part of proximal end of epiphysis
		1/4"	Mammalia, large	fragment			285	64.87	36			
		1/4"	Mammalia, large	long bone flake			100	150.05	23			77 spiral fragments. 10-white burn. 13 black burn.
		1/4"	Mammalia, medium	carpal/tarsal			1	0.65				complete
		1/4"	Mammalia, medium	cranium			3	14.13				to be identified. 3 mends into 1
		1/4"	Mammalia, medium	fragment			5	1.97				
		1/4"	Mammalia, medium	long bone fragment			1	0.84	1			white burn
		1/4"	Mammalia, medium	phalange			1	0.17				fragment
		1/4"	Mammalia, medium	radius			1	1.64				proximal epiphysis

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, medium to large	indeterminate			53	16.98				
		1/4"	Mammalia, small	humerus		1	1	1.46				fragment of distal end
		1/4"	Mammalia, small	long bone fragment			1	0.16				
		1/4"	Odocoileus virginianus	astragalus		1	1	15.2				complete
		1/4"	Odocoileus virginianus	carpal			1	4.73				complete
		1/4"	Odocoileus virginianus	carpal/tarsal			1	4.26				almost complete
		1/4"	Odocoileus virginianus	dentary	2		2	1.41	1			fragments. 1 fragment of diastama
		1/4"	Odocoileus virginianus	dentary	1		1	5.93				fragment. Has 1st and 2nd premolar. Root of 3rd premolar
		1/4"	Odocoileus virginianus	humerus		1	1	18.64				diaphysis fragment. Spiral flake
		1/4"	Odocoileus virginianus	metacarpal	2		2	22.46				fragments of proximal epiphysis
		1/4"	Odocoileus virginianus	metapodial			2	10.95			1	1 Juvenile. Distal epiphysis
		1/4"	Odocoileus virginianus	molar	1		1	3.09				2nd molar of cranium. No root
		1/4"	Odocoileus virginianus	phalange	1		3	14.97				1 is terminal
		1/4"	Odocoileus virginianus	radius	1		1	15.06				proximal epiphysis
		1/4"	Odocoileus virginianus	rib		1	1	3.16				Proximal end. Fragment.
		1/4"	Odocoileus virginianus	tooth			4	2.16				
		1/4"	Odocoileus virginianus	vertebra			12	15.31				Fragments. 2 lumbar
		1/4"	cf. Odocoileus virginianus	antler base where cut from pedicle			1	109.79		1		hole cut from palm/base; cut marks near base of first tine; mended by previous analyst
		1/4"	Procyon lotor	atlas			1	1.5				missing processes
		1/4"	Sciurus niger	cranium			1	0.4				almost complete premaxilla.
		1/4"	Sciurus niger	humerus		1	1	0.99				almost complete
		1/4"	Sciurus niger	inominate		1	1	1.13				complete
		1/4"	Sciurus niger	phalange			1	0.14				complete
		1/4"	Sciurus niger	scapula	1		1	0.18				fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Terrapene carolina	costal		1	1	1.06				1st right costal
		1/4"	Terrapene carolina	costal			1	2.96				near complete. Little neural
		1/4"	Terrapene carolina	neural			1	1.74				fragment
		1/4"	Terrapene carolina	nuchal			1	0.77				fragment
		1/4"	Terrapene carolina	peripheral		1	2	5.2				
		1/4"	Terrapene carolina	plastron	1	1	2	2.6				part of Left and Right hypoplastron and xiphplastron
		1/4"	Terrapene carolina	plastron			4	5.99				
		1/4"	Terrapene carolina	pygal			1	1.32				almost complete
		1/4"	Testudines	fragment			9	2.78				fragments
		1/4"	Testudines	plastron fragment			1	0.22	1			burned black
		1/4"	Emydidae	carapace fragment			1	1.01				not modified
		1/4"	Lampsilis ovata	hinge		1	5	40.99				
		1/4"	Bivalvia	partial				13.89				too fragmented to count
		1/4"	Gastropoda	fragments			5	1.17				
F. 126		1/4"	Aves	long bone fragment			2	0.56				fragment
		1/4"	Mammalia	long bone fragment			11	3.35	5			3 black burn. 1 white burn. 1 black and white burn.
		1/4"	Mammalia, large	fragment			9	3.31				fragments
		1/4"	Mammalia, large	long bone flake			13	35.76				
		1/4"	Mammalia	indeterminate			3	1.33				
		1/4"	Meleagris gallopavo	coracoid			1	0.7				distal end.
		1/4"	Odocoileus virginianus	scapula	1		1	21.05				proximal end
		1/4"	Sciurus niger	cranium			1	0.21				small fragment
		1/4"	Testudines	costal			2	0.46				fragments
F. 127		1/4"	Aves	long bone fragment			8	3.69				fragments
		1/4"	Kinosternidae	costal			1	0.18				around half

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Lynx rufus	atlas			1	3.71				almost complete
		1/4"	Mammalia, large	cranium			2	4.18				fragments
		1/4"	Mammalia, large	long bone flake			20	36.73				fragments
		1/4"	Mammalia, large	long bone flake			3	2.07	3			blue/gray burn
		1/4"	Mammalia, medium	long bone fragment			3	2.07				fragment
		1/4"	Mammalia, small	long bone fragment			1	0.06				small fragment
		1/4"	Odocoileus virginianus	calcaneus		1	1	10.8				proximal end and part of shaft.
		1/4"	Odocoileus virginianus	cranium	1		3	8.17				Cranium. 2 teeth out fit into. Heavy wear.
		1/4"	Odocoileus virginianus	dentary		1	1	7.68				ascending ramus
		1/4"	Odocoileus virginianus	metacarpal		1	1	7.58				proximal end. Half of epiphysis
		1/4"	Odocoileus virginianus	metapodial			2	7.55				long bone fragments
		1/4"	Odocoileus virginianus	phalange			1	1.79				proximal end
		1/4"	Odocoileus virginianus	tooth			1	0.72				heavy wear
		1/4"	Terrapene carolina	costal			2	1.91				almost complete
		1/4"	Terrapene carolina	neural			1	2.47				
		1/4"	Terrapene carolina	plastron			1	1.2				fragment
		1/4"	Vertebrata	indeterminate			1	0.08	1			black burn. Jagged
		1/4"	Unionidae	hinge	1		1	0.45				
		1/4"	cf. Pleuroceridae	nearly complete			4	0.86				
		1/4"	cf. Goniobasis clavaeformis	partial			5	0.39				
		1/8" WS	Aves	indeterminate			3	0.01				
		1/8" WS	Aves	long bone			1	0.01				
		1/8" WS	cf. Scalopus aquaticus	mandible	1	1	2	0.06				
		1/8" WS	Mammalia	indeterminate			36	1.95	20			
		1/8" WS	Mammalia	bone flake			1	0.38		1		sharpened and polished
		1/8" WS	Mammalia	longbone fragment			1	0.6		1		sharpened but broken

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/8" WS	Mammalia, medium	phalange			1	0.06				proximal
		1/8" WS	Mammalia, small	caudal vertebra			1	0.01				
		1/8" WS	Mammalia, small	humerus		1	1	0.01				
		1/8" WS	Mammalia, small	long bone			1	0.01			1	fragments
		1/8" WS	Mammalia, small	rib			2	0.01				medial portion
		1/8" WS	Mammalia, small	scapula		1	1	0.02	1			fragments
		1/8" WS	Mammalia, small	tooth			1	0.03	1			
		1/8" WS	Osteichthyes	cranium			2	0.04				
		1/8" WS	Osteichthyes	vertebra			3	0.02				
		1/8" WS	Other organic	indeterminate			5	0.04				scale-like, needs analysis
		1/8" WS	Rana / Bufo sp.	urostyle			1	0.03				
		1/8" WS	Rodentia	incisor			2	0.01				
		1/8" WS	Rodentia	mandible	2	3	5	0.16				fragments
		1/8" WS	Rodentia	maxilla		2	3	0.02				fragments
		1/8" WS	Serpentes	rib			1	0.02				
		1/8" WS	Serpentes	vertebra			6	0.11				
		1/8" WS	Vertebrata	indeterminate			62	1.66	12			
P. 1		1/4"	Mammalia, medium to large	fragment			6	1.26	2			
		1/4"	Mammalia, medium to large	long-bone flake			1	0.62				
		1/4"	Testudines	carapace			1	0.12	1			fragment
P. 3		1/4"	Mammalia	fragment			2	0.45	2			
P. 5		1/4"	Mammalia	long-bone flake			2	0.74	1			
P. 6		1/4"	Mammalia, medium to large	fragment			1	0.21				
P. 6		1/4"	Vertebrata	fragment			1	0.1				
P. 7		1/4"	Mammalia, medium to large	fragment			2	0.67				

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
P. 9		1/4"	Mammalia, medium to large	long-bone flake			8	6.18	8			
			Mammalia, large	bone flake			1	2.6	1	1		burned, polished, "scratch" smoothing marks
P. 13		1/4"	Mammalia	long-bone flake			1	0.21	1			
		1/4"	Mammalia, small to medium	fragment			1	0.33				
P. 14		1/4"	Mammalia, medium to large	long-bone flake			5	5.06				
P. 15		1/4"	Mammalia	fragment			2	0.48	1			
P. 17		1/4"	Mammalia	fragment			2	0.64				
P. 18		1/4"	Mammalia, medium to large	long-bone flake			1	0.55				
		1/4"	Testudines	fragment			3	0.39	3			
P. 19		1/4"	Mammalia, large	metapodial			1	1.68				fragment
		1/4"	Mammalia, medium to large	fragment			2	1.8	2			
P. 20		1/4"	Mammalia	fragment			8	2.86	1			broken epiphysis
		1/4"	Mammalia	long-bone flake			3	1.08	2			
		1/4"	Testudines	fragment			6	1.28	4			
P. 21		1/4"	Mammalia, medium to large	fragment			1	0.55				epiphysis fragment
		1/4"	Vertebrata	fragment			2	0.41	2			
P. 22		1/4"	Mammalia, medium	long-bone flake			1	0.26	1			
		1/4"	Mammalia, medium to large	long-bone flake			1	0.48	1			
P. 23		1/4"	Aves	fragment			1	0.11				
		1/4"	Mammalia	fragment			1	0.3	1			
		1/4"	Mammalia, medium to large	fragment			3	1.37	3			
		1/4"	Testudines	fragment			1	0.31	1			
P. 25		1/4"	Cervidae	molar		1	1	1.28				right maxillary molar
		1/4"	Mammalia, medium to large	fragment			3	1.39	3			
P. 26		1/4"	Mammalia, medium to large	long-bone flake			2	2.42	1			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
P. 27		1/4"	Mammalia, large	long-bone flake			1	1.68	1			
		1/4"	Mammalia, medium	fragment			1	0.28				
		1/4"	Mammalia, medium	long-bone flake			1	0.53	1			
		1/4"	Vertebrata	fragment			1	0.17	1			
P. 28		1/4"	Mammalia	fragment			2	0.75	2			
		1/4"	Vertebrata	fragment			1	0.17				
P. 29		1/4"	Mammalia	fragment			1	0.19				
		1/4"	Mammalia	long-bone flake			1	0.71				
P. 30		1/4"	Mammalia, medium to large	fragment			1	0.34	1			chalky texture
		1/4"	Mammalia, medium to large	long-bone flake			3	1.37				
P. 31			Mammalia, large	bone flake			1	1.53	1	1		polished, burned (light grey/tan)
P. 32		1/4"	Mammalia	long-bone flake			2	0.66				
		1/4"	Testudines	carapace			1	0.17				fragment
P. 33		1/4"	Cervidae	tooth fragment			1	0.62				
		1/4"	Mammalia, large	long-bone flake			1	2.52				
		1/4"	Mammalia, medium to large	fragment			2	0.74	1			
		1/4"	Testudines	carapace			2	0.63				fragment
		1/4"	Testudines	plastron			1	0.2				fragment
P. 34		1/4"	Mammalia	fragment			4	0.62				
P. 35		1/4"	Mammalia	fragment			4	0.95	4			
		1/4"	Mammalia, large	long-bone flake			1	1.03				
		1/4"	Sciurus spp.	mandible	1		1	0.2				
		1/4"	Testudines	carapace			1	0.04				fragment
		1/4"	Vertebrata	fragment			4	0.09				
P. 36		1/4"	Kinosternidae	costal			1	0.24				fragment

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
		1/4"	Mammalia, large	fragment			1	0.72				
		1/4"	Mammalia, large	long-bone flake			1	1.56				
		1/4"	Mammalia, medium to large	long-bone flake			2	0.53	1			
		1/4"	Testudines	carapace			1	0.13				fragment
P. 37		1/4"	Mammalia, medium to large	fragment			2	0.74	1			
P. 38		1/4"	Mammalia, large	fragment			1	1.09	1			
		1/4"	Mammalia, medium to large	fragment			5	1.77	2			
		1/4"	Testudines	long-bone flake			1	0.12	1			
		1/4"	Vertebrata	fragment			1	0.11	1			
P. 39		1/4"	Mammalia, small to medium	long-bone flake			1	0.28				
P. 40		1/4"	Mammalia, medium to large	fragment			2	0.56				
		1/4"	Testudines	costal			2	0.34	1			fragment
P. 42		1/4"	cf. Odocoileus virginianus	fragment		1	1	4.13				right occipital condyle
		1/4"	Mammalia	fragment			2	0.24	2			
		1/4"	Mammalia, large	long-bone flake			1	0.49				
		1/4"	Mammalia, medium to large	fragment			7	3.58	4			3 epiphyses fragments
P. 43		1/4"	Testudines	carapace			1	0.17	1			fragment
		1/4"	Vertebrata	fragment			1	0.26				
P. 44		1/4"	Mammalia, medium to large	fragment			2	0.36				
		1/4"	Terrapene carolina	nuchal			1	1.56				
P. 45		1/4"	Mammalia, medium to large	long-bone flake			1	0.39				
		1/4"	Vertebrata	fragment			1	0.11				
P. 46		1/4"	Mammalia	fragment			2	0.26				
		1/4"	Mammalia, large	long-bone flake			1	0.8	1			
		1/4"	Mammalia, small to medium	fragment			3	0.92	3			

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
P. 49		1/4"	Sciurus spp.	fragment	1		1	0.22				left humerus distal articular surface
		1/4"	Testudines	plastron			1	0.34				fragment
P. 50		1/4"	Mammalia, small to medium	fragment			1	0.21	1			
		1/4"	Mammalia, small to medium	fragment			1	0.1				
P. 52		1/4"	Mammalia	long-bone flake			1	0.06	1			
		1/4"	Osteichthyes	fragment			1	0.04				cranial fragment
P. 56		1/4"	Mammalia	long-bone flake			1	0.54	1			
P. 58		1/4"	Vertebrata	fragment			1	0.45				
P. 59		1/4"	Mammalia, medium to large	fragment			1	0.45	1			
P. 61		1/4"	Mammalia, medium to large	fragment			4	1.18	2			
P. 63		1/4"	Mammalia	fragment			1	0.27	1			
		1/4"	Testudines	carapace			1	0.79				fragment
P. 64		1/4"	Mammalia, small to medium	long-bone flake			1	0.12				
		1/4"	Osteichthyes	fragment			1	0				
P. 65		1/4"	Terrapene carolina	carapace			1	0.44				fragment
		1/4"	Testudines	carapace			1	0.31				fragment
P. 66		1/4"	Mammalia, large	fragment			1	0.94				
		1/4"	Mammalia, medium to large	fragment			9	3.44	7			
		1/4"	Mammalia, medium to large	long-bone flake			1	1.79				
P. 67		1/4"	Mammalia, medium to large	fragment			6	2.44	4			
P. 69		1/4"	Mammalia, large	long-bone flake			1	1.64				
P. 70		1/4"	Cervidae	tooth fragment			1	0.17				
P. 72		1/4"	Mammalia, medium to large	long-bone flake			1	0.34	1			
		1/4"	Testudines	fragment			1	0.52				
P. 74		1/4"	Rodentia	mandible		1	1	0.13				presence of mental foramina

Provenience	Burial #	Sample Type	Taxon	Element	L	R	Count	Weight (g)	Heat Alt.	Modif.	Unfused	Comments
P. 75		1/4"	Mammalia, medium to large	fragment			3	1.26	1			
P. 76		1/4"	Aves	long-bone flake			1	0.2				
P. 77		1/4"	Mammalia, medium to large	long-bone flake			1	0.89	1			
P. 78		1/4"	Mammalia	long-bone flake			1	0.7				
		1/4"	Vertebrata	fragment			1	0.12	1			
				TOTAL	**185**	**224**	**19492**	**9272.7**	**5967**	**311**	**50**	
				NON MORTUARY, NON STRUCTURE	**155**	**196**	**17567**	**7742.24**	**5538**	**289**	**48**	

APPENDIX G: SPECIFIC ELEMENT AND PRIMARY DATA FOR DOG BURIALS

PRIMARY DATA FOR *CANIS FAMILIARIS*, FEATURE 8/BURIAL 32

Element	Side	Count	Weight (g)
atlas		1	4.27
axis		1	4.75
baculum fragment		1	0.43
cervical vertebrae		6	16.83
cranium fragments		30	34.69
distal phalanx		1	0.01
disturbed bones		44	37
femur	left	1	13.2
femur	right	1	12.41
fibula fragments	left	2	0.4
humerus	left	1	14.35
humerus	right	1	13.81
lumbar vertebrae		6	21.61
mandible canine	left	1	1.09
mandible canine	right	1	1.25
mandible fragment	left	1	11.67
mandible fragment	right	1	19.17
mandible fragment	left	1	6.69
mandible M1	left	1	1.64
mandible M1	right	1	(in mandible fragment)
mandible M2	left	1	(in mandible fragment)
mandible M2	right	1	(in mandible fragment)
mandible M3	right	1	(in mandible fragment)
mandible P1	right	1	(in mandible fragment)
mandible P2	left	1	(in mandible fragment)
mandible P2	right	1	(in mandible fragment)
mandible P3	left	1	(in mandible fragment)
mandible P3	right	1	(in mandible fragment)
mandible P4	left	1	(in mandible fragment)
mandible P4	right	1	0.28
maxilla canine	left	1	1.19
maxilla canine	right	1	1.26
maxilla fragment	right	1	9.55
maxilla P2	left	1	0.27
maxilla P2	right	1	(in maxilla fragment)
maxilla P3	left	1	0.35
maxilla P3	right	1	(in maxilla fragment)
maxilla P4	left	1	(in maxilla fragment)
maxilla P4	right	1	(in maxilla fragment)
metacarpals/fragments		9	6.9
metatarsals		7	7.31
middle phalanx		4	0.83
pelvis fragments		2	2.89
proximal phalanx		1	0.36
proximal phalanx		7	2.44
radius	left	1	6.15
radius	right	1	6.72
ribs/rib fragments		67	43.77
sacrum		1	4.64
scapula	left	1	7.06
scapula fragments	right	12	4.75
thoracic vertebrae		13	28.57
tibia	left	1	12.5
tibia	right	1	11.5
ulna	left	1	5.9
ulna	right	1	5.67

PRIMARY DATA FOR *CANIS FAMILIARIS*, FEATURE 93/BURIAL 25

Element	Side	Count	Weight (g)
atlas		1	3.5
axis		1	5.03
baculum		1	0.82
carpals	left	4	0.9
carpals	right	3	0.87
caudal vertebrae		7	2.2
cervical vertebrae		5	19.44
femur	left	1	20.82
femur	right	1	19.67
foot elements		5	1.35
humerus	left	2	19.78
humerus	right	1	18.43
lumbar vertebrae		9	26.6
mandible	left	1	11.3
mandible	right	1	15.87
mandible canine	left	1	1.41
mandible canine	right	1	1.43
mandible incisor	left	1	0.22
mandible incisor	left	1	0.22
mandible incisors		5	0.83
mandible M1	left	1	20.3
mandible M2	left	1	0.37
mandible M3	left	1	0.06
mandible P1	left	1	0.08
mandible P2	left	1	0.25
mandible P2	right	1	0.25
mandible P3	left	1	0.32
mandible P3	right	1	0.36
mandible P4	left	1	0.37
mandible P4	right	1	0.5
maxilla	left	2	9.25
maxilla	right	2	6.84
maxilla canine	left	1	1.39
maxilla canine	right	1	1.38
maxilla incisor	right	2	0.4
maxilla M1	left	1	1.36
maxilla M1	right	1	1.35
maxilla M2	left	1	0.33
maxilla M2	right	1	0.32
maxilla P1	left	1	0.41
maxilla P1	right	1	0.47
maxilla P2	left	1	0.5
maxilla P2	right	1	0.31
maxilla P3	left	1	0.49
maxilla P3	right	1	0.49
maxilla P4	left	1	1.65
maxilla P4	right	1	1.72
metatarsals	left	5	4.13
metatarsals	right	6	6.69
pelvis		13	23.59
radius	left	2	9
radius	right	1	3.12
ribs		57	42.64
sacrum		1	8.46
scapula	right	2	5.84
thoracic vertebrae		10	15.99
tibia	left	1	13.41
tibia	right	1	17.48
ulna	left	1	5.78
ulna	right	1	5.06
unidentifiable fragments			110.73
vertebrae		6	1.48

POSTRCRANIAL MEASUREMENTS ON DOG BURIALS

Measurement	Feature 8, Burial 32	Feature 93, Burial 25
	millimeters	millimeters
Humerus length	123.87	134.09
Proximal humerus depth	32.72	--
Radius length	123.21	132.13
Humerus + radius length	247.08	266.22
Femur length	130.68	142.98
Depth of femoral head	--	14.96
Tibia length	136.93	143.88
Femur + tibia length	359.68	286.86

APPENDIX H: BOTANICAL DATA

BOTANICAL MATERIALS FROM TEMPORALLY SENSITIVE NON-MORTUARY PIT FEATURES

Notes: * Acorn or walnut shell remaining in the 1 mm and 0.025mm screens.
Recovery techniques: 1 = Flotation; 2 = 1/4" screen ; 3 = 1/8" screen

Provenience	Recovery	Hickory Nutshell	Walnut Shell	Acorn	Butternut	Hazelnut	Seeds/Fruits	Total Plant Foods	Wood Charcoal	Residual	Total (g)
F. 3 NNW½	1	2	<0.01					2	0.02	2	4.02
Zone B	2	0.12			0.1			0.22			0.22
	3	1.7	0.3	<0.01				2	0.53		2.53
F. 4 Zone A	1	0.3		<0.01				0.3	0.1	0.32	0.72
	3	0.53	0.02					0.55	0.31		0.86
F. 7	1	0.21	0.1					0.31	0.5	0.02	0.83
	2							0	0.8		0.8
	3	0.5	0.05					0.55	0.4	0.4	1.35
F. 9	1	1	<0.01	<0.01			<0.01	1	0.1	0.6	1.7
	2	0.8	0.02					0.82	0.9		1.72
	3	0.5	0.01	<0.01				0.51	0.8	0.42	1.73
F. 11	1	0.3	0.1	*			<0.01	0.4	0.02	0.4	0.82
	3	0.7	0.05	*				0.75	0.11		0.86
F. 15	1	0.7	0.01	*	<0.01			0.71	0.01	0.6	1.32
	2	0.32						0.32			0.32
	3	1.9	0.3	0.01	<0.01			2.21	0.3		2.51
F. 16	1	0.32	*	*				0.32	0.03	0.7	1.05
	2				0.02			0.02	0.25		0.27
	3	0.93	0.01	0.01				0.95	0.33		1.28
F. 18	1	0.3	0.1	0.01				0.41	0.01	0.7	1.12
	2	0.51						0.51			0.51
	3	0.8	0.25					1.05	0.1		1.15
F. 21	1	1.2		0.01				1.21	0.1	1	2.31
	2	1.7	0.23	0.2				2.13	0.4		2.53
	3	3.2	0.1	0.08				3.38	0.6		3.98
F. 24	1	0.7	0.05	<0.01	0.05			0.8	0.01	0.8	1.61
	2	0.26						0.26			0.26
	3	2.3	0.3	0.02				2.62	0.52	0.54	3.68
F. 33	1	0.1	0.11	*				0.21	<0.01	0.4	0.61
	3	0.93	0.12					1.05	0.03	0.3	1.38
F. 34	1	1.4		0.01				1.41	0.2	1.1	2.71
	3	3	0.02					3.02	0.52		3.54
F. 36	1	0.6	0.05	0.01				0.66	0.06	0.76	1.48
	2	0.03	0.1					0.13	0.27		0.4
	3	2.2	0.28	0.01				2.49	0.55		3.04
F. 37	1	1	0.05	<0.01				1.05	0.2	1.2	2.45
	2	0.1						0.1	0.42		0.52
	3	5	0.33	<0.01				5.33	0.8		6.13
F. 45	1	0.8	0.05	*			<0.01	0.85	0.1	1.2	2.15
	2							0	0.4		0.4
	3	2	0.3					2.3	0.2	1	3.5
F. 56	1	0.7	0.01	<0.01				0.71	0.12	0.9	1.73
	2	0.8	0.32					1.12	2.6		3.72
	3	1.9	0.1	0.02				2.02	0.2		2.22
F. 57 E½	2	0.05						0.05			0.05
F. 57 W½ Zone A	3	1.9	0.18	<0.01				2.08	0.12		2.2
F. 57 W½ Zone B	1	0.42	<0.01	*				0.42	<0.01	0.25	0.67

Provenience	Recovery	Hickory Nutshell	Walnut Shell	Acorn	Butternut	Hazelnut	Seeds/Fruits	Total Plant Foods	Wood Charcoal	Residual	Total (g)
	3	0.8						0.8	0.1		0.9
F. 57 ½ Zone C	1	0.7		*				0.7	0.02	0.5	1.22
	2	1.2						1.2			1.2
	3	3.27	0.02					3.29	0.3		3.59
F. 57 W½ Zone D	1	0.32		<0.01				0.32	<0.01	0.5	0.82
	2	0.03	0.32					0.35			0.35
	3	0.8	0.01					0.81	0.02		0.83
F. 57 W½ Zone E	1	0.03		<0.01				0.03	0.02	0.3	0.35
	2		0.15					0.15			0.15
	3		0.01					0.01	<0.01	1.3	1.31
F. 59	2	0.02						0.02	0.3		0.32
	3	0.75	0.02					0.77	0.03	0.3	1.1
F. 65	1	0.4		0.01				0.41	0.05	0.45	0.91
	3	1.3	0.11	<0.01				1.41	0.42		1.83
F. 78	1	0.5		<0.01		<0.01		0.5	0.01	0.62	1.13
	3	1.8	0.2		<0.01			2	0.15		2.15
F. 79	1	0.3						0.3	0.02	0.45	0.77
	2	0.21						0.21	<0.01		0.21
	3	0.5	0.02					0.52	0.02		0.54
F. 80	1	0.9	0.1					1	0.05	0.9	1.95
	2	0.3		0.3				0.6			0.6
	3	3.5	0.02	<0.01				3.52	0.12		3.64
F. 82	1	0.51	0.01	<0.01				0.52	<0.01	0.3	0.82
	2	0.1	0.01					0.11			0.11
	3	1.1	0.4		<0.01			1.5	0.2		1.7
F. 89	1	0.5	0.1	*				0.6	0.07	1	1.67
	2	0.6						0.6	0.02		0.62
	3	1.1	0.2					1.3	0.11		1.41
F. 90	1	0.3	0.02	*				0.32	0.01	0.46	0.79
	2	0.4	0.5					0.9	0.3		1.2
	3	1.1	0.3			<0.01		1.4	0.05		1.45
F. 95	1	0.2	0.01					0.21	0.02	0.3	0.53
	2	0.44						0.44			0.44
	3	1.5	0.04	<0.01				1.54	0.12	0.15	1.81
F. 101	1	0.5	0.01	<0.01		<0.01		0.51	0.11	0.8	1.42
	2		0.01					0.01	0.8		0.81
	3	1.8	0.2	<0.01		0.01		2.01	0.6		2.61
F. 102	1	0.8	0.01	*				0.81	0.2	1	2.01
	2	0.22			0.01			0.23	3		3.23
	3	2.8	0.02	<0.01	0.01		<0.01	2.83	0.8	0.2	3.83
F. 109	1	0.2		*				0.2	0.05	0.5	0.75
	3	1.3	0.1	<0.01				1.4	0.4		1.8
F. 112	3	0.4						0.4			0.4
F. 114	1	0.9	0.01					0.91	0.25	0.8	1.96
	2	1.1	0.03		0.03			1.16	0.9		2.06
	3	1.8	0.2					2	0.2		2.2
F. 115	1	1.25	0.1			0.02	<0.01	1.37	0.1	1.1	2.57
	2	1.8	0.7		<0.01			2.5	0.28		2.78
	3	3	0.22	<0.01		<0.01		3.22	0.7		3.92
F. 117	1	0.7	0.02	*			<0.01	0.72	0.01	0.63	1.36
	2	0.02	0.01					0.03			0.03
	3	1.8	0.1	0.01				1.91	0.05		1.96
F. 118	1	0.4		<0.01			<0.01	0.4	0.02	0.3	0.72
	2	0.6	0.3					0.9	0.1		1
	3	1.1	0.03					1.13	0.1		1.23
F. 121	1	0.5	<0.01	<0.01				0.5	<0.01	0.4	0.9
	2	0.02						0.02			0.02
	3	0.72	0.11	<0.01				0.83	0.01		0.84
F. 123	1	0.7		*				0.7	0.1	1	1.8
	2	0.7	0.3					1			1

Provenience	Recovery	Hickory Nutshell	Walnut Shell	Acorn	Butternut	Hazelnut	Seeds/Fruits	Total Plant Foods	Wood Charcoal	Residual	Total (g)
	3	1.8	0.02	<0.01				1.82	0.2		2.02
F. 124	1	0.5	0.02					0.52	0.03	0.84	1.39
	2							0	0.1		0.1
	3	0.11	0.35					0.46	<0.01		0.46
F. 127	1	0.6	0.1	0.01				0.71	0.2	0.8	1.71
	3	2.3	0.23	<0.01				2.53	0.01	0.4	2.94
Total (g)		**102.65**	**9.79**	**0.72**	**0.22**	**0.03**	**<0.01**	**113.41**	**25.89**	**31.91**	**171.21**
Percent		**60**	**5.7**	**0.4**	**0.1**	**<0.1**	**<0.1**	**66.2**	**15.1**	**18.6**	**100**

CANE AND WOOD CHARCOAL FROM TEMPORALLY SENSITIVE NON-MORTUARY PIT FEATURES

Provenience	Hickory	Red Oak Gr.	Honey Locust	Ash	Oak	Cherry	White Oak Gr.	Maple	Hackberry	Cane	Dogwood	Walnut	Poplar	Mulberry	Sycamore	Diffuse Porus	Black Locust	Elm	Conifer	Cedar	Sweetgum	Pine	Willow	Grape Vine	Total
F.3 NNW½ Zone B	4			2	1	3	1		2							1								1	15
F. 4 Zone A	2		1	1	2			1		1															8
F. 7	3	5	1		4			1									3								17
F. 9	9	2		12					3																26
F. 11	3	2			2	1													1						9
F. 15	5	4	4	3							2														18
F.16	3	4	1	1		1												1							11
F. 18	1				6													1							8
F. 21	5	2	2				5	2							2										18
F. 24		2		2			2	1	3			3													13
F. 33	1		2	2																					5
F. 34		8		5		3											2								18
F. 36	6	2	7		1		2	1																	19
F. 37	10	7	1	4			1							1	1										25
F. 45	3		4		1	2		2						5											17
F. 56	5	3	2	6	1	4		4								2									27
F.57 W½ Zone A	3		4															1							8
F.57 W½ Zone B	3	1				2																			6
F.57 W½ Zone C	4	1	1	2									1												9
F.57 W½ Zone D	3																								3
F.57 W½ Zone E				3	1																1				5
F. 59	1					3						1			1										6
F. 65	4				2	1			1	1															9
F. 78	1	3	2					1			1														8
F. 79	2	3	3		2			2					1												13
F. 80	6	2		1									1									1			11

Provenience	Hickory	Red Oak Gr.	Honey Locust	Ash	Oak	Cherry	White Oak Gr.	Maple	Hackberry	Cane	Dogwood	Walnut	Poplar	Mulberry	Sycamore	Diffuse Porus	Black Locust	Elm	Conifer	Cedar	Sweetgum	Pine	Willow	Grape Vine	Total
F. 82	2	2																							4
F. 89	2	1	2	1	1																		1		8
F. 90		4				3				2					1										10
F. 95					1																				1
F. 101	10	8	4		1	1	2	3			2	2	2						1						36
F. 102	8	18	2	1			1			1						2									33
F. 109	7		5							1					1				1						15
F. 114	4	3	1	1	2								1			1									13
F. 115	5	5	1	2	1	2																			16
F. 117	2	1			1	1				1								1		1					8
F. 118	5		2		1																				8
F. 121		2			1																				3
F. 123			1				4				1														6
F. 124	2	1		1				1																	5
F. 127	2	2	1				3																		8
Total (g)	**136**	**98**	**54**	**50**	**32**	**27**	**21**	**19**	**9**	**7**	**6**	**6**	**6**	**6**	**6**	**6**	**5**	**4**	**3**	**1**	**1**	**1**	**1**	**1**	**506**
Percent	26.8	19.3	10.6	9.9	6.3	5.3	4.2	3.8	1.8	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1	0.8	0.6	0.2	0.2	0.2	0.2	0.2	