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Energy expenditure and mortuary practices at Lyon's Bluff, 22OK520: an evolutionary approach

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ENERGY EXPENDITURE AND MORTUARY PRACTICES AT LYON'S BLUFF, 22OK520: AN EVOLUTIONARY APPROACH

By

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There is a need for more scientific ways to undertake mortuary analysis in archaeology because social status is often assumed. This thesis attempts to demonstrate a scientific approach to mortuary analysis through the investigation of energy expenditure using a scientific approach involving amounts of energy expended on burials by looking at burial type, grave goods, and special placement of burials. Through research of archival data, mortuary differences seen in the burial populations of Lyon's Bluff (22OK520) and several farmsteads in Oktibbeha County, Mississippi are investigated. Through the creation of a paradigm with dimensions of burial treatments and modes of grave goods, it is possible to place all burials at a particular site or group of sites into categories that show the amount of energy expended on burials. The results of this research suggest this type of research is applicable to both past and future mortuary analysis.

DEDICATION

To my beautiful daughter, Audrey Lemeé Elmore, and my grandfather, Harold Joseph Battalora, Sr.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to Dr. Evan Peacock for keeping me on track and helping me realize that the end was within reach. I would also like to express appreciation to Dr. Janet Rafferty and Dr. S. Homes Hogue for their direction and support throughout this process. I would like to thank Jeffrey Alvey for his help with the little things here and there that added up. Last, but definitely not least, I would like to thank my husband, Bryan Elmore, whose patience and support have been unfaltering.

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CHAPTER 1

INTRODUCTION AND PROBLEM STATEMENT

Many researchers advocate the use of mortuary analysis in archaeology as a way to investigate social organization and social status (Binford 1971; Brown 1971, 1995; Goldstein 1980, 1981; Hertz 1960; O'Shea 1984; Peebles 1971; Saxe 1969; Tainter 1978). Such an approach is thought to be one of the most productive ways of carrying out this kind of research (Goldstein 1980:4). In the past, many factors have been taken into consideration when assessing mortuary differences to obtain information relating to "social status". Some of these factors include energy expenditure, burial goods, burial type, special placement of the body, body size and stature, as well as other variables such as age, sex, and cranial deformation (Angel 1984; Cohen 1989; Gill 1977; Hatch and Wiley 1974; Haviland 1967; Hogue 2000; Goldstein 1980; Milner 1998; Parker-Pearson 1999; Peebles 1971; Powell 1988; Rose 1985; Saxe 1970; Schoeninger 1979; Tainter 1975, 1980). Social status in archaeology is too often assumed. It is important for any archaeological study of status to employ dimensions that can measure, either directly or indirectly, the attributes that arguably embody status. One such dimension is energy expenditure.

Energy Expenditure

Tainter feels that as "social status" increases, so does the energy expended in the mortuary ritual and the amount of social involvement in the ritual (Tantier 1980:310). He suggests that energy expenditure can be seen in burial features, for instance, in both size and elaborateness of the facility in which the burial is interred, the way the body is handled and disposed of, and the kind and number of grave associations included (Tainter 1975:2). Each of these factors is discussed in turn below.

Burial Type

According to Hogue, primary burials are skeletons that are completely articulated (Hogue 2000:68), while secondary burials are complicated treatments of the body that involve at least two stages of mortuary processing, for instance bundle burials or urn burials (Hogue 2000:68; Ubelaker 1974, 1989). In the first phase of a secondary burial, a body is defleshed, through natural processes or mechanical ones. These processes could include exposing a body to animals, burying a body and later exhuming it, exposing a body to water and/or using tools to remove the flesh from a body (Hogue et al. 1996a:4; Ubelaker 1974, 1989). After the flesh has been removed from the bones, they are then collected for final burial, either individually or in mass graves (Hogue et al. 1996a:4; Ubelaker 1974, 1989). A bundle burial is a type of secondary burial in which disarticulated long bones are stacked together in a parallel fashion with the skull at one end (Hogue 2000:68; Ubelaker 1974, 1989).

Primary flexed burials take less expenditure of energy than primary semi-flexed burials. Likewise, primary semi-flexed burials would take less energy expenditure than

extended burials due to the size of the grave that must be prepared. Primary urn burials would require more energy expenditure than primary extended burials. Even though in the study area urns were not created specifically for burials, energy was expended on them when they were made, and they were taken out of use to become a burial receptacle (Rafferty et al. 2008:3). The urn had to be moved to the burial site, the body had to be placed in the urn and a pit large enough to fit the upright urn had to be dug. There are more steps involved than burying a primary extended burial. Single secondary burials take even more energy expenditure than single urn burials because of the different stages involved (Hogue 2000:68). Cremations would use more energy than a single secondary burial because even more steps are involved. Multiple secondary burials would require even more energy expenditure. Multiple urn burials would follow. Multiple cremations would require the most energy expenditure.

Special Placement

Grave shape, size and depth are all directly related to how much energy is expended in a burial and have also been linked in studies to the "social status" or gender of the person buried (Parker-Pearson 1999:5). The formality of a burial is also connected to energy expenditure. For example, instead of digging a pit specifically for the body, a corpse may be placed in an existing hollow, ditch or pit dug for some other purpose. Likewise, a body could be placed in a natural feature such as a cave or rock shelter (Parker-Pearson 1999:5).

Placement should not only be taken into consideration when dealing with individual burials but also groups of burials. For instance, when dealing with cemeteries

a lineal spatial pattern is one in which the burials produce horizontal stratigraphy and develop from some type of focal point, such as a founder's grave or a type of physical barrier (Parker-Pearson 1999: 12). A hierarchical/concentric spatial pattern is one where burials radiate out from a central burial (Parker-Pearson 1999:12). A segmented burial pattern is one in which the burials are in discrete clusters, sometimes with open spaces between them (Parker-Pearson 1999:12). The clusters can either be in rows or unstructured (Parker-Pearson 1999:12).

According to Milner, "The Mississippian cemeteries [at Cahokia] typically display some discernable internal organization, such as clusters or short rows of burials" (Milner 1998:135). Burials were not randomly placed in some spot that was convenient (Milner 1998:135). Goldstein found that the Schild site in Greene County, Illinois was organized in rows along with possible charnel structures (1980:106). Goldstein suggested the presence of charnel structures because she noticed charred human bone and other charred remains, large pieces of limestone, and extended burials, all of which were present in the spaces southeast of Knoll A and north of Knoll B (Goldstein 1980:106). In order to maintain this type of organization through time, it is necessary to mark graves, which requires some expenditure of energy.

As will be discussed in more depth later, there is a great deal of variability seen in mortuary patterns in the Southeast during the Mississippian and Protohistoric periods. This variability is important because evolutionary explanations are based upon the explanation of variability. However, analyses that use measures suitable for evolutionary analysis (for example, energy expenditure) have been missing. Instead, concepts such as status have been used which assume the answer and are non-scientific.

Problem Statement

Lyon's Bluff (22OK520) is a Mississippian/Protohistoric mound and village settlement in Oktibbeha County, Mississippi. This thesis will investigate differences seen in the burial population of Lyon's Bluff through mortuary analysis. This mortuary analysis will be carried out using a scientific approach involving the amount of energy expended on burials by looking at burial type, grave goods, and special placement of the burials. If energy expenditure is in fact related to social status, then certain patterns by age and/or sex are expected to emerge. The analysis will also include burials from local farmsteads as a comparative basis.

CHAPTER 2

MORTUARY ANALYSIS IN THE SOUTHEAST INVOLVING MISSISSIPPIAN AND PROTOHISTORIC PERIOD SITES

The Mississippian Period

The Mississippian cultural tradition dates from A.D. 900 (in the study area A.D. 1000 to 1100) to A.D. 1500 or slightly later (Blitz 1993a, 1993b; Lorenz 1990, 1996:145; Peebles 1987a; Steponaitis 1991). According to Powell, those late prehistoric peoples of the Southeast who formed complex social organizations to help centralize control of necessary information, goods, and services are known as Mississippian, due to the fact that their remains were first identified at archaeological sites along the Mississippi River (Powell 1988:1). The Mississippian tradition has typically been characterized as having had ranked societies, maize agriculture, and earthen platform mounds that supported temples, charnel houses, or residences of chiefs. According to Smith, "Many, if not all Mississippian populations could be generally characterized as having a settlement system of small dispersed farmsteads surrounding a local center" (Smith 1978: 491). Farmsteads have been described as small and dispersed sites "of one or two structures suitable for nuclear/extended family use" that have been seen as representing "the domestic level of production at its social minimum" (Blitz 1993a:104; Muller 1986:204). According to Blitz, farmsteads provided "optimal conditions …under

which to practice a mixed economy of cultivating, hunting, and gathering" (Blitz 1993a:99).

The Mississippian tradition has also been characterized by alliance or exchange networks (Griffin 1967, 1985; Lorenz 1996:145; Peebles and Kus 1977; Steponaitis 1986; Welch 1990). Mississippian cultures have often been characterized by several other attributes, including, "large ceremonial centers and their associated platform mounds, shell-tempered pottery and various diagnostic pottery types, certain 'ritual' artifacts and iconographic motifs…" (Peebles and Kus 1977:434). It should be noted that definitions of the Mississippian vary depending on the theoretical orientation of the definer (see Smith 1978a). For instance, culture historians use both platform mounds and shell-tempered pottery, while processual archaeologists, who desire to identify systems, use notions of chiefs, agriculture and ranking.

The Protohistoric Period

The Protohistoric period has been described as the time between the period when Europeans first began to explore and the period when full-fledged European trade and colonization began, which eventually led to the acculturation of the aboriginal population of the Southeast (Hogue 2000:65). This 177-year period began in central Alabama and northern Mississippi with the arrival of the Spanish army of DeSoto in 1540 and ended in 1717, when Fort Toulouse was established by the French (Hogue 2000:65). It is important to note that inhabitants of local east-central Mississippi sites that date to the Protohistoric period and contain European goods more than likely acquired these goods through aboriginal trade, and not direct trade with Europeans (Hogue 2000:65).

Farmsteads, an important component of Mississippian culture, were also present in this area well into the Protohistoric (Hogue 2000:66). A change in burial patterns occurred in the Protohistoric period (Hogue 2000:65). This included increased reliance on the use of secondary burials (Hogue 2000:65). This shift also included the introduction of urn burials (Hogue 2000:65). Urn burials consisted of large ceramic vessels used as containers for the remains of the primary burials of infants or the secondary burials of adults (Rafferty et al. 2008:3). Through protein residue analysis, use alteration studies, and observing sooting, abrasion, and scratches, it can be determined if a vessel was created specifically as a burial urn, a seemingly wasteful behavior, or if they were reused as burial containers once they were not used for cooking any more (Rafferty et al. 2008:4).

A variety of Mississippian and Protohistoric period sites in the Southeast where burials have been found will be discussed in the following pages. These sites include Moundville, Gainesville, and Lubbub Creek in Alabama, Upper Nodena in Arkansas, Gordontown in Tennessee. Some additional sites in northeast Mississippi will be briefly mentioned, including the Yarborough site, the Tibbee Creek site and the Kellogg Village site.

Moundville

The major 'core Mississippian' phase with a proposed three-tiered settlement hierarchy for the region is centered on Moundville. Other core Mississippian sites in the Southeast include Etowah, Georgia; Cahokia, Illinois; and Spiro, Oklahoma (see Muller and Stephens 1991; Lorenz 1996:145). Moundville is located on the Black Warrior River,

at Hemphill Bend, in west-central Alabama (Knight and Steponitis1998:1). It is the most thoroughly excavated Mississippian center (Peebles and Kus 1977:435). According to Steponaitis, "In its heyday, this settlement was clearly the dominant social and political center of the region" (1992:1). The site is about 75 hectares in area and includes twenty-nine mounds (Knight and Steponaitis 1998:47). There are fifteen relatively large mounds that form a parallelogram around the central plaza (Knight and Steponaitis 1998:47).

The occupation of Moundville can be broken down into five phases based on ceramic assemblages (Knight and Steponaitis 1998:7-8). The phases, from earliest to latest, include: West Jefferson (A.D. 900-1050), Moundville I (A.D. 1050-1250), Moundville II (A.D. 1250-1400), Moundville III (A.D. 1400-1550), and Moundville IV (A.D. 1550-1650), which has been previously referred to as the Burial Urn Culture or the Alabama River phase (Knight and Steponaitis 1998:7-9). Each of these phases can be subdivided into early and late periods (Knight and Steponaitis 1998:7-8).

It is felt that during the late Moundville I /early Moundville II phases, the residential population at the site peaked (Scarry 1998:100). This residential population probably went into decline shortly thereafter (Scarry 1998:100). It is thought that the population shifted to outlying areas during this time (Knight and Steponaitis 1998). After this, Moundville probably was a residential area for only the highest-status individuals, and it was also a mortuary site for them, as well as for the residents of the surrounding valley (Scarry 1998:100). This is supported by the fact that the frequency of burials increased significantly in the Moundville II and Moundville III phases at Moundville, while few burials were located at outlying sites (Knight and Steponaitis 1998:19). By the Moundville IV phase, most of Moundville and the surrounding sites had been abandoned,

probably due to the pressures of European contact (Knight and Steponaitis 1998: 22). Knight and Steponaitis also use five developmental stages to describe Moundville. These include: Intensification of Local Production (A.D. 900-1050), Initial Centralization (A.D. 1050-1200), Regional Consolidation (A.D.1200-1300), The Paramountcy Entrenched (A.D. 1300-1450), and Collapse and Regional Organization (A.D. 1450-1650) (Knight and Steponaitis 1998:8).

The excavation of Moundville began in 1929 and encompassed more than one-half million square feet (Peebles and Kus 1977:435). More than 3,000 burials and their associated artifacts have been discovered at Moundville (Peebles and Kus 1977:435). Of these, 2,053 of the best recorded were used for mortuary analysis (Peebles and Kus 1977:435). According to Peebles and Kus, "Various univariate, bivariate and multivariate statistics, which included three separate cluster analytic strategies, were used to determine the patterned variability in the mortuary ritual that produced these burials" (1977:435-438).

Peebles and Kus found that there were two separate dimensions of social personae seen in the Moundville burials: superordinate and subordinate, as well as a third category which they refer to as 'non-persons' (1977:438-439). These 'non-persons' are described as, "…not burials *per se*, but are either whole skeletons or isolated skeletal parts—usually skulls—that are used as ritual artifacts" (Peebles and Kus 1977:439). Skulls that were found in post-molds and thought to be initiatory offerings were classified as 'non-persons' (Peebles and Kus 1977:439).

In the first dimension, the superordinate, burials were separated from the remainder of the population by their spatial location and associated artifacts (Peebles and

Kus 1977:439). They also included some of the 'non-persons' in the superordinate burials (Peebles and Kus 1977:439). In the superordinate burials, the first group consisted of all adults, possibly all adult males, which also all were located in mounds (Peebles and Kus 1977:439). Associated artifacts included copper-covered shell beads, pearl beads and copper axes (Peebles and Kus 1977:439). The next superordinate group of burials contained both adult males and children, most of whom were located in mounds (Peebles and Kus 1977:439). Artifacts associated with these burials included various minerals (possibly red and white paint), oblong copper gorgets, copper ear spools, stone discs, and bear tooth pendants (Peebles and Kus 1977:439). In the final superordinant group, both sexes and all ages were represented (Peebles and Kus 1977:439). These burials were near mounds and near the plaza in charnel houses (Peebles and Kus 1977:439). Associated artifacts included oblong copper gorgets, galena cubes, and shell beads (Peebles and Kus 1977:439). According to Knight, the majority of the elite burials at Moundville were located at the northern end of the site (Knight and Steponaitis 1998:50).

In the subordinant dimension of burials at Moundville there were eight groups of burials with utilitarian grave goods, interred in non-mound contexts. There was also a large group of burials with no associated artifacts, interred in non-specific locations (Peebles and Kus 1977:439; Powell 1988:26-27).

Upper Nodena

Upper Nodena is a large Late Mississippian/Protohistoric site in northeast Arkansas in the central Mississippi Valley. This site is located on a ridge near a "relict

meander channel of the Mississippi River", near the town of Wilson in Mississippi County (Fisher-Carroll and Mainfort 2000: 106). There is evidence that a ditch and palisade once surrounded the site, which was around 6.27 hectares (15.5 acres) in size and which contained two rectangular substructural mounds and twelve to fifteen smaller mounds, as well as a plaza (Fisher-Carroll and Mainfort 2000: 107). A total of around 1,800 human burials has been excavated at this site (Fisher-Carroll and Mainfort 2000: 107).

The family of Dr. James K. Hampson, an avocational archaeologist, for many years owned the 5,000 acre plantation still known today as Nodena Plantation where the site is located (Fisher-Carroll and Mainfort 2000: 106). Dr. Hampson was responsible for the excavation of 820 individuals, 66 house sites and 12 "kitchen middens" (Mainfort et al. 2007: 108). In 1932, Dr. Hampson invited both the University of Arkansas Museum and the Alabama Museum of Natural History to conduct excavations at the site in order for the two institutions to acquire mortuary ceramics. Between the two crews, 968 burials were excavated but no reports were produced on their work (Mainfort et al. 2007:110). Mary Lucas Powell (1989, 1990) did report on the human remains that were curated from the 1932 season (Mainfort et al. 2007:111).

Dr. Hampson donated his collection to the state of Arkansas; it is now curated at Hampson Archaeological Museum State Park (Mainfort et al. 2007:108). It is noted that not many of Dr. Hampson's burial cards, maps and notes have survived (Mainfort et al. 2007:108). In 1973, Dan Morse led the only professional excavation at Upper Nodena in modern times (Morse 1989).

In the analysis of the burials at Upper Nodena by Fisher-Caroll and Mainfort (2000), 893 burials were included after some were eliminated due to incomplete or "spotty" documentation (107). In this study, Fisher-Caroll and Mainfort note that although the focus of the 1932 excavations was on mortuary ceramics, little attention was paid to recovering human remains and of the more than 900 burials encountered, the remains of only 134 individuals were collected (Fisher-Carroll and Mainfort 2000:107). They were able to record spatial locations of most of the 893 burials that they analyzed using field maps and burial cards, which were the main source of documentation (Fisher-Carroll and Mainfort 2000:107). The burial cards recorded information such as height, breadth or width, age, depth below surface, skeletal anomalies, associated artifacts and sex (Fisher-Carroll and Mainfort 2000:108). Due to the fact that they considered the field estimates of sex unreliable, only the skeletal material sexed by Powell (1989) was used in the study (Fisher-Carroll and Mainfort 2000:108).

"Mound C" at Upper Nodena, located south of Mounds A and B and which was sometimes referred to as "Mound 5" (and may or may not even be a mound at all), had an extremely high concentration of burials (Fisher-Carroll and Mainfort 2000:108). It was approximately 3 feet in height and 75 feet in diameter and, according to field maps and burial cards, contained the remains of around 346 individuals (Fisher-Carroll and Mainfort 2000: 108). Most of these individuals, with the exception of 11 skulls and 2 bundle burials, were buried in primary supine extended positions. According to Fisher-Carroll and Mainfort, "Whether an actual mound or not, the Mound C locality was an extraordinary concentration of human interments without reported parallel either at Upper Nodena or any other late period site in the Central Mississippi Valley" (2000:108). It

appears that there is more variation in body treatment in non-mound burials, but this could be a result of the differential record keeping between the Alabama and Arkansas field crews (Fisher-Carroll and Mainfort 2000:110). Alabama excavated all of the Mound C burials and did not sketch any of them, while Arkansas excavated most of the non-mound burials and included drawings on their burial cards (Fisher-Carroll and Mainfort 2000:110).

It is noted that at least 100 of the burials that were excavated in the 1932 season were post-depositionally disturbed (Fisher-Carroll and Mainfort 2000:108). Burial depths ranged from 3 to over 51 inches below the surface, with most being 20 to 40 inches below (Fisher-Carroll and Mainfort 2000:108). There were no significant differences in temporal placement (based on mortuary ceramics) or depth between mound and non-mound burials (Fisher-Carroll and Mainfort 2000:108).

According to Fisher-Caroll and Mainfort (2000:108), "…an obvious fundamental starting point in searching for social differentiation at Upper Nodena is to consider the spatial distinction between Mound C and the non-mound burials". While the mound burials are in a bounded location, the non-mound burials were scattered throughout the habitation area with a few discernable groupings of up to twenty burials (Fisher-Carroll and Mainfort 2000:108). According to Fisher-Carroll and Mainfort, "…sub-adults are significantly under-represented in Mound C relative to non-mound contexts" and "…non-mound burials in general have a greater likelihood of having some kind of grave inclusion than those from mound contexts" (Fisher-Carroll and Mainfort 2000:108).

Ceramics were the most common grave accompaniment in both mound and non-mound contexts, with 124 individuals having some form of ceramic accompaniment in

the mound and 153 individuals having a ceramic accompaniment in the non-mound areas (Fisher-Carroll and Mainfort 2000:108). As to adults and sub-adults with or without artifacts, the percentages are similar in both mound and non-mound locations (Fisher-Carroll and Mainfort 2000:108). There were a few specific classes of artifacts that were more likely to be spatially associated with a certain area; for instance, both spatulate celts and shell beads (also seen at Moundville) were more likely to be associated with the mound (Fisher-Carroll and Mainfort 2000:109,111). Frog effigies were more likely associated with the mound; according to Mainfort and Fisher-Caroll, these "…are among the most labor-intensive ceramic vessel forms, but this does not imply that their association with Mound C should be viewed strictly in terms of energy expenditure" (2000:109). They note that fish effigies, compound vessels (possible late period horizon markers), and kneeling human effigies occur more often in non-mound locations (Fisher-Carroll and Mainfort 2000:109).

In terms of burial orientations, they note that although there are some differences in spatial locations between mound and non-mound individuals (Mound C burials more often range from 120° to 159º, while non mound burials more often range from 200º to 239º), they are not pronounced and do not "…support interpretation of Mound C as a special burial locus either reserved for high ranking individuals or used for the victims of a raid" (Fisher-Carroll and Mainfort 2000:110).

Fisher-Carroll and Mainfort note that "…some interpretations of late period societies in northeast Arkansas have been influenced by studies of social ranking at…Moundville" but that there are problems with doing such (Fisher-Carroll and Mainfort 2000:111). The ecological settings are different, as well as cultural landscapes

(Fisher-Carroll and Mainfort 2000:105). In addition, "almost none of the artifact classes associated with the elite at Moundville are present at Upper Nodena or other late period sites in northeast Arkansas" (Fisher-Carroll and Mainfort 2000:111). Fisher-Carroll and Mainfort conclude that "…the degree of mortuary differentiation apparently present at Moundville is not evident at Upper Nodena" and that the data from Upper Nodena "…provide relatively meager evidence for the existence of social ranking" (2000:115-116).

Gordontown

Gordontown (40DV6) is a Mississippian mound site near Nashville in Davidson County, Tennessee in the Central Basin region on a tertiary tributary of the Cumberland River (Moore 1998:7). According to Kevin E. Smith, Gordontown "…is a modest town by Mississippian standards, certainly not in the same class as Cahokia, Illinois or Moundville, Alabama" (1998:13). There are two corrected radiocarbon dates from Gordontown. These are A. D. [1300, 1373, 1380] and A. D. 1415 (Moore 1998:175).

In his 1876 *Explorations of the Aboriginal Remains of Tennessee*, Joseph Jones referred to Gordontown as the Brentwood site (Smith 1998:13). Jones described Gordontown as "…consisting of an earthwork enclosing several mounds and extensive encampments" (Smith 1998:14).

Jones excavated a burial mound at Gordontown and described it as containing around 100 skeletons buried in stone graves that were placed one on top of another, three and four deep toward the center of the mound (1876:37-38). He described the earliest, lower burials in the mound as being small and square and containing what appeared to be

secondary burials, some single and some multiple (Jones 1876:37-38). Jones described the newer burials toward the top of the mound as being rectangular primary extended burials containing single individuals (1876:37-38). According to Jones, "Pieces of pottery were found with the bones in the stone coffins, but no entire vase or vessel, or stone implement, or idol, was discovered in the mound" (1876:37-38).

According to Breitburg et al., "The unequivocal hallmark of Mississippian period burials within the middle Cumberland region are the limestone slab lined graves in which the dead are buried" (1998:39). This is a part of a larger regional Mississippian mortuary pattern in the mid-Southeast (Breitburg et al. 1998:39).

During the 1985-86 excavations at Gordontown, 85 burials consisting of 100 individuals were excavated. Most of these individuals (95) were in graves of the stone box type that were constructed of limestone or shale slabs, vertically placed headstones and footstones, and horizontally placed capstones. The limestone used in construction of these graves was locally available from surrounding slopes and creeks (Breitburg et al.1998:39). The remaining five individuals were interred in oval pits (Breitburg et al.1998:39). One of the oval pits contained two individuals, an infant and a probable female (Breitburg et al.1998:39).

Most of the stone box graves contained only one individual in the primary extended supine position. There were exceptions, however; for instance, fourteen stone box graves contained more than one individual. There was also variability in the size of the graves. A few of them were shorter and wider than the others and contained the remains of flexed and semi-flexed individuals (Breitburg et al.1998:39). Of these shorter and wider graves, two were interesting. One contained the remains of a male bundle

burial with the head placed in the center of the box on a pile of smooth river pebbles. Another grave was constructed of multiple limestone slab layers and contained the remains of a semi-flexed, prone, headless male whose arms were bent behind his back as if they had been bound (Breitburg et al.1998:40). Also of interest is the fact that six burials from the same area were all headless but appear otherwise undisturbed (Breitburg et al.1998:45). Joseph Jones, discussed above, was a doctor who had a special interest in Native American cranial remains (Breitburg et al.1998:45). It is possible that he could have removed the craniums for study (Breitburg et al.1998:45).

Occasionally, artifacts were placed in Gordontown graves. Thirty five percent of the graves (27 graves) contained artifacts. These included several types of ceramic vessels and some bone and stone artifacts (Breitburg et al.1998:45).

Lubbub Creek

The Lubbub Creek Archaeological Locality is located to the east of Cochrane, Alabama, on high bluffs of the Tombigbee River (Peebles 1983:1). It is a peninsula that was cut off by the U. S. Army Corps of Engineers during the late 1970's to form a canal for the Tennessee-Tombigbee Waterway project (Blitz 1983a:198). The eastern portion of the Lubbub Creek archaeological complex was spared and is now an island preserve that contains the Archaic, Woodland and half of the Mississippian components of the Lubbub Creek Archaeological Locality; however, the western half of the Mississippian settlement was what was involved in the salvage project for the construction of the canal (Peebles 1983:7; Blitz 1983a:198).

Site 1PI85 in the Lubbub Creek Archaeological Locality is referred to as Lubbub Creek site and/or the Summerville Mound site (Blitz1983a:198). This site formed the long-duration Mississippian occupation of the Lubbub Creek Archaeological Locality (Peebles 1983:6-7). The mound (Peebles 1983:6-7), originally recorded by Moore in 1901, was largely leveled in the 1950's by the then-landowner (Peebles 1983:3). According to Peebles, Lubbub Creek was a large and important agricultural settlement with materials present that were suggestive of a connection between it and Moundville (1983:3).

The site has been broken down into different phases of occupation. The first of these was Summerville I, which spanned the period of 1000 to 1200 A.D. and was defined by the ceramic type "Moundville Incised, var. Moundville" (Blitz 1983b:255). The community in the Summerville I phase included nine human burials, 3 structures, several "smudge pits" and midden deposits as well as the first stage of the Summerville mound and a palisade (Blitz 1983b:255).

The Summerville II and Summerville III phases were combined and spanned from 1200 to 1450 or 1500 A.D. (Blitz and Peebles1983:279). This community was defined by the ceramic types "Moundville Engraved, varieties Hemphill, Taylorville, Tuscaloosa and Wiggins" (Blitz and Peebles1983:279). Twenty-five pits, nine burials, six structures and several smudge pits were associated with the Summerville II and III (Blitz and Peebles1983:279,282). These phases were represented by a more compact, unfortified community centered on the mound (Blitz and Peebles1983:279).

According to Albright, Summerville IV was basically equivalent to the Protohistoric period and was defined by Alabama River Applique and Alabama River

Incised pottery types (Albright 1983:309). A major difference seen in this period at Lubbub Creek when compared to the previous Summerville I, II and III was "…the distinctive modes of burial, interment in large ceramic vessels and mass interment of secondary burials" (Albright 1983:309). Another distinction was that the community was denser than previously, and there was construction of a ditch which surrounded the community (Albright 1983:310). Seven burials were recorded in the Protohistoric Summerville IV (Albright 1983:389).

The majority of the burials in periods I through III were single extended interments (Peebles 1983:401). Of course, there were exceptions. A few of the burials during these periods were primary flexed or primary semi-flexed. They were mostly interred in oval-shaped or basin-shaped pits.

Of all of the artifacts associated with the Summerville I period burials, most were Mississippi Plain ceramic vessels (Blitz 1983b:261-264). There were two abraders made of petrified wood associated with Burial 1 as well as a Carthage Incised var. Moon Lake bowl and a Mississippi Plain var. Hale water bottle (Blitz 1983b:263).

For Summerville II and III, Burial 6 contained some unusual artifacts. This burial was that of a primary fully extended adult in the supine position (Blitz and Peebles 1983:301). There was a very unusual vessel that had a flat bottom and flat, terraced sides and an open front found 50 centimeters above the skeleton (Blitz and Peebles 1983:301). The vessel was incised with rectilinear motifs (Blitz and Peebles 1983:301). The burial also contained a large sherd of Mississippi Plain var. Warrior a few centimeters southeast of the cranium, and copper earspools with bone pins on either side of the skull (Blitz and Peebles 1983:301). Four triangular points were also found above the skeleton (Blitz and

Peebles 1983:301). The burial fill contained hematite, limonite, and conglomerate pieces (Blitz and Peebles 1983:301).

The burials that represent the Summerville IV period showed the greatest variation in mortuary practices (Albright 1983:389). According to Albright, these were the burials encountered during the Summerville IV at Lubbub: "…1 extended adult burial, 1 secondary child burial, 3 urn burials (one of which contained 3 subadults, another of which contained 4 subadults, and the last one which contained 1 child), 1 ossuary containing parts of 43 individuals, and 1 skull cap cache of 10 calottes placed over the remains of a young adult female" (1983:389).

The mass burial, or ossuary was a 2.2 by 2.4 meter pit that held the re-interred longbones of 43 individuals (Albright 1983:384). It appeared that the longbones were all oriented magnetic north-south (Albright 1983:386).

The urn burials consisted of more than one vessel. Urn Burial 1 contained two cover vessels which were inverted bowls, one of which, "…looked like a poor copy of a Walls Engraved bowl, the other a red painted, shallow, flaring rim bowl…"(Albright 1983:343). The cover vessels were placed over the urn to form an inverted "v" (Albright 1983:343). The urn itself was a large Alabama River Plain vessel (Albright 1983:343). The urn contained the remains of three subadults (Albright 1983:343).

Urn Burial 2 contained only one cover vessel, also "Walls-like engraved". The actual urn was Alabama River Plain (Albright 1983:347). There was a daub cap on this urn (Albright 1983:347). According to Hill (1979:3-4), "Such a daub cap is not unusual: often the urn depositions were covered with twigs, plastered with mud, and finally covered with more twigs which were then burned, producing a hard clay covering for the

entire deposit" (Albright 1983:347). The urn contained the remains of four subadults (Albright 1983:347).

Burial 5, the "calottes" (or skull caps), were a "…tightly nucleated cluster…of human skull caps…" which "…seemed to have been purposefully stacked, ordered, and placed together…"(Albright 1983:347). These were placed over a bundle burial of a young adult female that displayed traces of being burned, which was placed over the calotte of an infant (Albright 1983:347).

It is of interest to note that of all the burials at Lubbub Creek, the only one interred in the mound was the skull of child (Blitz 1983a:249). It was a fragmentary skull placed in a posthole prior to the post being introduced (Blitz 1983a:249). It is uncertain whether or not the posthole was placed over the cranium intentionally or not (Blitz 1983a:249). Blitz notes that at Moundville, "…infants were used as ritual artifacts in mound construction" (Blitz 1983a:249).

Gainesville

The Gainesville site (1PI33) is located on alluvial terraces within the Central Tombigbee River valley (Caddell et al. 1981:11), within the Lubbub Creek Archaeological Locality, 106.7 meters east of the Lubbub Creek site Summerville Mound. There were two smaller components and three major ones at the Gainesville site. The lesser components was represented by Middle Woodland and Middle Archaic period artifacts that were both sparse and widely scattered (Caddell et al. 1981:40). The major components were represented by: "(1) pit features and possibly several burials which date to the Late Miller III-Terminal Miller III time period, (2) a Mature Mississippian

(Moundville I) period cemetery and house; and (3) a Late Mississippian period house and several burials" (Caddell et al. 1981:40).

The Mississippian cemetery is the part of the site which will be further discussed. This cemetery contained 19 Summerville I phase burials in a spatially segregated area (Cole et al. 1982:191, 196). According to Cole et al. (1982:196), the individuals interred in this cemetery were arranged in four rows (Cole et al. 1982:196). There were no other planned cemeteries at the site (Cole et al. 1982:191). This burial cluster was distinguished from the rest of the site due to the "…uniformity of the extended burial positions, by orientation to the east and by rectangular basin burial pits" (Cole et al. 1982:217).

One of the burials at the cemetery, Burial 20, contained the remains of four individuals, 20A, 20B, 20C, and 20D (Cole et al. 1982:198). Two of these individuals, 20B and 20C, were primary extended adult males (Cole et al. 1982:198). Burial 20A was a possibly male adult and Burial 20D was an undetermined adult (Cole et al. 1982:198). Both of the latter were incomplete, consisting of only a pair of legs, a pair of feet and a pair of arms (Cole et al. 1982:198). Cole et al. felt that the two incomplete skeletons interred with the two complete males were not the result of charnel activity, but rather were trophies (Cole et al. 1982:191,198). They said that this was evident due to the fact that while there was clear evidence of charnel activities in the Summerville IV period, "…there is no evidence for delayed interment of individuals for Summerville I through III periods or for any of the other burials in the 1PI33 cemetery" Cole et al (1982:191).

Burial 20 contained artifacts described as being "Southern Cult Motif" artifacts (Cole et al 1982:191). No other such "Southern Cult Motif" artifacts were found at the

site (Cole et al 1982: 191; Jenkins 1982). According to Cole et al., (1982:191) Copper artifacts bearing repoussé falcon and eye motifs associated with Burial 20B in the multiple interment of Burial 20 may mark the chiefly status of this individual". It is felt that "…such rare and imported manufactured items as repoussé copper plaques and pendants, copper coated earspools, cylindrical marine shell columella beads, whelk dippers, galena cubes, and drilled freshwater pearls are limited exclusively to burials within the circumscribed mortuary facility at site 1Pi33" (Jenkins 1982:130). According to Jenkins (1982: 130), "The artifacts associated with some individuals of this group suggest that the cemetery represents a kinship unit of a different status from other Summerville I burials interred throughout the Lubbub Creek Complex.

Also, according to Caddell et al. (1981:229), two of the males from the "high status" burial, Burial 20, were taller than the other males in the cemetery (Caddell et al, 1981:229). Burial 20A had a femur stature of 172.54+/-2.81 centimeters (5'8"), 20B had a femur stature of 176.56+/-4.04 centimeters (5'10") (Caddell et al. 1981:229). The average female stature in the cemetery was 160.07 centimeters (5'3") (Caddell et al. 1981:229).

Due to their proximity to Lyon's Bluff and the fact that they were sites with Mississippian and Protohistoric components, and burials, it is necessary to be aware of the Yarborough site in Clay County, Mississippi, the Tibbee Creek site in Lowndes County, Mississippi, and the Kellogg Village site in Clay County, Mississippi.

The Yarborough Site

The Yarborough site (22CL814) was excavated in 1980 due to the impact of inundation of the Columbus Lake (Solis and Walling 1982:1). This site was located in the Tombigbee Multiresource district on a natural levee of the Tibbee Creek floodplain (Solis and Walling 1982). Although the Yarborough site was a multi-component site with Archaic, Gulf Formational, Woodland and Mississippian occupations, the emphasis of the excavations was placed on the Mississippian component (Solis and Walling 1982:1, 37-38, 44). During the Mississippian period, a central wattle and daub structure and a refuse dump existed (Solis and Walling 1982:12, 22, 45).

Prior to investigations by Solis and Walling (1982:60) a burial urn was recovered that contained the remains of a child. This urn was recovered by "Mississippi State Archives and History" and according to their representative, it was found in what was probably the interior of the house structure (Solis and Walling 1982:60). The urn and its contents are in possession of the landowner due to legal issues, but it is known that the urn is Mississippi Plain variety Warrior (Solis and Walling 1982:60). Only one other burial, Burial 2, was found (Turner 1982:65). This was a child of around seven years of age. There were only six recognizable bones in this burial (Turner 1982:65).

According to Solis and Walling, "The Late Mississippian settlement at the Yarborough site is classified as a farmstead…in being a small, semi-permanent occupation showing a single domicile, and bearing evidence of a mixed economy including some reliance on agriculture" (1982:67). It is thought that Lyon's Bluff could have been the regional administrative center to the Yarborough site (Solis and Walling 1982:71-72).

Tibbee Creek

The Tibbee Creek site 22LO600 is located 2 kilometers down stream from the Yarborough site. It was excavated in 1981 by John O'Hear (Solis and Walling 1982), but before this, the site was considerably disturbed due to land clearing (O'Hear et al.:15). There were two house structures, one possible house structure, and more than 300 postholes scattered throughout the site. Structure 1 was a Mississippian wall trench structure with two rooms, while Structure 2 was a circular Miller III structure (O'Hear et al. 1981:91). There were also 79 non-structural features that included basin shaped, compound, and irregular shaped pits; smudge pits; stepped postholes; and other miscellaneous features (O'Hear 1981: 49).

According to O'Hear et al. (1981:127), there were 14 human burials recovered at Tibbee Creek. Two of these were discovered due to erosion from a flood in 1977, while the other twelve were found after stripping operations (O'Hear et al. 1981:127). Seven individuals were found in six graves in a small Mississippian cemetery east of Structure 1 (O'Hear et al. 1981:127, 150). These burials were burials 4-7 and 11-13 (O'Hear 1981:127). According to O'Hear et al., "The second group of burials is not a distinct grouping in space like the cemetery area, but these three infant or small child burials are regularly placed with reference to the walls of Structure 1" (1981:151). These include burials 8, 9, and 15 (O'Hear et al. 1981:151). The burials that were thought to be Mississippian include burials 4-9, 11-13, and 15 (There was no Burial 14) (O'Hear et al. 1981:147). The burials were all primary (O'Hear et al. 1981:127-151).

According to O'Hear et al., "…there appear to be distinctions, based on age, which determine whether an individual was buried in a cemetery area or in pits outside the house walls away from the cemetery area" (1981:151). It is noted that the cemetery area contains senile males and subadults, but all children two and under seem to be buried outside of the house walls (O'Hear et al. 1981:151). There is a lack of adult females in the Tibbee Creek population (O'Hear et al. 1981:151).

It is noted that there was a large amount of labor (energy) invested in burial 13. The pit was much larger than the body and all the other burials are in pits only large enough for the burials. This burial is in the cemetery, but the orientation of it cuts across the organized rows ((O'Hear et al. 1981:151-152). The burial did have an embedded antler projectile point and the bone around it was not healed. O'Hear et al. remark that, "It is tempting to associate the differences in Burial 13 with the violent wounds he apparently received" (1981:152).

Burial artifacts at the site associated with the Mississippian burials, aside from the projectile point, include: a marine cross gorget from Burial 5; a columella choker, drilled bear canines and an antler object from Burial 9; a bird bone "barrette" and long chert "pin" which were thought to be a hair ornament from Burial 12; and 225 shell beads associated with Burial 15 (O'Hear et al 1981:127-152).

Kellogg Village

The Kellogg Village Site (22CL527) was a multicomponent site located on the Tombigbee River near the Columbus Lock and Dam (Atkinson et al. 1980:7). The two major components at this site were Archaic and Mississippian. Forty-two burials were

excavated at Kellogg Village. These burials were from the Archaic and Mississippian periods (Atkinson et al. 1980:166).

Burials from the Archaic period were underrepresented, as there were only two (Burials 13 and 19), however one of these was an Archaic period cremation (Burial 19)with burial goods found at the base of the midden (Atkinson et al. 1980:166). Thirty-four of the burials were considered to be Mississippian; while six were probably Mississippian (Atkinson et al. 1980:151-152). The Mississippian component contained a cemetery consisting of four clusters of burials (Atkinson et al. 1980:150). According to Atkinson et al. (1981:150), "The Mississippian burials are typical of that cultural tradition in that burial pits were often placed side by side and most of the skeletons lay extended on the back". It was also noted that all of the Mississippian burials were oriented either toward or generally toward the east (Atkinson et al. 1980:150). Burial goods from the Mississippian and probable Mississippian burials included: Mississippi Plain, variety Warrior jar (Burial 1); 467 marine shell tubular beads (around neck of Burial 2); 327 marine shell disc beads (Burial 3); a large Mississippi Plain sherd (Burial 5); two deer radii and a Moundville Incised, variety Carrolton rim sherd (Burial 6); small globular Mississippi Plain jar, two greenstone celts, a bone awl, and five Madison points (Burial 7); turkey bone awl and sandstone abraider (Burials 8 and 10); ground antler artifact (Burial 9); a Mississippi Plain body sherd and a single shell disc bead (Burial 11); a marine shell gorget with cut-outs (Burial 12); a large Mississippi Plain sherd (Burial 14); bone projectile point (Burial 18); Moundville Incised variety Carrolton jar (Burial 20); engraved marine gorget (Burial 21); ferruginous sandstone palette (Burial 23); large engraved shell tempered sherd (Burial 29); engraved marine shell gorget (Burial 34); and

two whelk shell dippers, engraved marine gorget and five antler tines (Burial 36) (Atkinson et al. 1980:150-166).

As far as artifact distribution was concerned, some of the things that Atkinson et al. (1980:167) noticed were, that shell beads were buried with children and infants, complete vessels were buried with adults, incomplete vessels and sherds were buried most often with individuals under the age of 20 years, marine shell gorgets were buried with adults males, greenstone celts were only buried with adults, and arrow points and bone and antler artifacts were only buried with adults. They also note that the graves in the center of the cemetery seemed to contain the most elaborate grave goods and that the further south on the periphery of the site, the grave goods were less complex (Atkinson et al. 1980:170). It is suggested that the infant burial (Burial 42) that was in the same burial pit as Burial 36, was a ritual accompaniment (Atkinson et al. 1980:171).

Meadowbrook

Although the Meadowbrook site (22LE912) in Lee County, Mississippi is a historic period Chickasaw site, it is of relevance to this thesis, so it will be discussed here briefly. This site overlooks a tributary of Kings Creek in the area around the Chickasaw Old Fields in Tupelo (Johnson et al. 1994:431). Thirteen graves containing twenty-three individuals were excavated at this site in 1990 (Johnson et al. 1994:431).

Fourteen of the burials at this site were bundle burials, which according to historical data on the Chickasaw was reserved for those who died away from their villages (Johnson et al 1994:431-432). The authors felt that since conflict was prevalent in the area during the historic period, that this would explain the presence of male bundle

burials. There were, however, females and children present in this burial mode as well (Johnson et al 1994:432). Through the investigation of ethnohistorical data on the Chickasaw, it was determined that the females and children could have accompanied the males on the winter hunt, war parties, and travel to Charles Town or Mobile (Johnson et al. 1994:438).

Four of the burials at the Meadowbrook site were primary and either flexed or semi-flexed (Johnson et al. 1994:436-4377). It was with these four burials that the majority of grave goods (99.8 percent) were found (Johnson et al. 1994:440). These four burials were all adult males with an average age of 40.4 years (Johnson et al. 1994:440). The authors reasoned that if status corresponded with grave goods than the flexed burials were higher status while the bundle burials were lower status (Johnson et al. 1994:440). Johnson et al. felt that, "The Meadowbrook burial data fit the classic expectations for achieved status" (1994:440).

From stone box graves to skull cap caches, it is apparent that burials in the Southeast during the Mississippian and Protohistoric periods varied considerably. At the various sites discussed above, researchers have suggested or refuted differences in social status based on parameters such as placement within a site and the presence and amount of burial goods, as well as origin or source area of these goods. Some of these studies have in varying degrees, acknowledged energy expenditure. For example, Fisher-Carroll and Mainfort mention that one of their expectations of a ranked society is that "…there will be marked disparities between elite and non-elite burials with regard to the amount of wealth and particularly effort expended during mortuary ritual" (2000:106). Others have used a variety of other methods to come to their conclusions about status. In most

cases, however, energy expenditure is a dimension that would allow for the scientific measurement of some attributes commonly present in the archaeological record of mortuary practices. It is important to recognize that many of the goods that could have been included in burials (for example, food and other perishables) would not leave any material remains at all in the archaeological record. The dimensions of energy expenditure employed in this analysis are recognizable in the archaeological record.

CHAPTER 3

LYON'S BLUFF AND SOME OUTLYING FARMSTEADS

The Site: History and Environment

Lyon's Bluff is located in Section 33, Township 20N, Range 15E, in northeast Oktibbeha County, Mississippi. Sites in the study area (Figure 1) are "…underlain by the Prairie Bluff chalk of the Cretaceous Selma formation" (Brent 1973: 90). This chalk occurs at Starkville and the surrounding area of eastern Oktibbeha County. This part of the county is in the Black Prairie physiographic zone (Brent 1973). Physiographic zones in Oktibbeha County include the Black Prairie, "…the western boundary of which is just west of Starkville," the Interior Flatwoods, encompassing most of the central part of Oktibbeha County, and the North Central Hills in the western part of the county (Brent 1973:90).

Oktibbeha County has a warm and humid climate, with an average rainfall of 50 inches per year (Brent 1973: 92). The average temperature ranges from 46˚ F in January to around 81˚ in July (Brent 1973: 92). The dominant trees present on the Black Prairie prehistorically were probably post oak, red oak, and hickory, which were important at the time of the 1832 General Land Office Survey (Peacock and Miller 1990: 49-51). This is supported by leaf impressions in daub from two Mississippian sites in the area, one being Lyon's Bluff (Peacock 1993). Cedar is a dominant tree type on the Black Prairie in the

modern era (Johnson 1990). The presence of cedar at Lyon's Bluff by late Mississippian times, as seen in wood charcoal and daub impressions, was probably due to human disturbance of the local environment (Seltzer 2007). The types of fauna in the area include white-tailed deer, wild turkey, quail, raccoon, cottontail rabbit, opossum, muskrat, fox and beaver (Blakeman 1975: 193). Permanent streams in the area include Line Creek and Josey Creek (McLendon and Hurst 1908: 6).

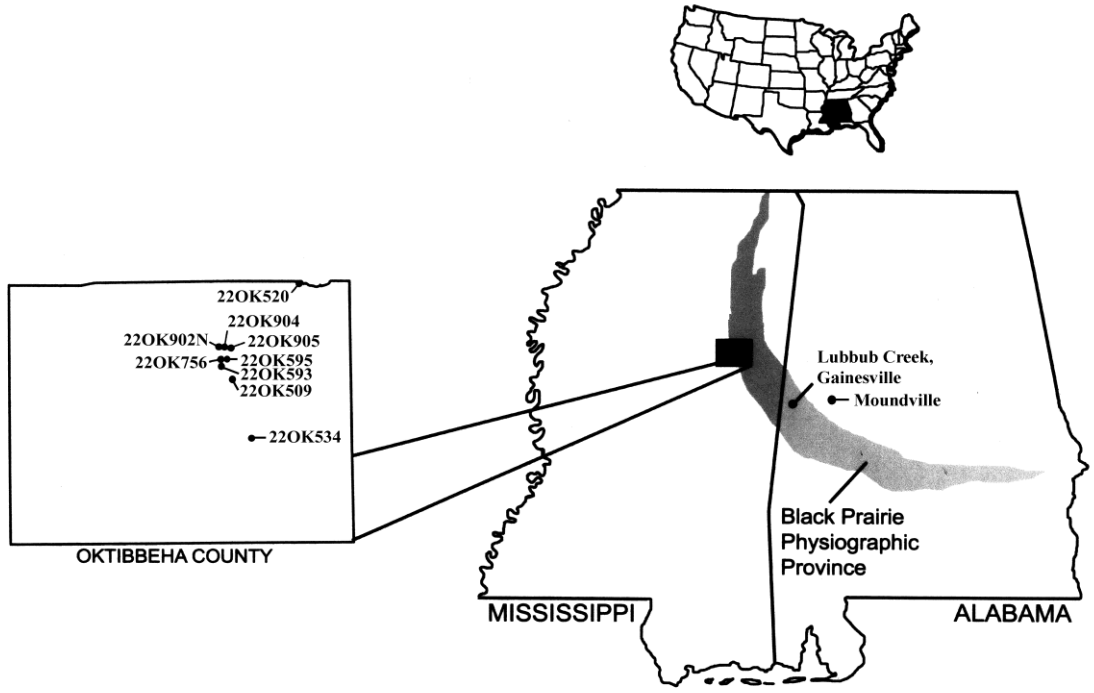

Figure 1 Locations of Lyon's Bluff, the farmsteads, Lubbub Creek, Gainesville and Moundville

Oktibbeha County has a rich historic and prehistoric background. According to Rafferty, "It appears to be the case that settlement began on the ridges (of the Prairie Bluff formation) in the Middle Woodland period and continued through Protohistoric times" (Rafferty 2001: 362). The northward expansion of Starkville in the 1970's led to locating the remains of a large contact-period Indian settlement dating from the time of European contact (Atkinson 1979: 61). This area, Rolling Hills, is discussed later in this thesis. One hypothesis is that the Rolling Hills area was inhabited by the Chakchiuma, from an unknown date to no later than 1718 (Atkinson 1979: 69).

Lyon's Bluff is a single mound center with a surrounding village on a bluff overlooking the Line-Tibbee Creek valley to the north (Figure 2) (Marshall 1968a: 1). It is a site that spans much of the Mississippian and Protohistoric periods, from at least A.D. 1200-A.D.1690, based on calibrated standard radiocarbon and AMS dates from burial contexts and strata and features excavated by the 2001 MSU field school at Lyon's Bluff (Peacock and Hogue 2005; Hogue 2007:253). Later additional AMS dates on four burials (1967 Burial 1 and 1968 Burials 23, 30, and 31) led Hogue (2007:262) to realize that, "Four Lyon's Bluff burials with fronto-vertiooccipital cranial deformation are found to date between the early fifteenth and mid-sixteenth centuries". When all of the dates from the site are considered (Marshall 1977; Hogue 1994, 2000; Peacock and Hogue 2005; Hogue 2007), there is evidence that suggests a settlement continuity of between 450 and 500 years (Peacock and Hogue 2005; Hogue 2007).

Moreau B. C. Chambers was the original investigator of Lyon's Bluff. He led the investigation of the site in 1934 and1935. At that point, he noted that looting had already been occurring at the site (Galloway 2000:80). Unfortunately, Chambers never published

the results of his excavations (Galloway 2000:22). To make the problem even more difficult, much of what was excavated by Chambers was thought to have been destroyed, in a WWII period fire, in the warehouse where the artifacts were being stored (Baca 1989:38). The well-preserved skeletal material from Chambers' work was lost when it was loaned to a private institution in Natchez, Mississippi (Baca 1989:38). Some of the artifacts have since been relocated and are stored at the Mississippi Department of Archives and History in Jackson, but remain unanalyzed.

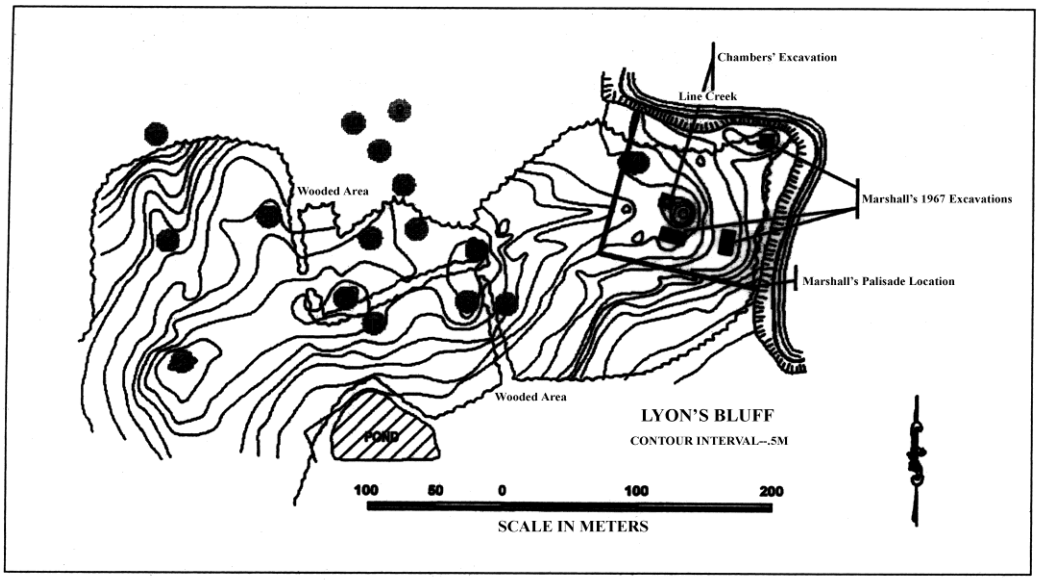

Figure 2 Topographic map of Lyon's Bluff with portions of Marshall's sketch map overlaid. Taken from Lolly 2000: Figure 4. Used with permission.

Chambers received much support from the locals when excavating Lyon's Bluff due to the fact that many believed a local legend that the site was that of the Chakchiuma, destroyed by both the Choctaw and Chickasaw in a battle (Claiborne 1880:504; Galloway

2000:26; Halbert 1903:303-305). It is felt that the Chakchiuma were closely related to the Creeks of Alabama and Georgia (Atkinson 1979:69). This is due to similarities in incised pottery types and urn burials (Atkinson 1979:68).

Chambers himself did not believe this. He was excavating the site to determine a cultural sequence for the area and to obtain a collection to be compared with that from the Brogan Mound site (22CL501) in Clay County, Mississippi (Galloway 2000: 26). Marshall did not support this notion either. In a 1968 memorandum to the Horseshoe-Robinson Chapter of the DAR, he stated, "At present, on the evidence excavated, there is no basis on which to identify the site as Chocchuma" (Marshall 1968a:7).

The next time the site was excavated was in 1965 by the Mississippi Archaeological Association. Richard Marshall, an archaeologist for Mississippi State University, undertook the majority of research on the site in the late 1960's and early 1970's (Lolley 2000: 2). There has not been a synthesis of his work; however he has published several papers on various findings (Marshall 1968a, 1977, 1985, 1986a, 1986b). Mississippi State University also held both the 2001 and 2003 archaeology field schools at Lyon's Bluff under the direction of Evan Peacock, an archaeologist at Mississippi State University (Peacock and Hogue 2005).

Sixty-six individuals from Lyon's Bluff were previously analyzed for age and sex (Hogue 2000:64). Twenty-seven of these were from the same excavation area and, based on one radiocarbon date, may represent individuals from a Middle Mississippian occupation (Hogue 2000:64). Of these twenty-seven burials, nine were semi-flexed primary, five were extended, one was bundle, and twelve were unrecorded for burial type (Hogue 2000:64). Thirty-eight more burials were thought to represent a late

Mississippian occupation (Hogue 2000; Hogue et al. 1996a:3). Of these thirty-eight, twenty were semi-flexed, five were extended, four were bundle, and the remainder were unrecorded (Hogue 2000:64). One primary burial was radiocarbon dated to the Protohistoric period (Hogue 1994; Hogue 2000:64). Hogue (2007) secured additional AMS (accelerator mass spectrometry) dates, at two sigma, from bone collagen of four burials mentioned earlier: 1967 Burial 1 (1400-1500 A.D.), 1968 Burial 23 (1440-1530 A.D. and 1540-1630 A.D.), 1968 Burial 30 (1410-1510 A.D.), and 1968 Burial 31(1430-1530). These dates represent late Mississippian and Protohistoric burials. Although Hogue's (2000) research shows continuous use of Lyon's Bluff as a formal burial area beginning at least in the Middle Mississippian and continuing through the Protohistoric period, additional dates are warranted to justify separate burial placements through time. An assessment of mortuary practices at the site may provide additional support for or refute Hogue's proposal.

There are several types of burial modes present in the Oktibbeha County area. These include primary single interments, single and multiple secondary burials, and urn burials (Hogue 2000:68). Burials at South Farm (22OK534) were generally primary single interments in the flexed position (Hogue 2000:64). Marshall (1967, 1968) identified five single bundle burials at Lyon's Bluff (Hogue 2000:68). These were indicated by his field notes; however, Hogue is now uncertain that they were actually bundle burials and feels that they may have been disturbed by modern day plowing and/or prehistoric disturbance at the site (Hogue 2007).

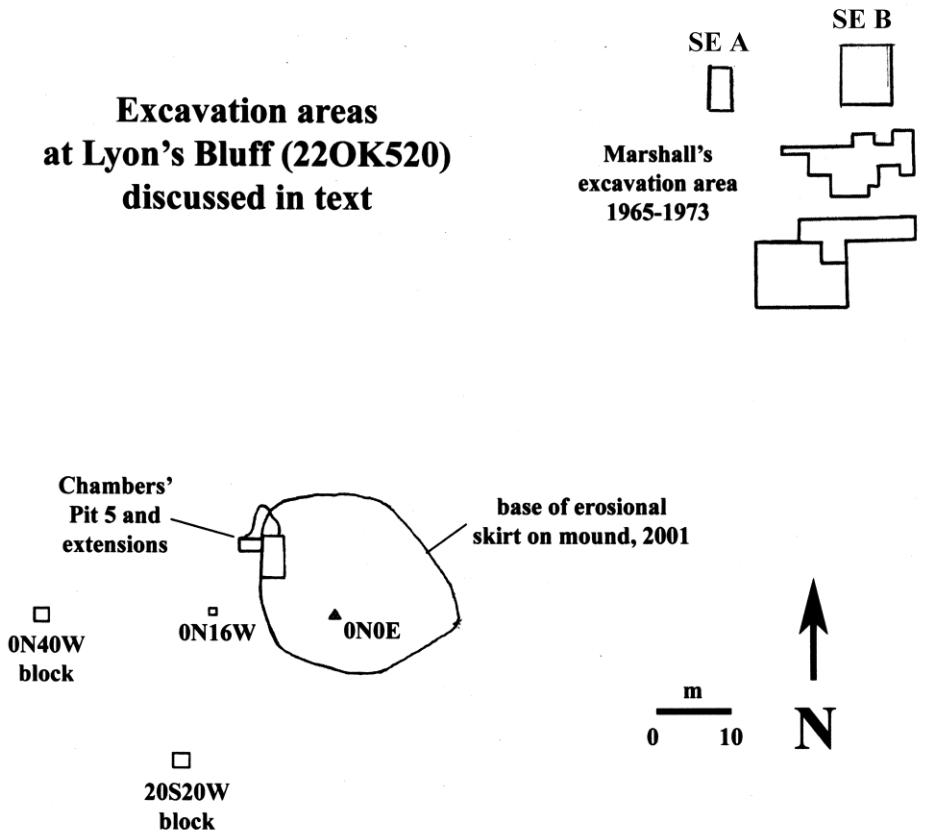

Figure 3 Plan map of the excavated areas at Lyon's Bluff discussed in the text

The Farmsteads

According to Blitz, when farmsteads are excavated, they "…often exhibit a remarkable degree of similarity in size and composition" (Blitz 1993a: 104). The artifact assemblages found at farmsteads represent a range of activities, including "…hunting, fishing, collecting, horticultural and raw material processing tasks" (Blitz 1993a: 104). Several Mississippian/Protohistoric farmsteads have been located in the Starkville area. It used to be the case that little was known about these sites and the nature of the

relationship between them [farmsteads] and larger Mississippian sites where mounds were constructed" (Hogue and Peacock 1995: 31). Hogue and Peacock felt that this lack of information is, was part, due to the fact that was a preference to dig large mound centers, the degree of disturbance of small sites, and failure to integrate survey data with the excavation of the large centers (1995: 31). Since 1995, this situation has changed. There have been several publications dealing with the archaeology of these farmsteads, including Hogue 2000, 2006, 2007; Hogue et al. 1996a, 1996b; Peacock et al. 2005; Peacock and Gerber 2008; and Rafferty 2001, 2003.

It has been suggested that Lyon's Bluff may represent part of a two-tiered settlement hierarchy for the Tombigbee River valley, with farmstead sites like South Farm (22OK534) composing the other element (Hogue 2000:64). This suggestion is supported when maize consumption is compared at the two sites (Hogue 2000:64). Maize played a more critical role in the diets of the Lyon's Bluff population, while at South Farm it contributed less. This *could* be evidence that the South Farm site was provisioning the Lyon's Bluff site (Hogue 2000:78). This type of pattern has also been observed for the three-tiered settlement hierarchy of Moundville (Hogue 2000:78; see Welch and Scarry 1995).

The local sites with burials used as a comparative basis in this study include South Farm (22OK534), Plantation Homes (22OK509), and Rolling Hills (22OK593/22OK595). The farmsteads 22OK904, 22OK905, and 22OK902N will also be included in the research. Josey Farm is also an important farmstead in the area, however no human burials were recovered therefore it was not included in this study (Rafferty 2001, Rafferty and Hogue 1999). Until now, it has never been really demonstrated that

Plantation Homes and Rolling Hills are farmsteads; however, Hogue (2000) discusses evidence that can justify this assertion. She shows continuous occupation of these areas from the late Mississippian (A.D. 1450) well into the Protohistoric and supports this by noting that these are small sites (inferred from small scattered burials) (Hogue 2000:66). There is also evidence from carbon isotope analysis for maize consumption, and little evidence of village occupation based on the absence of midden deposits. Hogue (2007) provides a list of the burials and addresses questions related to diet and health.

South Farm is a small farmstead in eastern Oktibbeha County, Mississippi that dates from the Middle to Late Mississippian period (Hogue and Peacock 1995:31; Hogue 2000:64). Radiocarbon dates from wood charcoal at the site place occupation to around A.D. 1410 (Hogue and Peacock 1993). The radiocarbon dates for South Farm correlate with the Moundville II/III phase for the Black Warrior River valley (Hogue and Erwin 1993:5). The site is located on a southwest running ridge above a tributary of Skinner Creek on the western edge of the Black Belt physiographic province (Hogue and Peacock 1995:32, 34). Six burials were excavated at the South Farm site, along with numerous other features (Hogue and Peacock 1995:32). All six of these burials were primary and five of them were flexed (Hogue 2000:64). South Farm has both a Woodland and a Mississippian component (Hogue and Peacock 1995: 34). The Woodland date (A.D. 800) came from feature R, a pit containing sand-tempered ceramics (Hogue and Peacock 1995:33-34). The Middle Mississippian dates (A.D. 1390 and 1410) came from wood charcoal from features M and F (Hogue and Peacock 1995: 33-34).

Plantation Homes (22OK509) is located in north Starkville, Oktibbeha County. It was discovered in 1970 when bulldozers exposed human remains (Hogue et al. 1996a:1).

Several individuals were recovered, possibly representing a multiple burial of six individual bundle burials (Hogue et al. 1996a:3). This is the only known burial site associated with Plantation Homes (Hogue 2000: 68). Three radiocarbon dates taken from a burial averaged at A.D. 1573 ± 60 (Hogue et al 1996a:3). Based on this date, Plantation Homes is thought to be contemporary with sites associated with the Rolling Hills area (Hogue et al. 1996a:3).

The Rolling Hills archaeological complex is located adjacent to Plantation Homes in north Starkville (Hogue et al. 1996a:1). Sites were discovered in the Rolling Hills subdivision in 1974 and continued to be discovered for the next decade (Hogue et al. 1996a:1). There were several burial series associated with the Rolling Hills archaeological complex (22OK593/22OK595). They include four secondary multiple burials (1983 Mass Burial, Lot 45, Lot 42, and Mass Burial 2), five primary single interments at 22OK593, and two urn burials, as well as two more primary single interments at the small farmstead 22OK595 (Hogue 2000:68).

The 1983 Mass Burial dates from A.D. 1655 to A.D. 1815 at one sigma (Hogue 2000:64). This burial contained eight individuals (seven adults and one sub-adult) (Hogue et al. 1996a:3). Another mass burial, Mass Burial 2, contained two adult females and four sub-adults. This burial dates from A.D. 1650 to A.D. 1850 at one sigma (Hogue 2000:64). Both Lot 42 and Lot 45 are Historic contact period mass burials (Hogue 2000:64). Lot 42 contained the burials of eight individuals, mostly adults, with one of unknown age and one sub-adult (Hogue 2000:64). Lot 45 contained the burials of three individuals, one adult male and two young children (Hogue 2000:64).

The two urn burials from the Rolling Hills area include the multiple secondary burial known as the 1983 Urn Burial and the primary urn burial of 22OK593 (Hogue 2000:64). The burials in these two urns were not radiocarbon dated due to the poor condition of the skeletal remains, however; thermoluminescence (TL) dates were obtained from sherds from or associated with each urn (Rafferty et al. 2008). The TL dates for these two urns overlap in the late 14th century (Rafferty et al. 2008:8). It has been suggested that they are temporally associated with the Protohistoric Alabama River Phase spanning from A.D. 1550 to A.D. 1700 (Hogue 2000:67; Steponaitis 1983:168). The urns involved in these urn burials were not made specifically as containers for the remains of the dead, but were previously cooking vessels as determined from sooting, abrasion and scratches on the vessels (Rafferty et al. 2008:13)

Another site associated with Rolling Hills is 22OK595. This farmstead contained the primary burials of an adult female and a sub-adult (Hogue et al. 1996a:3; Hogue 2000:68). Site 22OK595 has an average date of A.D. 1655, based on all radiocarbon dates (Hogue et al. 1996a:3).

There are also several primary single interments that were found in the Rolling Hills archaeological complex associated with 22OK593 (Hogue 2000:64). These include the Site 7 burial, RH3, RH4, RH6, and C-1 (Hogue 2000:64). These were all primary single interments (Hogue 2000:64). These burials have not been radiocarbon dated, but are felt to date to the Historic period based on grave associations such as blue glass seed beads (Hogue 2000: 64).

The burials at sites 22OK902N, 22OK904, and 22OK905 were discovered in 1998 during Phase II testing in Oktibbeha County for the Hwy. 82 bypass (Hogue 2006).

Thirty-seven burials were recovered in the period between 1998 and 2001 (Hogue 2006). These include secondary bundle burials (22OK904 and 22OK905), two multiple secondary burials (22OK902N), an urn burial (22OK902N), as well as primary single interments (22OK905). All of the secondary burial skulls showed the presence of fronto-occipital cranial deformation, which suggests that they were culturally similar (Hogue, 2006).

Burial 1 at 22OK905, a secondary bundle burial, radiocarbon dates to between A.D. 1640 and 1878 (Hogue, 2006). There were also seven primary interments recovered from this site (Hogue, 2006). Burial 7, one of the primary interments, dates to between A.D. 1287 and 1400 (Hogue, 2006). These dates show both a Middle Mississippian and a Protohistoric occupation for the site (Hogue, 2006).

Burial B from 22OK902N, part of a secondary multiple burial, AMS dates at 2-sigma to 1488-1669 A.D. (Hogue 2006). Burial 2 from 22OK904, a secondary burial, AMS dates at 2-sigma to 1456-1650, while Burial 4 from this site, another single secondary burial, AMS dates at 2-sigma to 1404-1628 (Hogue 2006). The dates from the burials at both of these sites show Late Mississippian to Protohistoric occupations.

As previously mentioned, the burials from both Lyon's Bluff and the farmsteads that have been discussed above will be the ones used in this study. All of these burials will be discussed in greater detail in Chapter 5.

CHAPTER 4

METHODS

Much of the present analysis relies on archival data. There are difficulties associated with the use of archival data. A critical assessment of both textual and graphic materials will be necessary due to the disorganization of the original materials (Galloway 2000:24). The burials excavated in the late 1960's unfortunately lacked thoroughly cataloged burial records, and provenience information on the burials was not always clearly recorded. It was necessary to review burial cards, square level forms, field notebooks, black and white photographs of the burials, slides of the burials, and plan maps. Even so, there was information about the excavation units and burials that was missing or unable to be located for use in the analysis. Two reports, along with the photographs and drawings submitted to the Mississippi Department of Archives and History for the burials excavated in the 2001 and 2003 field seasons were very helpful when it came to collecting the data needed for this analysis (Peacock and Hogue 2002; Hogue et al. 2004).

To begin the analysis on Lyon's Bluff and the outlying farmsteads, burial data from burial forms, burial cards, field notes and the NAGPRA inventory (O'Hear and Hogue 1995) were reviewed. An article by Homes Hogue (2007) in which she recorded age, sex, femur stature, cranial deformation and burial type for the 1967, 1968, and

2001/3 Lyon's Bluff field seasons was also relied upon. From the information collected from these sources, a table was created that listed all of the available information on each burial. From there, photographs of the various burials were reviewed to see if any blanks on the table could be filled in and/or any information from field notes in regard to burial type, burial orientation and burial accompaniments could be corroborated. Next, the burial artifacts curated at the Cobb Institute of Archaeology were analyzed with the help of Dr. Evan Peacock. These artifacts were then photographed.

A paradigm (Table 1) with dimensions of burial treatments and modes of grave goods was then created using the information collected from Lyon's Bluff. The burial types are discussed in regard to energy expenditure in Chapter 1. It was determined that having no burial inclusions represented the mode with the least amount of energy expenditure, while having local goods represented the mode with the second-least amount of energy expenditure. Having only exotic goods represented the third mode with the second-most amount of energy expenditure, and the fourth and final mode representing the most energy expenditure, was the presence of both local and exotic burial goods. Another paradigm that used the same dimensions and modes was created for the combined information of the farmsteads.

The burial goods were classified as local or exotic. The classifications were based on what would, or would not have been readily available in the local environment. Things such as freshwater mussel, bone artifacts from animals that were found in the local ecosystem, fossils that could be found locally, shell-tempered pottery, these are the kinds of things that were considered to be local. Things such as copper, mica, marine shell, European trade goods, Nodena Red and White pottery (Peacock et al. 2007); things

that took extra energy to procure, these artifacts were considered exotic. These classifications would change for different environments.

Table 1 Energy expenditure paradigm

Energy Expenditure Paradigm secondary multiple	exotic and local	exotic	local	none
cremation				
urn				
bundle				
secondary single				
cremation				
urn				
bundle				
primary multiple				
urn				
extended				
semiflexed				
flexed				
primary single				
urn				
extended				
semiflexed				
flexed				

In order to classify the burials, first it was necessary to eliminate all burials with incomplete or questionable documentation in regards to burial type. Any burial, for instance, that was disturbed or of unknown burial type was eliminated. It was also necessary to classify burials as having inclusions of either both exotic and local artifact types, only exotic, only local, or none present. For the purposes of the paradigm, burials that have only very questionable documentation of burial goods (for example, only mentioned in field notes, not curated at the Cobb Institute of Archaeology, without any photographs, and not included in NAGPRA Inventory) were considered to have no burial

goods. The burials used from Lyon's Bluff in my analysis were 1934/35 Pit 1 Burial 1; 1934/35 Pit 5 Burials 1, 2, 3, 4, 6, 7, 8, 9 and 10; 1965 Burials 1, 3, and 4; 1967 Burials 1, 1A, 2, 3, 5, 6, 8, 12, 13, 14, 16, 18B, and 21; 1968 Burials 3, 5, 6, 7, 8, 10, 15, 16, 18, 22, 23, 25, 26, 28, 29, 30, 34 and 35; and 2001/2003 Burials 1 and 3. The burials that were used from the farmsteads in my analysis were 22OK904 Burials 1, 2, and 4; 22OK905 Burial 1; Rolling Hills (22OK593) "1983 Mass Burial" Burials 1, 2, 3, and 4; 22OK756 Lot 42 Burials 1, 2, 3, and 4; 22OK756 Urn Burial ; 22OK756 Infant Burial; 22OK593 "1983 Urn Burial" Burials 1, 2, and 3; 22OK593 Burial RH6; 22OK595 Burial 1; 22OK902N Feature 1 Burial 1; 22OK902N Feature 2 Burials A, B, C, D, E, F, G, H, I, J, L and "Northern Bundle"; 22OK902N Feature 3 Burials A, B, and C; and 22OK534 Burials 2, 3, 4, 5, and 6.

When analyzing the data it became necessary to create categories of energy expenditure in order to better understand what the paradigms revealed. From any point on the paradigms, a move up or left was an increase in energy expenditure. Because a move up or to the left indicates an increase in energy, categories were created which encompassed both (Table 2). Starting from the very bottom right (primary single, flexed with no artifacts) as category A, one move up or left was category B, one move up or left from category B was category C, and so on. There were seventeen energy expenditure categories in all, with A representing the least and Q representing the most expenditure of energy.

Table 2 Categories of energy expenditure

secondary multiple	**exotic and local**	**exotic**	**local**	**none**
cremation	Q	P	O	N
urn	P	O	N	M
bundle	O	N	M	L
secondary single				
cremation	N	M	L	K
urn	M	L	K	J
bundle	L	K	J	I
primary multiple				
urn	K	J	I	H
extended	J	I	H	G
semiflexed	I	H	G	F
flexed	H	G	F	E
primary single				
urn	G	F	E	D
extended	F	E	D	C
semiflexed	E	D	C	B
flexed	D	C	B	A

A plan map of the site was then created (Figure 3) from points that had been shot in by Dr. Evan Peacock and the 2001/2003 field schools. By reviewing old site maps and forms, it was discovered that it was possible to plot the locations of two areas excavated in the 1960's, Southeast Block A and Southeast Block B. There had been some uncertainty as to where these excavation areas were for some time. Burials were then plotted on the map as a whole, and then in individual excavation areas. In the maps of the individual excavation blocks, the burials were sketched in when possible, taking into account burial type and burial orientation (Figure 4). It was necessary to approximate the locations of some of the burials in the units due to the large size of the units (Marshall's

were 10 foot by 10 foot) and lack of sketches or photographs of these units in relation to the burials.

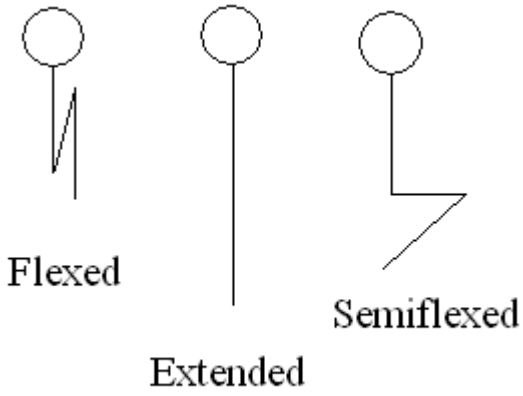

Figure 4 Representations of burial types drawn on the maps

CHAPTER 5

BURIAL AND ARTIFACT DESCRIPTIONS

The information contained in the 1934/5 burial descriptions is taken from Galloway (2000) and photographs from the Moreau B. Chambers Collection from the Mississippi Department of Archives and History. The information contained in the 1965, 1967, 1968 and 2001/2003 burial descriptions is taken from several sources. These include burial forms, field notes and the NAGPRA inventory, as well as Hogue (2000, 2007), Peacock and Hogue (2002) and Hogue et al. (2004). With the exception of the information on the 1934 and 1935 burials from Galloway (2000) the information on sex, age, femur stature, and cranial deformation is taken specifically from Hogue (2000 and 2007) because, as Fisher-Caroll and Mainfort felt in their study of Upper Nodena (2000:108), the field estimates in these regards were considered unreliable. Information on the urn burials was taken from Rafferty et al. 2008.

The 1934/5 Burials

Pit 1 Burial 1 was a primary flexed burial of an infant on its back or left side with knees to chest. This burial was approximately 15 inches deep in the midden.

Pit 3 Burial 1 was a burial washing out of the bluff slope on the south side of Line Creek with only the upper portion of the skeleton present because part of it had slipped into the creek.

Pit 5 Burial 1 was a flexed burial of an adult male on its right side with the head to the south. The burial was located approximately 24 inches deep in midden debris at the foot of the west side of the mound (See Figure 5 for all Pit 5 Burials).

Pit 5 Burial 2 was a flexed burial of a probable infant on its right side and oriented north-south with its head to the south. This burial was beneath Burial 3.

Pit 5 Burial 3 was a flexed burial on its right side and oriented north-south with the head to the south. The burial was located approximately 24 inches deep in midden debris at the foot of the west side of the mound. There was a fossil horse tooth touching the feet of this burial as well as an abrading stone near the tibia.

Pit 5 Burial 4 was the flexed burial of an adult male on its right side and oriented north-south with the head to the south. This burial was located at a depth of 18 to 24 inches in midden debris at the foot of the west side of the mound.

Pit 5 Burial 5 was the flexed burial of a female. The individual was oriented east-west with the head to the east. An infant skull was located near the chest of this burial, and a shell spoon located behind the head.

Pit 5 Burial 6 was the semi-flexed burial of an adolescent oriented north-south with the head to the south and face to the east. This burial was located in the bank south of burial 5 at a depth of 20 inches.

Pit 5 Burial 7 was a semi-flexed burial of a possible male that was oriented north-south with the skull to the south and the face down. The skull of this burial was located at the position of 15'9"N3'8"E on Chambers' grid at a depth of 19 inches.

Pit 5 Burial 8 was a flexed burial of a possible female on its left side with the skull to the southeast and the face to the west. The skull was approximately 9 inches below the surface. The back of the skull was at a position of 6'7"N3'E on Chambers' grid.

Pit 5 Burial 9 is the flexed burial of an immature individual oriented east-west with the head to the east and the face to the south. The skull was at a position of 13'N4'W on Chambers' grid at a depth of 27 inches.

Pit 5 Burial 10 is a flexed, supine burial of an aged male. The burial was oriented east-west with the skull to the east and facing upward. The skull was located at a position of 16'3"N6'3"W on Chambers' grid at a depth of 27 inches.

Burial 11, a crushed skull, vertebrae, a few ribs, hand bones, of unknown age and sex was found at a depth of 3'8" in an extension of a wall trench from Pit 5 near burial 9, as well as an alligator skull and turtle shell fragments (carapace and plastron).

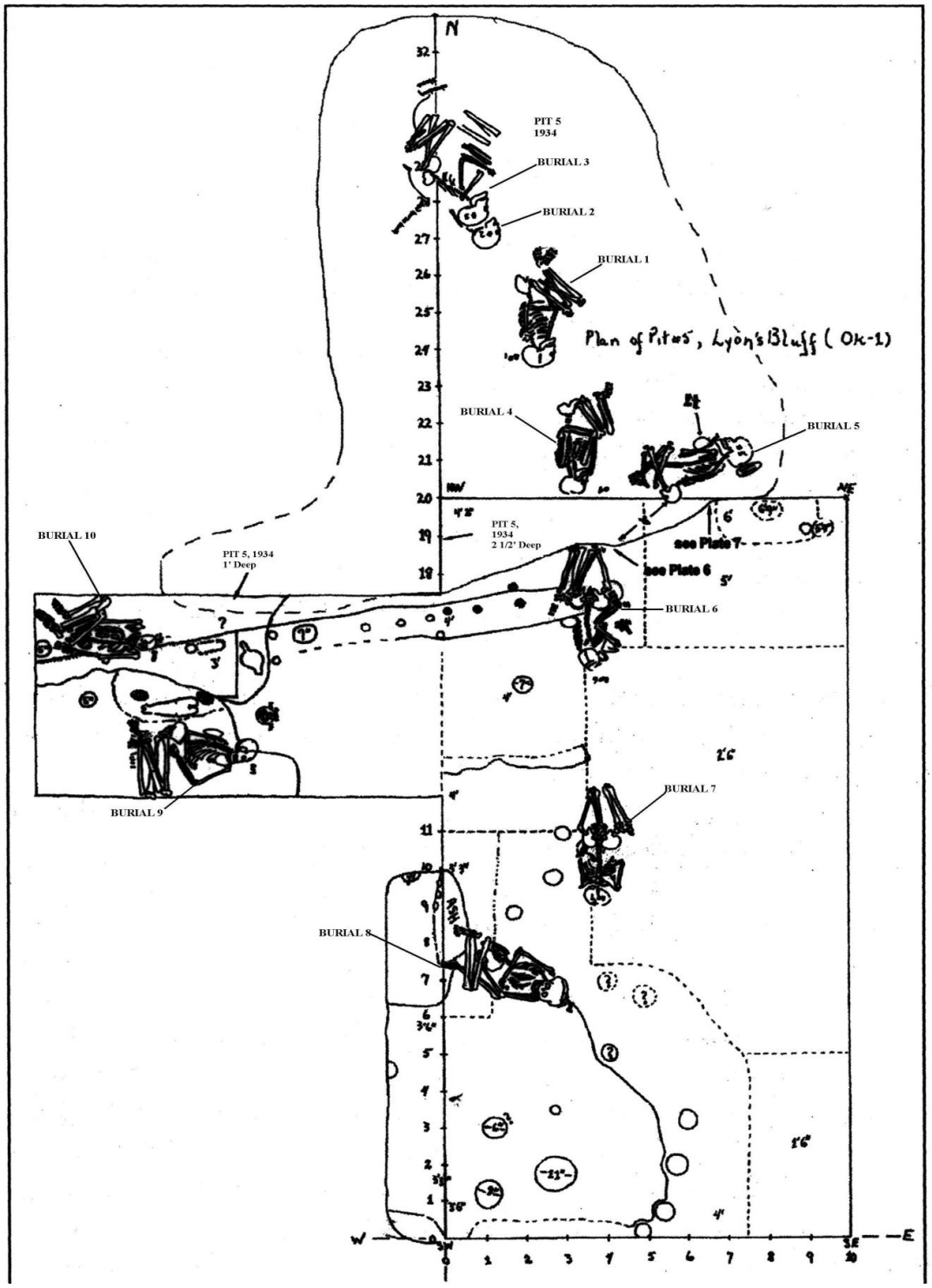

Figure 5 Composite plan: Burials 1-10 in 1934 Pit 5, 1935 Pit 5, 1935 Pit 5 extension.

Taken from Galloway 2000: Figure 8. Used with permission.

The 1965 Burials

1965 Burial 1 was a primary, semi-flexed burial of unknown age and sex. The burial was located in unit 79N87E (all of the burials from the 1960's are referenced to Marshall's grid) and was oriented east-west with the skull to the southeast and the face up. This individual was located at a depth of 31to 34 inches below the surface (See figure 26 for locations of the 1965 burials).

1965 Burial 2 was a young adult, female, secondary, bundle burial or plowzone burial that was located in unit 78N85E. This individual was oriented north-south.

1965 Burial 3 was a primary, semi-flexed burial of unknown age and sex. This individual was located in unit 70N70.4E and was oriented north-south.

1965 Burial 4 was a primary, semi-flexed burial of unknown age and sex. This individual was located in unit 64N75.3E and was oriented north-south.

The 1967 Burials

1967 Burial 1 was a fifty year-old or older primary, semi-flexed, supine male with fronto-occipital cranial deformation. This individual's femur stature was 163.3+/-3.417 centimeters (Hogue 2007). He was located in unit 100N75E and was in level 4 (Marshall used arbitrary 6" levels), buried at a depth of 18 to 24 inches. The individual was oriented east-west with the skull to the west and the face up. The burial notes indicate that this burial was lying on a refuse pit and that this burial was covered in refuse (See figures 20 and 21 for a location map of the 1967 burials).

1967 Burial 1A was a primary, extended burial of a 7 to 11 year-old child with possible fronto-occipital cranial deformation. This burial was located in unit 100N75E and was in

level 4, buried at a depth of 23 inches. The burial notes indicate that this burial was lying on a refuse pit and that this burial was covered in refuse.

1967 Burial 2 was a primary, tightly flexed burial of a 2 +/- 8 month old child that had possible fronto-occipital deformation. This individual was located in unit 105N80E. The burial was found in level 3, buried at a depth of 14 inches. The skull was to the east with the face to the southeast.

1967 Burial 3 was a primary, semi-flexed, supine, 3 to 5 year-old child. There was no evidence of any cranial deformation. This individual was located in unit 110N75E at level 2, at a depth of 4 ¾ inches. The body was oriented northwest to southeast with the skull to the southeast and the face up.

1967 Burial 4 was a possible secondary bundle burial of unknown sex and age. This burial was located in unit 95N105W at level 2.

1967 Burial 5 was a primary, extended, supine burial of a child of age 12 years +/-30 months that had evidence of fronto-occipital cranial deformation. The burial was located in unit 100N90E at level 5. This individual was oriented east-west with the skull to the east and the face to the north. There was a bone awl made from a turkey ulna with this burial (Figure 6).

Figure 6 Turkey ulna awl from 1967 Burial 5

1967 Burial 6 was a primary, semi-flexed child lying on the left side. The child was approximately 1 year +/-4 months of age. This individual was located in unit 115N75E in level 4 at a depth of 23-24 inches. The burial was oriented east-west with the skull to the east and the face to the south.

1967 Burial 7 was only a skull. It was the skull of a 3 to 5 year-old child. This skull was located in unit 105N75E at level 6.

1967 Burial 8 was a primary, fully flexed, supine burial of a female of 40 or more years of age. The burial was located in unit 105N85E in level 3 at a depth of 13-16 inches. This individual was oriented northwest-southeast with the skull to the southeast and the face up with knees drawn to the chest.

1967 Burial 9 was a primary burial of a neonate/infant 0+/-.5 years of age. The burial was located in unit 125N80E in level 3, at a depth of 12 to18 inches. This individual was oriented from east to west with the skull in the east and the face in the southwest. The burial form suggested that this burial was possibly associated with a shell bed. According to O'Hear and Hogue (1995), the burial also contained a well polished bone ornament described as a "3.3 X 3.1 cm piece of flat bone with two bi-conically drilled holes near one edge" (O'Hear and Hogue 1995:20). On one surface there were "…five partially drilled holes with a series of angular scratched lines" (O'Hear and Hogue 1995:20).

1967 Burial 10 was an adult female of unknown burial type from unit 100N20E. This burial was in levels 3 and 4.

1967 Burial 11 was a 7 to11 year-old child found in unit 100N20E at level 4. The burial type is unknown, but possibly semi-flexed according to the burial form. The burial contained two vessels. One of the vessels (Figure 7) was described as a "Fragmentary, partially reconstructed Mississippi (Shell-tempered) Plain jar" with "One surviving strap handle" that was "approximately 1/3 complete" (O'Hear and Hogue 1995: 20). The other (Figure 8) was a small complete shell-tempered plain "…jar with two small opposing strap handles" with a "single row of linear appliquéd nodes below the rim" (O'Hear and Hogue 1995). This jar has been previously classified as "Alabama River Applique". This jar was about 13 cm in diameter (O'Hear and Hogue 1995).

Figure 7 Partial shell-tempered plain jar from 1967 Burial 11

Figure 8 Complete shell-tempered plain jar with linear appliquéd nodes from 1967 Burial 11

1967 Burial 11A is an unsexed adult of unknown burial type from unit 100N20E.

1967 Burial 12 is a 7 to 11 year-old primary, semi-flexed individual from unit 100N20E. This burial was located in level 6. Artifacts associated include: two modified mussel shells (Figure 9), an unfinished shell ornament (Figure 10), one shell spoon (Figure 11), a pottery bowl (Figure 12), two pottery vessels (jars) (Figures 13 and 14), one located at the feet of the burial and one at the left shoulder (1967 Burial Forms), a raccoon baculum (Figure 15), and cut mica fragments (Figure 16) (O'Hear and Hogue 1995:21).

One of the two modified mussel shells was the modified right valve of a *Lampsilis straminea claibornensis* (or Southern Fatmucket), which displays anterior margin modification. This shell (Figure 9) is of interest because it is not one that is local to Line Creek but may come from elsewhere on the Tombigbee River (Peacock 2007: Personal Communication). The other modified mussel shell is the left valve of a *Megalonaias nervosa* (Washboard). It is also modified on the anterior margin.

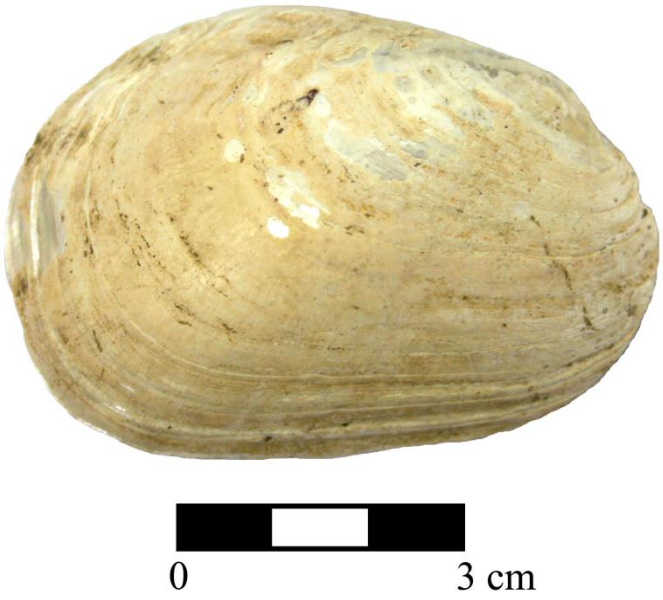

Figure 9 *Lampsilis straminea claibornensis* from 1967 Burial 12

According to Peacock, the unfinished shell ornament (Figure 10) "looks like fresh water mussel" (2007: Personal Communication). It was unidentifiable as to species. It is a "Cut and ground, oval, 3.8 x 3.5…" shell with a "partially drilled hole at one end" (O'Hear and Hogue 1995:21).

Figure 10 Unfinished shell ornament from 1967 Burial 12

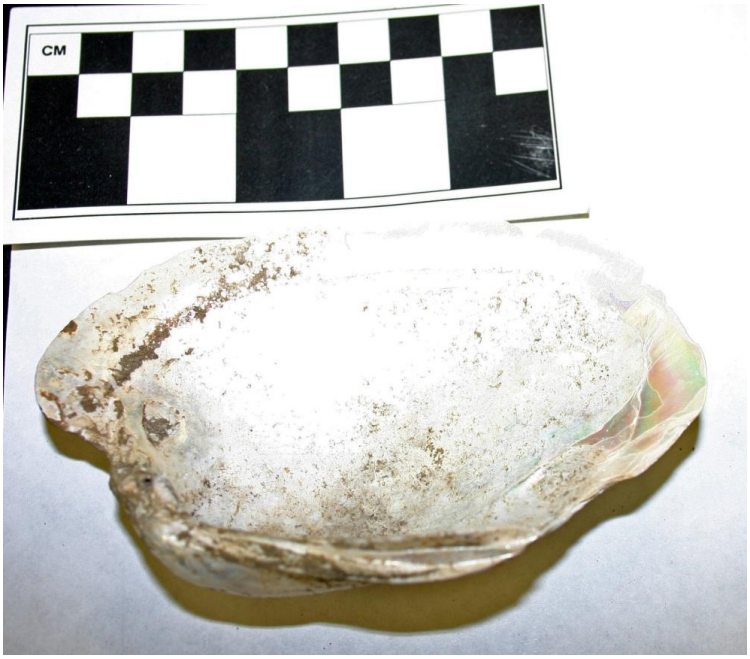

Figure 11 Shell spoon made from a *Lampsilis ornata* from 1967 Burial 12

The shell spoon (Figure 11) is the left valve of a *Lampsilis ornata* (or Southern Pocketbook) that was cut to make a handle on its anterior margin. The pottery bowl (Figure 12) is a shell-tempered "helmet-bowl," reconstructed to about 90- percent completion (O'Hear and Hogue 1995:22). The rim flange is incised with three line chevrons in repeating sets. This vessel could be classified as "Barton Incised" (O'Hear and Hogue 1995:22).

Figure 12 Incised shell-tempered bowl from 1967 Burial 12

The vessel found at the left shoulder (Figure 13) is a small, shell-tempered plain jar with two opposing loop handles. This jar was around 12.5 cm in diameter (O'Hear and Hogue 1995:22). The other vessel found at the feet of the burial (Figure 14) is also a shell-tempered plain jar with two opposing strap/loop handles (O'Hear and Hogue

1995:23). This vessel is about 16 cm in diameter and approximately 98 percent complete (O'Hear and Hogue 1995:23). The raccoon baculum (Figure 15) was unmodified except for possible polishing (O'Hear and Hogue 1995:21).

Figure 13 Complete shell-tempered plain jar from 1967 Burial 12

Figure 14 Partially complete shell-tempered plain jar from 1967 Burial 12

Figure 15 Racoon baculum from 1967 Burial 12

The cut mica fragments (Figure 16) are pieces of what was once a larger artifact that was "intentionally broken" (O'Hear and Hogue 1995: 22). In 1995, there were apparently three pieces of mica, "…two rectangular fragments and one trapezoidal fragment" (O'Hear and Hogue 1995). However, presently there are several smaller pieces; so, it has apparently been broken again. An attempt to reconstruct the pieces was unsuccessful.

Figure 16 Mica fragments from 1967 Burial 12

Mica is a material of non-local origin. It can be found in quarries in the mountains of western North Carolina (Bell 1947:182; Moore 2001:184). From 1956 to

1951 there was also a commercial mine open in Green County, Tennessee (Floyd 1965:87-88). Mica can be described as a "platy and lustrous" mineral (Moore 2001:184). This material was used in prehistoric times to make mirrors. It was also used as a raw material for artistic endeavors.

Mica has been found at many Mississippian sites including Gordontown, Spiro, and Rutherford-Kizer (in the middle Tennessee area). At Gordontown, mica was found near a hearth in Structure 3, in the shape of several small fragments (Moore and Brietburg 1998:169). The largest of these fragments was 22 by 18 millimeters (Moore and Brietburg 1998:169). Three mica fragments were found in a large refuse pit at the site. The largest specimen from Rutherford-Kizer was a rectangular fragment 43.9 mm long by 34.1 mm wide (Moore 2001:185). According to Bell (1947:182), fragments of mica have also been found at the Spiro site in Oklahoma, which is thought to have come from southwest Arkansas.

1967 Burial 13 was a primary extended adult with an age of 50 or over. This burial was probably that of a male. This individual had a femur stature of 162.429+3.417 centimeters (Hogue 2007). This burial was located in unit 105N20E at level 6.

1967 Burial 14 was a primary, semi-flexed 3 to 5 year-old child with possible fronto-occipital cranial deformation (Hogue 2007). This burial was located in 120N15E at level 3.

1967 Burial 15 was a 3 to 5 year-old child of unknown burial type, with possible fronto-occipital cranial deformation (Hogue 2007). This individual was located in unit 105N80E at level 5, buried at a depth of 24-30 inches.

1967 Burial 16 was that of a neonate/infant, 0+/-.5 years of age. The burial was in a primary, semi-flexed, supine position. This burial was found in unit 110N80E at level 6, buried at a depth of 30 to 36 inches. The burial was oriented east to west with the skull in the east and the face in an upward direction. According to the burial form, this individual was wrapped in fibrous material.

1967 Burial 17 was a 3 to 12 year-old juvenile unknown burial type (possibly semi-flexed, but burial was disturbed). There was a stemmed projectile point apparently associated with this burial. The individual was located in unit 125N80E at level 3, buried at a depth of 19 inches.

1967 Burial 18A was a possibly primary, probable male of 40 years of age or more from unit 110N80E. The individual was located in level 5, buried at a depth of 27.5 inches. Fifteen shell beads, and a drilled bear canine (Figure 17), 2 bone pins (Figure 18), and fragments of a copper ear spool (Figure 19) were associated with this burial, as well as Burial 18B.

1967 Burial 18B was a primary (possibly sitting) interment of a 3 to 5 year-old child found with Burial 18A and associated with the same artifacts. The skull of the burial was positioned to the north with the face in a downward position.

The drilled bear canine (Figure 17) is describes as "Bi-conically drilled…with highly polished root area" that is missing most of the enamel portion of the tooth (O'Hear and Hogue 1995:23).

Figure 17 Drilled bear canine associated with 1967 burials 18 and 18A

The bone pins (Figure 18) are described as being "nearly identical" (O'Hear and Hogue 1995:23). One is 6.3 cm long and the other is 6.8 cm long. They are both "Circular in cross-section, pointed at both ends, and well polished" (O'Hear and Hogue 1995:23). One has some copper staining and both are thought to be associated with the ear spool (O'Hear and Hogue 1995:23). The copper ear spool (Figure 19) associated with these burials is described as "Poorly preserved fragments of a "bi-cymbal" type…" (O'Hear and Hogue 1995:23).

Figure 18 Bone pins associated with 1967 burials 18 and 18A

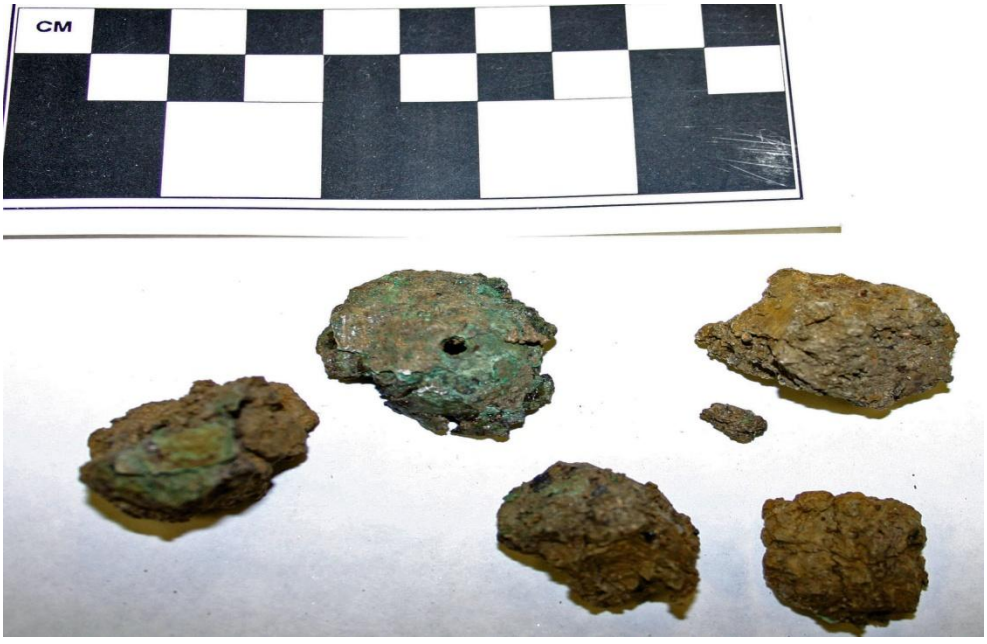

Figure 19 Copper ear spool fragments associated with 1967 burials 18 and 18A

Copper is also a material of non-local origin. For a long time it was assumed by archaeologists that all prehistoric copper in the United Stated was procured from the "…well known Lake Superior sources" (Goodman 1984:7). It was often ignored that a source of southeastern copper was the Appalachian piedmont area, including Fanning and White counties in Georgia, Polk County in Tennessee, Ashe and Pearson counties in North Carolina and Madison and Fairfax counties in Virginia (Goodman 1984:7). These areas were being used to exploit copper beginning around the Late Woodland period (Goad 1978; Goodman 1984:9). Copper began appearing in prehistoric economies as early as the Late Archaic. In Mississippian times, thin sheets of copper were used, and "Repoussé decorative techniques were employed and veneering over wood, stone, or bone forms were common" (Goodman 1984:9).

Quite a substantial amount of copper was recovered at Moundville by C. B. Moore (Goodman 1984:29). He found, "…at least nine copper axes, 23 copper coated wooden earspools, 48 ornaments (pendants, gorgets, or headdress elements), 3 headdress plumes, 2 copper coated rattles, several copper coated wooden beads, two fish-hooks, and many other fragments of copper" (Goodman 1984:29). Aside from the fish-hooks, all other copper was found in the mounds and mostly with burials (Goodman 1984:29). Even though age and sex data were not reported and provenience data is lacking, Goodman felt that there was some indication that both adults and children were associated with copper (Goodman 1984:29). The copper was not only varied in form, but also in design. There were both embossed copper and sheet copper cut-outs, in designs

including open eyes, swastikas, sun circles, stars (5 and 8 point varieties), and hands and eyes (Goodman 1984:30).

In their analysis of the more than 2,000 burials from the excavations by both Moore and the University of Alabama, Peebles and Kus found that copper was only associated with categories IA, IB, and II, or what they refer to as the superordinate burials at Moundville (Peebles and Kus 1977). In this group, copper axes and copper-coated shell beads were associated with what are felt to be the burials of highest rank (IA), while earspools and gorgets were more often associated with the what is thought to be the second-highest ranking group (IB), and copper gorgets were more likely associated with what is thought to be the third-highest ranking group (II) (Peebles and Kus 1977). No copper is associated with any of the so called subordinate burials at Moundville (Goodman 1984:30; Peebles and Kus 1977).

1967 Burial 19 was a female of 30 to 35 years of age. The burial type is unknown but was possibly a secondary bundle. This individual had a femur stature of 161.112+/-3.816 (Hogue 2007). The interment was located in unit 115N75E at level 6. The skull was to the west with the face up.

1967 Burial 20 was a 3 to five year-old child of unknown burial type (again possibly secondary bundle), also found in unit 115N75E in level 6 with the skull to the west. The face was in the downward direction.

1967 Burial 21 was a primary, extended, supine burial of an approximately 11 year-old child (+/-30 months) with fronto-occipital cranial deformation. This burial was in unit 100N90E at level 5, buried at a depth of 26 to 29 inches. The individual was oriented east to west with the skull to the west and the face to the south.

1967 Burial 22 was a neonate/infant 0+/-.5 months old of unknown burial type. This burial was located in unit 105N85E in level 6.

1967 Burial 23 was a 2 to four year-old child of unknown burial type with possible fronto-occipital cranial deformation. This burial was also from unit 105N80E in level 6.

1967 Burial 24 was of unknown age, sex, and burial type. This individual was located in unit 105N80E at level 6.

1967 Burial 25 was an adult interment of unknown burial type and unknown age from an unknown unit and depth.

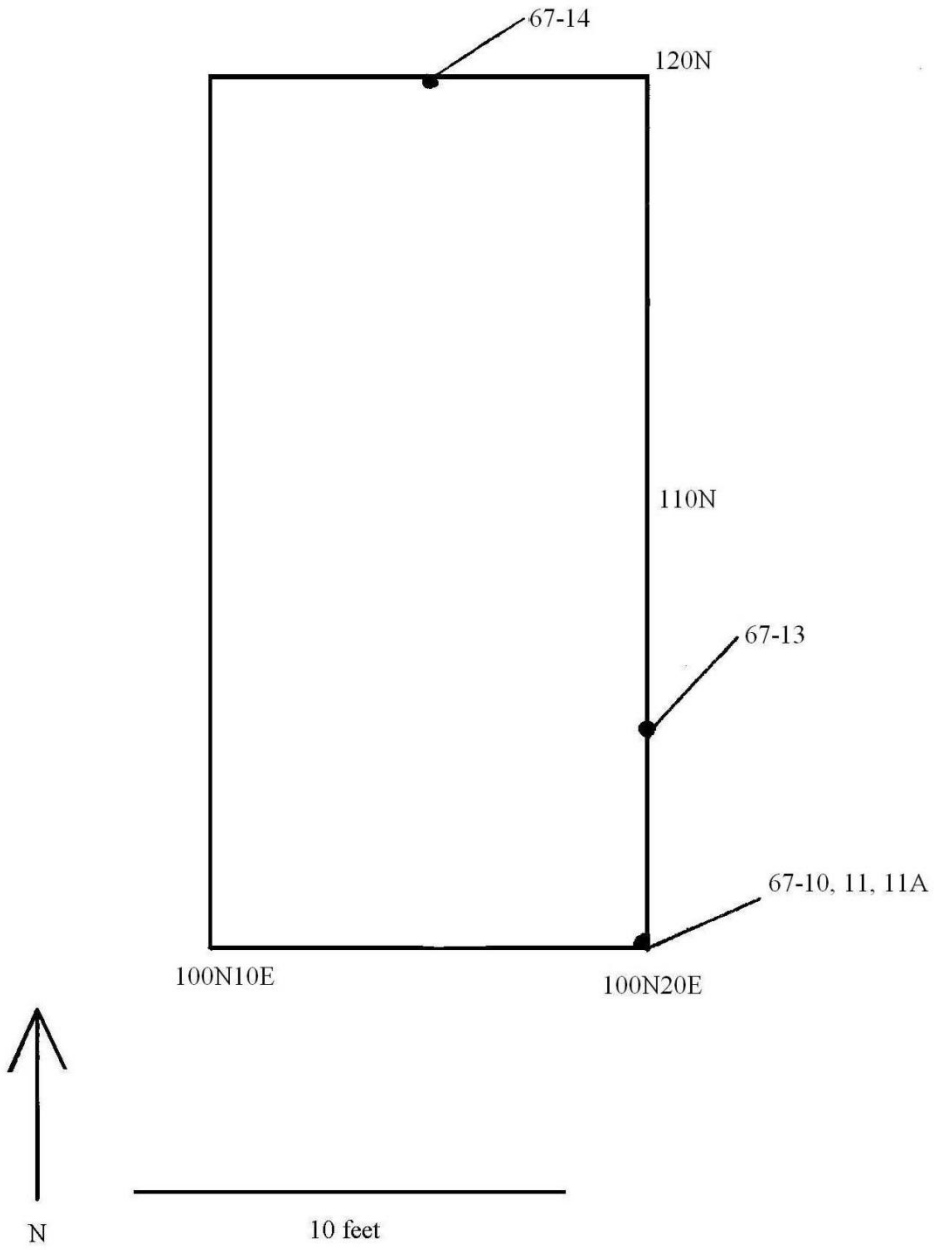

Figure 20 Marshall's 1967 SE Block A excavation area

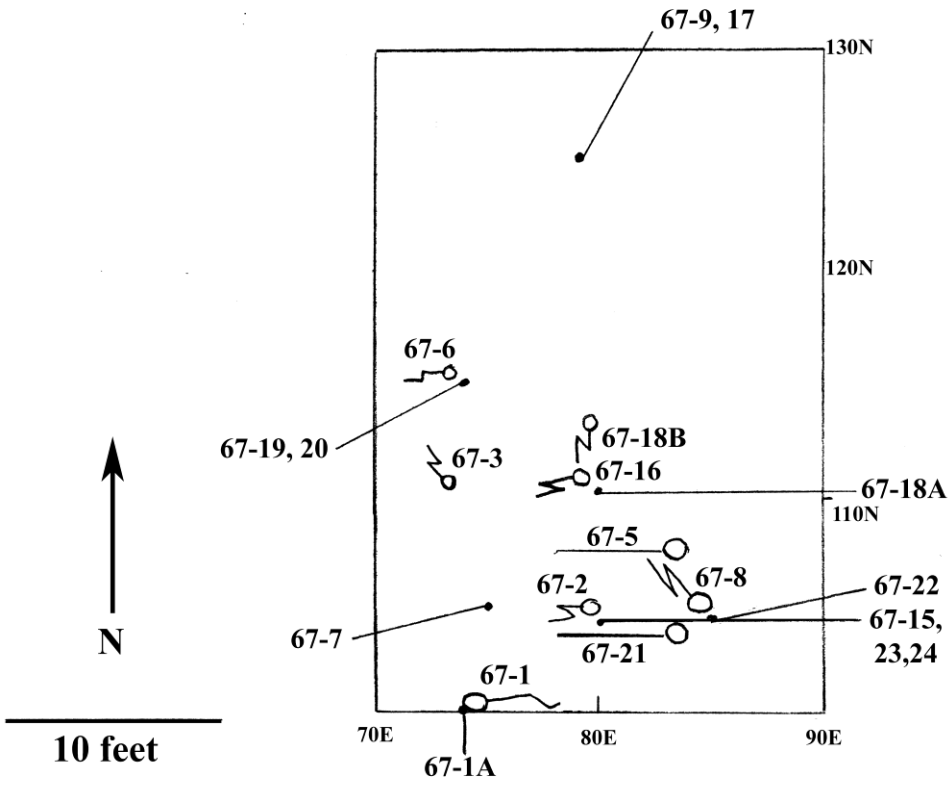

Figure 21 Marshall's SE Block B excavation area

The 1968 Burials

1968 Burial 1 was a secondary bundle burial or disturbed burial of a 15 year-old juvenile from unit 80N75E. This individual was found in Levels 5 and 6, buried at a depth of 30 inches (See figures 25 and 26 for locations of the 1968 burials).

1968 Burial 2 was a secondary bundle burial or plowzone burial of a 40 year-old male with possible fronto-occipital cranial deformation and a femur stature of 161.525+/-3.147 centimeters (Hogue 2007). Burial goods were associated with this burial according to the

NAGPRA inventory but what they were is unknown. This individual was located in unit 45N70E at levels 1 and 2, buried at a depth of 6 inches.

1968 Burial 3 was a primary, flexed, 25 to 30 year-old male. This burial had a femur stature of 165.819+/-3.147 centimeters (Hogue 2007). This individual was found in unit 40N65E in levels 1 and 2, buried at a depth of 6 to 12 inches. The burial was oriented northwest to southeast with the skull to the southeast.

1968 Burial 4A was a possibly primary, semi-flexed female around 30 years of age. This individual was located in unit 40N65E at levels 1 and 2, buried at a depth of 6 to 12 inches.

1968 Burial 4B was a 9 year-old child of unknown burial type. The individual was also located in unit 40N65E at levels 1 and 2, buried at a depth of 6 to 12 inches.

1968 Burial 5 was a primary, semi-flexed male, 20 to 30 years of age, with his upper body supine. This individual had a femur stature of 159.03+/-3.417 centimeters (Hogue 2007) and was located in unit 40N75E in levels 1 and 2, buried at a depth of 6 to 12 inches and was oriented north-northwest to south-southeast with the skull to the northwest. According to the burial form, numerous mussel shells were associated with this burial, which could be midden debris.

1968 Burial 6 was a primary, semi-flexed 3 to 5 year-old child with possible fronto-occipital cranial deformation. This individual was located in unit 40N65E in levels 1 and 2, buried at a depth of 6 to 12 inches.

1968 Burial 7 was a primary, semi-flexed burial of a female of 18 years of age, lying on the right side, with a femur stature of 155.155+/-3.816 centimeters (Hogue 2007). This individual was located in unit 85N75E in levels 5 and 6, buried at a depth of 24 ¾ to 27

inches. The burial was oriented north-to-south with the feet to the north and was without a skull.

1968 Burial 8 was a primary, flexed female aged 25 to 30 with a femur stature of 153.601+/-3.816 centimeters (Hogue 2007). The individual was located in unit 30N65E in level 3, buried at a depth of 18 inches.

1968 Burial 9 was an adult of unknown burial type, location, age or sex.

1968 Burial 10 was a primary flexed 5 to 9 year-old child from unit 35N65E at level 1, buried at a depth of 6 inches. This burial was oriented east to west with the head to the east.

1968 Burial 11 was a possible secondary bundle burial of an 11 year-old child from unit 85N80E at level 2, buried at a depth of 12 inches.

1968 Burial 11A was a possibly primary interment of a neonate/infant 0+/-.5 years of age. This individual was located in unit 85N80E at level 2, buried at a depth of 12 inches with the skull to the southeast.

1968 Burial 11B was a possibly female young adult of unknown burial type. This individual was also located in unit 85N80E at level 2, buried at a depth of 12 inches.

1968 Burial 12 was a juvenile, 11 years of age, that was possibly a secondary burial (the bones were scattered). This individual was located in unit 40N60E at level 2, buried at a depth of 7 to 9 inches. The burial form noted that there was one shell associated with this burial.

1968 Burial 13 was a sub-adult from unit 85N80E at level 2.

1968 Burial 14A was a possibly primary, tightly flexed, or disturbed interment of an adult from unit 45N70E at level 1.

1968 Burial 14B was a 3 to 5 year-old child of unknown burial type from unit 45N70E.

1968 Burial 15 was a primary, flexed, 20 year-old female with a femur stature of 153.601+/-3.816 centimeters (Hogue 2007). This individual was from unit 75N85E in levels 3 to 5 at a depth of 21 inches. The skull of this burial was oriented toward the southeast while the face was to the southwest.

1968 Burial 16 was a primary, semi-flexed, possibly female adult from unit 85N75E. This individual was located in level 6 at a depth of 27 to 29 inches. The burial was oriented form east to west with the skull to the east and the face to the north.

1968 Burial 17 was a secondary bundle or disturbed (plowzone) burial of an 11 year-old juvenile +/-30 months. This individual was from unit 45N70E at level 1 at a depth of 4 ½ inches. The skull was to the north. It is noted on the burial form that there was a red pigment on the skull and a few ribs.

1968 Burial 18 was a primary, semi-flexed, supine female that was 36 years of age and had a femur stature of 150.752+/-3.816 centimeters (Hogue 2007). This individual was located in unit 40N75E in level 2 at a depth of 12 inches. The burial was oriented with the skull to the southeast with the face to the north.

1968 Burial 19 was a secondary bundle or disturbed (plowzone) burial of a 2 to 4 year-old child. This individual was located in unit 45N70E in level 1 at a depth of 6 inches.

1968 Burial 20 was the primary burial of a 40 year-old male with possible fronto-occipital cranial deformation and a femur stature of 163.107+/-3.417. This individual was from unit 80N95E in level 4 at a depth of 18 to 24 inches.

1968 Burial 21 was a secondary, possibly bundle burial of a 3 to five year-old child from unit 35N65E in level 3 at a depth of 11 to 14 inches.

1968 Burial 22 was the primary, semi-flexed burial of a 17 year-old female with a femur stature of 156.320+/-3.816 centimeters (Hogue 2007). This individual was located in unit 30N70E in level 2 at a depth of 12 inches. The body was oriented with the skull to the west and the face to the east. The burial notes indicate that this burial was possibly associated with a hammerstone.

1968 Burial 23 was a primary, semi-flexed burial of a 30 year-old male with fronto-occipital cranial deformation. This individual was located in unit 30N70E in level 2 at a depth of 12 inches.

1968 Burial 23A was a sub-adult of unknown burial type located in unit 30N70E in level 2 at a depth of 12 inches.

1968 Burial 24 was a primary semi-flexed, prone neonate/infant of 0+/-.5 months from unit 70N85E in level 3 at a depth of 15 inches. This individual was oriented with the skull to the south and the face to the southeast.

1968 Burial 25 was a primary, semi-flexed burial of unknown age and sex. This individual was located in unit 35N70E in level 2 at 12 inches deep. A pottery vessel fragment (Figure 22) was interred with the burial (also possibly associated with Burial 21). This vessel was a 1/3 complete shell-tempered plain jar that had "…one surviving strap handle with a single node" and "One row of pinched nodes below rim" (O'Hear and Hogue 1995:24).

Figure 22 Partially reconstructed shell-tempered plain jar with pinched nodes associated with 1968 Burial 25

1968 Burial 26 was a primary, semi-flexed, supine 9 to 15 year-old juvenile. This burial was located in unit 75N85E in level 3 at a depth of 17 inches. The individual was oriented east-northeast to west-southwest with the skull to the east-northeast and the face to the west.

1968 Burial 27 was a primary, semi-flexed burial of unknown age and sex from unit 35N70E in level 2 at a depth of 12 inches.

1968 Burial 28 was a primary semi-flexed burial of unknown age and sex from unit 40N60E in level 3 at a depth of 12 inches. The burial was oriented with the skull to the southeast with the face to the northeast. A triangular, marine shell pendant (Figure 23) was found under the ribs of this individual.

Figure 23 Triangular shell pendant associated with 1968 Burial 28

1968 Burial 29 was a primary, semi-flexed, supine juvenile of 12 years of age +/- 30 months with fronto-occipital cranial deformation. This individual was located in unit 75N80E in level 4 at a depth of 21 to 24 inches. This burial was oriented northeast to southwest with the skull to the northeast and the face to the southwest.

1968 Burial 29A was an adult burial of unknown burial type, age or sex. This individual was located in unit 75N80E in level 4, at a depth of 21 to 23 inches.

1968 Burial 30 was a primary flexed interment of a 40 year-old male with fronto-occipital cranial deformation. This burial was located in unit 30N65E in level 1, at a depth of 0-6 inches.

1968 Burial 30A was a sub-adult or adult burial of unknown age, sex and burial type. This burial was located in unit 30N65E in level 1, at a depth of 0-6 inches.

1968 Burial 31 was a primary, semi-flexed, prone burial of a 16 to 18 year-old female with fronto-occipital cranial deformation and a femur stature of 154.378+/-3.816 centimeters (Hogue 2007). This individual was located in unit 75N90E in levels 3-4, at a depth of 13 inches. The body was oriented east-west, with the skull to the east and the face to the north.

1968 Burial 31A was an adult, possibly female burial of unknown burial type from unit 75N90E.

1968 Burial 32 was the primary burial of a 3 to 5 year-old child.

1968 Burial 33 was the burial of an individual of unknown age, sex or burial type (due to the fact that the bones were scattered).

1968 Burial 34 was a 5 to 9 year-old child buried in a primary, flexed position and lying on the right side. This individual was located in unit 40N65E. Located north of the skull was a marine shell gorget (Figure 24). The gorget was plain and roughly circular. It was approximately 9.5 centimeters in diameter and had two bi-conical holes drilled in to it for suspension (O'Hear and Hogue 1995).

Figure 24 Marine shell gorget with 1968 Burial 34

1968 Burial 34A was a sub-adult of unknown age, sex or burial type. This burial was located in unit 40N65E.

1968 Burial 35 was a 7 to 11 year-old child buried in a primary, flexed position. This individual was also located in unit 40N65E.

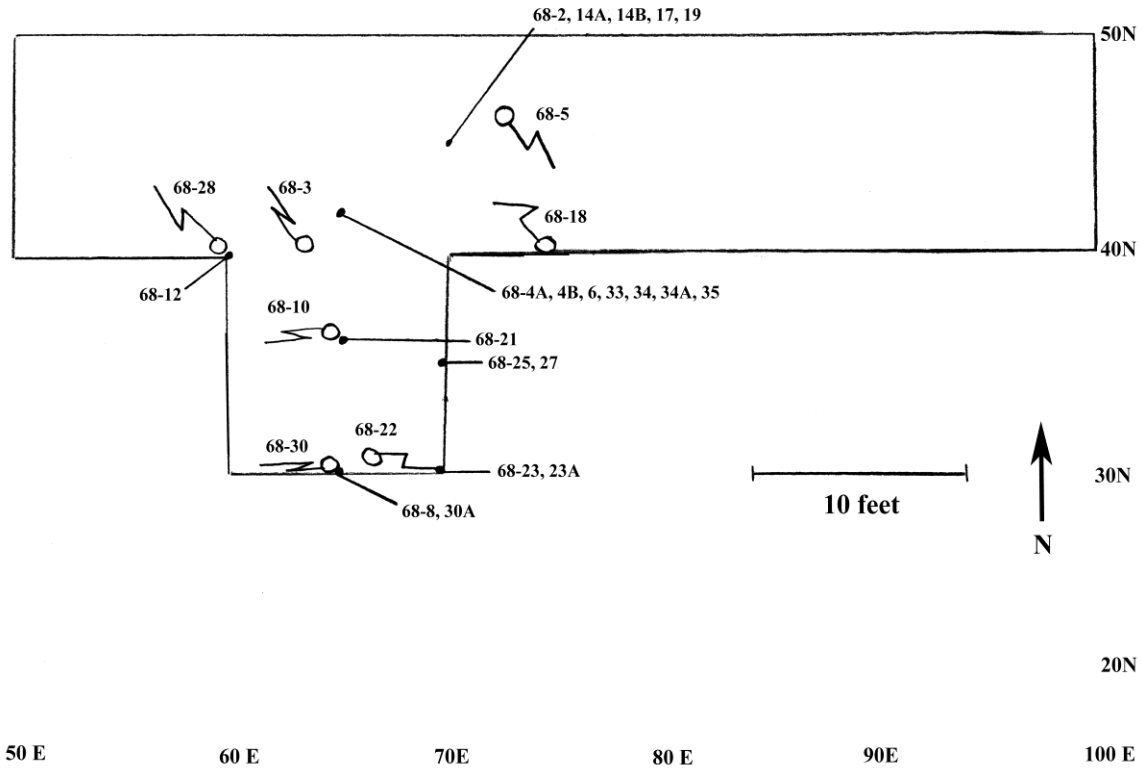

Figure 25 Marshall's 50N100E 1968 excavation area

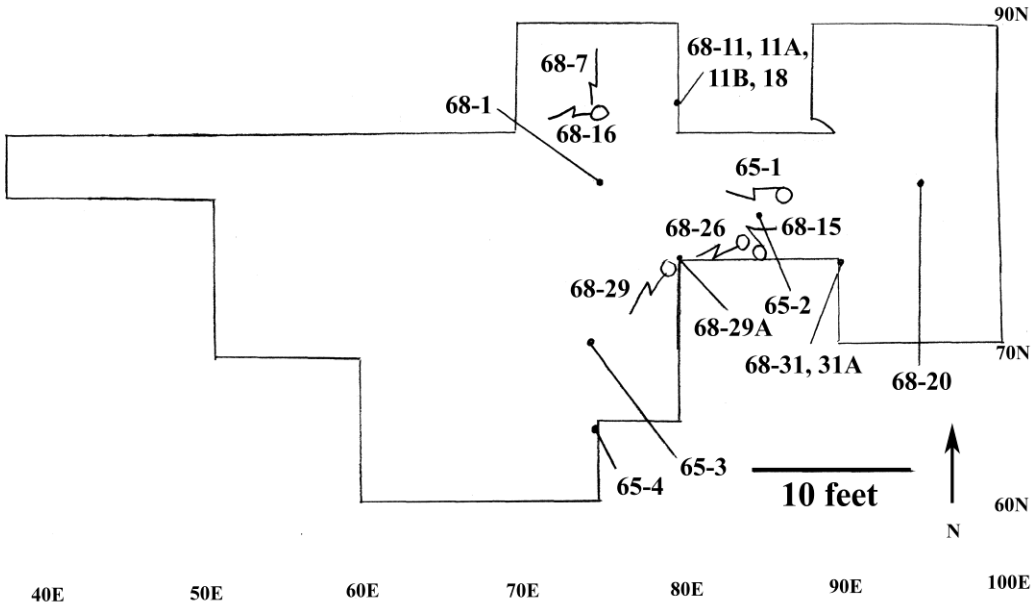

Figure 26 Marshall's 90N100E 1968 excavation area which also encompasses the 1965 excavation area

The 2001/3 Burials

2001/3 Burial 1 was a primary, semi-flexed burial if a possibly male 15 to 18 year-old juvenile from unit 20S20W. This individual was located in zone D, level 3 and oriented northeast to southwest, with the skull to the northeast. This burial contained a ground sandstonestone and a deer metatarsal that were found behind the skull (Figure 27),

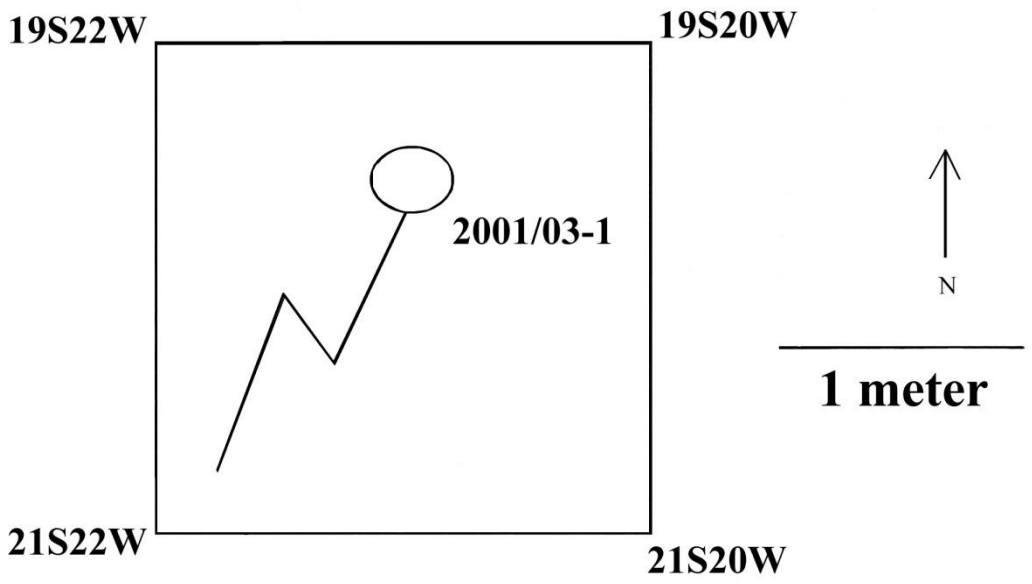

Figure 27 2001/2003 20S20W excavation unit

2001/3 Burial 2 was a primary burial of unknown age, or sex from unit 0N40W at zone C, level 1. This burial was not excavated, but what is known about it is that the leg bones of this individual, which were found in the northeast corner of the unit were flexed and they probably belonged to an adult (Peacock and Hogue 2002). The burial pit was surrounded by a white band and possibly included antler tines (See figure 28 for location of burial).

2001/3 Burial 3 was a primary, flexed, prone burial of a 2 to six year-old child with fronto-occipital cranial deformation. This burial was located in unit 0N39W at -31 centimeters below the surface and oriented from north to south, with the skull in the southeast and the face down (See figure 28 for location of burial).

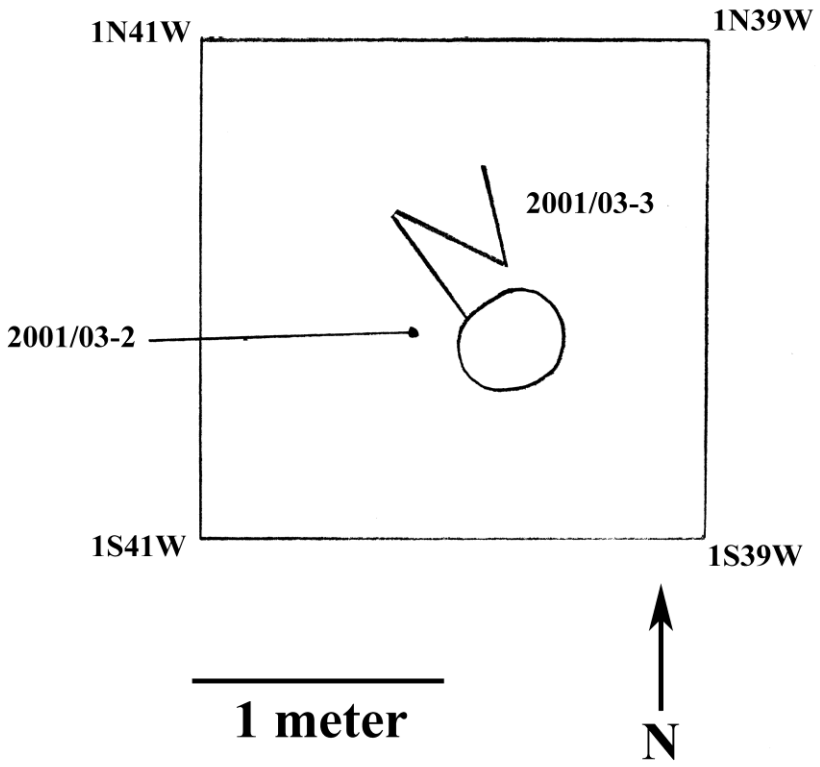

Figure 28 2001/2003 0N39W excavation unit

2001/3 Burial 4 was a primary, possibly flexed infant/neonate of 0 to +/-.5 months, lying on the left side. This burial was located in unit 0N16W at 1.78 meters below the surface. This individual was oriented east-west with the face to the southwest. This burial contained fish scales, fish vertebrae that may have been midden debris and charcoal (Hogue et al. 2004:6).

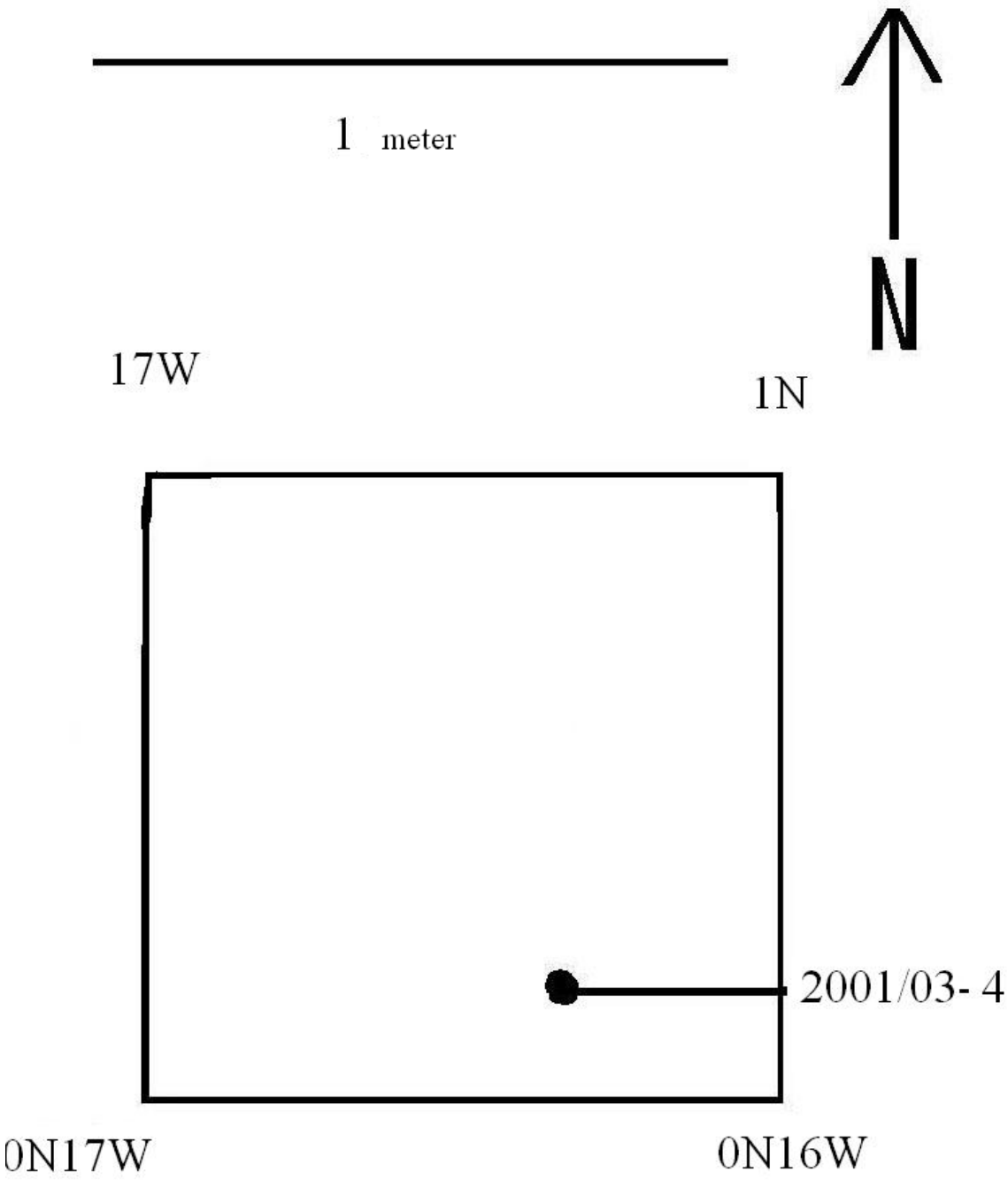

Figure 29 2001/2003 0N16W excavation unit

The Farmsteads

Plantation Homes (22OK509)

Burial 1 was either part of a multiple secondary or a primary disturbed burial of a 44 to 50 year-old male with fronto-occipital cranial deformation. This individual had a femur stature of 166.723 +/-3.41 centimeters (Hogue 2007).

Burial 2 was either part of a multiple secondary or a primary disturbed burial of a 15 to 25 year-old male.

Burial 3 was either part of a multiple secondary or a primary disturbed burial of a six to eight year-old child.

Burial 4 was either part of a multiple secondary or a primary disturbed burial of an adult male.

Burial 5 was either part of a multiple secondary or a primary disturbed burial of a thirty five year-old or older female.

Burial 6 was either part of a multiple secondary or a primary disturbed burial of an adult.

Rolling Hills

1983 Mass Burial

Burial 1 was part of a secondary multiple bundle burial of a 25 to 40 year-old male with fronto-occipital cranial deformation. This burial was oriented east to west.

Burial 2 was part of a secondary multiple bundle burial of a 25 to 40 year-old adult. This burial was oriented east to west.

Burial 3 was part of a secondary multiple bundle burial of an adult female. This burial was oriented east to west.

Burial 4 was part of a secondary multiple bundle burial of an 8 to 12 year-old child. This burial was oriented east to west.

Burial 5 was part of a secondary multiple, possible bundle burial of a 25 to 40 year-old male with fronto-occipital cranial deformation. This individual had a femur stature of 165.819 +/- 3.41 centimeters (Hogue 2007).

Burial 6 was a secondary multiple, possible bundle burial of a 40 year-old or older male with a femur stature of 162.830 +/- 3.41 centimeters (Hogue 2007).

Burial 7 was a secondary multiple, possible bundle burial of a 40 year-old or older male with possible fronto-occipital cranial deformation.

Burial 8 was a secondary multiple, possible bundle burial of an adult male.

22OK759 Mass Burial

Burial 1 was part of a secondary multiple, possible bundle burial of an eight year-old child.

Burial 2 was part of a secondary multiple, possible bundle burial of an adult female. This burial, as well as burials 3, and 4, contained two marine columella beads that were bi-conically drilled, hourglass-shaped, and 1.5 centimeters long. It is unclear which burial the beads were associated with.

Burial 3 was part of a secondary multiple, possible bundle burial of a one year-old child.

Burial 4 was part of a secondary multiple, possible bundle burial of an adult female.

Burial 5 was part of a secondary multiple, possible bundle burial of a three to five year-old child.

Burial 6 was part of a secondary multiple, possible bundle burial of a three year-old child.

22OK756 Lot 42

Burial 1 was a part of secondary multiple bundle burial of an adult with possible fronto-occipital cranial deformation. Included in this mass burial were a Nodena Red and White bottle(Figure 30), drilled canines, a celt-shaped hammerstone, two copper tinklers (Figure 31), blue glass seed beads, and a brass hawk bell (Figure 31). It is unclear which burial these goods were associated with.

Burial 2 was part of a secondary multiple bundle burial of a possibly male adult with fronto-occipital cranial deformation.

Burial 3 was part of a secondary multiple bundle burial of an adult male with fronto-occipital cranial deformation.

Burial 4 was a secondary multiple bundle burial of an adult with possible cranial deformation.

Burial 5 was a secondary multiple, possibly bundle burial of an adult.

Burial 6 was a secondary multiple, possibly bundle burial of a sub-adult.

Burial 7 was a secondary multiple, possibly bundle burial of an adult female.

Burial 8 was a secondary multiple, possibly bundle burial of a two to four year-old child.

Figure 30 Nodena Red and White bottle from 22OK756 Lot 42 Mass Burial. Figure taken from Atkinson 1979:77. Used with permission

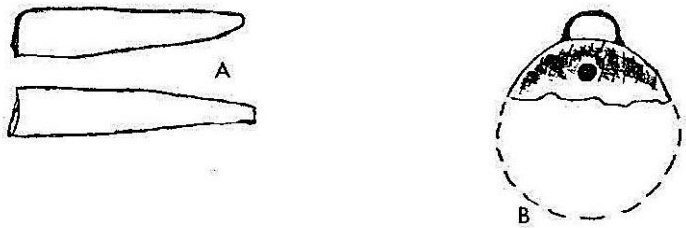

Figure 31 Copper cone tinklers and brass hawk bell from 22OK756 Lot 42 Mass Burial. Figure taken from Atkinson 1979:78. Used with permission

22OK756 Lot 45

Burial 1 is a secondary multiple burial of a 20 to 40 year-old male at a depth of no more than six inched below the surface. An incomplete iron hatchet or adze blade was found with this multiple burial, as well as a small thin piece of poorly preserved iron that could be a portion of a knife blade. It is unclear which burial these were associated with.

Burial 2 is a secondary multiple burial of a three to five year-old child at a depth of no more than six inched below the surface.

Burial 3 is a secondary multiple burial of a four to eight year-old child at a depth of no more than six inched below the surface.

22OK756 "Infant Burial"

Burial 1 was a secondary burial of an infant, zero to one year-old, which was obviously associated with the fragment of the vessel placed over the burial. This vessel was a shell-tempered "Mississippi Plain" flaring rim bowl (Figure 32) approximately fifty percent complete. It had several mending holes, which indicate its reuse (Rafferty et al. 2008).

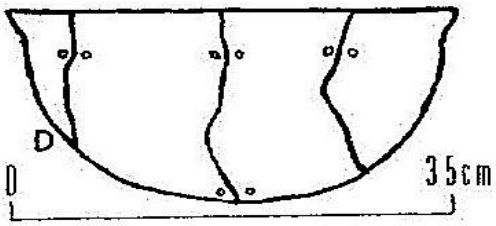

Figure 32 Shell-tempered plain bowl inverted over 22OK756 "Infant Burial" (Atkinson 1979:77). Used with permission

22OK756 Urn Burial

Burial 1 was a primary flexed infant that was placed in a shell tempered urn (Figure 33). A sherd associated with this urn was TL dated to 970-1276 A.D. (Rafferty et al. 2008). This date is earlier than expected for a burial urn (Rafferty et al. 2008).

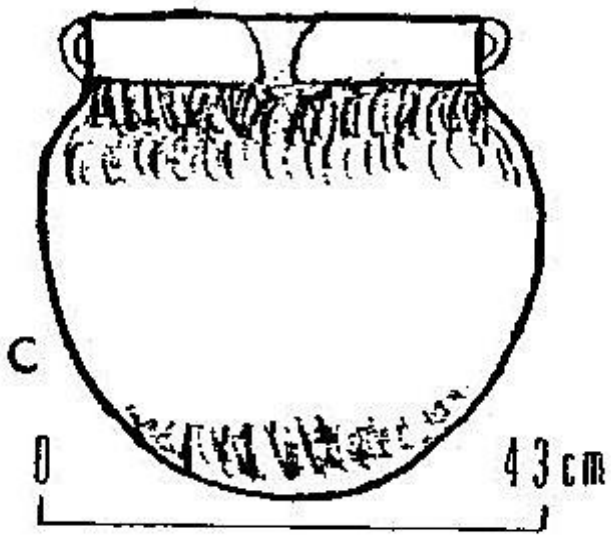

Figure 33 Burial urn from 22OK756 Urn Burial. Figure taken from Atkinson 1979:77. Used with permission

22OK593 "1983 Urn Burial"

Burial 1 was a secondary multiple urn burial of a four to six year-old child in a fragmentary burial urn that also contained the remains of burial 2 and 3. This urn was a fragmentary shell-tempered "Mississippi Plain" jar that had one strap handle remaining.

A sherd from the body of this urn that was TL dated indicated a calibrated date of 1175-1395 A.D. (Rafferty et al. 2008)

Burial 2 was a secondary multiple urn burial of a 25 year-old or older female in a fragmentary burial urn that also contained the remains of burials 1 and 3.

Burial 3 was a secondary multiple urn burial of an 18 to 20 year-old female in a fragmentary burial urn that also contained the remains of burials 1 and 2.

22OK593 Site 7

Burial 1 was a single primary interment of a female of 20 to 30 years of age.

22OK593

Burial RH3 was the primary burial of a zero to one year-old infant.

Burial RH4 was the primary interment of a 17 to 20 year-old

Burial RH6 was the primary, flexed, supine interment of a forty year-old or older male with fronto-occipital cranial deformation. This burial was oriented east to west with the head to the east and the face vertical. This individual was buried with 18 blue/turquoise glass "seed" beads and fragments.

Burial C1 was the primary interment of a 20 to 30 year-old female.

22OK595

Burial 1 was a secondary bundle burial of a six to ten year-old child with possible fronto-occipital cranial deformation.

Burial 2 was the primary burial of a 35 year-old or older female with possible fronto-occipital cranial deformation and a femur stature of 152.047+3.81.

22OK905

Burial 1 was a secondary bundle burial of a 15 to 21 year-old male with fronto-occipital cranial deformation. This individual had a femur stature of 168.079+3.41.

Burial 2 was the primary burial of a 20 to 35 year-old female. This burial contained a hammerstone or nutting stone located at the left shoulder.

Burial 3 was the primary burial of a five to seven year-old child.

Burial 4 was a two to four year-old child of unknown burial type.

Burial 5 was the primary burial of a three to five year-old child.

Burial 6 was the primary burial of a child 11 years of age +/- 30 months.

Burial 7 was the primary burial of a forty five year-old or older female with a femur stature of 151.01.

Burial 8 was the primary burial of a six to eight year-old child.

22OK904

Burial 1 was a secondary bundle burial of a 20 to 35 year-old female. This interment's pelvis was located at a depth of -14 cm in unit 2S4E. This burial was oriented east-northeast to west-southwest with the skull to the east and the face to the southeast.

Burial 1A was the secondary burial of an adult female from unit 2S4E.

Burial 2 was the secondary bundle burial of a forty-five to fifty year-old female with fronto-occipital cranial deformation and a femur stature of 149.45+3.816. This burial was located in Feature 1, zone one, in unit 3S10E. The individual was oriented east to west with the skull to the east-southeast.

Burial 3 was an adult of unknown age, sex or burial type. This burial was found in unit 4S4E with its skull at a depth of -27 cm. This burial was oriented east-northeast to west-southwest with the skull to the southwest

Burial 4 was a secondary bundle burial of a 20 to 25 year-old female with fronto-occipital cranial deformation and a femur stature of 158.22+/-3.816 centimeters (Hogue 2007). This burial was located in unit 2S12E with it's pelvis at a depth of -30 cm. The body was oriented west-southwest to east-southeast with the skull on the west and the face in the east-southeast.

Burial 5 was a middle adult of unknown age or burial type. This burial was found in the subsoil and was oriented northwest to southeast.

22OK902N

Feature 1

Burial 1 was an adult, possibly male, single urn burial. The burial urn was a largely destroyed, red slipped, shell tempered vessel. It is not certain if there were one or two vessels associated with this burial (an urn and a cover).

Feature 2 (Multiple secondary burial)

Burial A was a young adult of unknown sex. This burial was part of a multiple secondary burial.

Burial B (B2) was a possibly middle-aged adult of unknown sex.

Burial C was a female, possibly middle-aged adult.

Burial D was a 25 to 25 year-old female. This burial contained a bone pendant (Figure 34).

Figure 34 Bone pendant from 22OK902N Feature 2 Burial D

Burial E was a possibly middle-aged adult of unknown sex.

Burial F was an old aged adult of unknown sex.

Burial G was a 20 to 30 year-old possible male. This burial was part of a multiple secondary burial.

Burial H was a middle-aged adult of unknown sex.

Burial H2 was a four to eight year-old child. This burial was part of a multiple secondary burial; however it is possible that this burial was not secondary.

Burial I was a possibly old-aged female

Burial J was a young adult of unknown sex.

Burial J2 was that of a five year-old child +/- 16 months.

Burial K was that of a five year-old child +/- 16 months. This burial was part of a multiple secondary burial; however it is possible that this burial was not secondary.

Burial L was a possibly middle-aged, possibly male adult.

Northern Bundle was a secondary bundle burial of an 18 to 25 year-old possible female.

Feature 3 (Multiple secondary burial)

Burial A was a 25 to 35 year-old male with fronto-occipital cranial deformation. This burial was part of a multiple secondary burial.

Burial B was a 45 year-old or older male with fronto-occipital cranial deformation and a femur stature of 168.000+3.41.

Burial C was a 20 to 25 year-old female with fronto-occipital cranial deformation and a femur stature of 148.62+3.81.

Burial D was a four to eight year-old child. This burial was part of a multiple secondary burial; however it is possible that this burial was not secondary.

Burial E was a two to four year-old child. This burial was part of a multiple secondary burial; however it is possible that this burial was not secondary. This burial contained a cut bone bead that was probably made from turkey bone (Figure 35).

Figure 35 Cut bone bead from 22OK902N Feature 3 Burial E

Burial F was a two to four year-old child. This burial was part of a multiple secondary burial; however it is possible that this burial was not secondary.

Burial G was a zero to three month old infant. This burial was part of a multiple secondary burial; however it is possible that this burial was not secondary.

Burial H was a three year-old child. This burial was part of a multiple secondary burial; however it is possible that this burial was not secondary.

South Farm (22OK534)

Burial 1 was the primary burial of a 45 year-old or older male. This burial contained burial goods, according to the NAGPRA inventory; however what they were is unknown.

Burial 2 was the primary flexed burial of a two to four year-old child.

Burial 3 was the primary flexed burial of a forty five year-old or older male. This burial contained burial goods according to the NAGPRA inventory; however what they were is unknown.

Burial 4 was the primary flexed burial of a 20 to 35 year-old male. Three "Madison type" triangular projectile points were found among the skeleton.

Burial 5 was the primary flexed burial of a 25 to 30 year-old female. This burial contained five bi-conically drilled wolf canines found under the chin.

Burial 6 was the primary flexed burial of a five year-old child +/- 16 months. This burial contained burial goods according to the NAGPRA inventory; however what they were is unknown.

CHAPTER 6

ANALYSIS

It is important to remember, when looking at the paradigms showing data from Lyon's Bluff and the farmsteads that energy expenditure is greatest at the top, left of the paradigm. Energy expenditure increases from the bottom right upward and to the left. In other words, from any one point on the paradigm, if there is a move up or to the left, energy expenditure increases.

Table 3 Energy expenditure paradigm for Lyon's Bluff

Energy Expenditure Paradigm Lyon's Bluff				
secondary multiple	**exotic and local**	**exotic**	**local**	**none**
cremation	-	-	-	-
urn	-	-	-	-
bundle	-	-	-	-
secondary single				
cremation	-	-	-	-
urn	-	-	-	-
bundle	-	-	-	-
primary multiple				
urn	-	-	-	-
extended	-	-	-	-
semiflexed	-	-	-	-
flexed	-	-	-	-
primary single				
urn	-	-	-	-
extended	-	-	1	3
semiflexed	1	1	2	19
flexed	1	1	1	15

Of ninety-three total burials at Lyon's Bluff, only 45 (Table 3, Table 5) were classified because others were either missing burial type data or it was unclear. Of these 45, eight were male (17.78 percent), five were female (11.11 percent), 21 were subadults (46.67 percent), and 11 (24.44) were of unknown sex. At Lyon's Bluff, most of the classified burials in the paradigm cluster in the very bottom, furthest right section. Fifteen burials (33.33 percent) out of the total of 45 have the least amount of energy expended on them. These burials are all primary, single, flexed burials with no grave accompaniments. In this category there were five males (11.11 percent), two females (4.44 percent), 7 subadults (15.56 percent), and one burial of unknown sex or age (2.22 percent). One step up from the 15 flexed burials, with slightly more energy expended, are 19 (40.43 percent) primary, single, semi-flexed burials with no grave accompaniments. This is the largest category in the paradigm. In this category there were three males (6.39 percent), three females (6.39 percent) 8 subadults (17.02 percent) and 5 burials of unknown sex (10.64 percent). The most energy expended was on one single semi-flexed subadult with both local and exotic grave goods (1967 Burial 12).

Table 4 Energy expenditure paradigm for the farmsteads

Energy Expenditure Paradigm Farmsteads	exotic and local	exotic	local	none
secondary multiple				
cremation	-	-	-	-
urn	-	-	3	-
bundle	4	-	1	17
secondary single				
cremation	-	-	-	-
urn	-	-	1	-
bundle	-	-	-	6
primary multiple				
urn	-	-	-	-
extended	-	-	-	-
semiflexed	-	-	-	-
flexed	-	-	-	-
primary single				
urn	-	-	-	-
extended	-	-	-	-
semiflexed	-	-	-	-
flexed	-	1	3	3

Of the 86 total burials from the farmsteads, only 39 (45.35 percent) are used in the paradigm (Table 4, Table 6). In fact, an entire site is not used (22OK509) because of a lack of clear burial type information. Of the 39 useable burials, eight are males (20.51 percent), 10 (25.64 percent) are females, six are subadults (15.38 percent) and 15 burials (38.46 percent) are of unknown sex. There were 3 burials (7.69 percent) in the primary, single, flexed category, the category with the least amount of energy expenditure. Two of these burials were subadults and one was an older male (45 or older). This is compared to the 31.91 percent at Lyon's Bluff in the same location on the paradigm. There are four burials (10.26 percent) that exhibit the most expenditure of energy at the

farmsteads. These are secondary, multiple, bundle burials that included both local and exotic burial accompaniments. The category of the paradigm with the most burials is the secondary, multiple, bundle burial with no grave goods. Seventeen burials (43.59 percent) are in this category. See Table 7 for comparisons of energy expenditure between the mound site and the farmsteads.

Table 5 Energy expenditure paradigm for Lyon's Bluff with energy expenditure categories

Lyon's Bluff

	exotic and local	**exotic**	**local**	**none**
secondary multiple				
cremation	Q/-	P/-	O/-	N/-
urn	P/-	O/-	N/-	M/-
bundle	O/-	N/-	M/-	L/-
secondary single				
cremation	N/-	M/-	L/-	K/-
urn	M/-	L/-	K/-	J/-
bundle	L/-	K/-	J/-	I/-
primary multiple				
urn	K/-	J/-	I/-	H/-
extended	J/-	I/-	H/-	G/-
semiflexed	I/-	H/-	G/-	F/-
flexed	H/-	G/-	F/-	E/-
primary single				
urn	G/-	F/-	E/-	D/-
extended	F/-	E/-	D/1	C/3
semiflexed	E/1	D/1	C/2	B/19
flexed	D/1	C/1	B/1	A/15

Table 6 Energy expenditure paradigm for the farmsteads with energy expenditure categories

Energy Expenditure Paradigm				
Farmsteads				
secondary multiple	**exotic and local**	**exotic**	**local**	**none**
cremation	Q/-	P/-	O/-	N/-
urn	P/-	O/-	N/3	M/-
bundle	O/4	N/-	M/1	L/17
secondary single				
cremation	N/-	M/-	L/-	K/-
urn	M/-	L/-	K/1	J/-
bundle	L/-	K/-	J/-	I/6
primary multiple				
urn	K/-	J/-	I/-	H/-
extended	J/-	I/-	H/-	G/-
semiflexed	I/-	H/-	G/-	F/-
flexed	H/-	G/-	F/-	E/-
primary single				
urn	G/-	F/-	E/1	D/-
extended	F/-	E/-	D/-	C/-
semiflexed	E/-	D/-	C/-	B/-
flexed	D/-	C/-	B/3	A/3

Table 7 Energy expenditure category comparisons between Lyon's Bluff and the farmsteads

Energy Expenditure Category Comparison	Farmsteads	Lyon's Bluff
A	3	15
B	3	20
C	-	6
D	-	3
E	1	1
F	-	-
G	-	-
H	-	-
I	6	-
J	-	-
K	1	-
L	17	-
M	1	-
N	3	-
O	4	-
P	-	-
Q	-	-

CHAPTER 7

RESULTS AND DISCUSSION

Once the paradigms were completed, a relatively surprising result was apparent. Unexpectedly, farmsteads and Lyon's Bluff did not have very similar patterns in energy expenditure. In fact, if one were to expect results typical of idealistic notions of Mississippian ceremonial centers, the results provide to be rather the opposite. More energy was expended at the farmsteads overall while much less energy was expended on the burials at the Lyon's Bluff (See figures 36 and 37).

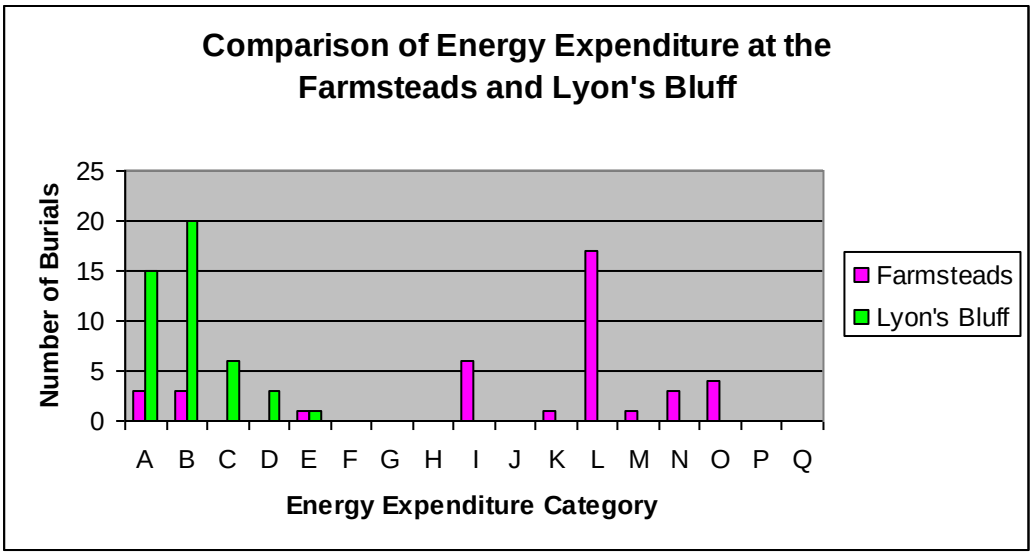

Figure 36 Graph showing differences in energy expenditure of primary burials at Lyon's Bluff and the farmsteads

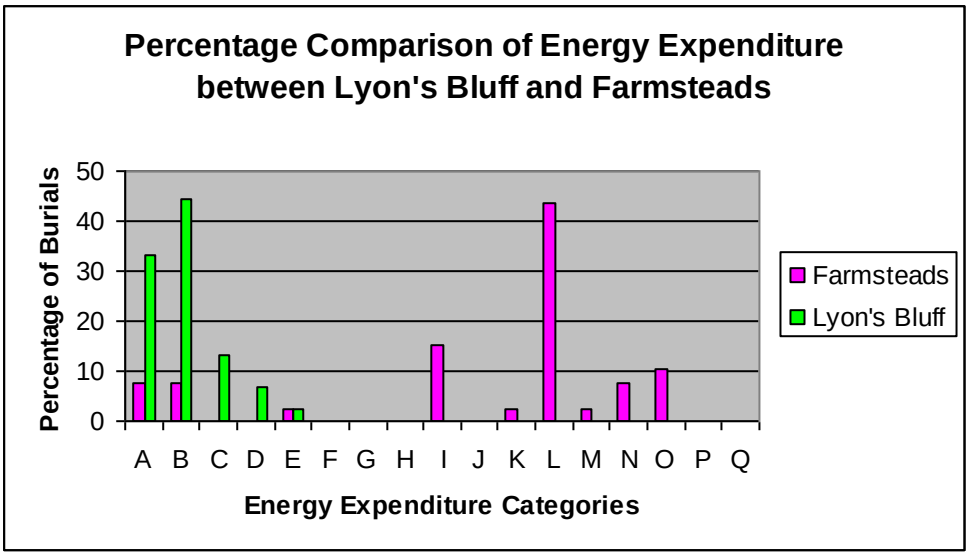

Figure 37 Percentage comparison of energy expenditure of primary burials at farmsteads and Lyon's Bluff

The increased energy expenditure at the farmsteads is mostly due to the presence of secondary burials at these sites, when there are no definite secondary burials at Lyon's Bluff. It is questionable as to whether or not some of the burials at Lyon's Bluff were bundle burials or just disturbed plowzone burials. Hogue feels that although many of the field interpretations suggest these burials are bundle burials (Marshall 1967, 1968) they merely represented "…disturbances created by continuous prehistoric use of the area and modern plowing and other activities" (Hogue 2007:251). Even if these burials were considered bundle burials there would still be more energy expended at the farmsteads. This does however lead to an interesting question. If, in fact, these burials at Lyon's Bluff were bundle burials, were they later period burials? If so, this could be tested through dating more of the burials at Lyon's Bluff, especially the bundle/plowzone

burials and comparing them with the known primary burials. The same applies for the primary burials at the farmsteads which may be earlier period burials. This is again testable by dating more of the primary burials at the farmsteads and comparing them with the known bundle burials.

Another possibility is that the possible bundle burials at Lyon's Bluff were victims of interpersonal conflict that died away from the village whose bones were later collected for final burial (Hogue 2006:239-240, Johnson et al. 1994:431-432). According to Hogue, "The use of differential burial modes as evidence for warfare may be useful at sites where primary burials are the norm" (Hogue 2006:239). Hogue looked at both traumatic injuries and skeletal element frequencies for 22OK905 Burial 1, the only bundle burial out of eight burials at the site (Hogue 2006:240). It was determined that this burial was a victim of a violent death and scalping away from home (Hogue 2006:244,247). The fact that all of the burials at Lyon's Bluff have been investigated for trauma (Hogue 2007), and none of the possible bundle burials display evidence of any, does make this possibility somewhat unlikely. However, these possible bundle burials have not yet been looked at for skeletal element frequencies. If certain skeletal elements were missing, this could be suggestive that they died away from the village and were later collected for burial (Hogue 2006:239-240).

Another interesting thing to consider is the concept of waste. Dunnell (1999:245) describes waste as the use of energy for purposes other than reproduction or survival, for example elaborate mortuary ritual. He feels that populations that engage in this wasteful behavior cause two things to occur (Dunnell 1999:245). Wasteful behavior, as explained by Dunnell, "…lowers population size directly through lower fecundity and…provides a

sink of "excess" time and resources that can be devoted to subsistence/reproduction under stressful conditions" (1999:245). Perhaps the populations at the Protohistoric farmsteads that seemingly spent more time and energy burying their dead were engaging in wasteful behavior. The farmsteads definitely had lower population sizes. Perhaps they were at a time of resource variability when subsistence was not a major concern so they had time to devote to other activities, such as mortuary ritual.

There is obviously more energy expended at the farmsteads in general. This could of course be just because there was a shift in burial practices from primary to secondary burials. Where there are more secondary burials there will be more expenditure of energy. But what happens when only the primary burials at the farmsteads are compared to the primary burials at Lyon's Bluff? A comparison of percentages (Figure 38) reveals that Lyon's Bluff does exhibit more energy expenditure. This could be reflective of higher status at Lyon's Bluff or due to the small sample size of primary burials at the farmsteads.

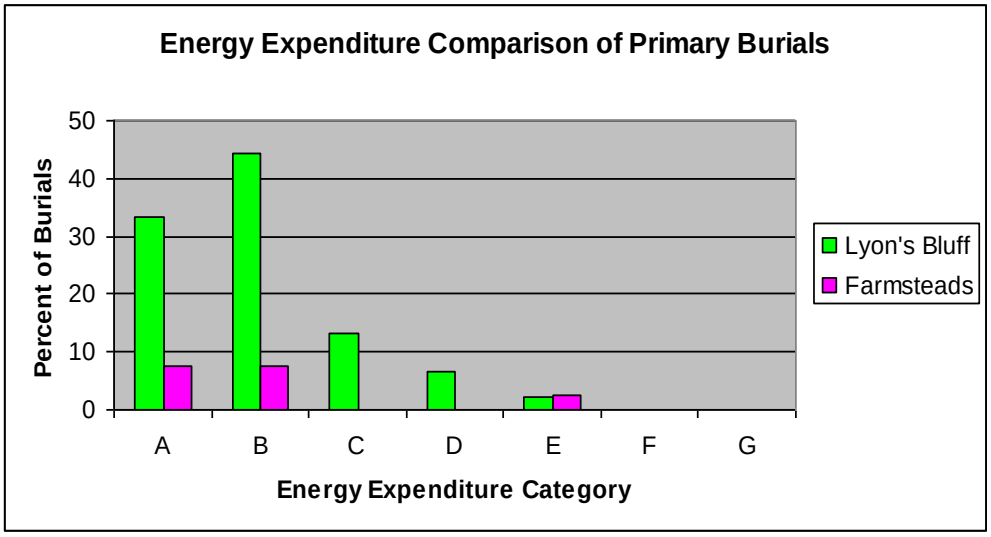

Figure 38 Energy expenditure comparison of primary burials at the farmsteads and Lyon's Bluff.

When only secondary burials from the farmsteads are looked at in terms of energy expenditure (Figure 39), the Protohistoric farmsteads were separated from the Mississippian farmsteads. It appears that more energy was expended on the secondary burials at the Protohistoric farmsteads. Obviously there are problems with this due to the small sample size of the Mississippian farmsteads. If the all of the burials are looked at relative to time (Figure 40) the least energy is expended on the Mississippian period farmsteads, Lyon's Bluff is situated in the middle, while the most energy is expended on the Protohistoric period farmsteads.

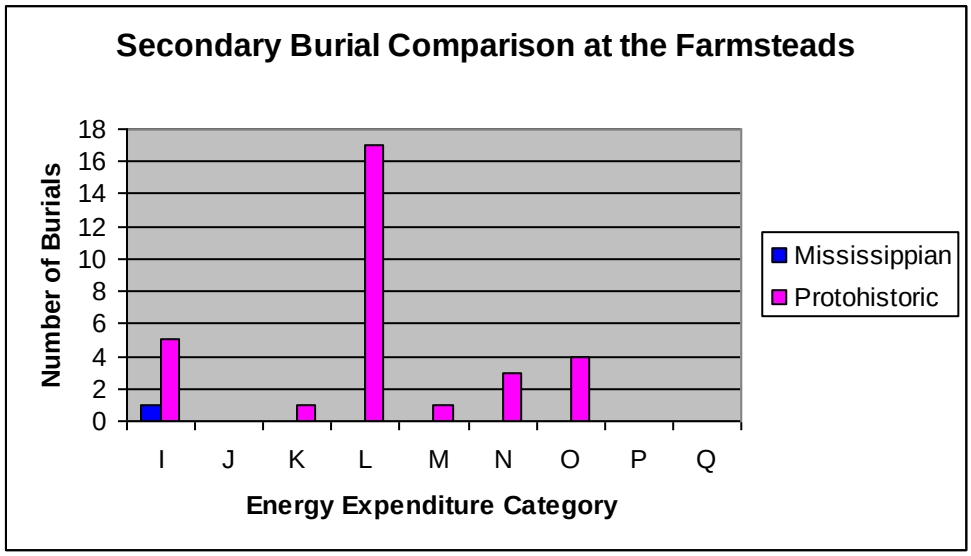

Figure 39 Energy expenditure comparison of secondary burials at the farmsteads

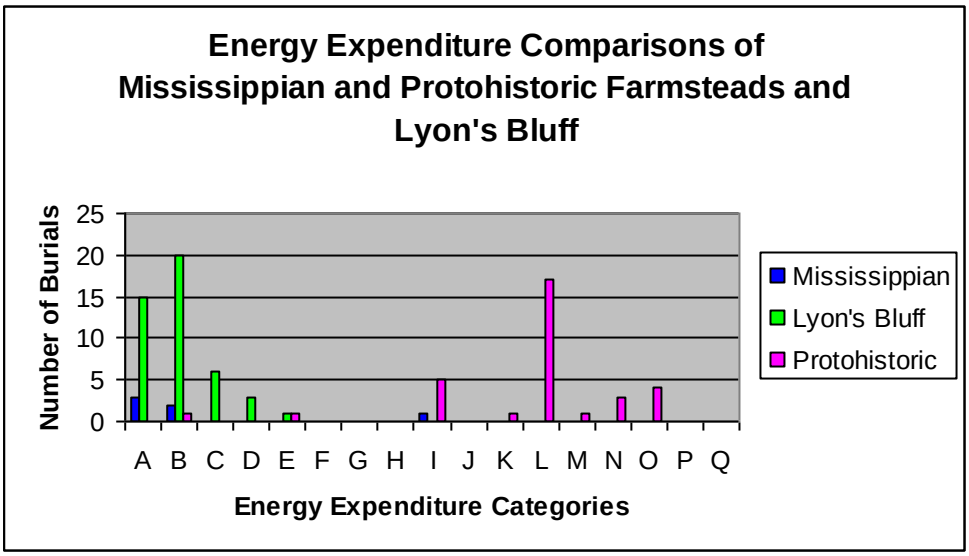

Figure 40 Comparisons of Mississippian farmsteads, Lyon's Bluff, and Protohistoric farmsteads

The fact that some of the burials at the Protohistoric farmsteads have European goods is a factor to take into consideration. These types of artifacts presumably were not readily available to anyone, being that the populations living in the area were not yet in contact with the Europeans. At Lyon's Bluff there have been no European trade goods found to date. There is only a local good found at 22OK905 (with both Middle Mississippian and Protohistoric occupations) and the goods at South Farm were all local goods which are comparable to some of the local goods found with the Lyon's Bluff burials (Hogue 2007:251). However, there may be later period outlying farmsteads associated with Lyon's Bluff that could potentially contain European trade goods. It would be interesting to see if these potential sites existed and if they also had differential burial practices with more expenditure of energy than what is seen at the mound site. This would help to confirm that generally more energy was expended on burials through time. There may even be later period burials at Lyon's bluff considering that such a small portion of the site has been excavated and that it seems that everywhere that was excavated burials were found (Hogue 2007:263). According to Hogue, "The absence of secondary burials at Lyon's Bluff is most likely due to limited excavation, with secondary burials yet to be located" (Hogue 2007:263).

As far as spatial patterning is concerned at Lyon's Bluff, there was no discernable cemetery area. The burials did not seem to be oriented in any particular directions either. This can be seen from the maps (Figures 25-29). Burials were encountered everywhere that has been investigated at the site. Spatial analysis was not undertaken for the farmsteads in this study.

With regard to cranial deformation, Hogue found that there were no burials that exhibited cranial deformation in the Mississippian farmstead series while those from both Lyon's Bluff and the Protohistoric series did exhibit fronto-occipital cranial deformation (Hogue 2007:248). As mentioned earlier, the presence of the same type of cranial deformation could suggest cultural similarity between the people of the Protohistoric farmsteads and Lyon's Bluff (Hogue 2007). It is interesting to note that the group with the least amount of energy expenditure, the Mississippian farmsteads, was the only group not to exhibit cranial deformation.

When sex and age were compared with energy expenditure at Lyon's Bluff (Figure 41) it seems that slightly more energy was expended on subadults. This is not the case at the farmsteads, where females seem to have slightly more energy expended (Figure 42). This could mean that there was possibly ascribed status at Lyon's Bluff, which does not seem to be the case at the farmsteads; however, the minor differences that appear in the graphs below could be attributed to the sample size. Another factor to consider, that has not been addressed in this thesis due to the small sample size, is the fact that it takes significantly less energy to dig a burial pit for an infant or small child than it does to dig a pit for an adult. It would be appropriate, with a larger burial sample to subdivide the samples into separate groups, with one for adults only, and another specifically for subadults.

When Hogue investigated stature at Lyon's Bluff and the farmsteads, she found that farmstead females were shorter than females from Lyon's Bluff which she felt could be suggestive of status distinctions based on access to better foods at Lyon's Bluff (2007:263). However, the Protohistoric males are taller than those at Lyon's Bluff which

she suggests may be due to better diet in the developing years (Hogue 2007:263). With ascribed status, it would be expected that both the males and females at Lyon's Bluff would be larger, which does not appear to be the case.

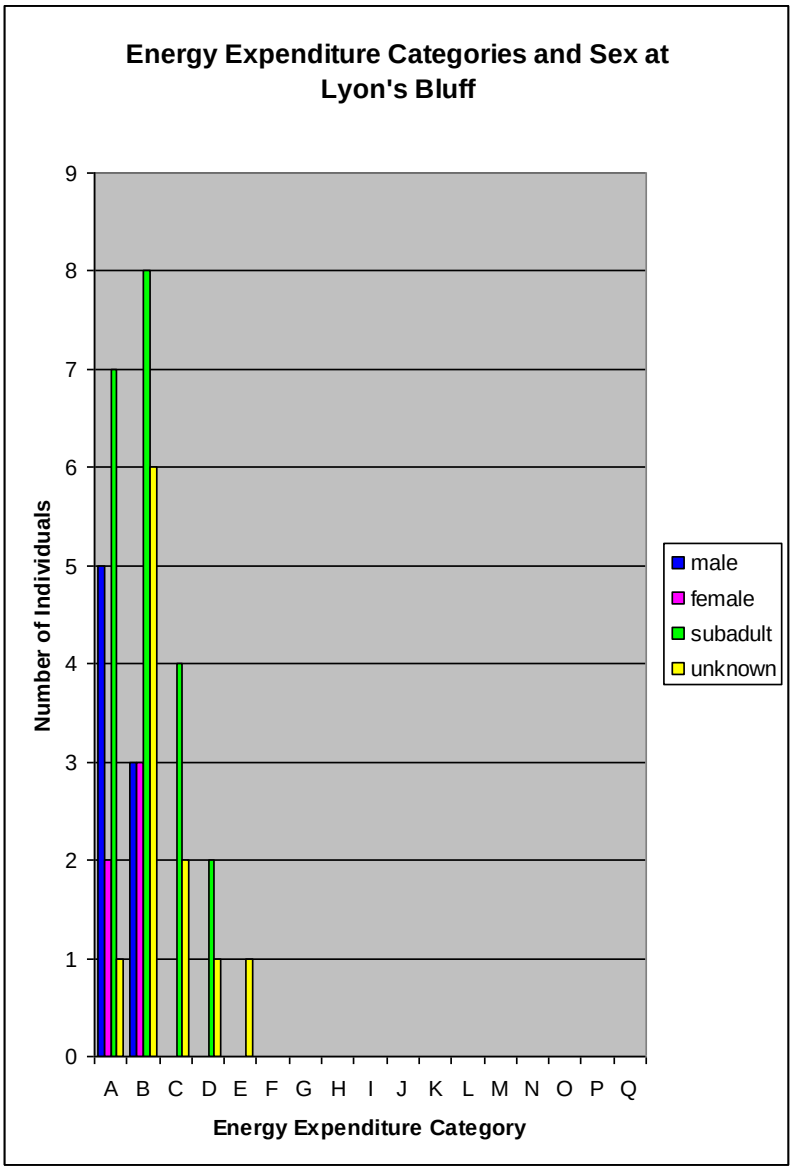

Figure 41 Graph showing energy expenditure and sex comparisons at Lyon's Bluff

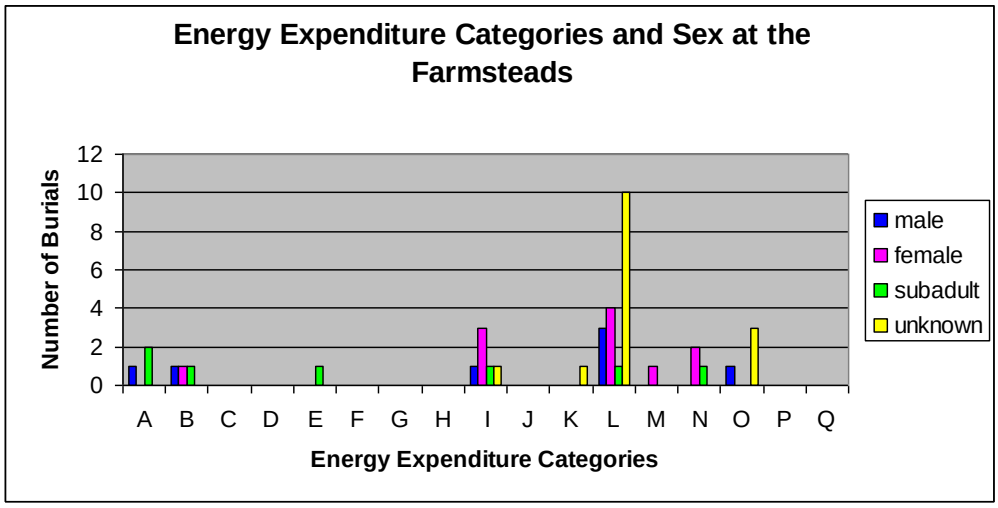

Figure 42 Graph showing energy expenditure and sex comparisons at farmsteads.

This idea of using energy expenditure in this way is a new approach. The advantage of using energy expenditure in mortuary analysis is that it employs dimensions that should be applicable in most situations. Although this research is just a starting point, it seems that this type of analysis could be easily incorporated in the future into mortuary analysis in order to help scientifically test hypotheses about social status at sites. It may even be applied to previous research, when burial data such as burial type and burial inclusions have been well recorded, in order to aid in determining the accuracy of some of the conclusions that have been drawn about status in burial populations by archaeologists in the past. Status is very difficult to quantify, and at this juncture it is not yet entirely certain whether energy expenditure does equate to status or if it represents something else entirely.

The quality the mortuary data that is available does affect the extent that this energy expenditure approach can be used (Fisher-Caroll and Mainfort 2000:106). It would be recommended that in comparing various sites with this approach, more contemporary sites be used than those that have been used in this study that do not exhibit such a major shift in burial type from primary to secondary burials. As previously mentioned in this study, it was apparent that appropriately documenting burials was often neglected in the late 1960's. For example, too often, it was encountered that there was no orientation information recorded and no sketch made of the burial, which made for great difficulty when attempting to create a map of the burials, assess the burial type of individual burials, as well as determine which artifacts were really included as burial accompaniments. Properly documenting burials is critical to any mortuary analysis.

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APPENDIX

MORTUARY DATA FROM LYON'S BLUFF AND THE FARMSTEADS

Table 8 1934/35 mortuary data

1934-5 Burials	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
Pit 1											
1	infant	n/a	-		-		15"				primary flexed
Pit 3											
1			-		-						primary disturbed
Pit 5											
1		m	-		-		24"	N-S	S	E	primary flexed
2	infant	n/a	-		-	20N0E	24"	N-S	S	E	primary flexed
3			-		fossil horse tooth abrading stone		24"	N-S	S	E	primary flexed
4	adult	m	-		-		18-24"	N-S	S	E	primary flexed
5	young adult	f	-		shell spoon infant skull		30"	NE-SW	E	NW	primary flexed
6	adolescent	m?	-		-		20"	N-S	S	E	primary semi-flexed
7		m?	-		-	15'9"N3'8"E	19-22"	N-S	S	down	primary semi-flexed/prone
8		f?	-	distinct posterior flattening	-	6'7"N3'0"E	9"	NW-SE	SE	up	primary flexed
9	immature	n/a	-		-	13'N4'W	27"	E-W	E	S	primary flexed
10	older adult	male	-		-	16'3"N6'3"W	27"	E-W	E	up/West	primary flexed/supine
11	unknown	unknown	-		turtle shell alligator skull						crushed skull, hand bones few vertebrae and few ribs

Table 9 1965 mortuary data

1965 Burials	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	n/a	n/a	-		-	79N87E	31-34"	E-W	SE	up	**primary** semi-flexed
2	young adult	f	-		-	78N85E		N-S			**secondary** bundle?/plowzone
*3	-		-		-	70N74.4E		N-S			**primary** semi-flexed
4	-		-		-	64.6N75.3E		N-S			**primary** semi-flexed

Table 10 1967 mortuary data

1967 Burials	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	50+	m	163.107+ 3.417	y	-	100N75E SEB	Level 4 18-24"	E-W	W	up	**primary** semiflexed /supine
1a	9+/-24m	n/a	-	y?	-	100N75E SEB	Level 4 23"				**primary** extended
2	2+/-8m	n/a	-	y?	-	105N80E SEB	Level 3 14"		E	SE	**primary** tightly flexed
3	4+/-12m	n/a	-	n	-	110N75E SEB	Level 2 4 3/4"	NW-SE	SE	up	**primary** semi-flexed/ supine
4	n/a	n/a	-	?	-	95N105W NWB	Level 2				**secondary?** bundle?
5	12+/-30m	n/a	-	y	bone awl not with skeletal material	100N90E SEB	Level 5	E-W	E	N	**primary** extended /supine
6	1+/-4m	n/a	-	?	-	115N75E SEB	Level 4 23-24"	E-W	E	S	**primary** semi-flexed / left side
7	4+/-12m	n/a	-	?	-	105N75E SEB	Level 6				**unknown** skull only
8	40+	f	-	n	-	105N85E SEB	Level 3 13-16"	NW-SE	SE	up	**primary** fully flexed /supine knees drawn up on chest
9	0+/-.5	n/a	-	?	Bone Ornament	125N80E SEB	Level 3 12-18"	E-W	E	SW	**primary** -
10	adult	f?	-	?	-	100N20E SEA	Levels 3-4				**unknown** -
11	9+/-24m	n/a	-	n	2 vessels (1 whole) Mississippi Plain	100N20E SEA	Level 4				**unknown** semi-flexed?
11a	adult	n/a	-	n	-	100N20E SEA					**unknown** -
12	9+/-24m	n/a	-	?	2 Modified Mussel Shells, 1 Unmodified Mussel Shell, 1 Unfinished Shell Ornament Raccoon Baculum Cut Mica Fragments Pottery Bowl 2 Pottery Vessels (Jars)	100N20E SEA	Level 6				**primary** semi-flexed
13	50+	m?	162.429+3.417	?	-	105N20E	Level 6				**primary** extended
14	4+/-12m	n/a	-	y?	-	120N15E SEA	Level 3				**primary** semi-flexed
15	4+/-12m	n/a	-	y?	-	105N80E SEB	Level 5 24-30"				**unknown** -
16	0+/-.5	n/a	-	?	-	110N80E SEB	Level 6 30-36"	E-W	E	N	**primary** semi-flexed/supine
17	10+/-24m	n/a	-	?	Stemmed Projectile Point	125N80E SEB	Level 3 19"				**unknown** semi-flexed? disturbed
18A	40+	m?	-	?	15 shell beads Fragments of Copper Earspool 2 Bone Pins Drilled Bear Canine	110N80E SEB	Level 5 27 1/2"				**primary?**
18B	4+/-12m	n/a	-	y?	same	110N80E SEB	Level 5 27 1/2"		N	down	**primary** sitting?
19	25-35	f	161.112+3.816	n	-	115N75E SEB	Level 6		W	up	**unknown** secondary/bundle?
20	4+/-12m	n/a	-	?	-	115N75E SEB	Level 6		W	down	**unknown** secondary /bundle?
21	11+/-30m	n/a	135.022 - 142.654 (l)	y	-	100N90E SEB	Level 5 26-29"	E-W	W	S	**primary** extended/ supine
22	0+/-.5	n/a	-	?	-	105N85E SEB	Level 6				**unknown** -
23	3+/-12m	n/a	-	y?	-	105N80E SEB	Level 6				**unknown** -
24	n/a	n/a	-	?	-	105N80E SEB	Level 6				**unknown** -
25	adult	n/a	-	?	-						**unknown**

Table 11 1968 mortuary data

1968 Burials

	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	15	n/a	-	?	-	80N75E MAA	Levels 5-6 30'				**secondary** bundle?/plowzone
2	40	m	161.525+ 3.147	y?	y	45N70E MAA	Levels 1-2 6'				**secondary** bundle?/plowzone
3	25 to 30	m	165.819+ 3.147	n	-	40N65E MAA	Levels 1-2 6-12"	NW-SE	SE		**primary** flexed
4a	30?	f	151.788+ 3.816	?	-	40N65E MAA	Levels 1-2 6-12"				**primary?** semiflexed
4b	9	n/a	-	?	?	40N65E MAA	Levels 1-2 6-12"		-	-	**unknown**
5	20 to 30	m	159.03+ 3.417	n	-	45N75E MAA South	Levels 1-2 6-12"	NNW-SSE	NW	-	**primary** semiflexed/upper body supine legs on left
6	4+/-12m	n/a	-	y?	-	40N65E MAA	Levels 1-2 6-12"			-	**primary** semiflexed
7	18	f	155.155+ 3.816 no skull	?	-	85N75E MAA	Level 5-6 24 3/4-27"	N-S feet to North	Missing	-	**primary** semiflexed/on right side no skull
8	25-35	f	153.601+ 3.816	n	y	30N65E	Level 3 18'				**primary** flexed
9	adult	n/a	-	?	-						**unknown** missing
10	7+/-24m	n/a	-	?	-	35N65E	Level 1 6'	E-W	E		**primary** flexed
11	11	n/a	-	? no skull	-	85N80E	Level 2 12'			-	**secondary** bundle?
11a	0-.5	n/a	-	?	-	85N80E	Level 2 12'		SE		**primary?**
11b	young adult	f?	-	?	-	85N80E	Level 2 12'				**unknown**
12	11	n/a	-	?	-	40N60E	level 2 7-9"				**secondary?** bones scattered
13	subadult	n/a	-	?	-	85N80E	level 2				**unknown** missing
14a	adult	n/a	-	?	-	45N70E	level 1				**primary?** tightly flexed/disturbed
14b	4+/-12m	n/a	-	?	-	45N70E					**unknown**
15	20	f	153.601+ 3.816	n	-	75N85E	levels 3-5 21"		SE	SW	**primary** flexed
*16	adult	f?	-	?	-	85N75E	level 6 27-29"	E-W	E	N?	**primary** semiflexed
*17	11+/-30m	n/a	-	?	-	45N70E	level 1 4 1/2"		N		**secondary** bundle/plowzone?
18	36	f	150.752+ 3.816	n	-	40N75E	level 2 12'		SE	N	**primary** supine/semiflexed
19	3+/-12m	n/a	-	?	-	45N70E	level 1 6'				**secondary** bundle/plowzone?
20	40	m	163.107+ 3.417	y?	-	80N95E MAA	level 4 18-24"				**primary** missing
21	4+/-12m	n/a	-	?	-	35N65E	level 3 11-14"				**secondary** bundle?
22	17	f	156.320+ 3.816	?	-	30N70E	level 2 12'		W	E	**primary** semiflexed
23	30	m	-	y	-	30N70E	level 2 12'				**primary** semiflexed
23a	subadult	n/a	-	?	-	30N70E	level 2 12'				**unknown**
24	0-.5	n/a	-	?	-	70N85E MAA	level 3 15'		S	SE	**primary** missing/semiflexed/prone?

Table 11 continued

1968 cont.	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
25	n/a	n/a	-	?	Pottery Vessel Fragment also associated with 21?	35N70E	level 2 12"				**primary** semiflexed
26	12+/-3	n/a	-	?	-	75N85E	level 3 17"	ENE-WSW	ENE	W	**primary** semiflexed/supine
27	n/a	n/a	-	?	y	35N70E	level 2 12"				**primary** semiflexed
28	n/a	n/a	-	?	Shell Pendant	40N60E	level 3 12"	NW-SE	SE	NE	**primary** semiflexed
29	12+/-30m	n/a	-	y	-	75N80E	level 4 21-23"	NE-SW	NE	SW	**primary** semiflexed/supine
29a	adult	n/a	-	?	-	75N80E	level 4 21-23"				**unknown**
30	40	m	-	y	-	30N65E	level 1 0-6"		E		**primary** flexed
30a	subadult/ adult	n/a n/a	-	?	-	30N65E	level 1 0-6"				**unknown**
31	16-18	f	154.378+ 3.816	y	y	75N90E MAA	level 3-4 13"	E-W	E	N	**primary** missing/semiflexed prone
31a	adult	f?	-	n	-	75N90E					**unknown**
32	4+/-12m	n/a	-	?	-	-					**primary**
33	n/a	n/a	-	?	-	40N65E					**unknown** scattered bones
34	7+/-24m	n/a	-	?	Shell Gorget	40N65E					**primary** flexed on right side
34a	subadult	n/a	-	?	-	40N65E					**unknown**
35	9+/-24m	n/a	-	y	-	40N65E					**primary** flexed

Table 12 2001/3 mortuary data

2001-3 burials	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	15-18	m?	-	n	ground stone, deer metatarsal	20S20W	ZnD,L3	N-S	N	E	**primary** semi-flexed
2	Adult		-		burial pit surrounded by white band, antler tine?	0n40w	ZnC, L1				**primary** flexed/semiflexed?
3	4+/-12m	n/a	-	y	-	0n39w	-31(pelvis)	N-S	SE	down	**primary** flexed-prone
4	0-.5	n/a	-	?	fish scales, fish vert. charcoal (matting or cord?)	0N16W	1.78m	E-W	E	SW	**primary** on left side/flexed?

Table 13 Plantation Homes mortuary data

22OK509	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	44-50	m	166.723+3.41	yes	?						multiple secondary?/primary disturbed?
2	20+/-5	m		?	?						multiple secondary?/primary disturbed?
3	7+/-12m	n/a		?	?						multiple secondary?/primary disturbed?
4	adult	m		?	?						multiple secondary?/primary disturbed?
5	35+	f		?	?						multiple secondary?/primary disturbed?
6	adult	?		?	?						multiple secondary?/primary disturbed?

Table 14 Rolling Hills mortuary data

Rolling Hills	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face
1983 Mass Burial										
1	25-40	m	165.773+3.41	yes	-			E-W		
2	25-40	?	-	?	-			E-W		
3	adult	f	-	?	-			E-W		
4	8-12	n/a	-	?	-			E-W		
5	25-40	m	165.819+3.41	yes	-					
6	40+	m	163.830+3.41	?	-					
7	40+	m	-	yes?	-					
8	adult	m	-	?	-					
22OK759 Mass Burial 2										
1	8	n/a	-	?	-					
2	adult	f	-	?	2 marine columella beads					
3	1	n/a	-	?	same					
4	adult	f	-	?	same					
5	4+/-12m	n/a	-	?	-					
6	3	n/a	-	?	-					
22OK756 Lot 42										
1	adult	?		yes?	nodena bottle, drilled					
2	adult	m?		yes	canines, celt shaped					
3	adult	m		yes	hammerstone, 2 brass					
4	adult	?		yes?	tinklers, blue glass					
5	adult	?		?	seed beads, copper					
6	subadult	n/a		?	hawk bell					
7	adult	f		?						
8	3+/-12m	n/a		?						
22OK756 Lot 45										
1	20-40	m	-	?	Iron Adze, Iron Knife Blade		no more			
2	4+/-12m	n/a	-	?	same		than 6"			
3	6+/-24m	n/a	-	?	same		below surface			
22OK756 Urn Burial	0-1	n/a								
22OK756 "Infant Burial"										
1	0-1	n/a	-	?	vessel fragment					
22OK593 "1983 Urn Burial"										
1	5+/-12m	n/a	-	?	fragmentary burial urn					
2	25+	f	-	?	same					
3	18-20	f	-	?	same					
22OK593 Site 7										
1	25+/-5	f	-	no	-					
220K593										
RH3	0-1	n/a	-	?	-					
RH4	19+/-2	?	-	?	-					
RH6	40+	m	-	yes	18 blue/turquoise glass "seed" beads			E-W	E	vertical
C-1	25+/-5	f	-	-	-					

22OK595	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face
1	8+/-24m	n/a	-	y?	-					
2	35+	f	152.047+3.81	y?	-					

Table 15 22OK905 mortuary data

22OK905	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	15-21	m	168.079+3.41	y	-						secondary bundle
2	20-35	f	-	n	Hammerstone						primary
3	6+/-12m	n/a	-	n	-						primary
4	3+/-12m	n/a	-	n	-						?
5	4+/-12m	n/a	-	n	-						primary
6	11+/-30m	n/a	-	n	-						primary
7	45+	f	151.01	n	-						primary
8	7+/-12m	n/a	-	n	-						primary

Table 16 22OK904 mortuary data

22OK904	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	20-35	f	-	?		2S4E	-14cm (pelvis)	ene-wsw	e	se	secondary bundle
1A	adult	f	-	?		2S4E					secondary
2	45-50	f	149.45+3.816	yes		3S10E	Feature 1/zone1	e-w	e-se		secondary bundle
3	adult	n/a	-	?		4S4E	-27cm (skull)	ene-wsw	sw	?	n/a
4	20-25	f	158.522+3.816	yes		2S12E	-30cm (pelvis)	w nw-ese	w	ese	secondary bundle
5	middle adult	n/a	-	?			subsoil	nw-se			n/a

Table 17 22OK902N mortuary data

22OK902N Feature 1	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	adult	male?		?	urn						secondary single urn
Feature 2											multiple secondary bundle
A	young adult	n/a	-	?	-						
B(B2)	middle adult?	n/a	-	?	-						
C	middle adult?	female?	-	?	-						
D	25-35	female	-	?	Bone Pendant						
E	middle adult?	n/a	-	?	-						
F	old adult?	n/a	-	?	-						
G	20-30	male?	-	?	-						
H	middle adult?	n/a	-	?	-						
H2	6+/-24m	n/a	-	?	-						secondary?
I	old adult?	female	-	?	-						
J	young adult	n/a	-	?	-						
J2	5+/-16m	n/a	-	?	-						secondary?
K	5+/-16m	n/a	-	?	-						secondary?
L	middle adult?	male?	-	?	-						
Northern Bundle	18-25	female?	-	?	-						multiple secondary bundle
Feature 3											multiple secondary bundle
A	25-35	male	-	yes	-						
B	45+	male	168.000+3.41	yes	-						
C	20-25	female	148.162+3.81	yes	-						
D	6+/-24m	n/a	-	?	-						secondary?
E	3+/-12m	n/a	-	?	Cut Bone Bead						secondary?
F	3+/-12m	n/a	-	?	-						secondary?
G	0-3m	n/a	-	?	-						secondary?
H	3	n/a	-	?	-						secondary?

Table 18 South Farm mortuary data

South Farm 22OK534	Age	Sex	Fem Stat.	FO Def.	Goods	Unit	Depth	Orientation	DO Skull	DO Face	Burial Type
1	45+	m		n	yes						primary
2	3+/-12m	n/a		n	-						primary flexed
3	45+	m		n	yes						primary flexed
4	20-35	m		n	3 Madison Type Arrow Points						primary flexed
5	20-35	f	149.457	n	5 Drilled Wolf Canines						primary flexed
6	5+/-16m	n/a		n	yes						primary flexed