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HURRICANE LANDING: AN ANALYSIS OF SITE 22LA516 IN SARDIS LAKE,  
LAFAYETTE COUNTY, MISSISSIPPI

A Thesis

presented in partial fulfillment of requirements

for the degree of Master of Arts

in the Department of Sociology and Anthropology

The University of Mississippi

by

JOSHUA J. SHIERS

December 2018

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## **ABSTRACT**

Site 22LA516, known as Hurricane Landing, is a single mound early Mississippian site located in the middle of Sardis Lake, Lafayette County, Mississippi. As part of a 2015 joint salvage archaeology project between the Center for Archaeological Research (CAR) and the Vicksburg District Corp of Engineers, nine pit features were excavated. Analyses of the ceramics and lithic remains recovered from the features, combined with AMS dates, were conducted with the focus of better understanding Hurricane Landing within its North Central Hills region of Mississippi. Hurricane Landing's 2015 excavation ceramic collection contains shell tempered and grog tempered plainware with several shell tempered decorated types and no grog tempered decorated types. Analysis of the lithics recovered indicates Hurricane Landing imported Citronelle and Ft. Payne Chert with long trajectory Citronelle production and short trajectory Ft. Payne production. Settlement data for the North Central Hills indicate a population shift to downriver floodplains in the early Mississippian. The results of the ceramic and lithic analyses coupled with the AMS dating, indicate that the pit features were filled from around AD 1165 to roughly AD 1295, strongly suggest that Hurricane Landing is a transitional Mississippian site.

## DEDICATION

I hereby dedicate this thesis to my family. Their support throughout my academic journey has been invaluable, and I have been blessed to have them. It has been a joy to share what I have learned with them over the years.

In particular, I would like to dedicate this thesis to the late Gary Blocker. This was one of the many milestones in my life that I had looked forward to sharing with you. Love and miss you Papa.

### ACKNOWLEDGEMENTS

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Dr. Jay Johnson, Dr. Maureen Meyers, Dr. Tony Boudreaux, and Dr. Robbie Ethridge.

Dr. Jay Johnson      University of Mississippi, Professor Emeritus

Dr. Maureen Meyers   University of Mississippi Assistant Professor

Dr. Tony Boudreaux   University of Mississippi Associate Professor

Dr. Robbie Ethridge   University of Mississippi Professor

I would like to also acknowledge the very helpful assistance provided by the following individuals: Bill Latham and Grace Meyers.

Bill Latham      Supervisory Natural Resource Manager, Sardis Reservoir

Grace Myers      University of Mississippi graduate student

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## Chapter I Introduction

The focus of this thesis is a Mississippian Period site, 22LA516, Hurricane Landing, located in Sardis Reservoir (Figure 1). Site 22LA516 is a single platform mound site located in Northern Mississippi in Lafayette County and lies in the middle of modern day Sardis Lake near the low-water boat ramp operated by the Corp of Engineers. It was first recorded in 1933 and

### Location of Sardis Lake in Mississippi

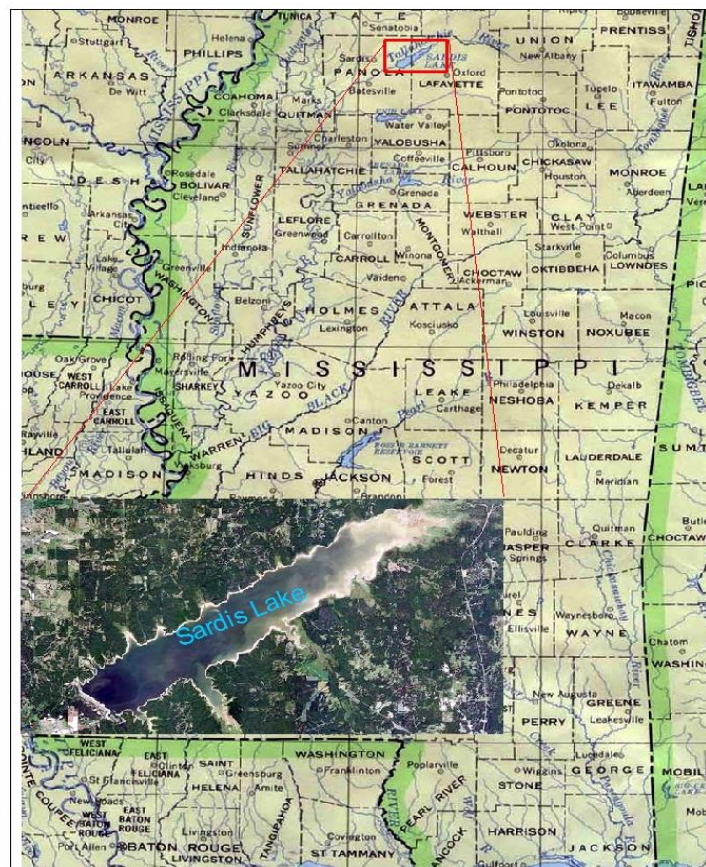


Figure 1 Mississippi Map

entered into the state files in 1964 (Thorne 1981: 1). The mound at Hurricane Landing was stabilized in 1980 and limited test excavations were conducted at that time (Thorne 1981).

Salvage excavations at Hurricane Landing undertaken in 2015 focused on nine features (Figure 2). The artifacts recovered from these closed contexts provide the opportunity to examine the Woodland to Mississippian transition in some detail. A suite of AMS dates as well as an analysis of the ethnobotanical remains are used to amplify these results. In addition, GIS analysis of all Woodland through Mississippian settlements in three counties surrounding Sardis Reservoir is used to place the Mississippian settlement at the site within a broader context of the North Central Hills.



Figure 2 Site 22LA516 in Sardis Lake

The review of previous research in Chapter 2 begins with the work of Sam McGahey (1968), Gay Fortune (1985), Janet Ford (1990), and Robert Thorne (1981), all of which focused on some aspect of the prehistory of the portion of the Little Tallahatchie River floodplain that is included within Sardis Reservoir. These works provide a picture of how long Sardis Reservoir

occupation has lasted and how that occupation span has been interpreted. One of the major conclusions of the 2015 project is evidence that the occupation of Hurricane Landing dates to the very early Mississippian Period, marking the transition from the preceding Woodland Period. A review of the current understanding of the Mississippian period is an essential first step in exploring theories on Transitional Mississippian. These theories are discussed in Chapter 2.

Chapter 3 details the excavation and mapping of the 2015 project at Hurricane Landing. Along with a description of the steps taken throughout excavation, the plan and profile maps of all nine features are featured.

Chapter 4 details the ceramic typology used in the analysis of the 2015 collection. This typology is then used to examine the relationships between individual features at the site. The chapter concludes with phase identification and comparisons between Hurricane Landing and neighboring regions.

The lithics analysis, Chapter 5, presents the technique used in sorting lithics recovered at Hurricane Landing as well as a discussion of raw material. Significant trends in tool making are explored. Although galena is a mineral rather than a stone, a discussion of a single bead made from that material is included in this chapter.

Chapter 6 presents a GIS-based analysis of the settlement data for the North Central Hills using information from the state site files to explore the broader settlement picture around Hurricane Landing. Comparing the settlement trends in the North Central Hills with data from the Yazoo Basin suggests that trends exhibited in both regions could have been connected.

Finally, the discussion and overall conclusion of the analyses conducted for Hurricane Landing's lithic, faunal, and ceramic collections from the 2015 excavation are presented in Chapter 7.

Data analyses conducted in these seven chapters were focused on determining when the Hurricane Landing site was occupied and, if it was early Mississippian, what its existence in the North Central Hills region might represent. If Hurricane Landing's lithic, faunal, and ceramic collections closely mirrored trends in Yazoo Basin Mississippian sites then it could be a frontier settlement of the Yazoo Basin Mississippian culture in the North Central Hills region. If Hurricane Landing's artifacts do not closely mirror Yazoo Basin trends while still indicating a Mississippian occupation, then it suggests that the North Central Hills could have its own Mississippian expression.

## **Chapter 2 Literature Review**

### **Sardis Reservoir**

Multiple theses, surveys, and site excavations have been conducted in portions of the Little Tallahatchie River floodplain that is encompassed by Lake Sardis, starting with Calvin Brown's mound surveys in the 1920s (Thorne 1981: 1). *An Archaeological Survey of Certain Sites in Sardis Reservoir* (McGahey 1968) is one of these theses. In it McGahey analyzes the results of his surface survey of 31 Lake Sardis sites with a focus on lithics including collector data from sites that McGahey could not visit (McGahey 1968: 4). One thousand projectile points were collected from the surface collection while 2,000 points were examined from collections donated by locals (McGahey 1968: 16). McGahey established 33 provisional lithic types to describe the collection (McGahey 1968: 17). These 33 provisional biface types spanned 5 distinct prehistoric periods from around 10,000 BC through the Mississippian period (McGahey 1968: 97-99).

The earliest lithic period contained only four points, large Clovis and Cumberland types. McGahey interpreted these data as showing that occupation in the Sardis Reservoir began around 10,000 BC with small bands of big game hunters (McGahey 1968: 100). The second period contained 153 points very similar to established Early Archaic types from Alabama and Tennessee. McGahey stated this was a transitional period, around 8,000-5,000 BC, from big-game hunting to a hunter-gather lifestyle. This increased the population density in the Sardis Reservoir due to an increased amount of permanent settlements. At five sites, bifaces from this

period were predominant (McGahey 1968: 100). The third period contained 222 lithic points that McGahey labeled as Middle Archaic based on their close similarity to established Middle Archaic types in Alabama and Tennessee. Again, McGahey saw the increase in the number of bifaces as evidence for an increase population and/or more permanent settlements. McGahey's fourth period contained 457 bifaces dating to the Late Archaic through Middle Woodland periods. McGahey argued that the vector of influence upon the region shifted from east to west because of similarities to established types for those periods in Texas and Oklahoma. This was the predominant period recovered at nine sites (McGahey 1968: 101). The fifth and final period contained 732 small, probable arrow points. McGahey dates this period from around AD 500- 1700. Twelve sites featured this period predominantly (McGahey 1968: 101).

While lithics were the focus of McGahey's surface survey, ceramics were recovered and analyzed as well. Ceramics were collected from 20 of 31 sites examined in McGahey's thesis and were sorted by surface treatment, tempering material, and type of clay used (McGahey 1968: 86-87). McGahey established the ceramics as belonging to four time periods; Late Archaic, Early Woodland, Middle Woodland, and Mississippian (McGahey 1968: 102). Late Archaic ceramics were recovered at only two sites and were fiber tempered types Bluff Creek Punctated and Wheeler Plain, the earliest types recorded for North Alabama (McGahey 1968: 87). Early Woodland ceramics were found at all 31 sites analyzed and was the most frequent ceramic types at 14 of the 22 sites that McGahey personally surface collected (McGahey 1968: 103). The vast majority of these Early Woodland ceramic types match Yazoo Basin types, and include Withers Fabric Impressed, Twin Lakes Fabric Impressed, Blue Lake Cordmarked, and Thomas Plain. Unlike the lithic collection, which increased in overall total and site prevalence over time, this period is more predominant than the ones that follow. Middle Woodland ceramics were

predominant at six sites analyzed. The majority of Middle Woodland ceramics recovered were Mulberry Creek Cordmarked and Baytown Plain, more Yazoo Basin types that spread into the Sardis Reservoir area. McGahey theorized that the predominance of Early Woodland over Middle Woodland had two possible causes: A decrease in population during the Middle Woodland or Early Woodland ceramic types took longer to be supplanted by Middle Woodland ceramics types than in the Yazoo Basin (McGahey 1968: 103-104).

The final ceramic period, Mississippian, was recorded at two sites with the types recovered also matching Yazoo Basin types. McGahey concluded from all the data collected on lithics and ceramics that the sites surveyed were multi-component sites. Given that they were located on a sizable stream combined with the presence of trade goods at multiple sites, he concluded these sites were not isolated but had contact with outsiders (McGahey 1968: 106). Based on the lithic and ceramic type similarities these contacts shifted over time. At some point in the Early to Middle Woodland the Sardis Reservoir inhabitants shifted from interacting with the inhabitants of Northwestern Alabama to interacting with the inhabitants of the Yazoo Basin.

*The Utilization of Lithic Resources in Sardis Lake Lafayette County, Mississippi: Further Study of Projectile Points from the Savage Collection* is another thesis on Sardis sites. Written by Linda Gay Fortune (Fortune 1985), this thesis used point type clusters to analyze a private collection made by an avocational archaeologist. There were approximately 1,500 bifaces and preforms in the Savage collection, made of four source materials; Fort Payne Chert, Kosciusko quartzite, Citronelle gravel, and sandstone (Fortune 1985: 2). Of these 1,500 bifaces and preforms, 768 from 42 different sites were selected for study. The 768 analyzed bifaces and preforms spanned the Paleo-Indian to Mississippian periods. The 768 lithics selected were grouped into point type clusters. Point type clusters group artifacts that share particular



morphological, stylistic, technological, and temporal attributes (Fortune 1985: 12). Fortune stated that these clusters allow stylistic range over large areas and long time periods to be plotted, allowing for the establishment of traditions and horizons within the lithic artifacts (Fortune 1985: 12). Clusters were then formed into chronological periods with lithic point types coming from the *Handbook of Alabama Archaeology* (Fortune 1985: 14-15).

Fortune's analysis of the collection determined that Citronelle was the major chert used in the collection accounting for 72.8% of the lithics recovered. Fort Payne chert made up 24.5% of the collection while one biface was made of sandstone (Fortune 1985: 65). Citronelle was the dominant lithic material in every occupation period except for the Middle Archaic when Citronelle and Ft. Payne split the collection almost evenly (Fortune 1985: 67). Lithic biface and preform totals drop off during the Mississippian period but Fortune states that the procurer of the collection, Dr. Savage, was "a fisherman first and a collector second" so the data could be skewed by his collecting technique (Fortune 1985: 80). Fortune concludes in the end that no major trends in raw material usage or spatial patterning within the Sardis Reservoir could be determined (Fortune 1985: 79).

Using data derived primarily from mounds located in North Mississippi, Ford (1990) reexamined the Tchula phase and its relationship to the following Marksville phase. Beginning with the Boyd site, Ford concluded that Zone 1, the earliest occupation period of the site, actually represents a Tchula occupation rather than an early Marksville occupation as had been previously believed (Ford 1990: 105). Ford argued that the Zone 1 ceramics from Boyd were closely related to several other sites in North Central Mississippi including McCarter, Clear Creek, Tidwell, Tyson, and Little Spring Creek (Ford 1990: 105). All of these mounds contained Tchula phase ceramics including whole vessels, suggesting that Tchula period residents built

burial mounds and part of that ritual construction included the burial of complete vessels in the mound. That the mounds were constructed in single stages and contained few ceramic sherds apart from the complete vessels distinguishes them from the later Marksville mounds (Ford 1990:114-115).

Hurricane Landing was excavated in 1980 by the University of Mississippi Center for Archaeological Research (CAR) during a mound preservation project coordinated with the Corps of Engineers (Thorne 1981:1). It was determined that the seasonal flooding of the site had damaged and would continue to damage the mound. The 1980 project included placing three backhoe trenches to determine the extent of the mound's edges (erosion had clearly defined the western side making a trench unnecessary). Then the top was carefully hand scraped and the exposed house and post hole features were mapped. Finally they sealed the mound with filter cloth and riprap to protect it from further erosion (Thorne 1981: 2-4). Besides the trenches to determine the edges of the mound, there were no excavations on the mound; only surface collection was undertaken on and around the mound (Thorne 1981: 7). There were also 5 test pits dug in what Thorne (1981: 13) labeled as a midden area 200 feet southeast of the mound. Exact mapping of each test unit was not conducted. Although the focus of the project was the mound, Thorne (1981) provides a brief discussion of the artifacts that were recovered. Ceramics were sorted by temper types (Thorne 1981 Tables 1, 2) but, unfortunately, were not tabulated by surface decoration. All that can be concluded is that grog and sand tempered sherd were more common in the test pits and shell tempered sherds were more common in the surface collection near the mound.

### **Mississippian Background**

What has been labeled the Mississippian period was the final pre-contact period (1000-1540 AD) of Native American culture in the southeastern United States region, located from Arkansas to Virginia and from the Gulf Coast to the lower Ohio River Valley. As Jennings (1952: 264) notes, “The Mississippi cultures represent the impact of a new series of ideas upon the widespread Middle Woodland peoples.” Jennings also stated that Mississippian cultures arose from changes in ideas, specifically ideas on settlement structure, political structure, and subsistence. There is a major shift from conical mounds to square truncated pyramid mounds in the Mississippian period. Jennings (1952: 265) states this has roots in the usage of mounds, from markers, ceremonial or burial, to foundations for ceremonial or elite buildings built around plazas. At the same time populations at these mound sites greatly increased and the sites were increasingly constructed in river floodplains (Scarry 1994: 21). With the increase in population came an increase in large public works; mounds increased in size, ground was cleared and leveled for plazas, and fortifications were erected (Scarry 1994: 21-22)

The Mississippian period saw an increase in political complexity as clans combined into chiefdoms. Widmer (1994: 127) states that chiefdoms are kin-based societies and that the chiefdoms of the Southeast were built upon unilineal matrilineal descent groups. Elites in these chiefdoms were determined by their relations on their mother’s side. Because of limited local resources population booms led to fissioning, where portions of the population moved to a new resource rich location to form a client community (Widmer 1994: 134). As these chiefdoms expanded to gather resources for increasing population they would encroach on the resource

zone of other chiefdoms. Widmer states that chiefdoms would resolve these clashes and form a complex paramount chiefdom in one of two ways. Chiefdoms would form marriage alliances and merge or one would conquer the other (Widmer 1994: 143).

The Mississippian period featured a major change in subsistence with the increase of intensive corn agriculture, more than any previous period in the Southeast (Griffin 1952: 361). In the Mississippian period every household was responsible for its own domestic, subsistence, and economic activities (Widmer 1994: 128). Households, usually within a clan, would combine labor to grow, maintain, and harvest corn and other domesticated crops. Excess produce was transported to the principal town of the chiefdom which would act as a center of redistribution for the entire chiefdom (Widmer 1994: 138). The chiefdom being a region under the political and military control of a hierarchical society in which one individual, the chief, controls the flow of resources by holding tremendous political and religious power. When one such chiefdom dominates other chiefdoms, installing chiefs subordinate to its own then it is identified as a paramount chiefdom or complex chiefdom (Blitz 1999: 577). In conclusion, the Mississippian is the last period of Pre-contact Native American culture in the contemporary Southeastern United States and is characterized by the increased adoption of a settlement usually featuring one or more flat topped platform mounds, intensive corn agriculture for subsistence, and a chiefdom model of social organization (King and Meyers 2002: 113).

John Blitz (2010:1) in *New Perspectives in Mississippian Archaeology* summarizes several active theoretical orientations in Mississippian archaeology including traditional culture history, processualism, historical processualism, iconography, and Neo-Darwinism. This section will focus on processualist works in Mississippian archaeology within the last two decades as it

is the most widely applied to theoretical orientation. To fulfill this goal, various processualist theories on interpretation of the Mississippian Period will be established and explored.

Blitz (Blitz 2010: 2) stated that processualists were focused in modern Mississippian archaeology on developmental history, economy, and the control of material goods. According to Blitz (1999:577), David Anderson's (1994) simple-complex chiefdom cycle was the major model of sociopolitical development applied in the American Pre-Columbian Southeast. According to this model, there was a cycling of chiefdom complexity in a region as one chiefdom would gain enough power to transform into a complex chiefdom, eventually loss power and shatter into multiple simple chiefdoms, then one of those simple chiefdoms power up into a new complex chiefdom beginning the cycle anew (Anderson 1994). Several archaeologists used processual approaches in studying the traditional simple-complex chiefdom model that had been applied to Mississippian archaeology.

Rob Beck (2003:641) explored this topic in Consolidation and Hierarchy: Chiefdom Variability in the Mississippian Southeast and determined that the simple-complex chiefdom model has questionable worth in Mississippian studies. Beck (2003) offered a qualitative model as a replacement for the simple-complex chiefdom model. In Beck's model, regional hierarchies are marked by the ways in which authority is ceded or delegated between an apical, regional chief and constituent, community leaders (Beck 2003: 642). In this model there are two avenues for power to flow; either it is ceded upward from community to a regional center or it is ceded downward from regional centers to communities. Chiefdoms are created as multiple local communities are integrated into an organized regional hierarchy with a certainty of resistance by local leaders and their followers to this incorporation (Beck 2003: 645). Beck claims the apical and constituent hierarchies can be determined in the archaeological record because they each

deposit different material patterns. A constituent hierarchy will leave material evidence of group-building strategies, have a nucleated town or village, leave evidence of corporate labor projects, and have communal mortuary facilities (Beck 2003: 646). An apical hierarchy will have material evidence of extreme restructuring of social relations, icons of legitimization, group distancing strategies, restricted access to a sacred center, increased production of agricultural surplus, and the foundation of secondary centers for regional management (Beck 2003: 646). Beck states that administrative hierarchies are scalar hierarchies where decisions made at any level can impact operations of any other level. He believes this should be central to any study of apical hierarchical collapse, that the decisions of the constituent hierarchies are likely correlated to the collapse (Beck 2003: 646).

John Blitz also studied the simple-complex chiefdom model and offered a replacement model for interpreting Mississippian sites. Blitz rejected the simple-complex chiefdom model after a review of settlement patterns showed that the distributions failed to conform to the predictions of the simple-complex model (Blitz 1999: 577). He states that the absence of primary-secondary center hierarchies implies that the extension of regional administrative control was not the main factor in mound-center distribution. Blitz states that ethnographic data points to fission-fusion as the creator of the majority of mound center settlement patterns (Blitz 1999: 577). That Fission-fusion is a product of rival faction leaders' efforts to resolve conflicting values of autonomy and security. Blitz declares that Fission-fusion is not a linear development. Large chiefdoms may develop from small chiefdoms then splinter into less centralized polities as part of a fluctuation between dispersed and concentrated regional power centers (Blitz 1999: 587). Blitz states (1999: 588) that tribute-based political economies was not the primary forces behind this oscillation because tribute likely flowed locally from household to individual centers.

Also, the spacing of most centers implies that resource flows were directed to a specific center, not passed on through a chain of subordinate centers. Blitz points to internal factionalism and warfare as the driving forces behind the fluctuation between dispersed and concentrated regional power centers (Blitz 1999: 589). The primary organizational force in Mississippian polities was a compromise between a desire for autonomy and need for mutual security with population movement an integral aspect of Mississippian sociopolitical formations. Blitz's fusion-fission model stands in contrast to the World System Theory.

Maureen Meyers notes that Peregrine (1995) and King and Freer (1995) suggest World System Theory is applicable to understanding Mississippian economies. World System's Theory sees interaction as an agent of change and seeks to study interactions at a multiscale regional level. World System Theory in Mississippian studies believes that the Mississippian contained multiple cores and peripheries that interacted amongst each other to various degrees (Meyers 2011: 102). A major interaction between the cores and peripheries was trade, so much so that the term prestige goods economy was coined to encapsulate its effects. In prestige good economies the elite maintain their position by monopolizing trade exchanges of luxury goods and prestige markers (Meyers 2011: 106). These commodities are defined or redefined at the border which affects their value in a culture. Often these definitions occur at gateway communities, communities created to satisfy demand for commodities through trade. The location of these gateway communities were intentionally placed on the frontier or as a middleman between frontier and core to reduce transportation costs of commodity trading (Meyers 2011: 115-116). Because of these flows of commodities frontiers can be connected or attached to multiple cores. Another major belief in World System Theory is that social identity is expressed in material goods (Meyers 2011: 286). Ceramics, their composition, form, and decoration, in World System

Theory are seen to social identifiers because it is a learned behavior passed down from generation to generation.

Jon Marcoux (2007: 232) states in *On Reconsidering Display Goods Production and Circulation in the Moundville Chiefdom* that “Prestige Goods Economy” was created to explain the rise of political complexity as a direct result of elite strategies to control access to exotic, finely crafted display goods. He feels that this has become the definition of Mississippian in current archaeology. In his article he tests the theory at Moundville and surrounding sites. The data he recovered do not match the projections generated by the Prestige Goods Economy model (Marcoux 2007: 232). The idea of non-local display goods as a primary means of power for elites was not completely reflected in the data, while the distribution of non-local display goods was entirely concentrated among the elite during the peak of Moundville’s power. The ratio of local display goods to non-local is higher, at 52% to 14%, than expected in the Prestige Goods Economy model. Marcoux (2007: 241) concludes from this data that non-local display goods were definitely an elite privilege, but not a primary fund of power. Instead, it was locally made display goods that had a larger role in political economy. Marcoux (2007: 242) also concludes that non-local display goods were not always “currencies” in an interregional competitive system of exchange. Marcoux (2007: 242) points to the scale of distribution of locally made Moundville display goods as too small to support the existence of a World System network of interdependent polities engaged in competitive gift exchange. Marcoux (2007: 243) turns to John Kelly’s model to determine the importance of prestige goods in chiefdoms. The Kelly model highlights the corporate nature of crafting, different steps completed by different kin-based groups. Ritual participation actively reproduced their relationships to the community and each



other. Overall Marcoux feels that the term “prestige goods” has baggage and should not be used (Marcoux 2007: 243).

In *Practice and History in American Archaeology: An Emerging Paradigm*, Tim Pauketat focuses on another theory, Historical Processualism, and states it is a new paradigm in American archaeology (Pauketat 2001: 73). In archaeological explanations, behavior and evolution are being replaced by practice and history. Pauketat (2001: 88) specifies that archaeologists should use behavioral practices, not behavior, in interpretations of cultures. He defines behavioral practices as what people did and how they negotiated their views of others and their own pasts. These behavioral practices were the actual processes of cultural change (Pauketat 2001: 88). The emphasis on practice elevates the importance and worth of historical explanations and documentations in archaeology and alters the questions that archaeologists ask, many of which revolve around whether the archaeological data validate historical sources and their observations or refutes them. Practices of which archaeology provides a record are two extremes; they are important events affecting social space structure, or they are the normal everyday activities of individuals. Pauketat (2001: 89) states that the second extreme can be studied in pottery as pottery was part of an everyday dialogue in which power and tradition were negotiated through food preparation, distribution, and consumption.

### **Transitional Mississippian**

Bruce D. Smith’s 2007 edited volume *The Mississippian Emergence* is an excellent starting point for a discussion on the early development of the Mississippian culture in the Southeast. Smith (2007: 1) states that the Mississippian emergence from 750-1050 AD was an independent social event that was not derived from Mesoamerican state-level societies spreading influence north into eastern North America (Smith 2007: 1). Smith argues that societies are

linked to their environment as components of ecosystems and can experience drastic social change due to ecological and subsistence-based changes as well as what he identifies as societal shifts. Smith's volume contains articles detailing research into how the Mississippian emerged in various sub regions of the Southeast; from Northeast Arkansas to Florida, in response to societal or subsistence pressures.

Dan Morse and Phillis Morse (2007: 51) in Chapter 4 of *The Mississippian Emergence* explored the Zebree Site, located in northeast Arkansas. The Zebree Site is a very significant archaeological site as it has the first evidence of Early Mississippian occupation in Arkansas (Morse and Morse 2007: 51). Morse and Morse (Morse and Morse 2007: 51) labeled a Late Woodland occupation as belonging to the Dunklin Phase and the Early Mississippian occupation as belonging to the Big Lake Phase. They determined that the Big Lake Phase did not derive or descend from the previous Dunklin Phase (Morse and Morse 2007: 51). Dunklin Phase pottery was sand-tempered pottery, Barnes Cordmarked and Barnes Plain, with a high percentage of the 35,072 sherds being cordmarked (Morse and Morse 2007: 53). There was some overlap between the Dunklin Phase and Big Lake Phase occupations of the Zebree Site, but there is no evidence of cultural mixing between the two (Morse and Morse 2007: 56). The Big Lake Phase featured a completely shell-tempered ceramic assemblage with Varney Red, Mississippi Plain, and Wickcliffe Thick as major pottery types with ceramic abraders and beads appearing at the site for the first time (Morse and Morse 2007: 56). The complete lack of sand-tempered ceramics, the disappearance of cordmarking as a decorative feature, and the new usage of ceramics in the Big Lake Phase shows a clean separation between the cultures occupying the Zebree Site. Based on the data they collected, Morse and Morse (2007: 64) declared that the Big Lake Phase was a fully

emerged Mississippian expression, an example of a new culture being introduced into an area and completely replacing the predecessor.

In Chapter 10 John F. Scarry (2007: 227) discusses the emergence of the Mississippian in the Fort Walton region, focusing on the Cayson Phase and Lake Jackson Phase, in particular. The Fort Walton region featured a group of independent polities with shared material culture, social organization, and subsistence strategies due to their interactions (Scarry 2007: 228). An interesting feature of the Fort Walton region is that Mississippian ceramics are not shell-tempered and they show different vessel shapes from those of neighboring Mississippian societies (Scarry 2007: 228). In the Fort Walton region there were two Late Woodland phases: the Cat Cave Complex and Wakulla Phase, with both ending around AD 1000. Both societies were egalitarian while the Wakulla Phase was part of a greater Gulf Coast ceramic trend. Wakulla Phase ceramics were dominated by Wakulla Check Stamped. Scarry states (2007: 239) that Cayson Phase was the result of the evolution of the existing population, not a product of a Mississippian migration. Precursors to key Mississippian features existed in the Wakulla Phase such as limited leadership positions and limited maize agriculture. Rising subsistence costs, increasing community information overload, and social integration applied major pressure to Wakulla Phase populations and shaped those precursors into their Mississippian forms (Scarry 2007: 239). The Cayson Phase was the solution to this failure to address subsistence and social issues effectively (Scarry 2007: 242). During the Cayson Phase, maize cultivation was ramped up to become the main subsistence source and a clear settlement hierarchy was established to create one of the first simple chiefdoms in the Fort Walton region. During this time there were some ceramic changes but many Woodland ceramic elements were retained. At one site, the Curlee Site, 20 % of the Cayson Phase ceramics were Woodland types (Scarry 2007: 236). Lake

Jackson Phase differs from Cayson Phase in several ways. While Lake Jackson Phase ceramics are very similar to Cayson Phase ceramics, grog-tempered with multiple incised types, the Lake Jackson Phase contains no Woodland types or vessel shapes (Scarry 2007: 237). The Lake Jackson Phase experienced a population boom which allowed for the development of a complex chiefdom. Pyramidal mounds were constructed at multiple sites with elite burials placed in the summits followed by recapping of mounds (Scarry 2007: 238). During the Lake Jackson Phase, there was a settlement hierarchy with the population organized from small farmsteads to large hamlets to minor centers with single pyramidal mounds to major multi-mound centers. Scarry (2007: 244) proposes that the high population density in Lake Jackson Phase led to the use of vertical specialization to create a two-tiered administrative hierarchy. Scarry (Scarry 2007: 246) concludes that both the Cayson and Lake Jackson Phases show that the Mississippian emergence in the Fort Walton region was not the result of migration. Neither was it the result of a single, simple event. Rather it was the accumulation of multiple decisions and events as Late Woodland populations adapted to adversity.

In Chapter 9 Paul D. Welch (2007: 198) looked at Mississippian cultures in three West Alabama regions: Bessemer, Moundville, and the Tombigbee. Despite their relative close proximities, they each developed slightly differently. Part of the differences came from the topography of the region. The Bessemer area is hilly with few bodies of water while the Moundville and Tombigbee areas are both floodplains with many oxbow lakes and swamps (Welch 2007: 198). The Late Woodland in the Bessemer area is the West Jefferson Phase. Welch (2007: 215) argued that the grog-tempered sherds recovered at Bessemer Site are derived from this West Jefferson Phase not part of a grog/shell tempered Mississippian phase as proposed by Walthall and Jenkins. However, there was a widespread, low percentage of shell-tempered

pottery recovered from features across the site (Welch 2007: 215). One key discovery was that the West Jefferson Phase at the Bessemer Site had greater maize usage than the Late Woodland phases in the Moundville and Tombigbee areas, 2-6 percent compared to less than 1 percent for both other areas (Welch 2007: 216). Welch's investigation shows that the platform mound at Bessemer Site indicates there was some level of rank in Bessemer culture but the periods of disuse between construction phases seem to show it failed to be a consistently strong cultural force (Welch 2007: 218).

In the Black Warrior floodplain, the Moundville culture is preceded by a West Jefferson Phase lasting from 850-1000 AD. The Black Warrior Floodplain West Jefferson ceramics were grog-tempered with a majority being plainware (Welch 2007: 211). At Site 1Tu44/45, Welch (2007: 213) noted that one West Jefferson Phase pit had floral and faunal remains indicating subsistence ratios that more closely matched the following Mississippian Moundville I Phase, than the West Jefferson Phase. He stated that this is an example of a Late Woodland community altering their agricultural practices before their ceramic traditions (Welch 2007: 213). In Moundville I, there was a very rapid switch from grog-tempered to shell-tempered pottery and a sudden increase in maize cultivation (Welch 2007: 213). Multiple, single-mound sites appeared across the Black Warrior Floodplain indicating the beginning development of simple chiefdoms (Welch 2007: 214).

Welch (2007:201) proposes that the final Late Woodland in the Tombigbee area can best be understood as a single, Cofferdam-Gainesville Phase, combining the separate yet concurrent phases from Ned Jenkins' (1982) chronology. What Jenkins (1982) saw as separate phases Welch (2007: 202) interpreted as seasonal occupational differences in diet and construction needs. The Cofferdam-Gainesville Phase contains predominately grog-tempered ceramics with a limited

presence of shell tempering, and it showed increasing consumption of small fauna through time (Welch 2007: 203). The Early Mississippian Phase for the Tombigbee area is Summerville I and during Summerville I the populations had 51 percent of their diet derived from maize (Welch 2007: 207). The Cofferdam-Gainesville Phase's maize percentage is less than 1 percent, suggesting a determined decision to become maize dependent. Summerville I ceramics are nearly exclusively shell-tempered with incision and burnishing completely replacing cordmarking as pottery decorations (Welch 2007: 208).

According to Welch (2007:218), Jenkins (1982) proposed that the Mississippian emergence in west Alabama is due to migration of Mississippians into the region which co-existed with Late Woodland communities for a period of time. Welch (2007: 218) neither supports nor attacks this interpretation when he presents his own. However, he concludes that across west Alabama the transition from Late Woodland to Early Mississippian was rapid and hinged on two key components; new subsistence strategies and social integration (Welch 2007: 218). Changes in subsistence strategies, from foraging to intensive maize agriculture, led to changes in population mobility, storage facilities, architectural style, and ceramic vessel shapes. Increased social integration led to development of hierarchal social organizations, specialized funeral rites for a small percentage of populations, control of non-local exchange goods, and control of labor (Welch 2007: 218). The three Mississippian cultures in west Alabama did not develop identically. Moundville and Bessemer made subsistence changes then social changes while Tombigbee experienced social reorganization before a subsistence shift (Welch 2007: 219).

In Early Mississippian in the Black Warrior Valley: The Pace of Transition Tim Mistovich also studied the transition from Late Woodland, West Jefferson Phase, to

Mississippian in West Alabama. Mistovich (1988: 24) noted that nearly every excavated level at the Bessemer site contained a combination of grog-and-shell temper. Mistovich (1988: 26) noted that in prior works to his that every Moundville I subphase site, the earliest Mississippian phase in West Alabama, that had grog-tempered ceramics assumed they automatically represented a West Jefferson occupation. He noted that there were several Mississippian traits in the Bessemer ceramics. In particular, he highlighted the presence of strap handles, part of the Mississippian material culture, on grog tempered ceramics (Mistovich 1988: 26). Mistovich analyzed several features from the Mills Creek site which had been previously identified as belonging to the West Jefferson Phase. These features contained both shell and grog-tempered ceramics with an average of 32 percent grog temper, 3 percent mixed, and 66 percent shell (Mistovich 1988: 34). This contrast with the feature content from West Jefferson sites with no later Mississippian occupation which contained 98 percent grog and 2 percent shell (Mistovich 1988: 34). Mistovich (1988: 34) dated nine features at Mills Creek. The three with no shell-tempered ceramics dated to AD 928  $\pm$  23 while the six with shell-tempered ceramics dated to AD 1014  $\pm$  30. This led him to conclude that the Early Mississippian was a fusion of Woodland residents of the Southeast with Mississippian migrants, evidenced by the merging of Woodland and Mississippian material culture designs in the material culture of the Black Warrior Valley transitional sites (Mistovich 1988: 23).

### **Summary**

In conclusion, these articles showcase how across the Southeast, Woodland cultures adapted to societal or subsistence pressures by transitioning to new social and subsistence practices. Smith (2007:1) states,” in many respects, the Mississippian emergence represents a broad scale, extremely complex, and parallel set of paradoxically discrete yet interconnected

historical development sequences”. Smith presented this in response to two theories on how the emergence unfolded. The first theory is homology, that Mississippian settlers or ideas spread from a Mississippian homeland along river routes replacing or assimilating the societies they encountered. The Mississippian ideas and technologies strengthen each converted society so much that neighboring societies were forced to also adopt Mississippian ideas and technologies. Differences between Mississippian societies across the Southeast are due to the assimilation process and local environmental factors. The second theory is analogy, that many independent societies faced similar socio-environmental issues and answered those challenges in similar ways. Similarities between Mississippian societies are due to parallel adaptation rather than the adaptation of an external social ideology (Smith 2007: 2). Smith (Smith 2007:2) believes that neither theory is adequate, and that no all-encompassing theory can explain the Mississippian emergence. The articles in Smith’s volume highlight this assertion. At the Zebree Site in northeast Arkansas, there was an abrupt transition from Woodland to Mississippian. In all other cases, the change was gradual. For example, in west Alabama Welch (2007: 219) noted that the Mississippian transition was initiated by either a societal or subsistence change followed soon after by the other, while Mistovich (1988: 23) determined through ceramic analysis that there was a period of transition where both Woodland and Mississippian material culture were utilized concurrently.

These articles were critical in helping identify what type of transition the Hurricane Landing Site represents. The artifacts recovered from the Hurricane Landing Site were studied with a focus on identifying if that transition was an abrupt transition with separate material cultures present or a gradual transition showing a fusion of Late Woodland and Early Mississippian material culture traits.



### Chapter 3 The 2015 Excavations

The Hurricane Landing Site is located at the bottom of the Sardis Reservoir at the convergence of Hurricane Creek and the Little Tallahatchie River (Figure 3). The Sardis Reservoir is operated and maintained by the Vicksburg office of the Corp of Engineers. This chapter will detail the February 2015 joint excavation conducted by the Corp of Engineers and the Center for Archaeological Research.

When the Sardis Reservoir was drawn down in the fall of 2014, nine clearly evident pit features located to the Southeast of the mound were exposed (Figure 4). The features were



Figure 3. Hurricane Landing Location after Draw Down.

delineated and mapped on the basis differences in soil color and texture and assigned a feature number. Each feature was surface collected, a soil sample removed, and then hand excavated.

## 22LA516 Hurricane Landing



Figure 4 Hurricane Landing Map 2015 Excavation.

All surface artifacts and debris was removed by hand, bagged, and labeled by field specimen number. Once the surface was cleared, each feature was scraped by trowel to clear off

loose soil and clearly delineate the full extent of the feature. The east and west edges of each feature were plotted using GPS and each feature was bisected north/south. A plan view map was drawn by hand each of the feature under excavation.

After a soil sample was collected, the southern half of each feature was then excavated as one entity until sterile soil was reached. Pit fill was water-screened using nested quarter-inch and window screen. Soil samples from Features 1, 3, 6, and 8 were selected for flotation and AMS dating. During the excavation phase, it was discovered that Feature 5 was actually two features that were blended due to water drainage. The new feature was designated Feature 9. All soil removed from the features was bagged and assigned a field specimen number by stage and was then water screened. After the excavation of a unit the profile of the unit was drawn.

It is important to note that the Hurricane Landing site is located on the bottom of a lake that is annually drained each winter and refilled each spring. As such, erosion of the features occurred from the winter drainage and exposure. With the drainages being gradual drawn downs, it appears that the surface of the features were scoured down in a small increments with each drainage, there was no evidence of deeper disturbances within the features from the drainages or exposure. Analysis of the cross sections of these sealed features indicates they were filled once and not gradually over time as there is no evidence of surface exposure in the soil layers. All feature maps (plan and profile maps) are provided in the following eight figures.

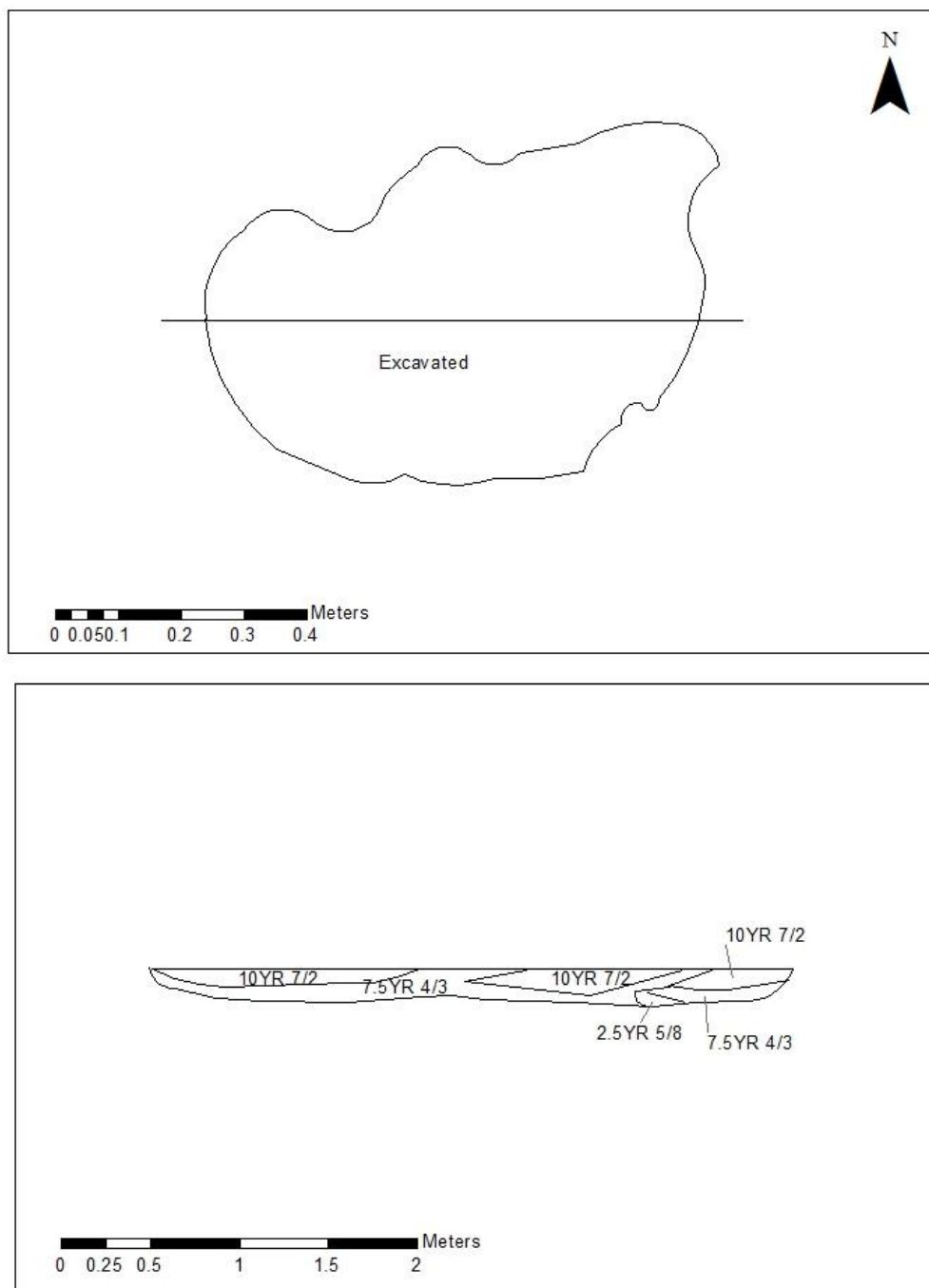


Figure 5 Feature 1 Top plan view, bottom cross-section

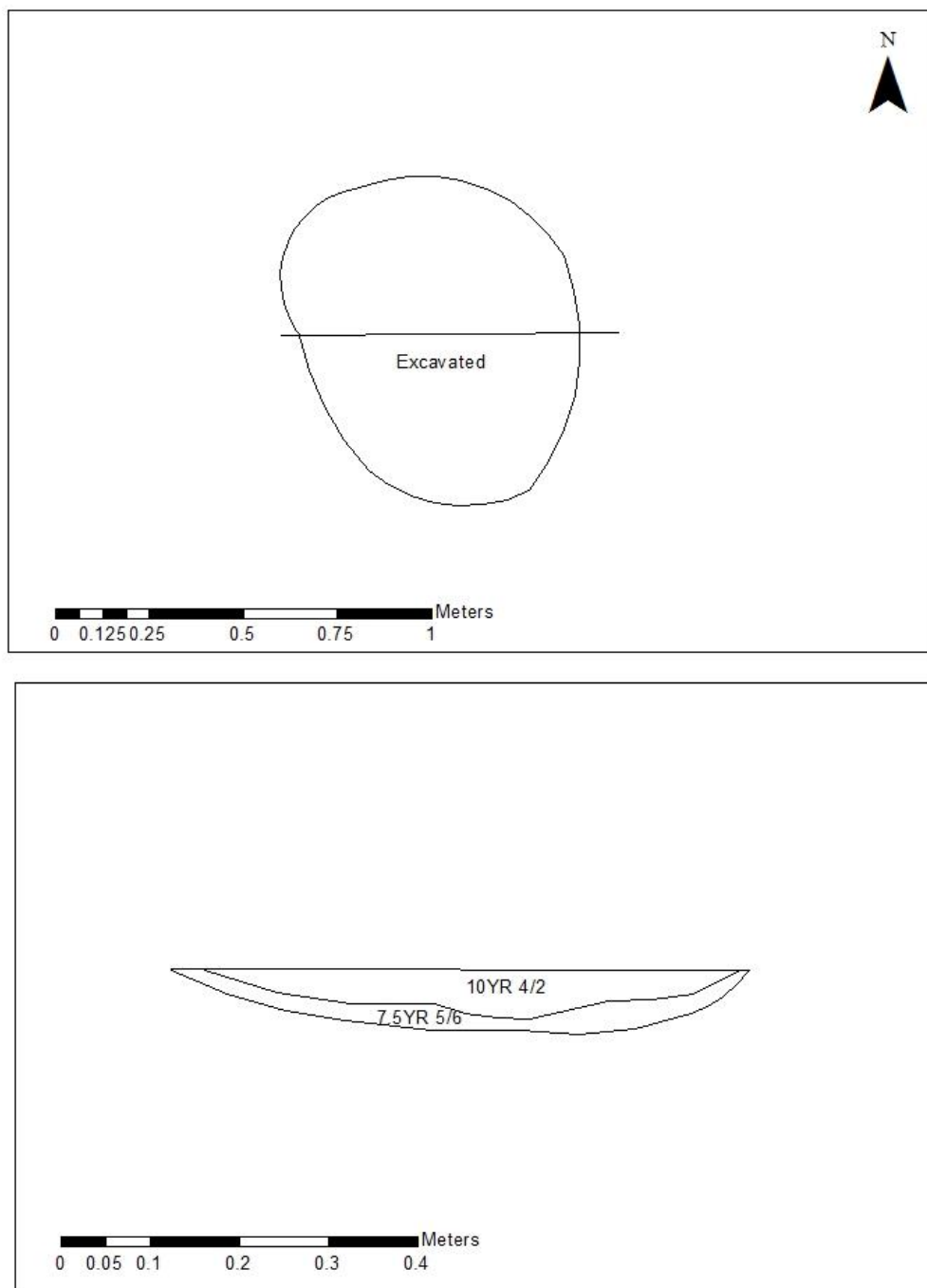


Figure 6 Feature 2 Top plan view, bottom cross-section

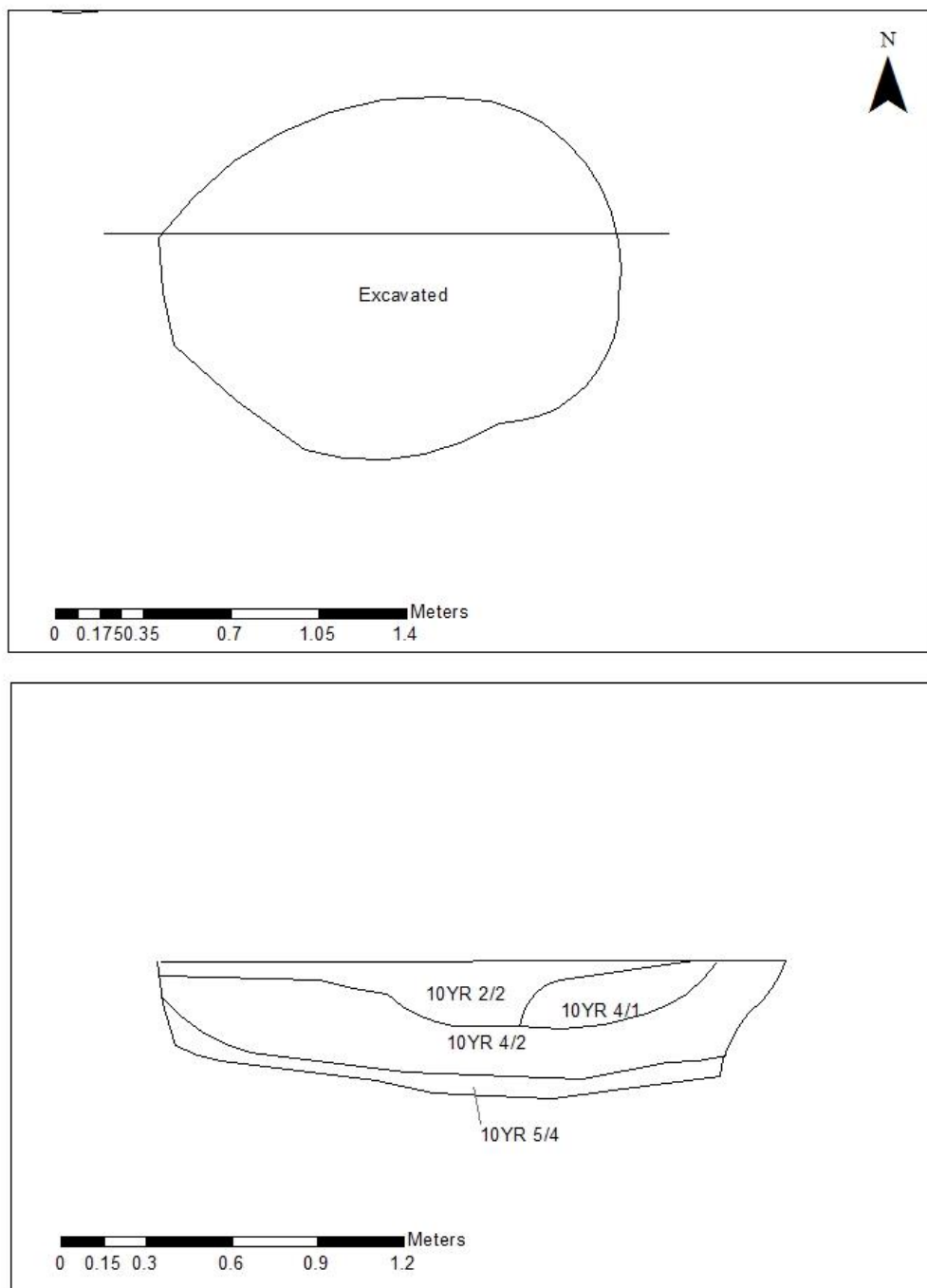


Figure 7 Feature 3 Top plan view, bottom cross-section

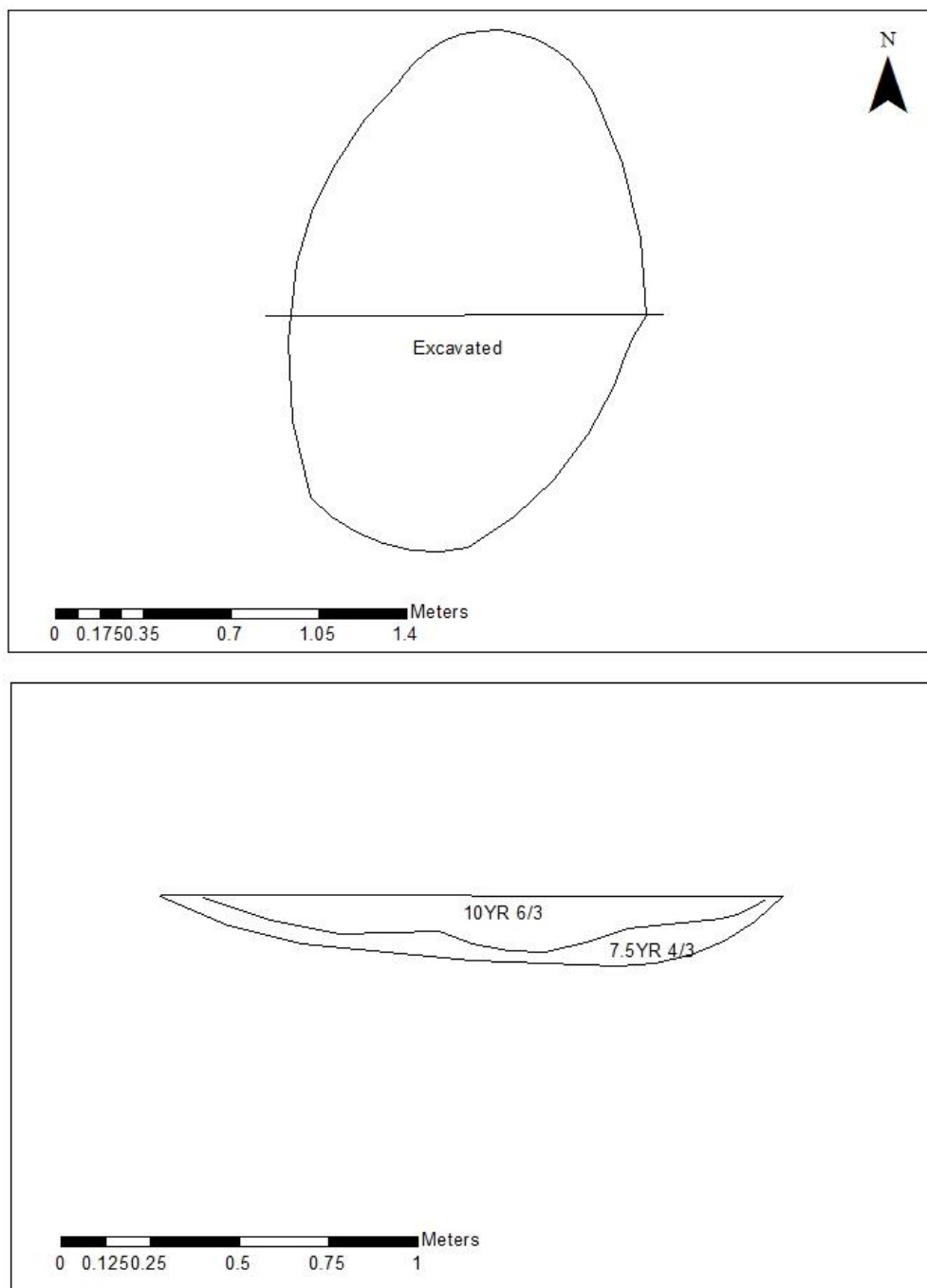


Figure 8 Feature 4 Top plan view, bottom cross-section

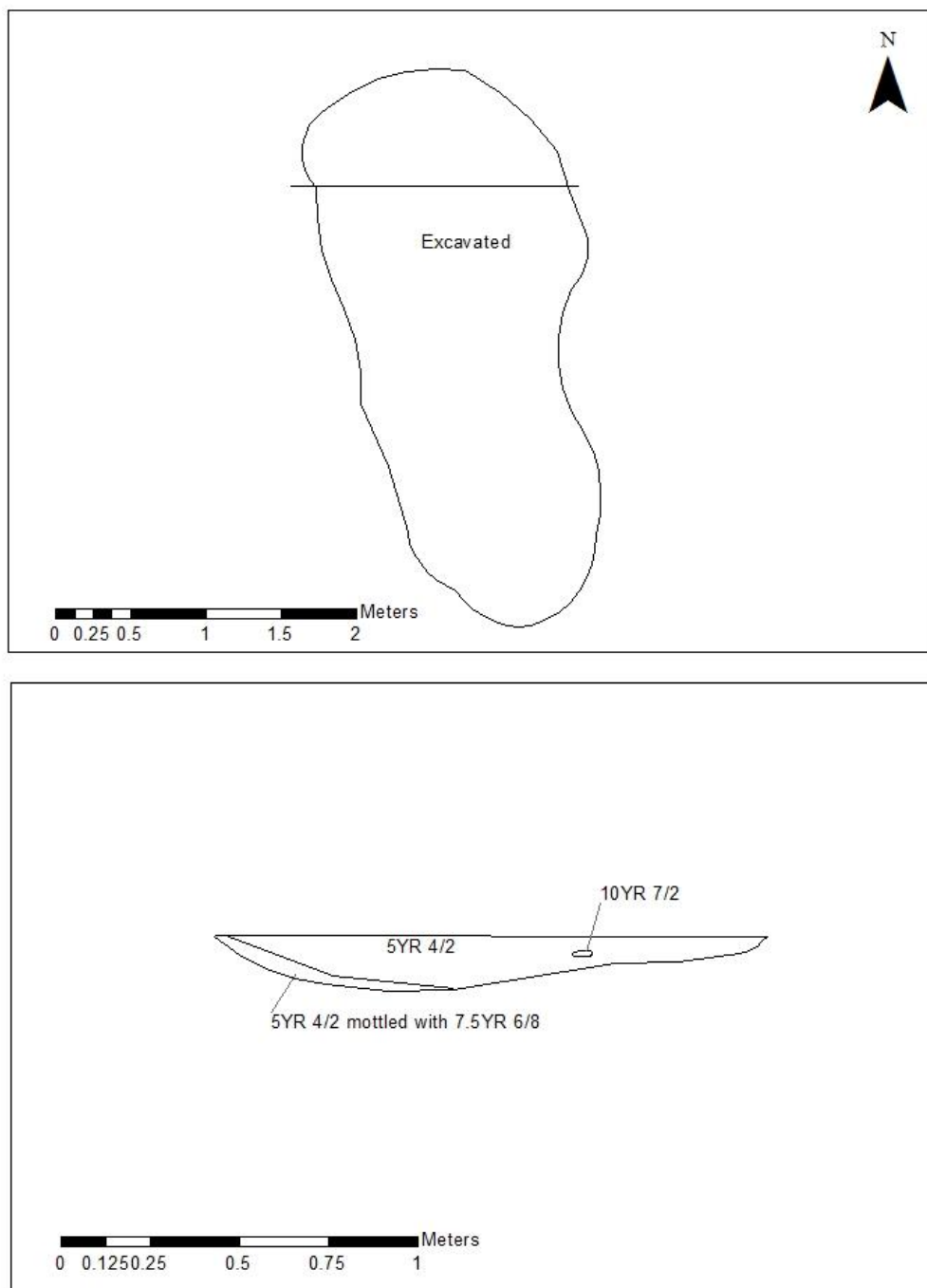


Figure 9 Feature 5 Top plan view, bottom cross-section



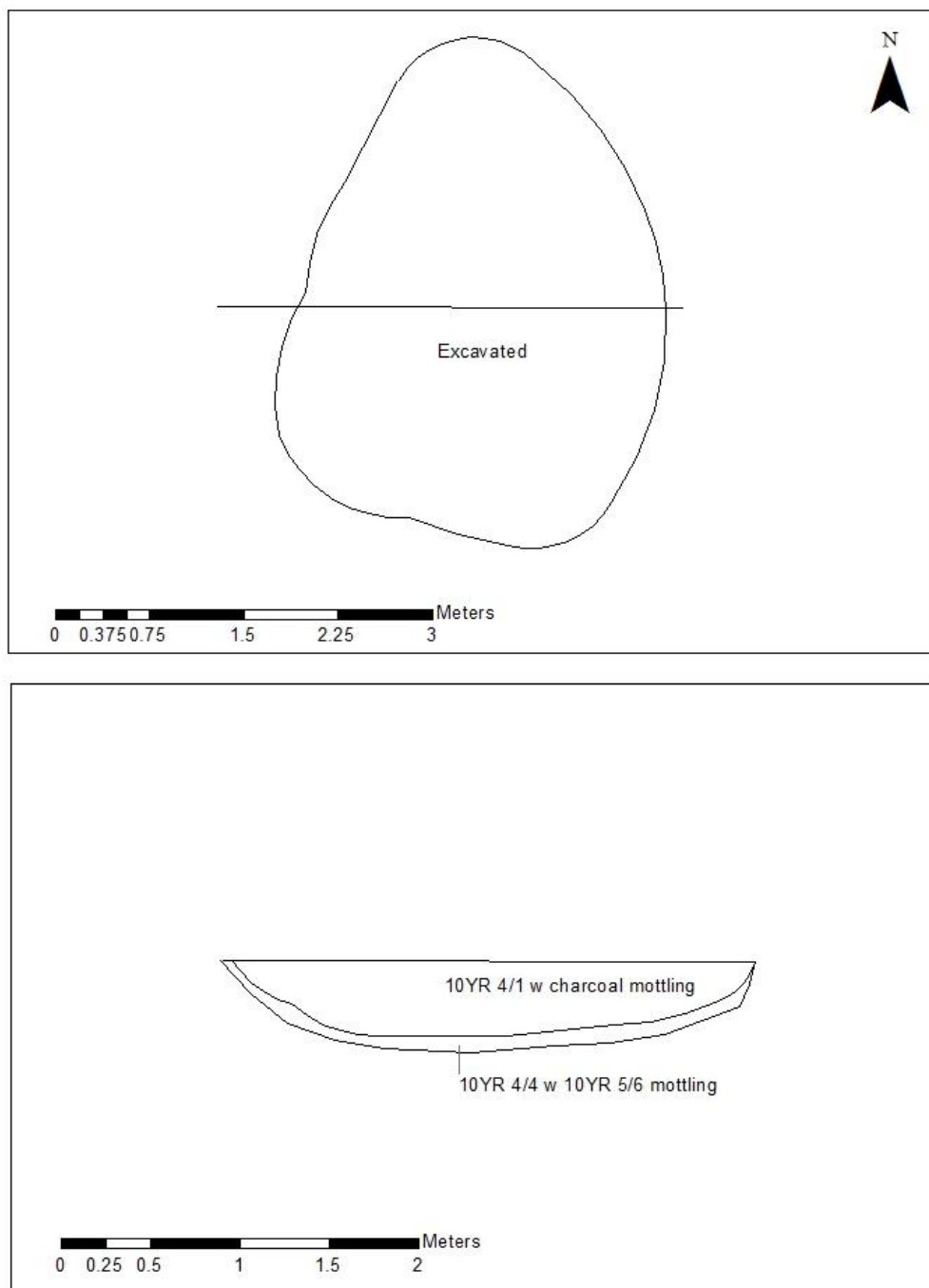


Figure 10 Feature 6 Top plan view, bottom cross-section

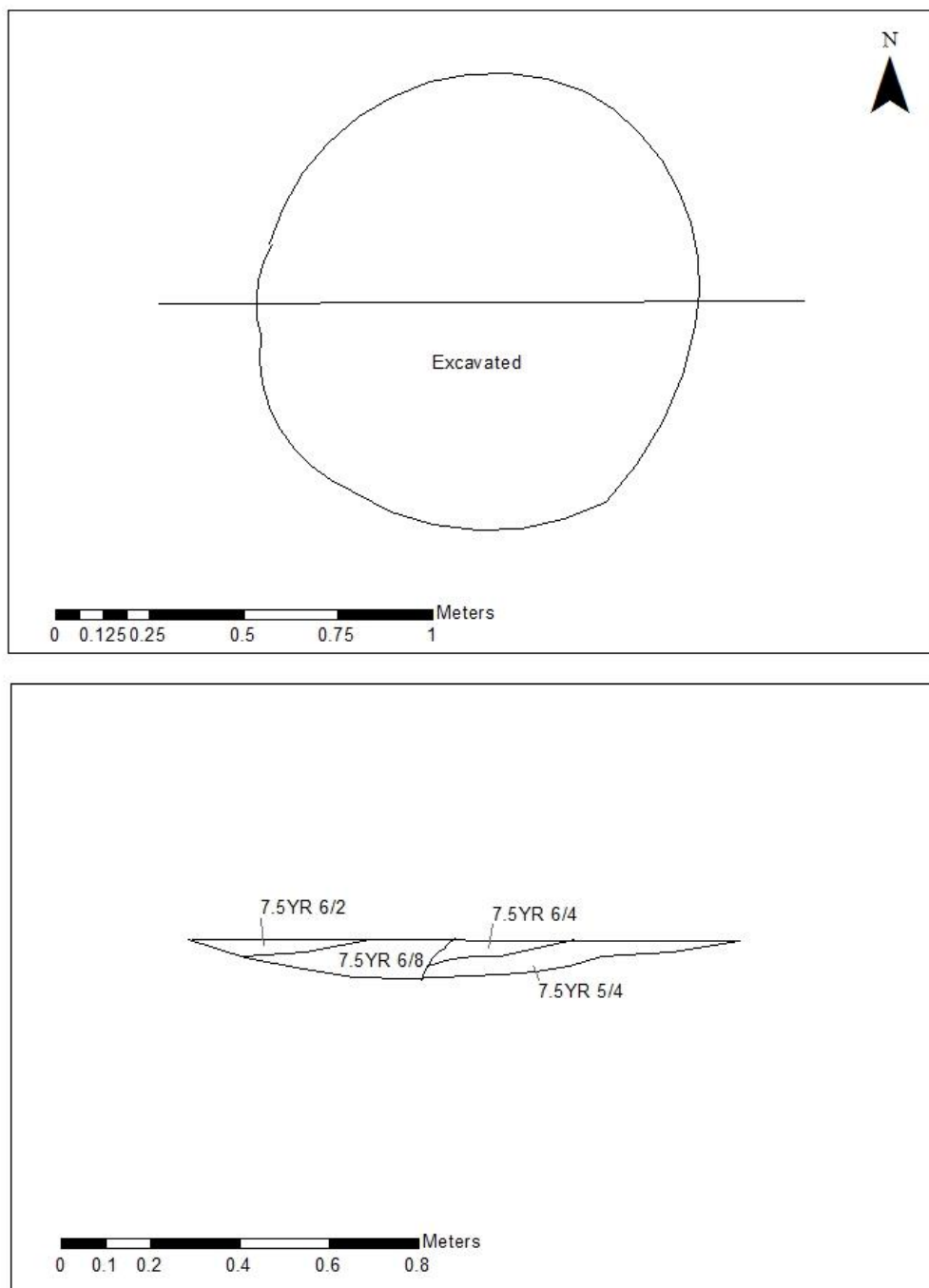


Figure 11 Feature 7 Top plan view, bottom cross-section

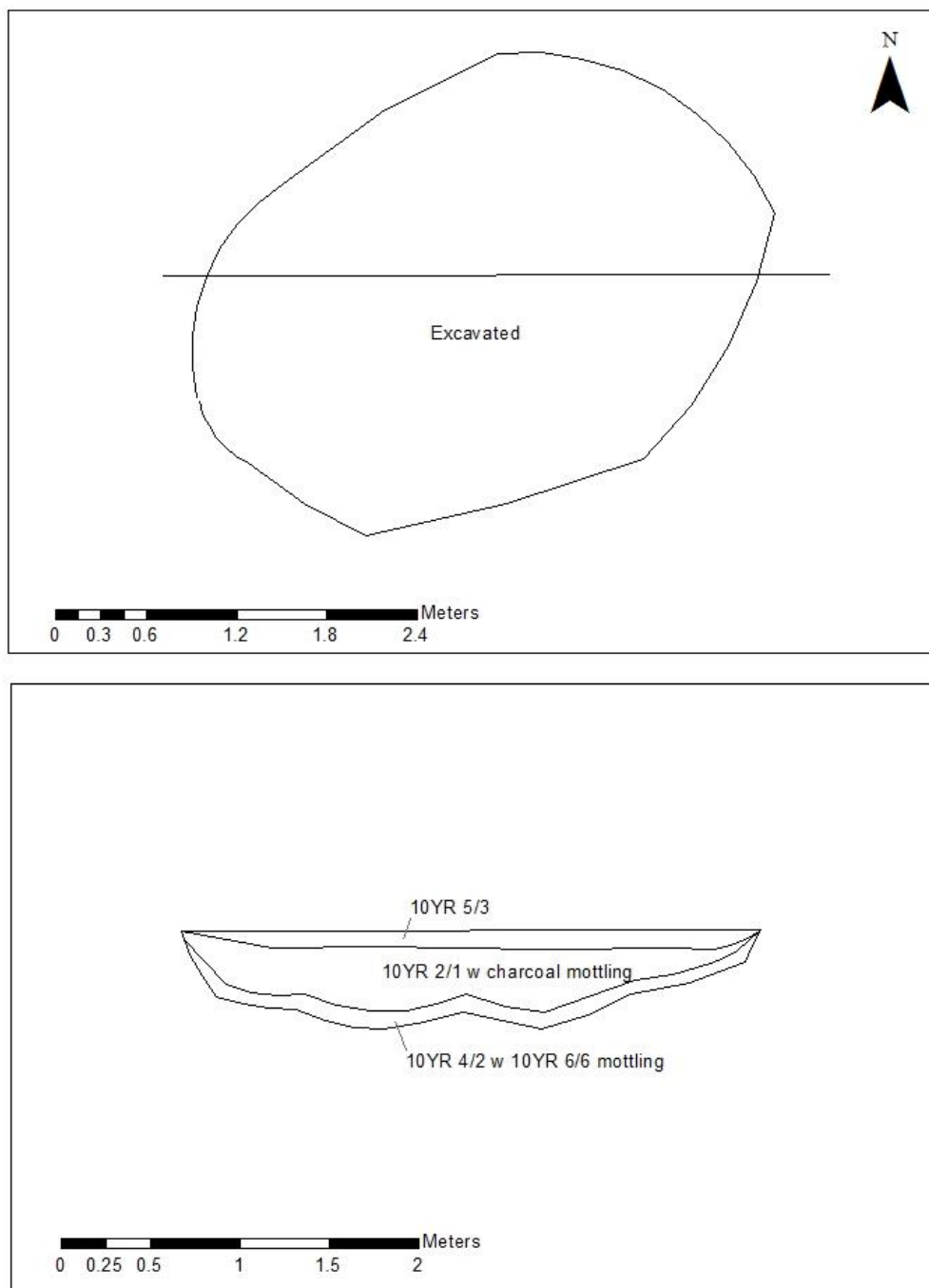


Figure 12 Feature 8 Top plan view, bottom cross-section

## Chapter 4 Ceramic Analysis

Several different ceramic typologies were available to use in analyzing the ceramics collected from Hurricane Landing. Jennings' (1941) Chickasaw and Earlier Indian Cultures of Northeast Mississippi, Phillips, Ford, and Griffin's (1951) *Archaeological Survey in the Lower Mississippi Alluvial Valley*, and Phillips' (1970) *Archaeological Survey in the Lower Yazoo Basin, Mississippi* were all consulted. After careful deliberation, Phillips (1970) ceramic typology was selected from the three for classifying the ceramics of the 2015 excavations. Jennings' typology was not used as it did not provide types for ceramics with live shell tempering. Phillips, Ford, and Griffins (1951) typology was well-suited to classify the ceramics recovered, but Phillips (1970) typology was specifically created as an improvement upon that typology. As such, Phillips (1970) typology was selected because it was the best available and its widespread usage in the Yazoo Basin allowed for better comparisons with sites in that region.

The Hurricane Landing ceramic analysis produced some unexpected results. Given their proximity to the mound, the nine features were expected to contain higher percentages of decorated wares than they did. The excavated ceramic sherds were overwhelmingly plainwares of three types; Bell Plain, Mississippi Plain, and Baytown Plain. Only three decorated types were identified: Winterville-like Incised, Leland-like Incised, and Old Town Red *var. Beaverdam*.

### Plainware

Baytown Plain *var. unspecified*, n=132

Baytown Plain is described by Phillips (1970: 47) as being a “super-type” meaning that it has a broad distribution both spatially and temporally. As such, it is not especially helpful in dating a site outside of the general Woodland period. Baytown Plain consists of multiple varieties, some “clay-tempered” and others “sand-tempered” (Phillips 1970: 47). Ceramics with “clay-tempered” paste, or grog, were identified at Hurricane Landing as being Baytown Plain *var. unspecified*. Low numbers of rim and base sherds made assigning sherds into varieties impossible.

Bell Plain *var. unspecified*, n=386

Bell Plain is defined as a fine shell-tempered pottery type with a plain or polished surface (Phillips 1970: 58). Finely crushed shell is visible in the paste. Because there are few rim sherds, the majority of Bell Plain was labeled Bell Plain *var. unspecified*. The rest were identified as being Bell Plain *var. Bell* based on the presence of a rim effigy.

Mississippi Plain *var. Neeley's Ferry*, n=2356

Mississippi Plain is defined as a coarse shell-tempered plain ware. Mississippi Plain *var. Neeley's Ferry* is the type created for the northern portion of the Yazoo Basin (Phillips 1970: 134). Neeley's Ferry ceramics are thicker than Baytown or Bell Plain with coarse shell inclusions in the temper. All coarse shell tempered sherds were labeled as Mississippi Plain *var. Neeley's Ferry*.

### **Incised Types**

A small number of sherds, 5 total, recovered at Hurricane Landing were sloppily incised. They were labeled as Leland-like Incised or Winterville-like Incised.

Leland-like Incised, n=3

These are shell tempered ceramics that have broad, shallow, curvilinear, incised lines like Leland Incised, but they did not follow any of the Leland designs described by Phillips (1970). The Leland-like Incised sherds did not have parallel lines or running scrolls with interior and exterior horizontal rim lines, but rather sloppy branching curvilinear lines design and parallel horizontal rim lines.

Winterville-like Incised, n=2

These are coarse shell-tempered sherds that have parallel, curvilinear, trailing, incised lines like Winterville Incised, but did not follow any of the Winterville designs. These sherds have concentric circles with horizontal, parallel lines as filler between them while in Winterville concentric circles are part of a flowing overall vessel design that connects directly with no filler decoration between.

### **Slipped Types**

Old Town Red *var. Beaverdam*, n=1

Old Town Red is the type for Mississippi and Bell Plain ceramics that have been red slipped (Phillips 1970: 145). Variations of Old Town Red are based on temper, slip coloring, or vessel shape. The Old Town Red sherd recovered at Hurricane Landing was classified as Old Town Red *var. Beaverdam*, the type for red slipped ceramics on a Bell Plain paste (Phillips 1970: 146).

### **Results**

A total of 2,896 sherds was recovered during the 2015 excavations. Ceramics made up between 8-47 percent of the total assemblage from each feature (Table 1). Of the 2,896 sherds

collected there were 22 decorated sherds; five rims sherds, 16 body sherds, and one decorated handle. The rims recovered were too small to conduct a rim analysis. Thirteen of those 22 decorated sherds were collected from Feature 6. Feature 6 also contained the second largest assemblage with 963 total sherds collected and one galena bead. The largest collection was Feature 8 with 972 total sherds collected. Of the 2,873 non-decorated sherds, 395 sherds were classified as Bell Plain, 2,424 sherds were classified as Mississippian Plain *var. Neeley's Ferry*, and 233 sherds were classified Baytown Plain. In the Bell Plain collection there was 35 rim sherds, 357 body sherds, and 3 handles. Mississippian Plain *var. Neeley's Ferry* collection had 107 rim sherds, 2,303 body sherds, and 14 handles. Baytown Plain collection had 19 rim sherds, 114 body sherds, and no handles. Table 2 breaks down the recovered ceramics by feature.

Table 1. Percent Ceramic and Artifact Totals by Feature.

	Ceramic Percentage in Each Feature								
Features	1	2	3	4	5	6	7	8	9
% ceramic	26%	15%	23%	45%	23%	46%	8%	47%	21%
Total # of artifacts	982	41	910	192	1547	2098	322	2051	63

Table 2. Ceramic Types											
Features		1	2	3	4	5	6	7	8	9	Total
<b>Bell Plain</b>	Rim	6	1	1	0	3	14	0	10	0	<b>35</b>
	Body	27	0	11	7	21	202	2	77	2	<b>349</b>
	Handle	0	0	1	0	0	0	0	1	0	<b>2</b>
<i>var. Neeley's Ferry</i>	Rim	9	0	0	5	15	35	2	40	0	<b>106</b>
	Body	176	5	176	69	296	678	15	810	11	<b>2236</b>
	Handle	1	0	1	0	0	7	2	3	0	<b>14</b>
<b>Baytown Plain</b>	Rim	1	0	0	0	14	3	0	1	0	<b>19</b>
	Body	36	0	22	6	8	13	5	23	0	<b>113</b>
	Handle	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>Decorated</b>											
<b>Leland-like Incised</b>	Rim	0	0	0	0	0	1	0	0	0	<b>1</b>
	Body	0	0	0	0	0	1	0	1	0	<b>2</b>
	Handle	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>Winterville-like Incised</b>	Rim	0	0	0	0	0	0	0	0	0	<b>0</b>
	Body	0	0	0	0	0	2	0	0	0	<b>2</b>
	Handle	0	0	0	0	0	0	0	0	0	<b>0</b>
<i>var. Beaverdam</i>	Rim	0	0	0	0	0	1	0	0	0	<b>1</b>
	Body	0	0	0	0	0	0	0	0	0	<b>0</b>
	Handle	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>Bell var. Bell</b>	Rim	0	0	0	0	0	2	0	1	0	<b>3</b>
	Body	3	0	0	0	1	3	0	5	0	<b>12</b>
	Handle	0	0	0	0	0	1	0	0	0	<b>1</b>
<b>Total</b>		<b>259</b>	<b>6</b>	<b>212</b>	<b>87</b>	<b>358</b>	<b>963</b>	<b>26</b>	<b>972</b>	<b>13</b>	<b>2896</b>

### Phase Identification

In *Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955*, Phillips (1970) maps out phases based on a combination of geographic location and ceramic assemblage composition. Hurricane Landing does not lie within the areas covered by his typology but, it is located close to the mapped distribution of three Mississippian phases; Hushpuckena-Oliver, Parchman, and Quitman.



## Hushpuckena-Oliver Phase

Hushpuckena-Oliver is one of the largest phases in Phillips (1970) monograph, and it is defined as exhibiting an overwhelming ratio of Mississippi Plain to Bell Plain (up to 100 -1 at certain sites), a higher frequency of Barton Incised relative to Parkin Punctated, a good frequency of Old Town Red, a very low frequency of Walls Engraved, and a common presence of Rhodes Incised (Phillips 1970: 941-942). Phillips (1970: 942) acknowledges that this phase likely needs to be split but was unable to do so at the time of publication.

## Parchman Phase

Parchman is defined as having even proportions of Mississippi Plain *var. Neeley's Ferry* and Bell Plain, a quite larger presence of Barton Incised relative to Parkin Punctated, and a consistent Walls Engraved *var. Hull* presence (Phillips 1970: 940). Phillips (1970: 940) considers Walls Engraved *var. Hull* a possible marker for Parchman Phase sites.

## Quitman Phase

Quitman Phase sites are located along the Tallahatchie River where it enters the Yazoo Basin downriver from Hurricane Landing. Phillips (1970: 940) created the Quitman Phase on the basis of a relatively small sample of sites which produced ceramic assemblages that are similar to those assigned to the Hushpuckena-Phase in their relative lack of Bell Plain, but are well-removed from that phase geographically. It is admittedly a provisional phase to which Phillips(1970: 940) devotes a single paragraph.

The Hurricane Landing assemblage contains less than 1percent decorated sherds, low even by Mississippian standards. Also as there were no intact vessels or evidence the ceramics in the features were part of burials it was determine that all nine features were middens.

The 6:1 ratio of Mississippi Plain to Bell Plain makes the Hurricane Landing Mississippian assemblage more like Phillips' (1970: 941) Hushpuckena-Oliver Phase than the Parchman Phase. Hurricane Landing's location well to the east of the Parchman Phase while exhibiting Hushpuckena-Oliver phase characteristics means that it barely fulfills the criteria to be identified as a Quitman Phase site.

Given the poor fit with the defined phases for the Yazoo Basin, the Hurricane Landing assemblage was compared with Early Mississippian sites in west-central Alabama. Hurricane Landing's ceramic collection is similar to the Moundville I subphase in terms of the low numbers of decorated sherds. The Moundville I subphase contained as major ceramic types: Mississippi Plain *var. Warrior*, Moundville Incised *var. Moundville*, and Bell Plain *var. Hale* with *var. Warrior* and *var. Hale*, which combined made up 90 percent of the ceramic assemblage (Steponaitis 2009: 99). The overall amount of decorated sherds at Moundville is 8 percent while in the Moundville I subphase the percentage of decorated ceramics is 2 percent (Mistovich 1988: 34). Mississippi Plain and Bell Plain make up 95 percent of the ceramic assemblage from Hurricane Landing with just under 1 percent (.008 to be precise) of the assemblage being decorated, although the decorated sherds from Hurricane Landing are nothing like those from Moundville.

There is another interesting resemblance between Hurricane Landing and the early Mississippian sites from the Black Warrior River valley. Tim Mistovich (1988:26) notes that the grog-tempered pottery present in every Moundville I subphase had been assumed in previous studies to represent a West Jefferson occupation. He suggested that the grog-tempered pottery could instead represent the transitional nature of the Moundville I subphase (Mistovich 1970: 940). Mistovich highlighted the Bessemer Site as one example of this transition. The Bessemer

Site has a strong Moundville I subphase presence in its ceramics with Mississippian Plain *var. Warrior* and Moundville Incised *var. Moundville* as its major decorated and undecorated ceramic types. However, almost every excavated level at the Bessemer Site had a mix of shell-tempered and grog-tempered ceramics (Mistovich 1988: 24). In fact Baytown Plain *var. Roper* was almost half of the ceramic collection.

In another example of an Early Mississippian component from the Black Warrior region of Alabama, 33 percent of the ceramics from the Mills Creek site are grog-tempered, all of which are plain (Mistovich 1988: 34). The presence of grog-tempered ceramics without decoration in a Moundville I subphase site is quite important. The West Jefferson Phase, the final Woodland Phase in West Alabama before the Mississippian Period and immediate precursor to Moundville I, is noted for its high percentage of decorated grog-tempered types (Mistovich 1988: 26). The implication is that the plain, grog-tempered sherds from Moundville I contexts at Mills Creek are not the remains of a West Jefferson occupation, but a component of the Mississippian assemblage at the site.

Five percent of the sherds from Hurricane Landing are grog-tempered and plain. As with the Mills Creek Site, Hurricane Landing's Woodland precursor phase, the Peabody Phase, is noted to have a high percentage of decorated grog-tempered ceramic types (Hunt 2017: 22). While Phillips (1970: 917) created the Peabody Phase to serve as the terminal Woodland phase for the Yazoo Basin he acknowledged that it was quite open for interpretation. The Peabody Phase is built upon the criteria that there should be a significant ratio of Baytown Plain to Mulberry Creek Cordmarked with a limited presence of Larto Red, Coles Creek Incised, French Forked Incised, and Chevalier Stamped. There should also be no presence of Withers Fabric Marked or Indian Bay Stamped (Phillips 1970: 917). The first issue that Phillips mentions is the

fact that the vast majority of the sites that he included in the Peabody Phase had previous occupations from the Coahoma Phase (Phillips 1970: 917). This is an issue because the Coahoma Phase features a major Mulberry Creek Cordmarked to Baytown Plain ratio, standard for Coahoma Phase sites to have a large presence of Mulberry Creek Cordmarked and a minor presence of Baytown Plain in their ceramic assemblages. With both phases using the same ceramic markers, it makes it very difficult to determine which sherds belong to which phase (Phillips 1970: 917). Of the eight Peabody Phase sites that had no previous Coahoma Phase occupation, only two have ceramic collections large enough to adequately study. These two sites, Bush and Roosevelt, clearly show a significant ratio in the number of Baytown Plain sherds to Mulberry Creek Cordmarked sherds. However both sites are located near the edge of Mulberry Creek Cordmarked's adoption region where the usage of Mulberry Creek Cordmarked drops off significantly regardless of phase (Phillips 1970: 917). Therefore, Philips was unable to verify that a decrease in Mulberry Creek Cordmarked indicates the presence of a Peabody Phase site.

Elizabeth Hunt (2017: 4) recently analyzed the ceramics recovered from 123 pit features from the Austin Site in Tunica County, Mississippi, which is one of the few transitional Mississippian sites that have been excavated in the Yazoo Basin. In her analysis, she found that the 123 pit features contained 53 percent Mulberry Creek Cordmarked (11,597 sherds) and 36 percent Baytown Plain (7829 sherds recorded as undecorated grog in Table 6.1) (Hunt 2017: 175). Hunt highlighted the presence of shell-tempered in 40 percent (49) of the pit features as indicating that the Austin Site does not belong to the Peabody Phase. However, the extensive amount of grog-tempered pottery excludes it from belonging to the first Mississippian phase for the region, Parchman I (Hunt 2017: 173). Therefore, Hunt (2017: 173) determined that the

Austin Site was occupied during an emergent Mississippian Austin Phase that existed from roughly AD 1100-1300.

None of the grog-tempered sherds from Hurricane Landing are decorated, which strongly suggests that these are not Late Woodland sherds included in Early Mississippian features, but are Early Mississippian artifacts, a characteristic of the transition from Woodland to Mississippian in the North Central Hills. Two Sigma Calibration AMS dating of the seeds in the soil samples from Features 1, 3, 6, and 8 at Hurricane Landing supports this interpretation. Feature 1 dates to around AD 1165-1270 as does Feature 3. Feature 6 dates to around AD 1210-1275 while Feature 8 dates around AD 1265-1295. The Mississippian period in the Yazoo Basin is defined as existing from around 1200-1500 AD (Mehta 2015: 55). Hurricane Landing, with its AMS dating of occupation of around AD 1165-1295 was occupied during the period when Mississippian societal ideals began transforming the existing Woodland cultures in Mississippi. All AMS dating was conducted by Beta Analytic Inc.

Table 3. AMS Dates

Table 3. AMS Dating Data				
Lab Number	Beta-433776	Beta-433777	Beta-433778	Beta-433779
Sample number/Feature	22La516 Feature 1 Sample 1	22La516 Feature 3 Sample 2	22La516 Feature 6 Sample 3	22La516 Feature 8 Sample 4
Measured Age	570 +/- 30 BP	560 +/- 30 BP	530 +/- 30 BP	440 +/- 30 BP
13C/12C	-10.5 o/oo	-9.9 o/oo	-8.9 o/oo	-8.5 o/oo
Conventional Age/ Intercept Age	810 +/- 30 BP Cal AD 1165-1270 (Cal BP 785-680)	810 +/- 30 BP Cal AD 1165-1270 (Cal BP 785-680)	790 +/- 30 BP Cal AD 1210-1275 (Cal BP 740-675)	710 +/- 30 BP Cal AD 1265-1295 (Cal BP 685-655) Cal AD 1370-1380 (Cal BP 580-570)
1 Sigma range (68% Probability)	Cal AD 1215 to 1260 (Cal BP 735 to 690)	Cal AD 1215 to 1260 (Cal BP 735 to 690)	Cal AD 1220 to 1265 (Cal BP 730 to 685)	Cal AD 1275 to 1290 (Cal BP 675 to 660)
2 Sigma range (95% Probability)	Cal AD 1165-1270 (Cal BP 785-680)	Cal AD 1165-1270 (Cal BP 785-680)	Cal AD 1210-1275 (Cal BP 740-675)	Cal AD 1265-1295 (Cal BP 685-655) Cal AD 1370-1380 (Cal BP 580-570)
Data	Northernmost midden, closest to mound	Centrally located midden of excavated area	Second largest midden, furthest from mound	Largest midden

## **Chapter 5 Lithic Analysis**

The excavation of Hurricane Landing yielded a good sample of lithic artifacts including flakes, bifaces, cores, and debitage. Lithic artifacts were identified and sorted using a biface key and debitage paradigm developed by Jay Johnson and Carol Raspet (1980: 10-11). Bifaces were sorted into one of four categories: blank, preform 1, preform 2, and finished categories. Flakes were sorted by the debitage paradigm which groups artifacts based on dorsal cortex percentage cross tabulated by platform configuration (Johnson and Raspet 1980).

The flake and biface classifications were used because they sort lithic artifacts into multiple categories based on relatively concrete visual distinctions. The variability derived from individual perspective is minimized by laying down simple identification markers for each category based solely on physical alteration of the artifact. In very few cases was an artifact not clearly a member of a certain category at first inspection. The flake and biface classifications were also used because it had already been established and used for other sites in the region and allowed for a cross-site comparison. Finally, they were designed to measure placement within a biface reduction trajectory and provide a measure of the amount of tool production and maintenance evident in a lithic assemblage.

### **Raw Material**

The flakes in the lithic collection come from two source materials, Citronelle Gravels and Ft. Payne chert. Citronelle is in gravel deposited by rivers and creeks and is a prominent geological

formation across the southern half of the state of Mississippi. Lafayette County, Mississippi is composed geologically of the Kosciusko, Tallahatta, and Wilcox Formations (Dockery 2008). The closest source of Citronelle Gravel to Hurricane Landing is 31 miles downriver near Batesville, Mississippi. Citronelle is defined on the presence of a gravel cortex with a tan interior that turns various shades of red when heat-treated. Ft. Payne Chert is bluish-gray or gray in color and has primary deposits in northeastern Mississippi/northwestern Alabama, Tennessee, and north towards Illinois. It is a tabular chert in formation.

### **Bifaces**

Bifaces in the Hurricane Landing collection are divided into several categories based on stages of production (Johnson and Raspet 1980: 10-11). Table 4 shows the sorting parameters utilized. Blanks are bifaces with the lateral margins not completely worked. They were most likely abandoned by the artisan before completion because of errors made or unusable issues in the material. A preform 1 is a biface that had the lateral margins completely worked but it still has cortex on one or both faces. A preform 2 is a biface that has the cortex removed and the overall piece is thinned. Finished bifaces are bifaces that went through the preform 2 stage and then had their edges straightened through pressure retouching.

Table 4. Johnson and Raspet Biface Key.

Biface Key	
Stage	Sorting Parameters
Blank	Unfinished lateral margins
preform 1	Finished lateral margins, some cortex on face
preform 2	cortex removed and biface thinned
finished biface	pressure retouching to straighten edges

### **Cores**

Cores are the material sources from which bifaces and flakes are derived. Gravels and tabular chunks were transported to production centers where material was removed as needed.

For gravel or a tabular chunk to be labeled a core, it must have one or more flake scars, areas where material was deliberately removed.

### **Flakes**

Flakes were sorted by the debitage paradigm which groups artifacts based on dorsal cortex percentage and platform configuration (Johnson and Raspet 1980: 10-11). First, flakes were examined for presence or absence of a platform, and then by how much cortex was present on the dorsal side of the artifact. After both data points were determined the corresponding designation on the table was assigned from DB1 to DB12. DB1 indicated that a flake had no platform and a high percentage of cortex on the dorsal surface. DB 12 indicated that a flake had a well-defined platform or platforms and had no cortex on the dorsal surface.

### **Results**

The 1,064 lithic artifacts were sorted into categories by raw material and production type (Table 5). Cumulative frequency graphs were used (Figures 13 &14) to compare the assemblages from the nine features.

In the Citronelle flake type distribution there is a similarity between several of the assemblages from the nine features, with several showing relatively equal proportions between the flake types (Figure 13). This can be seen in the steady slope that Features 5,6, and 8 each have in the cumulative proportion through the types. Features 5,6, and 8 also contain the majority of Hurricane Landing's Citronelle cores and all finished Citronelle bifaces. This could suggest that Features 5,6, and 8 were middens for households specializing in lithic manufacturing at the Hurricane Landing site.

Ft. Payne flakes were recovered from only four features, Features 1,5,6, and 8, and all four show a higher proportion of later stage debitage types (Figure 14). Partly this can be



explained by the low number of Ft. Payne recovered. With that in mind, the fact that what was recovered was all later-stage flakes indicates that while Citronelle was worked from start to finish at the pit locations, Ft. Payne only underwent the final stages of production at the location. These ranges of production in lithic manufacturing can be characterized as long and short trajectory (Johnson 1989: 120). Long, or full, trajectories are defined as those assemblages where a wide range of flakes across all flake categories are present and indicate that a lithic material was worked from start to finish at the location where they were discarded. Citronelle flakes at Hurricane Landing are an example of a long trajectory assemblage. Short trajectories are defined as those assemblages which include fewer flake categories. Ft. Payne chert at Hurricane Landing is an example of a short trajectory. The long/short trajectory theory that best applies to Hurricane Landing was presented by Parry and Kelly (1987). They concluded that a permanent, sedentary population is able to stockpile lithic raw material to create an artificial source area in an otherwise resource-less zone (cited in Johnson 1989: 121). Therefore, while a lithic assemblage from a source area can have a long trajectory because of the easy availability of the source material, a lithic assemblage of the same material from a non-source area can have the same long trajectory because an artificial source area has been created. Hurricane Landing does not lie in the source area for citronelle chert, whose source is 31 miles away, or Ft. Payne, which is over 80 miles to its nearest source, so that indicates that both materials were imported. Since Hurricane Landing's Citronelle chert artifacts reveal a long trajectory while being located far from the source, that means that Hurricane Landing had an artificial Citronelle source area.

Table 5. Hurricane Landing Lithics and Galena.											
		Feature									
Material	Artifact	1	2	3	4	5	6	7	8	9	Total
Citronelle	Db1-db3	13	0	4	3	9	13	0	32	2	76
	Db1-db12	20	3	13	4	66	70	2	88	2	268
	Shatter	9	0	1	0	13	17	0	18	1	59
	Core	1	0	1	0	3	7	0	9	0	21
	Biface, awl	0	0	0	0	1	0	0	3	0	4
thermal shatter		13	1	3	3	14	46	4	45	0	129
sandstone,coarse	Unmod	5	0	8	14	31	58	5	56	0	177
	Nutting	0	0	1	1	0	1	2	1	0	6
	Flake	1	0	0	0	0	0	0	1	0	2
	Abrader	0	0	0	0	0	2	0	0	0	2
sandstone, fine	Unmod	13	1	7	3	64	71	7	72	0	238
	Nutting	0	0	1	0	1	2	1	4	0	9
	Hammer	0	0	1	1	0	0	0	1	0	3
	Flake	0	0	0	0	0	0	0	1	0	1
	Biface pf 1	0	0	0	0	0	1	0	0	0	1
	Preform 1	0	0	0	0	2	1	0	0	0	3
	Preform 2	0	0	0	0	3	1	0	1	0	5
	Finished	1	0	0	0	0	0	0	0	0	1
		0	0	0	0	0	1	0	1	0	2
petrified wood		0	0	0	0	0	1	0	1	0	2
Ft. Payne	Db1-db12	2	0	0	0	6	4	0	9	0	21
	Core	1	0	0	0	0	0	0	0	0	1
	Biface pf 1	0	0	0	0	0	0	0	1	0	1
	Shatter	3	0	0	1	12	3	0	3	0	22
Galena		0	0	0	0	1	1	0	0	0	2
riverstone		2	0	0	0	0	2	4	4	0	12
	total	84	5	40	30	226	301	25	350	5	1066

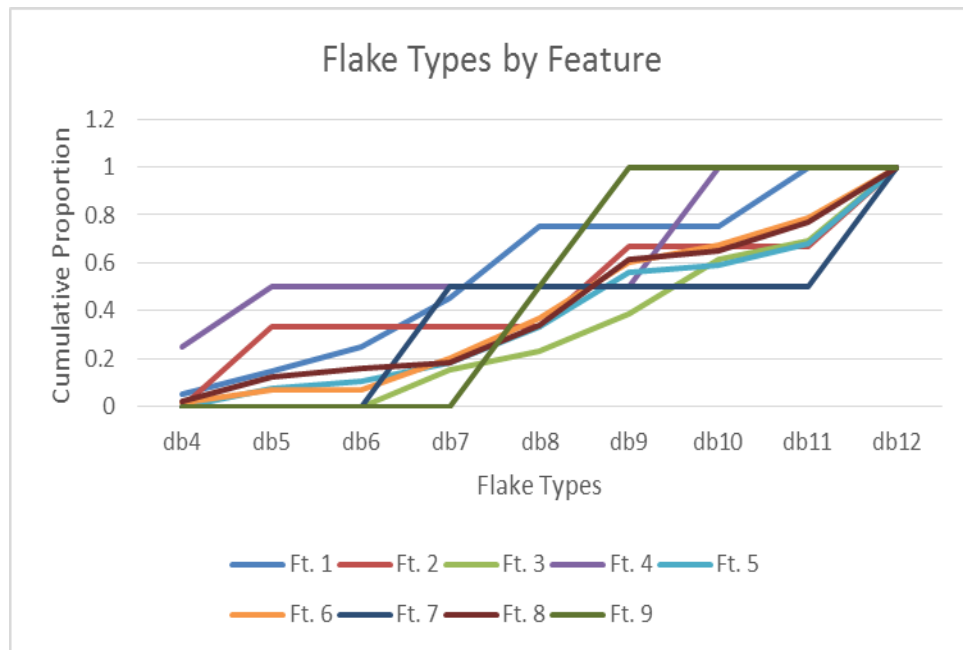


Figure 14 Citronelle Debitage Flake types

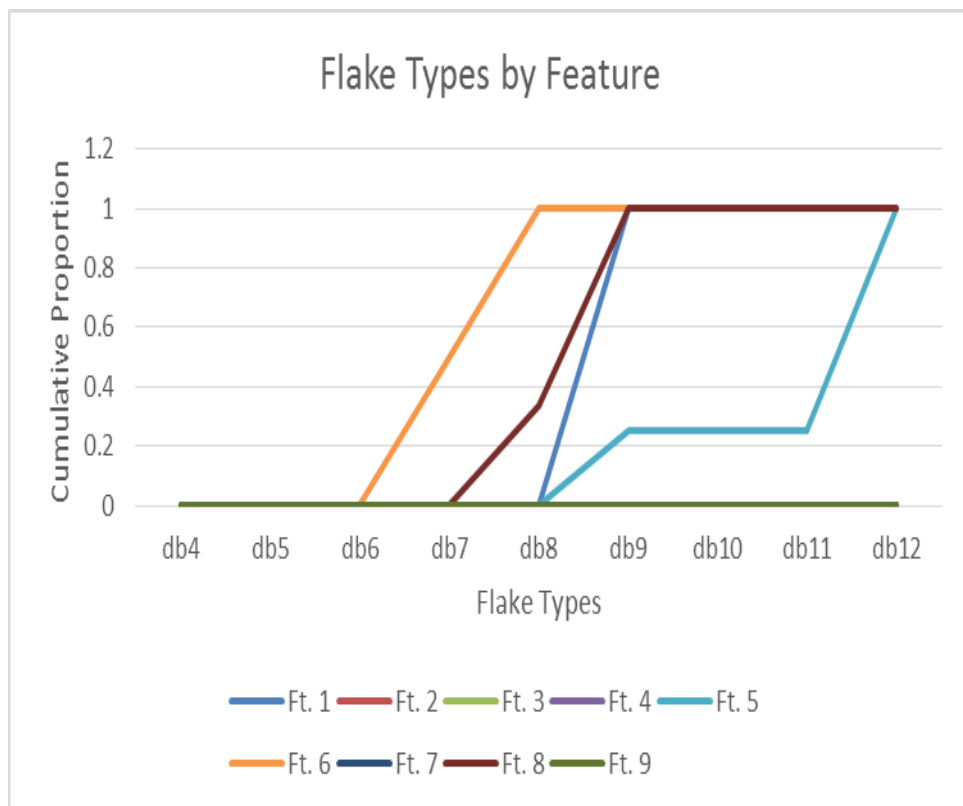


Figure 13 Ft. Payne Citronelle Debitage Flake type

Since Ft. Payne chert has a short trajectory with only the final production stages occurring at Hurricane Landing, that means it was collected from the source area and delivered to Hurricane Landing pre-worked through trade or an extraction expedition.

### **Galena**

Galena is the natural mineral form of lead sulfide. It has been found at more than 200 prehistoric sites ranging from the Middle Archaic to the Mississippian. Galena was used for paint, beads, pendants, and other objects while also included in some burials in its unmodified form (Ghosh 2008: 77). While galena was modified from the Middle Archaic through the Mississippian, its popularity peaked in the Middle Woodland Period (Ghosh 2008: 78). Interestingly, the majority of galena recovered from sites has been sourced to deposits in modern day Missouri, even when there were closer, more accessible deposits available (Ghosh 2008: 89). Ghosh, after compiling data on galena from works by Walthall 1980 and Austin et al. 2000, created two galena distribution maps. The first map shows the surface sources of galena for the eastern United States (Figure 15) while the second highlights archaeological sites where galena has been recovered by time period (Figure 16). Ghosh determined (2008: 89) that there were eight source areas for galena in the eastern United States; Upper Mississippi Valley district in Illinois, Wisconsin, and Iowa (UMV); Central Missouri District (CM), South-Eastern Missouri District (SEM); Tri-Stats District in Missouri, Oklahoma and Kansas (TS); Illinois-Kentucky Fluorspar District (IK); Central Kentucky (CK), Central Tennessee (CT), and Rossie Mines,

New York (RS). Of these sources, the two most used, by far, were TS and CM. TS and CM sourced galena artifacts were recovered as far away as Florida.

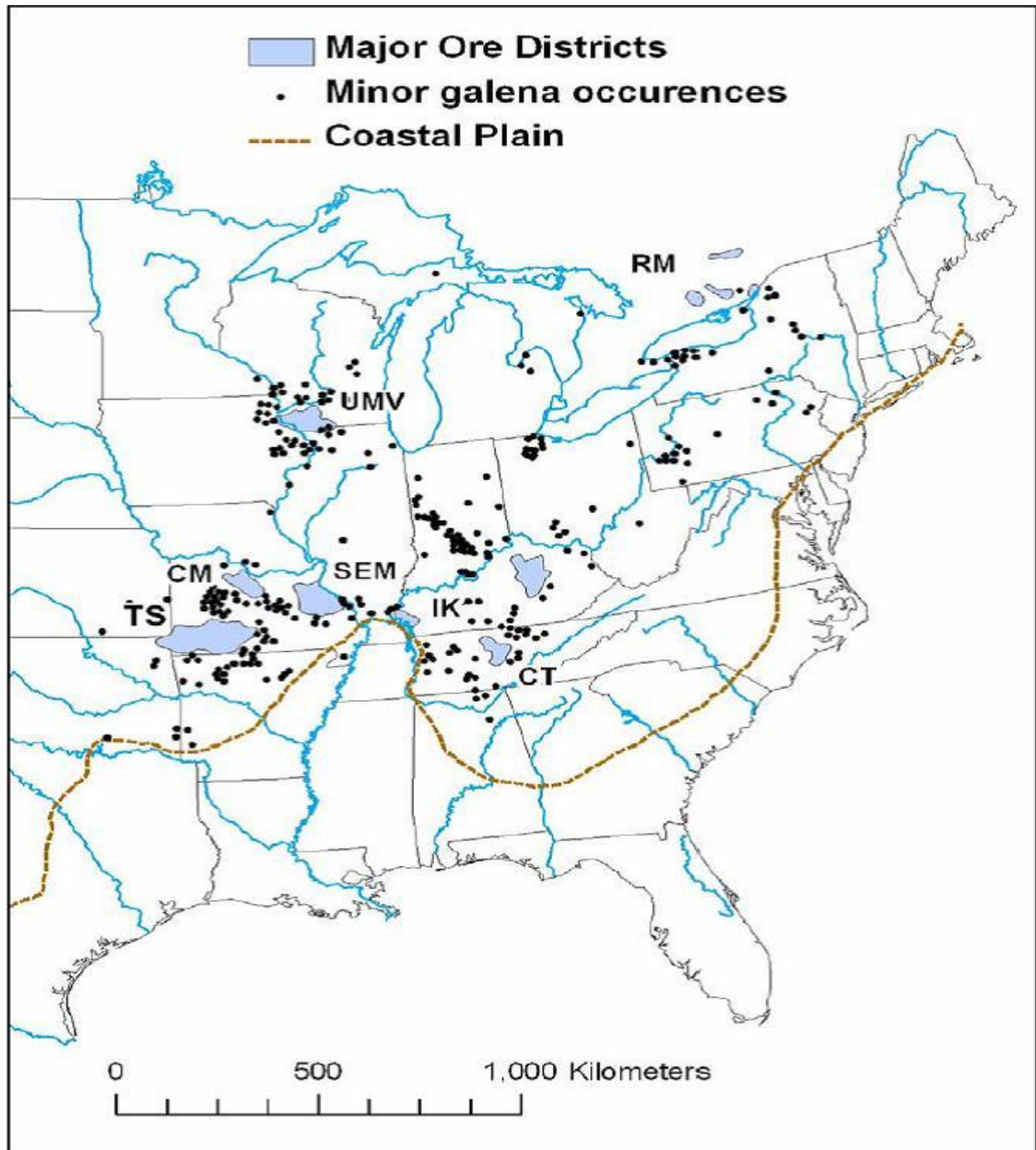


Figure 15 Figure 4.2 Map of major and minor galena sources (Ghosh 2008: fig. 4.2)

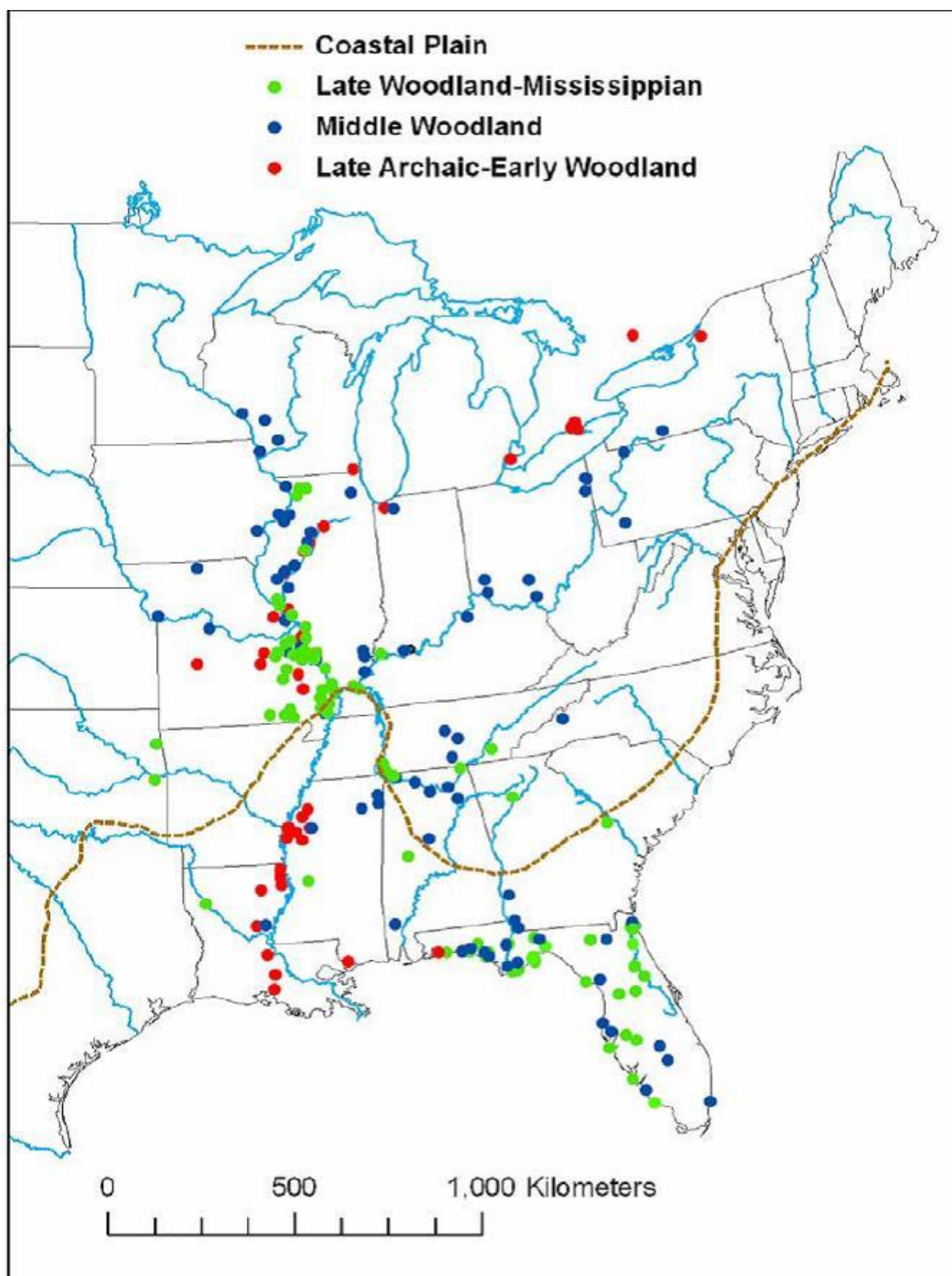


Figure 16 Distribution of galena artifacts (Ghosh 2008: Figure 4.1)

An unmodified chunk of galena and a galena bead were recovered from the feature excavations at Hurricane Landing. Although the Hurricane Landing galena was not tested for source area, it is clearly a non-local artifact. Non-local artifacts, worked artifacts in particular, that are made of a rare durable material and were obtained through extensive, long distance trade networks may have been prestige or status markers. Of the non-local materials at the Hurricane Landing site; Citronelle gravel, Ft. Payne chert, and galena, galena was the rarest and therefore was deemed mostly likely to have been status marker material.

## **Chapter 6 Settlement Data**

There exists few published works focused on the Mississippian Period in the North Central Hills and, as such, many broad scale maps showing the extent of influence for Mississippian polities across the Southeastern United States leave the North Central Hills bare or as a frontier edge of the Yazoo Basin. However, the state site files for Marshall, Lafayette, Yalobusha, and Calhoun Counties contain thirty-six sites with Mississippian components which fall in the North Central Hills. I used GIS in presenting these sites because the spatial location of sites across time can show population movement over time. Being able to plot these movements directs attention to common factors affecting settlement trends.

The site file settlement data was reviewed multiple ways. First, tables plotting the dispersal of sites by upland and floodplain soil type were constructed for Woodland and Mississippian sites. Second, the co-occurrence of site components was plotted as well. Finally, the Woodland and Mississippian site locations were mapped.

Soil associations were used in order to distinguish between upland and floodplain settlement (Table 6). It was determined that sorting by soil type would be more accurate than using topology with scientifically sorted soils would be more accurate than an arbitrary height requirement to divide upland from floodplain. There is a clear decrease in the occupation of the North Central Hills beginning in the Late Woodland and continuing into the Mississippian period. Actually, it is possible that many of the sites labeled Woodland in the site files were



occupied into the Late Woodland because the distinction between Early, Middle, and Late Woodland in the North Central Hills is based primarily on decorated types, which are in the minority. In fact, the majority of the Woodland components in the state site file are simply classified as “Woodland” without distinguishing Early, Middle, Late. This being the case, any look into settlement decline with the current data could be skewed significantly from the actual decline rate.

Table 6. Mississippian and Woodland components in North Central Hills by locations

Site Location	Woodland	Late Woodland	Mississippian	<b>Total</b>
Upland	70	28	16	<b>114</b>
Floodplain	85	24	20	<b>129</b>
<b>Total</b>	<b>155</b>	<b>52</b>	<b>36</b>	<b>243</b>

A shift from upland to floodplain settlement during the transition from Woodland to Mississippian is shown in Table 6. This shift is clearer when viewed graphically (figs. 14, 15). There is also a shift to locations downriver in the river valleys during the Mississippian Period. This is likely a result of the emphasis on floodplain resources, such as fish and other aquatic game, and soils suitable for corn agriculture.

A look at the co-occurrence of site components in Table 7 shows that 21 of 36 Mississippian sites, 58%, were identified as also having earlier components. When considered with the mapping of settlement locations, and it seems that the North Central Hills saw a settlement transition in which populations either left the region or consolidated farther downriver in the floodplains during the Mississippian Period. Consolidating further downriver in the floodplains could have made increased communication and trade via the river routes with the Yazoo Basin populations easier to conduct. This could have been done deliberately to facilitate

such communication and trade or was simply a byproduct of settling into lands better suited for intensive corn agriculture.

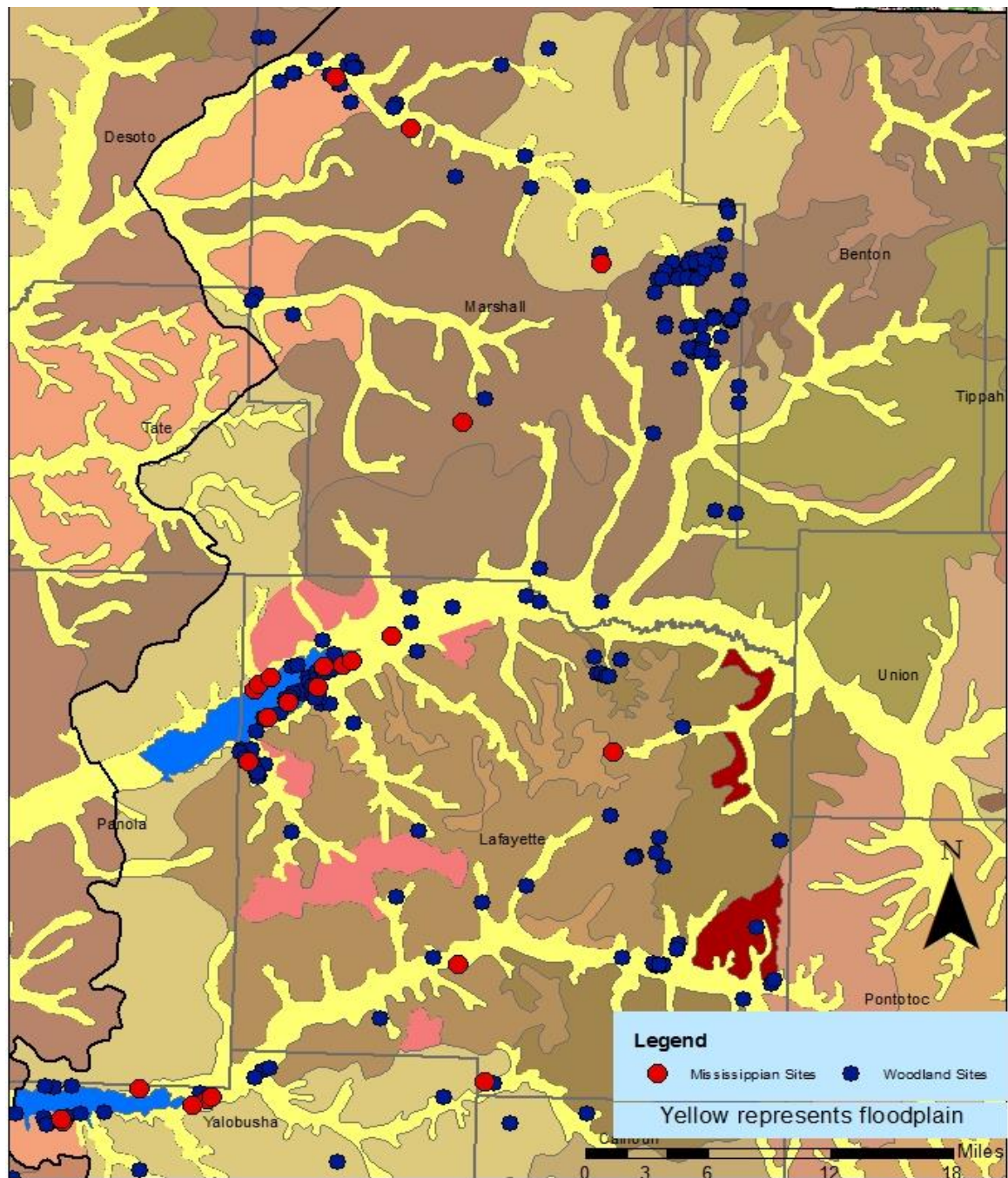


Figure 17 Marshall and Lafayette County Woodland and Mississippian Sites

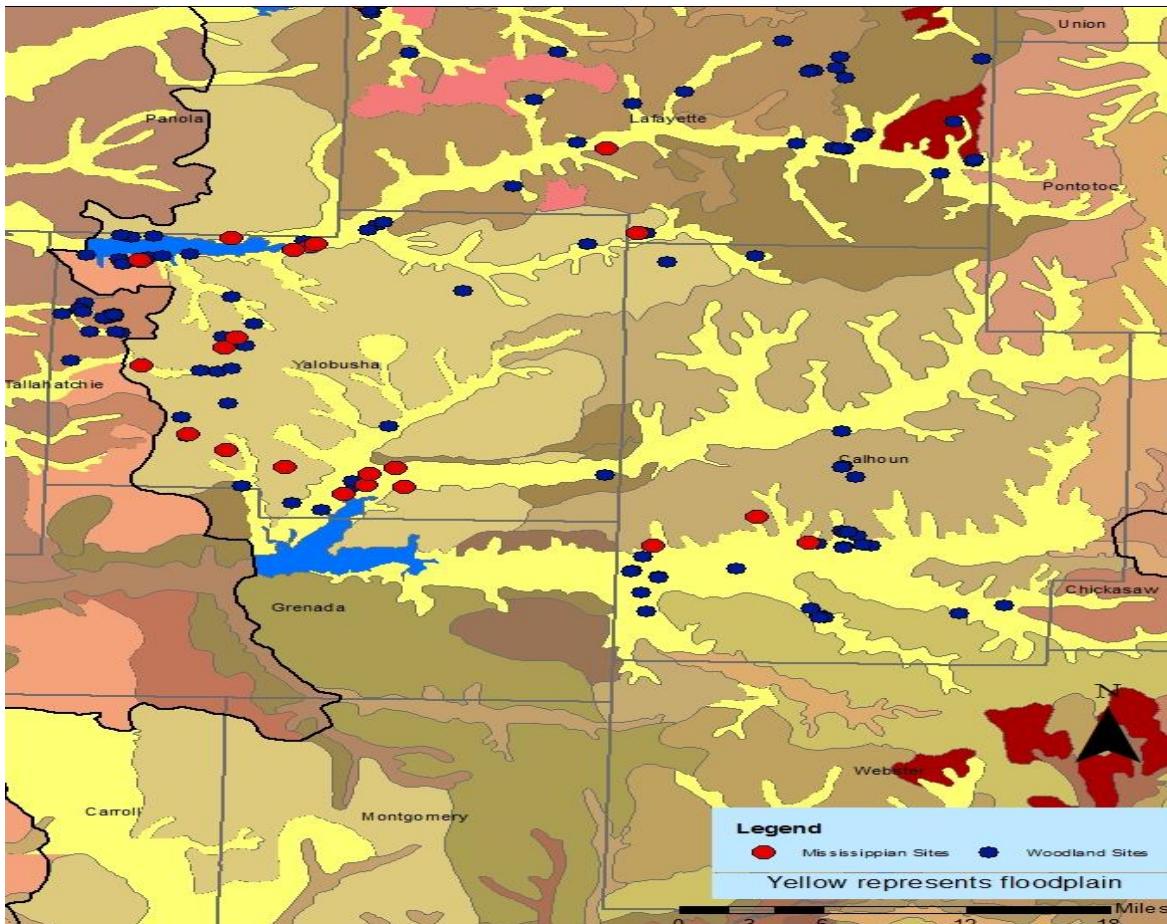


Figure 18 Calhoun and Yalobusha County Woodland and Mississippian Sites

Table 7. Co-occurrence of site components in the study area.

Period	Early Woodland	Middle Woodland	Late Woodland	Woodland	Mississippian
Early Woodland	41				
Middle Woodland	5	48			
Late Woodland	1	13	52		
Woodland	1	3	1	155	
Mississippian	1	1	8	11	36

## **Chapter 7 Discussion and Conclusions**

Hurricane Landing, 22LA516, is a single-mound, transitional Mississippian site located in Lafayette County, Mississippi at the bottom of modern day Sardis Lake. In 2015, nine pits were excavated southeast of the mound by CAR in conjunction with the Corp of Engineers and the recovered artifacts were examined. AMS dating of the pits place the site as being occupied sometime during the period from AD 1165 to 1295. The most important caveat to keep in mind when considering the results of this project is the amount of erosion that the site has experienced. Due the steady erosion from the lake, what was excavated was the remaining bottom of the pits, meaning that the data recovered from these pits represents possibly only the first layer of refuse deposit. However, the excavations and profile drawings suggest that the pits were filled quickly as there is no evidence of prolonged surface exposure.

Hurricane Landing's lithic artifact raw material includes Citronelle, Ft. Payne, sandstone, and petrified wood. Citronelle, Ft. Payne, and sandstone were all worked at the site while only Citronelle shows all stages of production. Since Citronelle and Ft. Payne are non-local resources, it is evident that the residents of Hurricane Landing had trade connections downriver and upriver to gain access to these lithic materials.

In examining the North Central Hills settlement data, it was determined that there was a consolidation of population downriver into the floodplains. The Hurricane Landing site is a result of that consolidation. The Hurricane Landing artifacts showed only one occupation phase, so it is not identified as a Woodland site that transformed into a Mississippian site but as a Mississippian

site created by the resettlement of populations during the transition from Woodland to Mississippian. Hurricane Landing's trade connections with its neighboring Mississippian regions, the Yazoo Basin and northwestern Alabama, influenced its ceramics.

Hurricane Landing's ceramic types; Bell Plain, Mississippi Plain *var. Neeley's Ferry*, Baytown Plain, Leland-like Incised, Winterville-like Incised, Old Town Red *var. Beaverdam*, and Bell Plain *var. Bell*, are derived from Yazoo Basin ceramic typologies. However, their usage at the Hurricane Landing site does not match the trends discovered in the Yazoo Basin but rather more closely resemble the trends seen in the Moundville I subphase. Hurricane Landing's plainware-to-decorated ware ratio matches that ratio at Moundville during the Moundville I subphase and a comparison with the transition from Woodland-to-Mississippian that Mistovich (1988) documented at the Mill Creek Site in west-central Alabama suggests that Hurricane Landing is very likely to be a transitional Mississippian site. At both sites, there was the continued use of Late Woodland ceramic technology. The small numbers of Winterville Incised sherds from Hurricane Landing are similar to the proportion of Moundville Incised sherds at Mill Creek. There are, however, no Barton Incised sherds from Hurricane Landing. Although there are no other well documented Early Mississippian sites from the North Central Hills of Mississippi to compare, the Hurricane Landing ceramic assemblage provides a first look at the transition from Woodland to Mississippian in the region.

More research and publication of research is needed in the North Central Hills to flesh out the archaeological record and discussion for the region. Hurricane Landing could represent a transitional North Central Hills Mississippian expression that incorporated some ceramic traditions of Yazoo Basin and Moundville Mississippian expressions or it could be an outlier from the surrounding North Central Hills Mississippian sites. Until more data and research is

available all that can be concluded is that Hurricane Landing is a transitional Mississippian site in the North Central Hills of Mississippi that, while importing lithics and sharing some ceramic traditions with them, stands apart from both the Yazoo Basin and Moundville Mississippian expressions.

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## VITA

### Education

University of Alabama

Double Major: Anthropology & Political Science, Bachelor's Degrees

Graduated Fall 2013

### Relevant Professional Archaeological Experience

Field Tech

September 2018- Present

TerraXplorations Inc., Tuscaloosa, Alabama

- Surveyed Phase I, Phase II, and Cell Tower projects
- Completed 15 Phase I projects, 1 Phase II project, and 3 Cell Tower projects.
- Conducted shovel tests, excavated units, erected fencing, built tents, and recorded artifact data

Field Tech

February 2018- April 2018

Panamerican Inc., Tuscaloosa, Alabama

- Surveyed Phase I project
- Completed 1 Phase I project
- Conducted shovel tests and recorded artifact data