Report of Investigations for the Southern Yazoo Portion of The Mississippi Mound Trail Project, 2014 Season, Issaquena, Washington, Sharkey, and Warren Counties, Mississippi

Department of Anthropology and Sociology
University of Southern Mississippi
July 2015

Submitted to the Mississippi Department of Archives and History, Jackson

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H. Edwin Jackson, Ph.D., RPA, and Jessica Kowalski, RPA

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Abstract

In the summer of 2014, archaeologists with the University of Southern Mississippi continued archaeological investigations for the Mississippi Mound Trail Project (MMT) in the Southern Yazoo Basin of the Mississippi Delta. This is the second report for the middle section of the mound trail project; the 2013 excavation summary has been provided to the Mississippi Department of Archives and History (MDAH) (Kowalski et al. 2014). These investigations were conducted for MDAH and the Mississippi Department of Transportation (MDOT). Sites tested as part of the second field season are located in Issaquena, Sharkey, Warren, and Washington Counties, Mississippi. Newly investigated sites include Aden (22IS509) and Dornbusch (22WR501). Arcola (22WS516), Carter (22SH532), Hardee (22IS502), and Mont Helena (22SH505) were revisited for additional work. All sites included in this project contain mounds visible from existing right-of-ways (ROWs) and are located near major highways, including Mississippi Highway 1 and US Highway 61, making them ideal candidates for destinations on the planned Mississippi Mound Trail. The exception is Dornbusch (22WR501) which is located on Mississippi Highway 3 overlooking the Yazoo River in Warren County. The site was found to be a remnant loess bluff rather than a constructed earthwork and it was removed from the final roster of archaeological sites included on the planned driving tour.

The goal of archaeological investigations on the Mound Trail project was to produce basic site information for signage and other tourism purposes. Investigations consisted of soil coring, augering, and limited test excavation on the flanks of mounds in order to produce artifacts and charcoal samples suitable for dating. The results of ceramic analysis and radiocarbon dating indicate that the vast majority of mound construction at these sites is confined to the Mississippi period (ca. A.D. 1000 to 1500) with a peak in mound construction during the Lake George phase, ca. A.D. 1400. Aden and Carter, however, are Coles Creek centers, and Aden may have been occupied just prior to AD 1000, making it the earliest center included in this portion of the mound trail. In addition to understanding when these sites were constructed and occupied, excavations on the Mississippi Mound Trail have provided a context for future research in the region.

Table of Contents

List of Figures

List of Tables

Chapter I: Introduction

Phase II archaeological investigations for the 2014 season of the Southern Yazoo portion of the Mississippi Mound Trail Project (MMT) were conducted by the University of Southern Mississippi for the Mississippi Department of Archives History (MDAH) and the Mississippi Department of Transportation (MDOT). Fieldwork began on June 16, 2014 and was completed on July 17, 2014. H. Edwin Jackson, Ph.D. oversaw the project and directed excavations at the Aden site. Jessica Kowalski, RPA, served as the field director for the remaining sites. Ronald Wise, Jr. supervised field crews. Participants in the University of Southern Mississippi Field School included Amy Ball, Taylor Bower, Mitchell Furr, Cecilia Henderson, Beth Hunt, and Zachary Myers. Kelly Ferris, Katelyn Gill, Sarah Beth Grant, and Aaron Shook volunteered for portions of the field season.

Investigations consisted of artifact surface collection, soil coring and augering, and limited test excavations on selected archaeological sites with mounds located between Greenville, Mississippi and Vicksburg, Mississippi, in Washington, Issaquena, Sharkey, and Warren counties. These sites include Arcola (22WS516), Aden (22IS509), Carter (22SH532), Dornbusch (22WR501), Hardee (22IS502), and Mont Helena (22SH505). These sites were selected for investigation because of their accessibility from major roadways, including Mississippi Highway 1 and U.S. Highway 61 (Figure 1.1-.1.2). An additional criterion for inclusion in this project was a lack of previous work at these sites beyond artifact surface collections.

This report contains the results of excavations and the analysis of Native American ceramics produced as a result of this project. The primary goal of this analysis was to understand when these mounds were constructed and occupied. This report is divided into five chapters, first detailing the environmental and archaeological background for the region, including the regional culture-history and outlining the research issues for the Southern Yazoo Basin. Chapter 2 details the basic field methodology employed to address these research issues, discusses the field work, and presents summary tables of diagnostic ceramics recovered from each excavation. Chapter 3 presents the classification system used for archaeological ceramics. The excavations at Aden are presented in Chapter 4 because they produced the most cultural materials of any excavation on the project and require a more thorough discussion of cultural chronology in conjunction with the radiocarbon dates. Ceramic classifications used for the Aden site are also included in this chapter, set apart from other sites in the project.

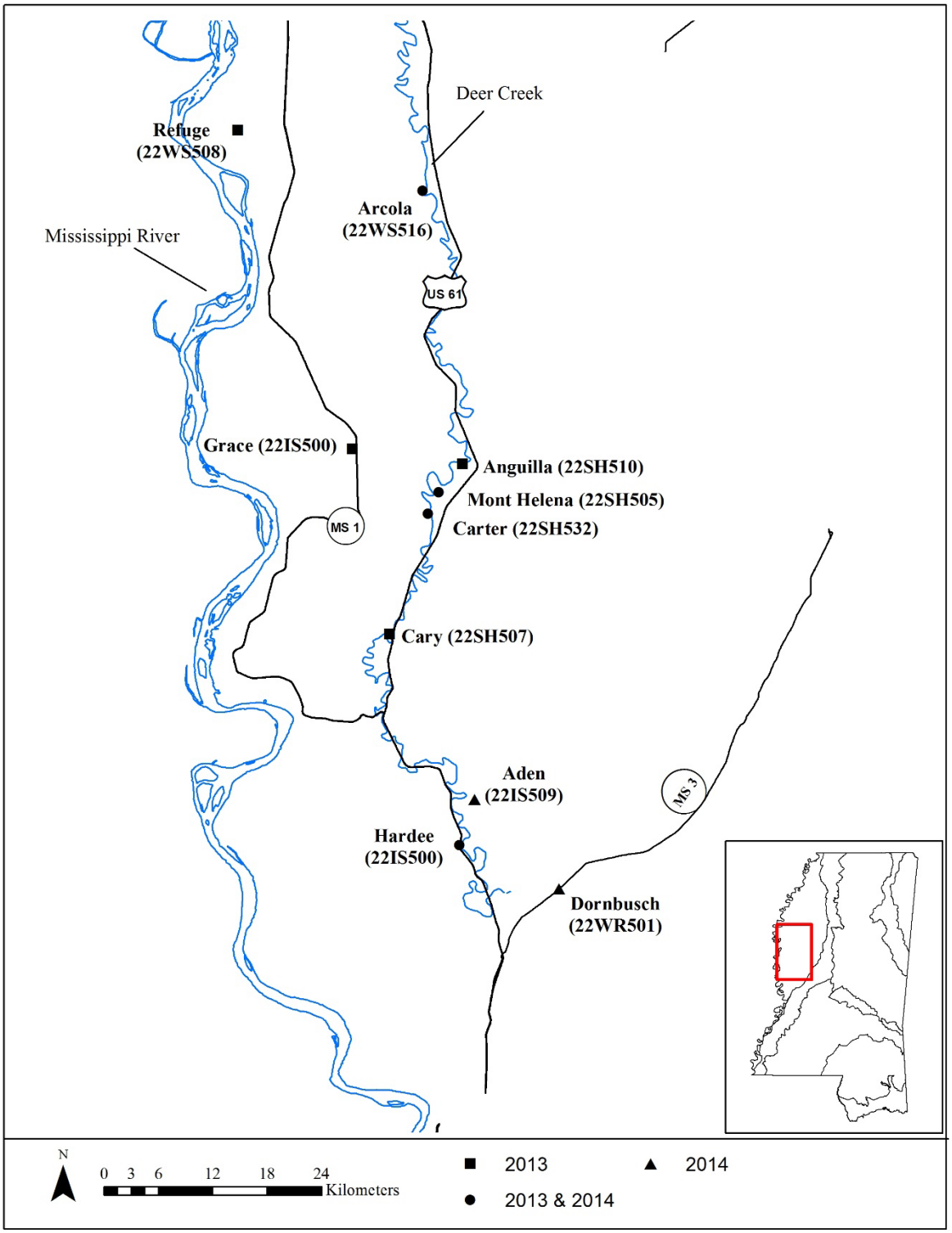


Figure 1.1. Map of sites included in the Southern Yazoo portion of the MMT, 2013-2014.

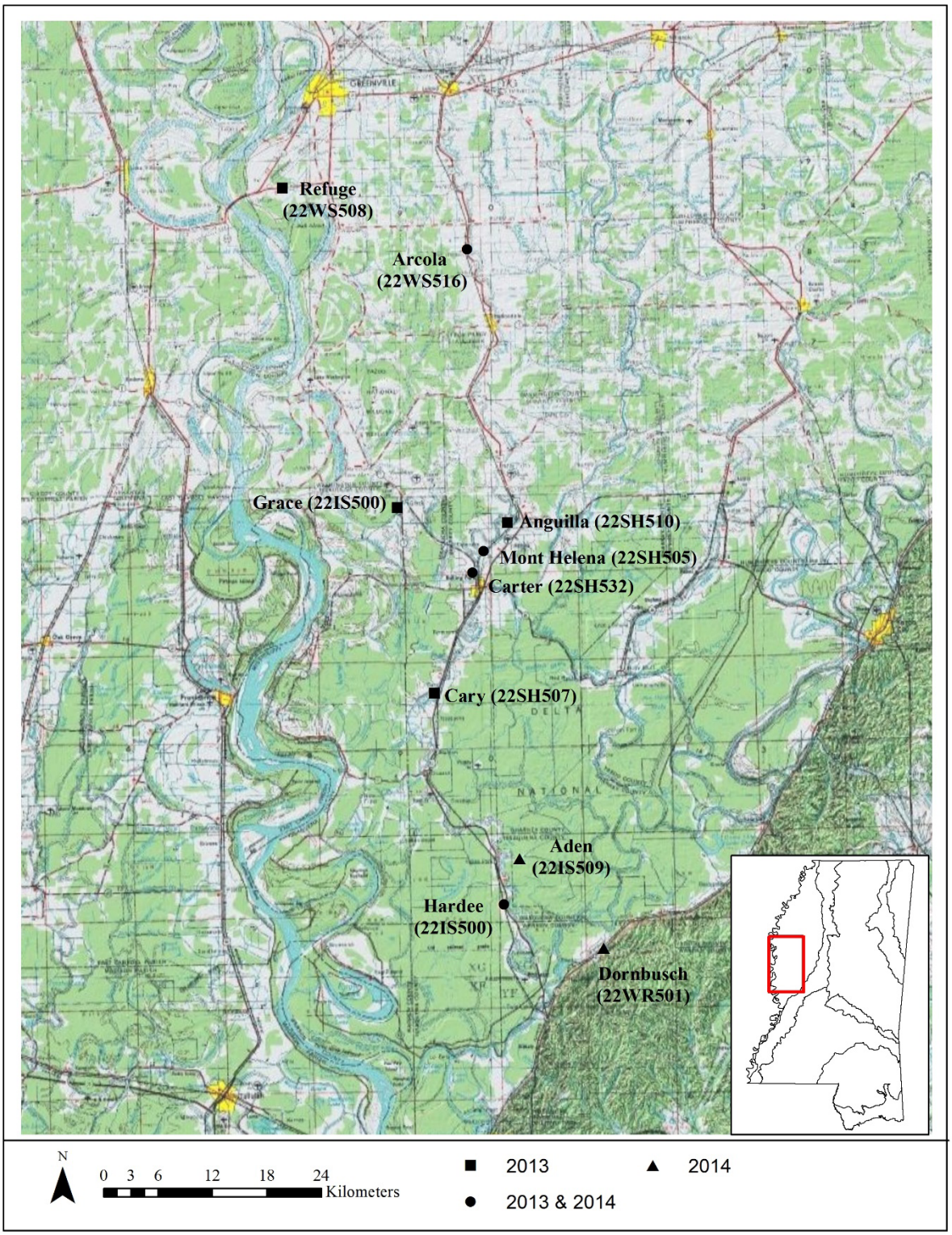


Figure 1.2. Topographic map of sites included in the Southern Yazoo portion of the MMT, 2013-2014.

Physiographic Setting

The Southern Yazoo Basin of the Lower Mississippi Valley (LMV) is a broad floodplain, dissected by the modern and former channels of the Mississippi River and its tributaries, crevasse channels, natural levees, and backwater swamps (Saucier 1994). This floodplain stretches from Greenville, Mississippi, south to Vicksburg, Mississippi. At its widest point, the basin stretches 60 miles from the Mississippi River east to the meet the Loess Hills (Figure 1.3).

Archaeological sites in the region are concentrated on the natural levees of the former and modern channels of the Mississippi River, Sunflower River, Yazoo River, and along Deer Creek (Phillips 1970). Deer Creek is a major distributary channel of the Mississippi River, forming from the headwaters of a crevasse splay at least prior to the onset of the Mississippian period, c.a. AD 1000 (Phillips 1970, Saucier 1994). Mound centers densely concentrated within these ecological settings are associated with the Middle Woodland through Mississippian periods, with peaks in mound construction during the Late Woodland and Mississippian (Phillips et al. 2003 [1951]).

Archaeological Setting

The most comprehensive archaeological investigations in the region were conducted as part of the Lower Mississippi Survey (LMS), a joint effort between Harvard, Louisiana State University, and the University of Michigan in the 1940s (Phillips et a. 2003 [1951]). These investigations consisted of artifact surface collections at mound centers across the LMV that were compared to material from stratigraphic cuts at sites such as Jaketown (22HU505), Lake George (22YZ557), and Shell Bluff (22LF505), among others. All the sites discussed in this report with the exception of the Carter Mounds (22SH532) were visited during this survey project. The combined data from surface collections and limited excavations at mound centers were used to construct the basic sequence of cultural periods for the region (Phillips et al. 2003 [1951]).

Phillips (1970) conducted a reanalysis of the ceramics produced from the original LMS surveys using a type-variety system of classification. The type-variety classification system facilitated the construction of a finer temporal sequence consisting of archaeological phases (Table 1.1). The regional sequence built by Phillips (1970) was later refined by Williams and Brain (1983) and Brain (1989) based on excavations at the Lake George site (22YZ550) and Winterville Mounds (22WS500), the two largest multi-mound centers in the region.

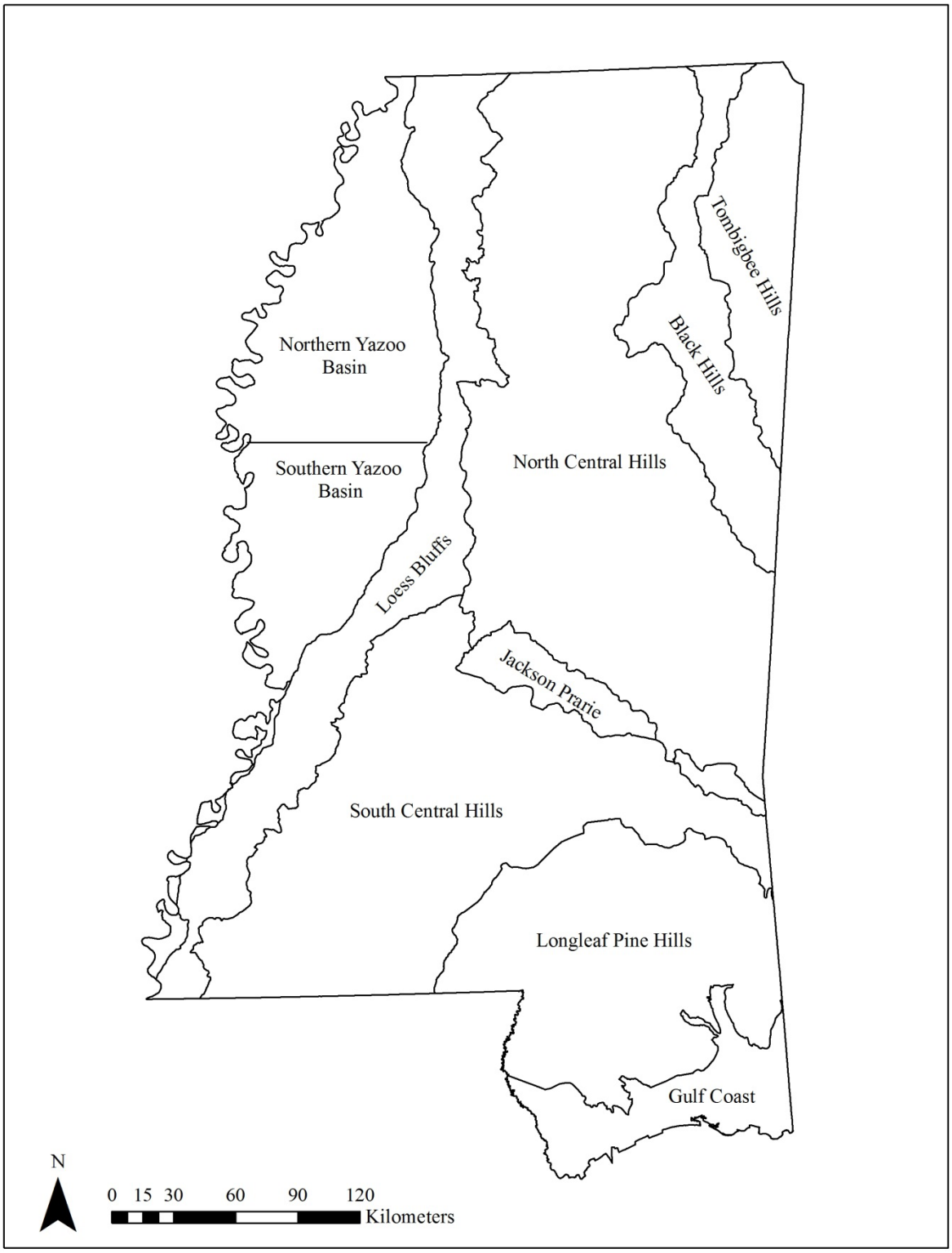


Figure 1.3. Physiographic regions of Mississippi.

Table 1.1. Phase sequence for the Southern Yazoo Basin.

Period	Date (A.D.)	Phase	Culture or Cultural Tradition
Historic	1600	Russell	Mississippi
Protohistoric		Wasp Lake	
Mississippian	1400	Lake George	
		Winterville	
	1200		
		Crippen Point	Coles Creek
	1000		
Late Woodland		Kings Crossing	
	800	Aden	
		Bayland	Baytown
		Deasonville	
	400		
Middle Woodland		Issaquena	Marksville
		Anderson Landing	
	1		

Table 1.2. Diagnostic sets by archaeological phase (adapted from Brain 1988:53; Williams and Brain 1983:315).

Issaquena	Coles Creek Incised *var. Blakeley*
Satartia	Coles Creek Incised *var. Greenhouse*
Alligator Incised *var. Alligator*	Coles Creek Incised *var. Mott*
Churupa Punctated *var. Churupa*	Evansville Punctated *var. Rhinehart*
Churupa Punctated *var. Thornton*	French Fork Incised *var. McNutt*
Evansville Punctated *var. Braxton*	Mazique Incised *var. Kings Point*
Marksville Incised *var. Leist*	**Crippen Point I**
Marksville Incised *var. Yokena*	**Addis 1**
Marksville Stamped *var. Newsome*	Avoyelles Puncated *var. Tatum*
Marksville Stamped *var. Troyville*	Avoyelles Punctated *var. Dupree*
Marskville Incised *var. Spanish Fort*	Beldeau Incised *var. Bell Bayou*
Marskville Incised *var. Steele Bayou*	Chevalier Stamped *var. Lulu*
Marskville Stamped *var. Manny*	Chevalier Stamped *var. Perry*
Deasonville	Coleman Incised *var. Coleman*
Reed 1	Coles Creek Incise*d var. Hardy*
Alligator Incised *var. Oxbow*	Evansville Punctated *var. Sharkey*
Chevalier Stamped *var. Cornelia*	Harrison Bayou Incised *var. Harrison Bayou*
Larto Red *var. Larto*	Mazique Incised *var. Manchac*
Mulberry Creek Cord Marked *var. Edwards*	**Crippen Point II**
Salomon Brushed *var. Salomon*	**Addis 1**
Reed 2	Avoyelles Puncated *var. Tatum*
Coles Creek Incised *var. Hunt*	Avoyelles Punctated *var. Dupree*
Coles Creek Incised *var. Phillips*	Beldeau Incised *var. Bell Bayou*
Shellwood Cord Impressed *var. Shellwood*	Chevalier Stamped *var. Lulu*
Bayland	Chevalier Stamped *var. Perry*
Sharfit	Coleman Incised *var. Coleman*
Coles Creek Incised *var. Chase*	Coles Creek Incise*d var. Hardy*
Coles Creek Incised *var. Stoner*	Evansville Punctated *var. Sharkey*
Coles Creek Incised *var. Wade*	Harrison Bayou Incised *var. Harrison Bayou*
Coles Creek Incised *var. Wilzone*	Mazique Incised *var. Manchac*
Larto Red *var. Silver Creek*	**Addis II**
Mulberry Creek Cord Marked *var. Smith Creek*	Hollyknowe Ridge Pinched *var. Patmos*
Aden	Plaquemine Brushed *var. Plaquemine*
Valley Park	**Coker**
Avoyelles Punctated *var. Avoyelles*	Cahokia Cord Marked *var. Montrose*
Chevalier Stamped *var. Chevalier*	Old Town Red *var. Sharbrough*
Coles Creek Incised *var. Campbellsville*	**Powell**
French Fork Incised *var. Larkin*	Old Town Red *var. Cahokia*
Mazique Incised *var. Mazique*	Powell Plain *var. Powell*
Kings Crossing	Ramey Incised *var. Ramey*
Vicksburg	Tippets Incised *var. Tippets*
Avoyelles Punctated *var. Kearney*	**Yazoo 2**
Beldeau Incised *var. Beldeau*	Barton Incised *var. Barton*
Carter Engraved *var. Mud Lake*	Grace Brushed *var. Grace*
Carter Engraved *var. Shell Bluff*	Pouncey Pinched *var. Patosi*
	Winterville Incised *var. Blum*
	Winterville Incised *var. Rising Sun*

Table 1.2 continued. Diagnostic sets by archaeological phase (adapted from Brain 1988:53; Williams and Brain 1983:315).

Winterville I	**Yazoo 4**
Addis II	Barton Incised *var. Arcola*
Hollyknowe Ridge Pinched *var. Patmos*	Barton Incised *var. Midnight*
Plaquemine Brushed *var. Plaquemine*	Barton Incised *var. Togo*
Greenville	Winterville Incised *var. Belzoni*
Anna Incised *var. Anna*	**Lake George II**
Avoyelles Punctated *var. George*	**Holly Bluff 2**
Carter Engraved *var. Carter*	Leland Incised *var. Blanchard*
Carter Engraved *var. Sara*	Leland Incised *var. Deep Bayou*
Larto Red *var. Chicot*	Leland Incised *var. Fatherland*
L'Eau Noire Incised *var. L'Eau Noire*	Leland Incised *var. Russell*
Leland Incised *var. Bethlehem*	Leland Incised *var. Williams*
Yazoo 1	**Yazoo 4**
Cahokia Cord Marked *var. Buford*	Barton Incised *var. Arcola*
Old Town Red *var. Old Town*	Barton Incised *var. Midnight*
Winterville II	Barton Incised *var. Togo*
Greenville	Winterville Incised *var. Belzoni*
Anna Incised *var. Anna*	**Yazoo 5**
Avoyelles Punctated *var. George*	Owens Punctated *var. Menard*
Carter Engraved *var. Carter*	Owens Punctated *var. Poor Joe*
Carter Engraved *var. Sara*	Owens Punctated *var. Widows Creek*
Larto Red *var. Chicot*	Winterville Incised *var. Ranch*
L'Eau Noire Incised *var. L'Eau Noire*	**Wasp Lake I**
Leland Incised *var. Bethlehem*	**Yazoo 7**
Yazoo 3	Owens Punctated *var. Manly*
Barton Incised *var. Estill*	Owens Punctated *var. Menard*
Mound Place Incised *var. False River*	Winterville Incised *var. Broutin*
Parkin Punctated *var. Hollandale*	Winterville Incised *var. Wailes*
Parkin Punctated *var. Transylvania*	**Wasp Lake II**
Winterville Incised *var. Winterville*	**Yazoo 6**
Lake George I	Barton Incised *var. Davion*
Holly Bluff 1	Barton Incised *var. Portland*
Leland Incised *var. Ferris*	Owens Punctated *var. Redwood*
Leland Incised *var. Leland*	**Yazoo 7**
Maddox Engraved *var. Silver City*	Owens Punctated *var. Manly*
Yazoo 3	Owens Punctated *var. Menard*
Barton Incised *var. Estill*	Winterville Incised *var. Broutin*
Mound Place Incised *var. False River*	Winterville Incised *var. Wailes*
Parkin Punctated *var. Hollandale*	
Parkin Punctated *var. Transylvania*	
Winterville Incised *var. Winterville*	

Middle Woodland Period (A.D. 1-400)

Mound sites in the Southern Yazoo Basin are associated with Middle Woodland through Mississippian periods. No Early Woodland period mound sites in the Southern Yazoo Basin have been recorded to date, although Early Woodland mounds are documented in the hills of North Mississippi (Ford 1990). Across the Eastern Woodlands, the early portion of Middle Woodland period is associated with the far-flung Hopewellian Interaction Sphere (Toth 1988). Middle Woodland groups decorated pottery with elaborate iconography and built conical mounds to inter the dead (Williams and Brain 1983:359; Toth 1988). Broadly shared decorative motifs include raptorial birds and other modes such as cambered and cross-hatched rims. Diagnostic pottery in the Southern Yazoo Basin includes the Marksville series of ceramics that are tempered with grog and feature designs of wide U-shaped incisions, often with zoned stamping and punctation.

Sites with Middle Woodland components are located along the Yazoo River and its tributaries early in the period, and expand into the western Yazoo Basin along the former channels of the Mississippi River during the Issaquena phase (Phillips 1970: 537-543; Williams and Brain 1983: 359-360). Along the extreme southern end of Deer Creek, an Issaquena phase component is present at the Aden site (22IS509).

Late Woodland Period (A.D. 400-1000)

The Late Woodland period in the Southern Yazoo Basin is associated with two sequential cultural traditions, Baytown and Coles Creek. Baytown covers the time period and culture occupying the space between the height of the Marksville culture and the Coles Creek florescence. The Baytown Deasonville and Bayland phases are found throughout the basin but are concentrated on the Yazoo River, Sunflower River, and Bogue Phalia (Williams and Brain 1983:365). Deasonville phase sites are associated with shell midden deposits, indicating an orientation to riverine subsistence activities. Baytown ceramics are often found at sites with mounds, but Late Woodland components are also present leading to uncertainty about the time period of mound construction (Phillips 1970:549; Williams and Brain: 1983:364). Diagnostic ceramics of Baytown phases include varieties of the Reed and Sharfit sets (Williams and Brain 1983:315). These ceramics are tempered with large pieces of grog and decorative techniques are often crude and include simple incising and cord-marking. The initial occurrence of horizontal incising on the exterior rim (a favored Coles Creek decorative style) is found in these Baytown phases indicating a strong degree of cultural continuity in the basin during the Late Woodland period (William and Brain 1983:314-316).

The following Coles Creek cultural tradition captures the initial construction of mound and plaza complexes (Kidder 1998; Williams and Brain 1983:371). Between two and three flat-topped or pyramidal mounds (occasionally more) were constructed on top of village middens encircling modest plaza areas. Late Woodland Coles Creek sites are found along the former courses of the Mississippi River and lower Deer Creek (Williams and Brain 1983: 371-372). The Early and Classic Coles Creek phases, Aden and Kings Crossing, are distinguished on the basis of the appearance of the Vicksburg fineware set in the latter. Coles Creek pottery is grog-tempered and decorations often consist of a series of parallel horizontal incisions on the exterior

vessel rim. Vessel forms are varied and include beakers, large serving bowls, complex bowls, and cornered bowls with decorated lugs.

The Late Woodland Coles Creek cultural tradition extends into the Mississippian period at A.D. 1000. Some significant changes occur in the basin after A.D. 1000 associated with Mississippian developments to the north, but material culture and site plans are largely Coles Creek in character.

Mississippi Period (A.D. 1000-1500)

The Coles Creek Crippen Point phase of the regional sequence captures the interaction between the people of the Lower Mississippi Valley and the American Bottom to the north, either through direct contact or through trade (Williams and Brain 1983:373-374). While there is continuity with the earlier Coles Creek phases in the ceramic inventory and settlement patterns, the appearance of the shell-tempered Powell and Coker ceramic sets immediately precedes or coincides with large-scale changes in the basin, including the intensification of mound construction at the Winterville (22WS500), Lake George (22YZ550) , and Mayersville (22IS501) sites. However, cultural continuity is indicated with the Addis set of ceramics that are tempered with small and densely packed pieces of grog. Decorative techniques in the Addis set are concentrated on the rims of vessels, similar to Coles Creek decorative styles. The appearance of the Addis 2, Coker, and Powell sets separate subphases of Crippen Point.

The succeeding Winterville phase (formerly Phillips's Mayersville phase) has been characterized by cultural hybridity or a "transculturation," where two culture traditions, local Coles Creek and non-local Mississippian, merged to form something new, called Plaquemine (Brain 1989:122; Williams and Brain 1983:338). This hybridity is best evidenced in the large-scale and coordinated mound construction at Winterville and Lake George, with each site containing more than twenty mounds and a double plaza, with one dominant mound anchoring the arrangement (Brain 1989). Winterville phase settlement is focused on the Yazoo River near Lake George and along the former and modern courses of the Mississippi River at Winterville and Mayersville (22IS501). Diagnostic ceramic varieties include both shell-tempered, grog-tempered, and mixed grog and shell-tempered ceramics of the Yazoo, Addis 2, and Greenville sets. Decorative techniques proliferated during this time period and include brushing, rectilinear and curvilinear incising, interior incising, and engraving. Vessel forms consist of jars, bowls, and occasionally bottles.

Archaeologists have since questioned the idea that a hybrid Mississippian-Coles Creek culture is the appropriate framework for understanding Plaquemine. During this time period, shell-tempered Mississippian ceramics are found in much lower numbers in other parts of the LMV, such as the Natchez Bluffs region of Mississippi and the Atchafalaya Basin of Louisiana that are considered Plaquemine culture areas (Rees and Livingood 2007; Rees 2010). Uncertainties about the character of Plaquemine political hierarchy and the dependence on maize agriculture, coupled with the de-emphasis on extra-regional exchange are factors that may yet prove to be important distinctions between Plaquemine and Mississippian culture in the Lower Mississippi Valley.

Regardless of the typological uncertainty between Mississippian and Plaquemine culture, the succeeding Lake George phase (roughly post A.D. 1400) was simultaneously a period of a full Mississippian cultural expression and a time of steady decline of the largest mound centers in the Southern Yazoo Basin, coinciding with the rise of smaller centers along the Deer Creek, Yazoo River, and modern Mississippi River meander belt ridges (Brain 1978; Phillips 1970:565; Williams and Brain 1983:379-380). Located to the south of Winterville along Deer Creek, the mound centers of Arcola (22WS516), Leland (22WS501), and Magee (22SH501) were once considered to be "pure" single component Deer Creek phase sites [now the Lake George phase] (Phillips 1970:455,464-465; Williams and Brain 1983:380). The heights of the tallest mounds at these smaller centers are dwarfed by Mound A at Winterville and Mound A at Lake George, but sites such as Arcola and Leland are substantial in size, originally consisting of at least six mounds (Brain 1978).

Diagnostic ceramics of the Lake George phase include the Holly Bluff set, characterized by both fine shell and grog-tempering and curvilinear, trailed incisions. Specific rim modes, including Hayne's Bluff (interior incisions, oblique incisions or punctations on the lip, combined with strongly excurvate profiles) are present in large numbers, and are often found on complex or "Yazoo" bowls. Coarse shell-tempered ceramics of the Yazoo 3 and 4 subsets are also diagnostic of the Lake George phase. These sets are characterized by the decorative field shifting from the rim to the shoulder and body of vessels.

The collapse of primary centers and the rise of secondary centers during the Lake George phase fit well with a cycling model of Mississippian political organization. Mississippi period chiefdom-level societies were unstable and cycled through periods of centralization and decentralization as chiefs and elite members of society struggled to maintain power (Anderson 1994, Blitz 1999; Wright 1984). The nature of the Mississippian political organization during the Lake George phase is a major research question for the region, and it is uncertain how Mississippian political patterns in the Southern Yazoo Basin fit with the broader Mississippian world. This area of the Southeast contains some of the largest and most densely concentrated mound centers during the Mississippian period.

Protohistoric and Historic Periods (A.D. 1500-1730)

The final phases in the sequence, Wasp Lake and Russell, are poorly represented in the Southern Yazoo Basin. Wasp Lake is coeval with the first European contact in the Lower Mississippi Valley and is considered to be a protohistoric phase, meaning that there are major continuities with Mississippian lifeways but changes related to European contact are evident across the southeast, such as declines in population size and large-scale population movements (Williams and Brain 1983:381). The Russell phase, which coincides with the beginning of sustained European interaction in the late 17th century, is best represented in the study area by the Haynes Bluff site, located on the edge of the loess hills near the confluence of thee Yazoo River and Deer Creek.

While some Wasp Lake period diagnostic ceramics have been found at Winterville, occupation in the area shifted from the main course of the Mississippi River to the southern reaches of Deer Creek and Yazoo Bluffs area along the southern border of the basin. Ceramic

inventories often include exotic painted wares. However, most diagnostic ceramics are very late varieties of coarse shell-tempered pottery types (Williams and Brain 1983: 381-382). Mound construction slowed considerably and even ceased in some areas, but some Native American groups still used mound summits for residences. The end of this sequence is considered to be A.D. 1730, associated with the massacres at French forts by the Natchez and Yazoo Indians in south Mississippi (Williams and Brain 1983:386).

Recent Research and Future Directions

Recent archaeological research in the Southern Yazoo Basin has been conducted as part of a multi-year project beginning in 2005 by the University of Southern Mississippi. This project has been centered at the Winterville (22WS500) just north of Greenville, Mississippi. The goals of this recent work include exploring the nature of occupation at Winterville's founding and decline, exploring the nature of mound use, documenting subsistence practices, and understanding the nature of Mississippian political hierarchy.

Activities related to compliance archaeology have been less extensive, with the exception of excavations at the Law Mounds (22WS549), Mayersville (22IS508), Rolling Fork (22SH506), and a large-scale survey along Steele Bayou in the 1970s (Gagliano and Weinstein 1979; Banks et al. 2009; Ryan et al. 2000). Non-mound sites are poorly represented in the state site files. It is unknown if sites are buried by significant amounts of alluviation, destroyed by modern cultivation, or have simply been overlooked because of a lack of survey efforts.

The cumulative archaeological research of the 20th century suggests that while something is known about the broad cultural-historical framework in the LMV, little is known about the nature of social complexity during the cultural periods outlined. Many sites have seen little or no professional excavation, and issues of chronology, settlement patterns, and political hierarchy are current research questions for the area.

Mississippi Mound Trail Project Research Design

The original research design for the Mississippi Mound Trail project was relatively broad because little work had been done on many of these archaeological sites beyond the 1940s surface collections by the LMS. The project sought to gather basic site information including understanding the chronology of mound construction. In order to accomplish this goal, field work consisted of an initial phase of coring and augering around the lower flanks of mounds in order to locate sub-mound or flank midden deposits that would offer artifacts and charcoal suitable for dating the mound construction episodes. Cores and augers that offered evidence of possible midden deposits guided the location of single 1-x-2 m test units that allowed for a large sample of artifacts to be recovered.

Chapter 2: Field Investigations

Methodology

Archaeological material was recovered through surface collections, auger testing, soil coring, and test unit excavation. All excavated soil was passed through one-half inch hardware mesh in the field. Artifacts were washed, processed, catalogued, and analyzed at the University of Southern Mississippi Department of Anthropology Sociology and Prehistoric Archaeological Laboratory. Ceramics were labeled according to site and catalog number and sorted by type-variety and vessel portion.

A total of 9,311 prehistoric Native American ceramics are included in this analysis, with the vast majority (n=8,546) from Aden. Ceramics were classified following the type-variety system after Phillips (1970) and Williams and Brain (1983). The classification system was supplemented with descriptions from Brown's (1998) sorting manual and based on work at the Late Woodland period Hedgeland site (Ryan 2003) and Lake Providence (Weinstein 2005), both in Mississippi River floodplain in Louisiana.

The type-variety system and criteria for classification are discussed more thoroughly in Chapter 3. Vessel rim attributes including curvature and angle were recorded and used to infer vessel form. Other attributes, including lip form and lip decorative techniques were also recorded, as well as named rim modes. These data were input into a Microsoft Excel worksheet and pivot tables were used to calculate and display frequencies of the varieties, vessel forms, and rim modes.

Arcola (22WS516)

Arcola is a large multi-mound center located on the west bank of Deer Creek just south of the small town of Arcola in Washington County, Mississippi. The site was listed on the National Register of Historic Places (NRHP) in 1991. The site contained at least six mounds, of which three are evident today. Mound A, the largest mound at the site, stands more than 12 m in height. Both Mound B and Mound C are approximately 5 m in height. A large borrow pit is located to the northeast of Mound C (Phillips 1970:464). All of the mounds have been affected by cultivation, but Mounds B and C have significant damage from borrowing for nearby roadway construction. A large ramp on the eastern flank of Mound A is well-preserved.

Investigations at the site in 2013 consisted of an artifact surface collection around the mounds and in the plaza between Mounds A and B, probe and auger tests, and test unit excavation. Single 1-x-2 m test units were placed into the southeastern flank of Mound A and the northwestern flank of Mound B in the vicinity of probe tests that produced evidence of possible midden deposits. Both units encountered multiple instances of mound erosion in antiquity, and Mound A failed to penetrate intact mound fill (Kowalski et al. 2014). A radiocarbon date from charcoal recovered between 170 and 180 cm in the Test Unit 1 on Mound A returned a two sigma calibrated date range of AD 1450-1530, AD 1540 to 1550, and 1550 to 1620. The earliest range is the most likely based on the association with the latest diagnostic ceramic varieties in the fill from the lower levels of the unit and suggests that mound use and construction was at least partly attributable to the Lake George II subphase.

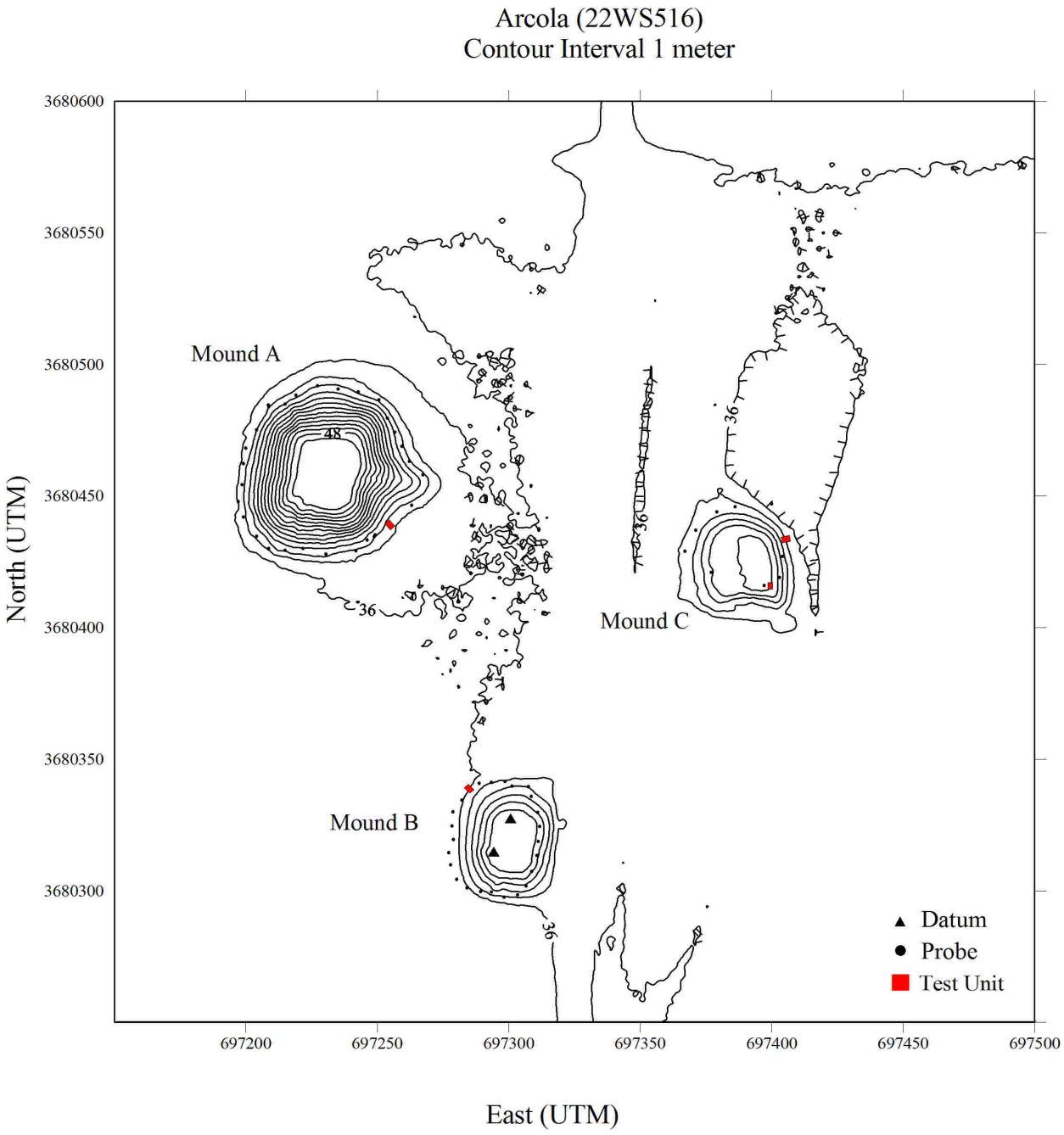


Figure 2.1. Contours and excavation locations, Arcola.

A radiocarbon date from charcoal recovered from 150-160 cm below surface in Test Unit 2 on Mound B rendered a date of AD 1440-1510 and 1600-1620, suggesting that at least this portion of the mound was not constructed prior to the Lake George phase.

2014 Excavations

In 2014, seven auger tests were placed on the upper flanks of Mound A in a second attempt to locate flank midden deposits. These tests were excavated to depths of 150 cm and produced no artifacts; only undifferentiated silt loam and silty sand were encountered. Test unit excavation was focused instead on Mound C. A substantial portion of the southern flank of Mound C had been removed for roadway fill as evidenced by a large cut on this side of the mound. A profile was cleaned on the impacted flank and what appeared to be a living surface was found near the current summit (Figure 3.2).

Figure 2.2. Excavations exposing a living surface on Mound C, Arcola.

Test Unit 3

A 1-x-1 m test unit (Test Unit 3) was placed on the southern summit edge in order to expose the surface noted in the southern flank profile. The upper 60 cm of the unit consisted of brown (10YR4/3) silty sand with scattered bits of daub rubble. Feature 9, a very dark brown (10YR2/2) silty amorphous stain was encountered at 60 cmbs in the northeast corner of the unit (Figure 2.3). In profile, this feature appeared to be either the base of a truncated post mold or small pit that was directly on the compact surface encountered at 67 cmbs (Feature 10) (Figure 2.4-2.5).

Figure 2.3. Top of Feature 9 in Test Unit 3, Arcola.

Figure 2.4. Feature 10 in Test unit 2, Arcola.

Feature 10 is a compact floor of a structure or hardened buried summit surface that was sharply cut along a north/south axis at the base of the unit. This truncation can better seen in the northern wall profile of the unit (Figure 2.5). This truncation is a likely the result of a historic

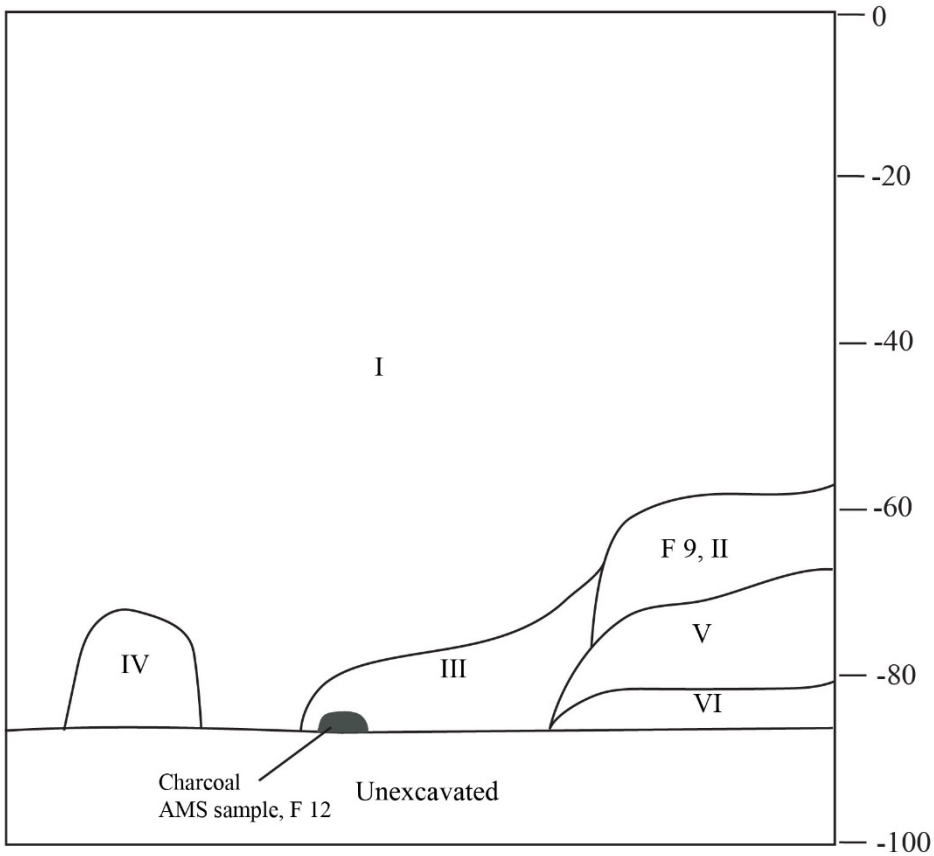
disturbance, perhaps as a consequence of the dirt borrowing. Alternatively, the disturbance could be a backfilled looter pit. Mound C is unusual in that no large pot-hunting holes are evident on the summit, while the summits of both Mound A and Mound B are dotted with looter holes. The summit may have been artificially flattened (looter holes filled in) by those who used the area around Mound C as a historical cemetery in the late 19th to mid-20th century. One gravestone is evident at the ground surface on the western flank of Mound C (Figure 2.6).

Once Feature 10 was removed, a wall-trench like feature (Feature 11) was observed across the base of the unit on an east/west axis; the feature soon devolved into a large rodent burrow (Figure 2.7). The southern half of the unit became unstable at this point and excavation was halted at 85 cm, exposing a dark yellowish brown (10YR4/6) silt of a mound construction stage. The last feature encountered in Test Unit 3 was Feature 12 in the northern wall of the test unit, a small post mold (Figure 2.8).

Figure 2.5. North wall profile of Test Unit 3, note the apparent truncation of Features 9 & 10.

Figure 2.6. Gravestone on the western side of Mound C, photo to the west. Photo courtesy of Dr. Ian W. Brown.

Figure 2.7. Wall trench and rodent burrow (Feature 11) beneath Feature 10. Surrounding soil is part of a mound construction stage.



I. Brown (10YR4/3) silty sand with scattered daub and charcoal
II. Very dark brown (10YR2/2) silt; Feature 9, truncated feature
III. Dark yellowish brown (10YR3/4) silt
IV. Dark brown (10YR3/3) silt
V. Strong brown (7.5YR4/6) compact silt; living surface
VI. Light reddish brown (2.5YR6/3) silt, mound fill

Figure 2.8. North wall profile of Test Unit 3, Mound C, Arcola.

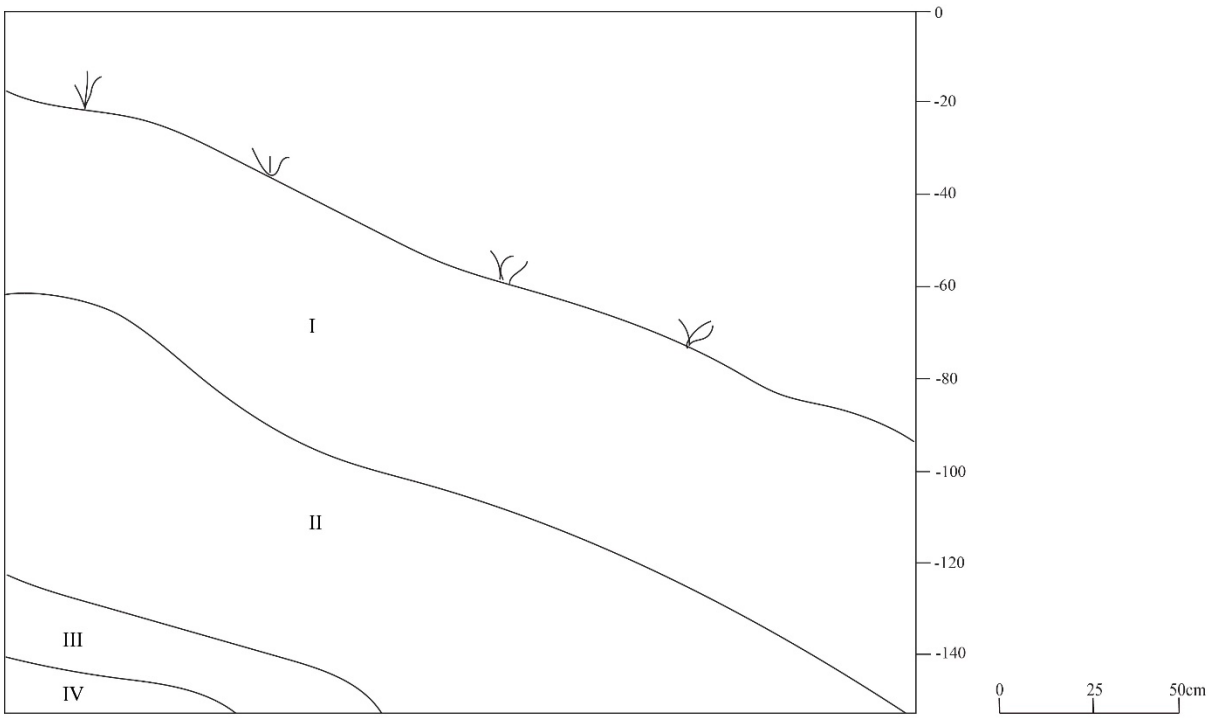
Ceramics from test unit 3 were relatively few (n=86) and are Mississippian in age; no ceramics were found in direct association with Feature 10 (Table 2.1). A radiocarbon sample was taken from charcoal from a post mold in the northern wall (Feature 12) that is stratigraphically beneath the floor. This sample returned 2 sigma calibrated date range of AD 1435 to 1490 (Cal BP 515 to 460) and Cal AD 1605 to 1610 (Cal BP 345 to 340). The AD1435 to 1490 date fits well with the ceramic assemblage, and is in line with the AMS radiocarbon dates from Mounds A and B.

Table 2.1. Ceramic frequencies from Test Unit 3, Arcola.

Type-Variety	Levels						Total
	1	2	3	4	5	6	
	0-20 cm	20-30 cm	30-40 cm	40-50 cm	50-60 cm	60-70 cm	
Bell Plain, *var. Bell*						1	1
Bell Plain ,*var. Holly Bluff*			2	2			4
Mississippi Plain, *var. Yazoo*	3	11	12	15	18	11	70
Total Plain	**3**	**11**	**14**	**17**	**18**	**12**	**75**
Barton Incised, *var. unspecified*			1		2	1	4
Leland Incised, *var. Ferris*		1					1
Leland Incised, *var. unspecified*				1			1
Parkin Punctated, *var. Hollandale*			2	2		1	5
Total Decorated		**1**	**3**	**3**	**2**	**2**	**11**
Grand Total	**3**	**12**	**17**	**20**	**20**	**14**	**86**

Test Unit 4

Test Unit 4 was a 1-x-2 m test unit placed on the lower eastern flank of Mound C near the aboriginal borrow pit. This unit was excavated to 140 cmbs. The initial 60 cm of the test unit consisted of dark grayish brown (10YR4/2) sand mound wash/erosion from higher up the flank. This erosional zone contained ceramics and daub rubble. Intact mound fill was encountered in the western half of the unit at 60 cmbs, while the wash continued in the east side down to almost the base of the unit at 130 cmbs. Stratum III consisted of daub rubble and what appeared to be charcoal near the base of the unit. A sample of this charcoal was sent to Beta Analytic for radiocarbon dating, but no organic material was found in the sample. Instead, a date from the bulk soil returned a 2 sigma calibrated date range of AD 420 to 570 (Cal BP 1530 to 1380). This early date is associated with the sediments themselves rather than offering a date of mound construction. A final stratum was encountered in the extreme western portion of the unit consisting of a mound erosion episode in antiquity. The original ground surface was not encountered.



I. Mound erosion/wash dark grayish brown (10YR4/2) sand with daub rubble
II. Mound fill, brown (10YR5/3) silty sand
III. Organic layer with daub and charcoal, dark grayish brown (10YR4/2) sandy loam
IV. Erosional zone brown (10YR5/3) silty sand

Figure 2.9. North wall profile of Test Unit 4, Mound C, Arcola.

Ceramics recovered from Test Unit 4 reflect a mix of Winterville and Lake George phase diagnostic varieties (Table 2.2). While Parkin Punctated, *var. Hollandale,* and Old Town Red, *var. Old Town* ,are good Winterville phase markers, their inclusion in the fill with Leland Incised and Barton Incised, *var. Arcola,* indicate activity on the mound during the Lake George phase.

In summary, similar to both Mounds and A and B, Mound C was utilized heavily during the Lake George phase. A penultimate mound surface was encountered on Mound C and associated with a date of AMS radiocarbon date circa AD 1450. Winterville phase mound construction cannot be ruled out at the core of these mounds, but it appears that the Arcola site is largely a Lake George phase mound center, and was likely an important political capital in the region because of its size and location along Deer Creek.

Table 2.2. Ceramic frequencies from Test Unit 4, Arcola.

Type-Variety	Level						Total
	1	2	3	4	5	6	
	0-40 cm	40-60 cm	60-80 cm	80-100 cm	100-120 cm	120-140cm	
Bell Plain, *var. Holly Bluff*	1	5	8	10	28		52
Mississippi Plain, *var. Yazoo*	19	37	43	27	7	20	153
Total Plain	**20**	**42**	**51**	**37**	**35**	**20**	**205**
Barton Incised, *var. Arcola*				1			1
Barton Incised, *var. unspecified*		2		2			4
Leland Incised, *var. unspecified*		1					1
Old Town Red, *var. Old Town*			1				1
Parkin Punctated, *var. Hollandale*				3	1	2	6
UID Incised, coarse shell-tempered			1				1
UID Incised, fine shell-tempered		1		2			3
UID Punctated, coarse shell-tempered		1					1
Total Decorated	**0**	**5**	**2**	**8**	**1**	**2**	**18**
Total	**20**	**47**	**53**	**45**	**36**	**22**	**223**

Carter (22SH532)

Carter, in Sharkey County, Mississippi, is the only site included in this project that was not visited by the original LMS survey (Phillips 1970). Both the time period of occupation and time of mound construction was unknown at the beginning of Mound Trail investigations in 2013. The site was originally recorded by Jeffrey Brain in the 1970s. The site is located to the south of Mont Helena (less than 3 km) and 3 km north of the Rolling Fork Mounds (22SH506). Today, the site consists of two moderately sized mounds, A and B, separated by a plaza area. Mound B has been significantly reduced in size by plowing, and Mound A may have suffered the same, although it is no longer cultivation. Mound A stands 4 m in height, while Mound B has been reduced to 2 m through plowing. Mound B contains burials, and human bone was found on the surface and scattered in the initial levels of 1-x-2 m test unit. The test unit was restricted to a 1-x-1 m square to avoid disturbing human remains.

A total of 16 cores and augers were excavated in Mound A and 9 in Mound B in 2013. A 1-x-2 m unit was placed on the eastern flank of Mound A, and a 1-x-1 m unit was placed on the western flank of Mound B (Figure 2.10). A total of 1,758 ceramics were recovered during the 2013 investigations, only second to Aden in terms of artifact recovery (Kowalski et al. 2014). Although the majority of ceramics from Carter are associated with the Baytown through Coles Creek periods, Crippen Point I phase ceramics were recovered in the mound fill of both Mounds and A and B suggesting these mounds were not built until AD 1000. A charcoal sample,

collected from 120-130 cm below surface in Test Unit 1, returned a two sigma calibrated date range of AD 990-1040 and 1110 to 1120, within the Crippen Point phase. The lack of Crippen Point II subphase diagnostics, or the Powell, Coker, and Yazoo 1 sets, suggests that the site may have been occupied at the early end of the time range. A charcoal sample from taken at 50-60 cmbs in Mound B returned a date of AD 1030 to 1210, indicating that this mound was also constructed during the Crippen Point phase.

2014 Investigations

The relatively heavy recovery of ceramics in the mound fill associated with earlier phases in the cultural sequence suggested that a dense village deposit may be present on the site. Investigations during the 2014 season proceeded with the goal of locating this village deposit and determining its age in relation to the mounds. It was also hoped that auger tests in the plaza area would aid in the interpretation of the deposition of soils at the site in relation to any cultural deposit. Because surface collections at the site are sparse, it was hypothesized that any village deposit present might be buried under flood deposits from the nearby Deer Creek, or some former (now buried) channel of the Mississippi River.

A total of 12 auger test were excavated around both mounds A and B during in 2014 to address these research questions outlined above. The auger tests were placed judgmentally along what was thought to be the relatively modern levee deposit, then west towards Mound A which is surrounded by backswamp clay soils. Augers were excavated to approximately 2 m below the current ground surface and all material was screen through ½-inch hardware mesh. Generally, augers along the eastern portion of the site near Mound B encountered alternating layers of sandy and silty clays to depths of 1 meter or more, suggesting intermittent flooding events. Augers 1, 10, 11, and 12 encountered a midden deposit, consisting of very dark grayish brown (10YR3/2) to black (10YR2/1) sandy loams and sandy clay stained with charcoal and interspersed with bits of mussel shell and baked clay. In auger 10, this deposit was encountered between 65 and 120 cmbs but within a sandy clay matrix. In auger 11, this deposit was encountered between 80 and 160 cmbs, indicating that this midden deposit is relatively thick in some places. In auger 12, the deposit was encountered between 150 and 180 cmbs, suggesting it is not evenly distributed along the eastern portion of the site near mound B and can be deeply buried.

All ceramics recovered from these deposits in the augers were undecorated, conforming to the common Coles Creek variety of Baytown Plain, *var. Valley Park* (Table 2.3).

In summary, the mounds at Carter were built during the Crippen Point phase between AD 1000 and 1100 (Kowalski et al. 2014) and there is substantial non-mound occupation at the site, concentrated to the south of Mound B evidenced by deep midden accumulation found in the auger tests. How the midden deposit articulates with the mounds is uncertain (is it earlier or contemporaneous or even later?) and can only be answered with controlled excavation in the area.

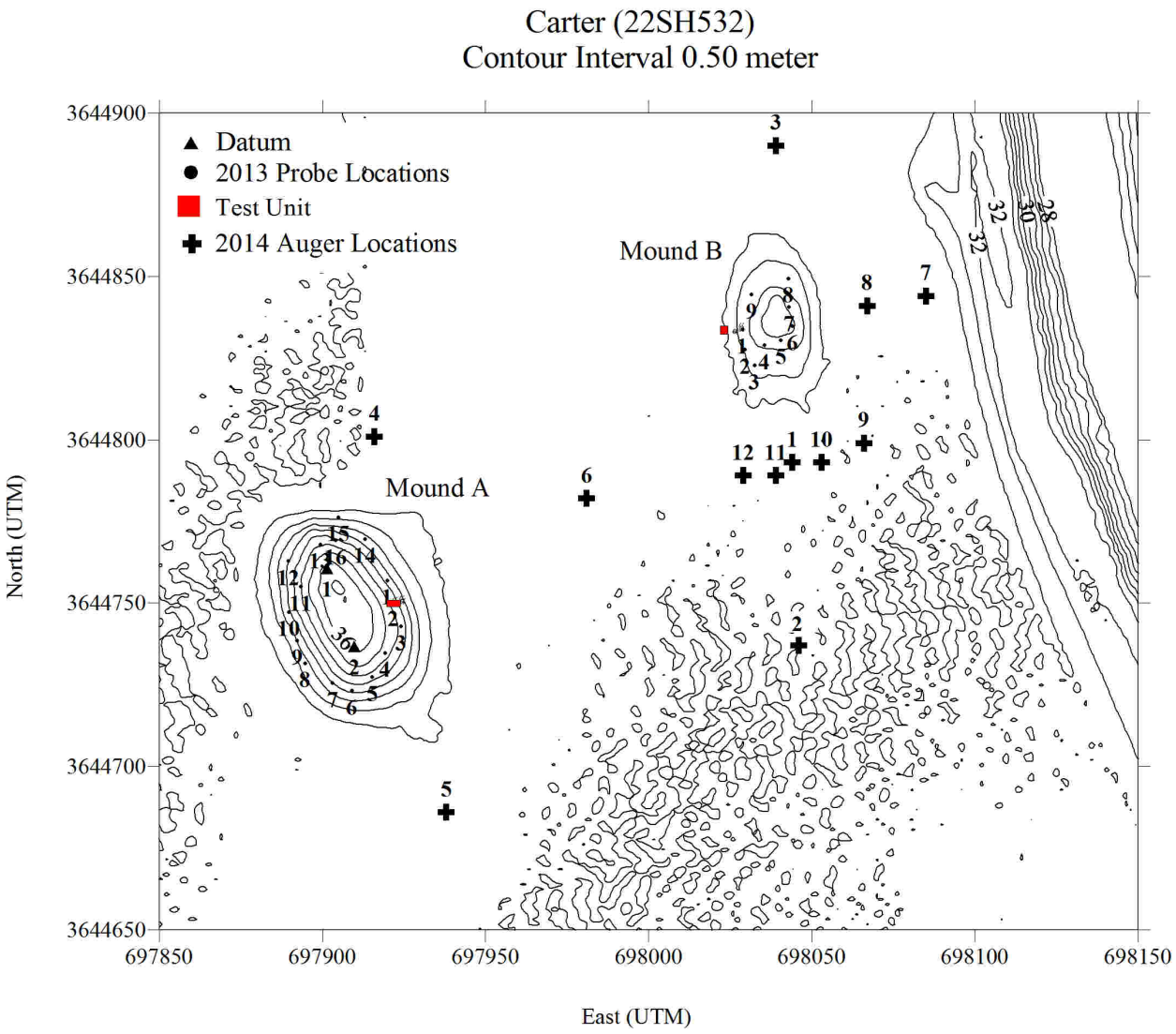


Figure 2.10. Contour lines and investigations at Carter, 2013-2014.

Table 2.3. Ceramic frequencies, 2014 auger tests, Carter.

Type-Variety	Level					
	Auger 2014-1	**Auger 2014-2**	**Auger 2014-10**	**Auger 2014-11**	**Auger 2014-12**	**Total**
	35-130 cm	170 cm	65-120 cm	50-160 cm	150 cm	
Baytown Plain, *var. Valley Park*	15	9	8	7	4	43
Total	**15**	**9**	**8**	**7**	**4**	**43**

Table 2.4. Non-ceramic artifacts, 2014 auger tests, Carter.

Non-Ceramic Artifacts	Auger 2014-1	Auger 2014-10	Auger 2014-11
	50-65 cm	65-120 cm	50-160 cm
Baked Clay	5g		
Bone			5
Faunal	60	4	
Lithics	1		
Shell	7g	17g	1g

Dornbusch (22WR510)

Dornbusch is the only site in Warren County tested by the University of Southern Mississippi. It is located just south of the broad Mississippi River floodplain in the Yazoo Bluffs overlooking the Yazoo River, northeast of the Hayne's Bluff mound site (Brain 1988) and the site of the 1719-1729 French Fort St. Pierre. It was included within the original Mound Trail survey area of the University of North Carolina (Nelson et al. 2013:32). Phillips (1970:434) reports no artifacts at the site in 1950 despite a large cut to the eastern side of the mound, but the landowners at the time reported finding burials when the cut was made, and later surveyors purportedly picked up fragments of a Barton Incised, *var. Arcola*, vessel (Phillips 1970:434). Neither the location of the burials nor the ceramics are known today.

Dornbusch is in heavy tree cover and the western side of the site has been heavily impacted by railroad construction. A single grave stone sits on the eastern edge of the summit (Agnes Isabella, 1881). A house structure (destroyed) and a flat yard area are visible in the tree line just to the north of the mound. A total of 11 auger tests, some reaching depths of 200-250 cmbs, were excavated around the flanks of the landform and on the summit (Figure 2.11). The augers encountered remarkably similar soil stratigraphy, all consisting of undifferentiated silt ranging in color from yellowish brown (10YR5/4) to light gray (10YR7/1). No artifacts or organic material were recovered. Upon close inspection of the mound within the tree line, it became apparent that the flanks were sheer in angle, or almost vertical along all four sides. The deep silt deposits coupled with the vertical faces of the mound suggest that this landform is not a mound at all, but a loess bluff remnant. It is possible that Native Americans in the area used the bluff in a fashion similar to a constructed earthen mound, but no artifacts were found to indicate any activity.

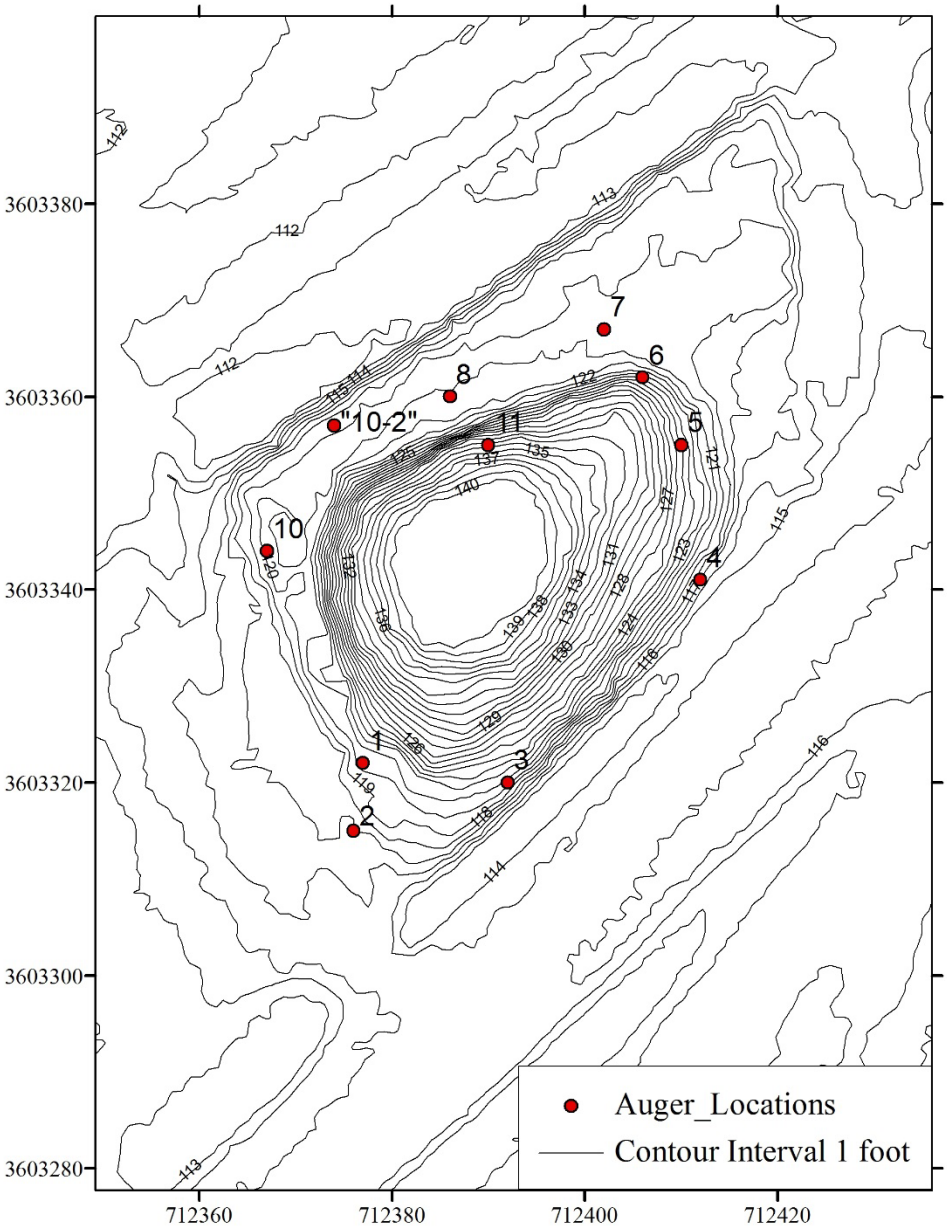


Figure 2.11. Contour lines and auger locations at Dornbusch.

Hardee (22IS502)

Hardee is a single mound of a former three-mound center located on the west side of Highway 61 in Issaquena County, Mississippi. Mound A stands approximately 4 m in height. Directly west of mound A is a small saddle leading to the remains of a modern spoil pile. In the mid-20th century, a house was located just to the northeast of the mound that is no longer standing but landscaping plants and lawn grasses are evident around the northeastern flank of Mound A. A visit to the site in the 1950s by Warren Eames produced a Winterville phase ceramic collection, including examples of Plaquemine Brushed, *var. Plaquemine*, Evansville

Punctated, *var. Sharkey,* L'Eau Noire, *var. unspecified* (Phillips 1970:475). No evidence of Winterville phase mound construction has been found at any of the centers tested as part of this project; Hardee initially appeared to be the best candidate for Winterville phase mound construction outside of the large multi-mound centers of Winterville and Mayersville (Kowalski et al. 2014).

A total of 12 auger tests were excavated on the mound flanks to depths ranging between 2 and 3 m below the surface during the 2013 field season (Figure 2.12). Auger tests were productive and produced concentrations of daub, ash, shell, and ceramics within a silty loam matrix (Table 2.5).

Table 2.5. Ceramic frequencies, augers tests, Hardee.

Type-Variety	Auger 4			Auger 5	Auger 6	Auger 7		Auger 8	Auger 11	Auger 14	Total
	150-160 cm	160-172 cm	200-220 cm	30-44 cm	135-145 cm	160-172 cm	295-320 cm	85-100 cm	120-135 cm	0-10 cm	
Baytown Plain, *var. Addis*	3		1	1					1	2	8
Baytown Plain, *var. Little Tiger*					1						1
Baytown Plain, *var. unspecified*		1						1			2
Baytown Plain, *var. Valley Park*							2				2
Mississippi Plain, *var. Yazoo*	1										1
Total Plain	**4**	**1**	**1**	**1**	**1**		**2**	**1**	**1**	**2**	**14**
Plaquemine Brushed, *var. Plaquemine*						**2**					**2**
Total Decorated						2					2
Total	**4**	**1**	**1**	**1**	**1**	**2**	**2**	**1**	**1**	**2**	**16**

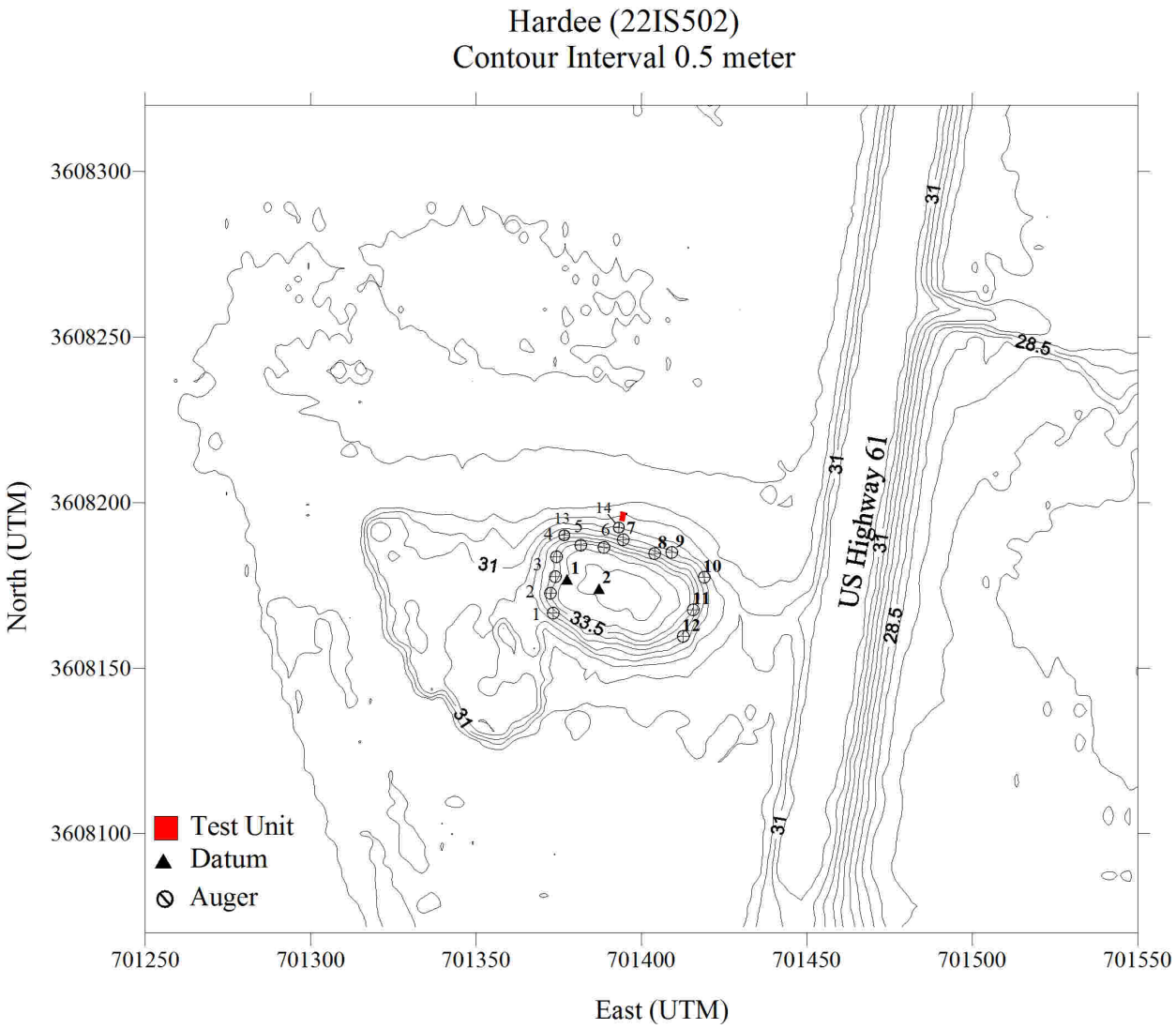
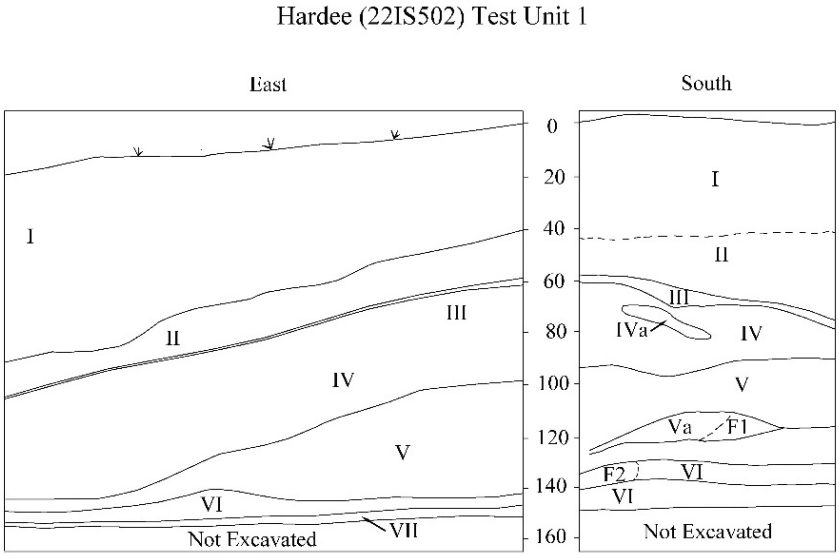


Figure 2.12. Contours and excavation locations at Hardee, 2013-2014.

2014 Investigations

A single 1-x-2 m test unit was excavated during the 2014 field season between June 18 and 26. The unit was excavated on the north flank of the mound near an auger test (auger 14) that encountered a deeply buried (ca.100 cmbs) ash and charcoal lens. The unit was excavated to a level floor at 15 cmbs and continued to 150 cmbs. Wash and mound fill layers were removed in 20 cm levels, while deposits that appeared to be possible surfaces, middens, or buried A horizons were excavated in 10 cm levels. All material was screened through ½-inch mesh. The initial 80 cm of the test unit on the north side and 60cm of fill on the south half of the unit consisted of erosion and wash, or brown (10YR4/3) silty sand that was deposited from higher elevations up the mound slope. It is possible that the upper 80 cm of fill around the base of the mound is a large slumping episode. This large erosional zone overlaid thin laminar lenses of silt and sand

from individual erosional episodes during antiquity. These thin erosional episodes (10-20 cm in total depth) overlaid what appeared to be a former, buried flank surface consisting of a thin lens of very dark grayish brown (10YR3/2) clay. This layer overlaid intact brown (10YR4/3) sandy mound fill that continued to a depth of 120 cmbs. This stratum in turn overlaid grayish brown (10YR5/2) silt that may have been another slumping episode in antiquity. This erosional zone overlaid a buried A horizon and sub-mound midden deposit consisting of organically enriched mottled brown (10YR4/3) silt with scattered charcoal. This A horizon, or the surface upon which the mound was built, was approximately 4-10 cm thick. It was not uniformly spread across the base of the unit and was better preserved near the southern wall of the unit. Ceramics and faunal remains were recovered from this stratum. This buried A overlaid sterile levee sands, consisting of a light brownish gray (10YR 6/2) silty sand.



I Slope wash, brown (10YR4/3) silt
II Dark yellowish brown (10YR4/6) sand
III Clay lens, very dark grayish brown (10YR3/2)
IV Mound Fill, brown (10YR4/3) silt
IVa Sand lens, dark yellowish brown (10YR4/6) mottled with dark brown (10YR4/3) silt
V Erosional zone, mottled grayish brown (10YR5/2) and light brownish gray (10YR6/2) silt with scattered charcoal
Va Charcoal concentration in dark grayish brown (10YR4/2) silt
VI Buried A Horizon, brown (10YR4/3) silt, with charcoal
VII Alluvium, light brownish gray (10YR6/2) compact silt
F1, F2 Dense charcoal concentrations

Figure 2.13. East and south wall profiles of TU 1, Hardee.

Two features were recorded in the test unit at Hardee (Figures 2.14-2.15). Feature 1 consisted of a shallow, amorphous stain in the southern wall of the unit between 120 and 124 cmbs. Fragments of a shell-tempered jar and one sherd of Baytown Plain, *var. Addis* were

recovered from within a very dark grayish brown (10YR3/2) silty matrix along with heavy charcoal fragments. An AMS radiocarbon date on charcoal from this feature returned a 2 sigma calibrated date range of AD 1290 to 1410 (Cal BP 660 to 540). Feature 2 was encountered in the southeastern corner of the test unit between 140-142 cmbs. This thin charcoal stain is part of the sub-mound midden deposit or buried A horizon. A second AMS radiocarbon date was obtained from a charcoal sample from a general level at 140 cmbs, or within the sub-mound midden/Buried A horizon. This sample returned a 2 sigma calibrated date range of AD 1310 to 1360 (Cal BP 640 to 590) and Cal AD 1385 to 1425 (Cal BP 565 to 525). These dates both straddle the Winterville II and Lake George I subphases. Both radiocarbon dates suggest that the occupation of the surface immediately prior to the mound construction and the initial mound construction events are associated with the Winterville II subphase (up to AD 1350) However, mound use extended into the Lake George phase.

Test unit excavations produced Crippen Point and Winterville phase material, although later varieties associated with the Lake George phase were recovered in the upper levels (Table 2.6).The assemblage (n=384) is dominated by grog-tempered plainware (Baytown Plain, *var. Addis*) and decorated types typical of the Winterville phase including Anna Incised, *var. Anna*, Grace Brushed, *var. Grace*, varieties of Cater Engraved, Barton Incised, *vars. Barton* and *Estill*, and Plaquemine Brushed. Earlier Crippen Point and Aden phase grog-tempered ceramics are also included in the fill (such as varieties of Coles Creek Incised and Evansville Punctated, *var. Sharkey*).

Figure 3.14. Top of Feature 1, Test Unit 1, Hardee.

Figure 2.15. Top of Feature 2, Test Unit 1, Hardee.

Table 2.6. Ceramic frequencies, Test Unit 1, Hardee. Depth in cm by level.

Type-Variety	1 (0-15)	2 (15-25)	3 (25-35)	4 (35-50)	5 (50-60)	6 (60-70)	7 (70-90)	8 (90-110)	9 (110-120)	10 (120-130)	11 (130-140)	12 (140-150)	13 (140-150)	14 (140-150)	15 (140-150)	16 (140-150)	E wall profile	Total
Baytown Plain, *var. Addis*	16	19	21	15	23	7	18	26	13	16	20	6	5				3	208
Baytown Plain, *var. Little Tiger*				1														1
Baytown Plain, *var. unspecified*			1			3												4
Baytown Plain, *var. Valley Park*							2											2
Baytown Plain, *var. Vicksburg*				12														12
Bell Plain, *var. Greenville*	2	2	2	3	5	4		1		1	1							21
Bell Plain, *var. Holly Bluff*							3	3		2								8
Mississippi Plain, *var. Yazoo*	3	9	5	7	3	6	21	13	2	3	3			3				78
UID Plain, untempered								1										1
Total Plain																		**335**
Anna Incised, *var. Anna*									1									1
Barton Incised, *var. Barton*		1																1
Barton Incised, *var. Estill*										2					1			3
Barton Incised, *var. unspecified*		2								2								4

Table 2.6, continued. Ceramic frequencies, Test Unit 1, Hardee, continued. Depth in cm by level.

Type-Variety	1 (0-15)	2 (15-25)	3 (25-35)	4 (35-50)	5 (50-60)	6 (60-70)	7 (70-90)	8 (90-110)	9 (110-120)	10 (120-130)	11 (130-140)	12 (140-150)	13 (140-150)	14 (140-150)	15 (140-150)	16 (140-150)	E wall profile	Total
Carter Engraved, *var. Carter*				1														1
Carter Engraved, *var. Sarah*									1									1
Chevalier Stamped, *var. Chevalier*										1								1
Coles Creek Incised, *var. Hardy*								1										1
Coles Creek Incised, *var. Mott*							1											1
Coles Creek Incised, *var. unspecified*								1	2									3
Evansville Punctated, *var. Sharkey*																	1	1
Grace Brushed, *var. Grace*											1							1
Larto Red, *var. Chicot*										3								3
Leland Incised, *var. Bethlehem*							1											1
Leland Incised, *var. Leland*	1		1															2
Parkin Punctated, *var. Hollandale*										4								4
Parkin Punctated, *var. unspecified*				1														1
Plaquemine Brushed, *var. Catahoula*					1					1								2
Plaquemine Brushed, *var. Plaquemine*		1						1			3					1		6
UID Incised, grog-tempered		1	1	4					2	1								9
UID Incised, shell and grog										1								1
Winterville Incised, *var. Blum*								1										1
Total Decorated																		**49**
Grand Total	22	35	31	44	32	20	46	48	21	37	28	6	5	3	1	1	4	384

Figure 2.16 Selected ceramics from Hardee. a-b, Plaquemine Brushed, *var. Plaquemine*; c. Barton Incised, *var. Estill,* d. Leland Incised, *var. Leland*, e. Baytown Plain, *var. Little Tiger* "Delta city bowl".

In summary, Mound A at Hardee was built directly on or near a Winterville II subphase occupation (14th century) with occupation extending into the Lake George phase. Portions of the site were likely occupied by earlier Coles Creek groups as indicated by Coles Creek ceramic varieties in the fill. This long-term occupation is striking because it is unusual for the immediate area; the mounds at Carter and Aden were both abandoned during the Crippen Point phase with no occupation extending beyond AD 1200 (and were both likely abandoned closer to AD 1100). Until now, it appeared that only the largest sites (Winterville, Lake George) had continuous occupation between the 10th and 16th centuries. Unfortunately, because additional mounds at Hardee have been destroyed, we may never know if there was actual Coles Creek and Winterville phase mound construction at the site. However, it is apparent that Native American groups utilized this site in some fashion for at least 600 years.

Mont Helena (22SH505)

Mont Helena is a single large mound, known for a large colonial revival home (circa 1893) situated on the summit. The mound is all that remains of what may have been a three-mound group (Phillips 1970:470). The mound stands approximately 8 m in height and has been heavily altered by the construction of the house. A road bed encircles the mound and travels up to the house where the summit has been artificially flattened.

The mound is unusual in that is has produced no artifacts in recorded history. A total of 20 soil cores and augers were placed both on the flanks and in the summit in 2013, but no artifacts or organic material was encountered (Figures 2.17-2.18). An additional 7 auger tests were excavated during the 2014 field season, again producing no artifacts. The majority of augers encountered alternating bands of sand and clay, suggesting the mound was built in stages but with an uncertain date of construction. However, one auger test, 2014-4, produced very dark grayish brown (10YR3/2) sand approximately 70-90 cm from the ground surface on the base of the slope of the eastern flank of the mound. The unusually dark and organic sand stratum suggested a potentially organically enriched buried A horizon or pre-mound midden was located beneath the eastern flank of the mound, and the focus of excavations shifted to obtaining a sample of this soil that could be submitted in bulk for an AMS radiocarbon date. A 1-x-1 m test unit was placed just to the east and downslope of auger 2014-4.

Figure 2.17. The western flank of Mont Helena.

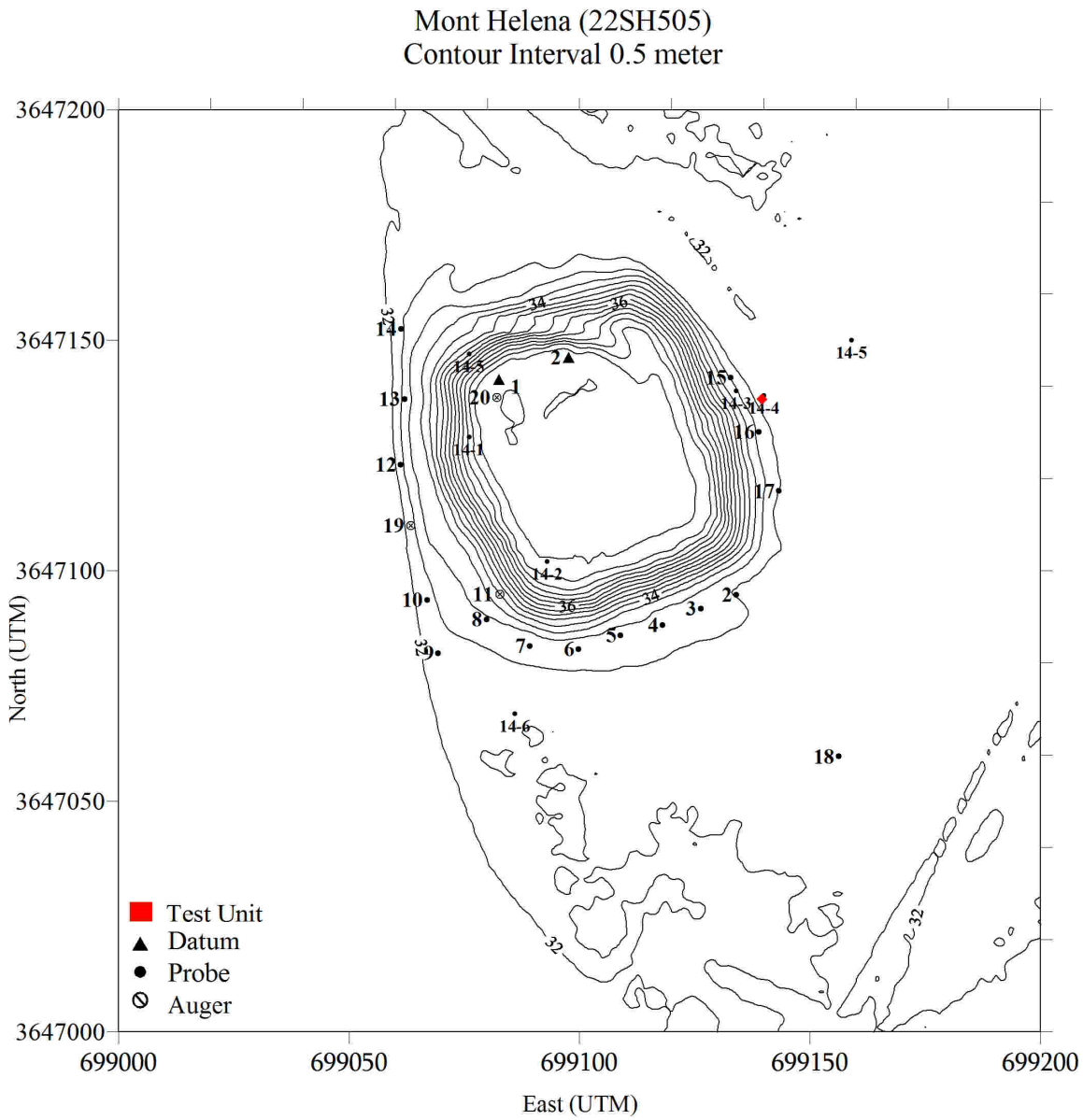
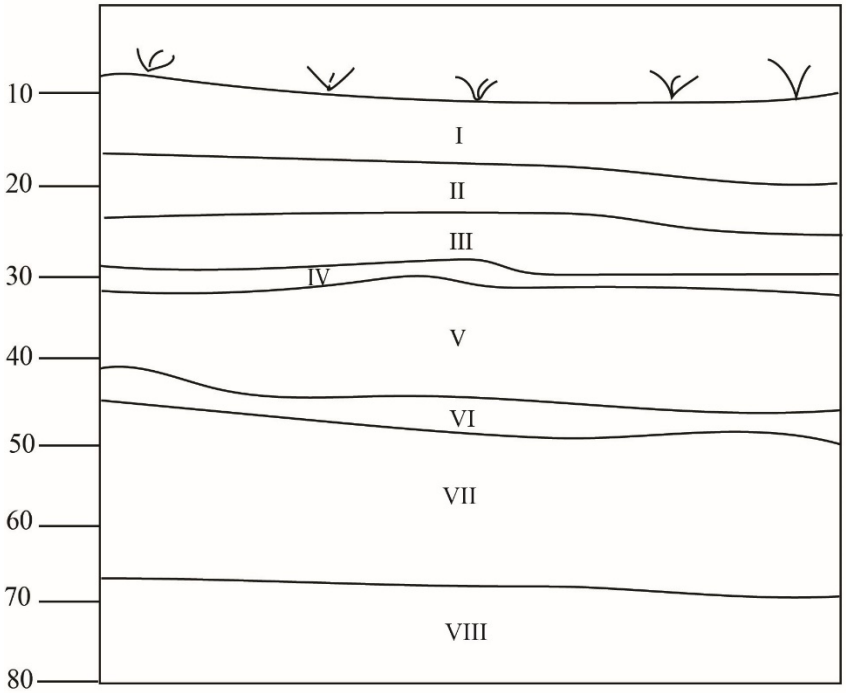


Figure 2.18. Contour lines and excavations at Mont Helena, 2013-2014.

Test Unit 1 was excavated to 85 cmbs. Historic disturbance, consisting of road gravel, ferrous metal, glass, coal, and concrete was encountered in the upper 50 cm of the unit, including an underground pipe that traveled from the western wall to the southern wall (2.19). These upper disturbed fills were primarily dark grayish brown (10YR4/2) silty sands, with patches of dense "gumbo" dark grayish brown (10YR4/2) clays and sandy clay. At 70 cmbs, a black (10YR2/1) sandy clay loam was encountered, producing the first sherds recovered from the mound at Mont Helena (two plain shell-tempered sherds). A soil sample was taken from this surface, and a radiocarbon date returned a range of Cal AD 890 to 1015 (Cal BP 1060 to 935). Five additional grog-tempered ceramics were found between 80 and 85 cm within a black (10YR2/1) fine sandy clay (Table 2.7).



I. Dark grayish brown (10YR4/2) silty sand
II. Dark grayish brown silty sand (10YR4/2) with baked clay and gravel
III.. Dark grayish brown (10YR4/2) sandy clay
IV. Brown (10YR4/3) silty clay
V. Dark grayish brown (10YR4/2) silty clay
VI. Grayish brown (10YR5/2) sandy silt with some clay content
VII. Dark grayish brown (10YR4/2) clay with oxidized iron
VIII. Very dark brown (10YR2/2) fine sandy clay

Figure 2.19. North wall profile, Test Unit 1, Mont Helena.

Table 2.7. Ceramic frequencies, Test Unit 1, Mont Helena.

Type-Variety	**Level**		
	8 (70-80 cm)	**9 (80-85 cm)**	**Total**
Baytown Plain, *var. unspecified*		5	5
Mississippi Plain, *var. Yazoo*	2		2
Total Plain			**7**
Total	**2**	**5**	**7**

In summary, the shell-tempered sherds found at Mont Helena beneath the mound suggests the mound could not have been built prior to 1000 AD, when the first shell-tempered ceramics appear in the Southern Yazoo Basin. This date accords well with the radiocarbon date on the bulk soil material. It is still uncertain if the mound was construction close to this time frame, or much later, which is still a possibility. Much remains to be learned about this large and iconic mound in the Mississippi Delta.

Chapter 3: Ceramic Classifications for Arcola, Carter, Hardee, and Mont Helena

Ceramic decorative techniques, paste recipes, and vessel forms change over time. Ceramics are also ubiquitous, found on archaeological sites after certain time periods making them well-suited to addressing issues of chronology. The original classification scheme of ceramics in the Lower Mississippi Valley (LMV) consisted of broad historical types that were ordered in time according to changing proportions of frequencies (Phillips 2003 [1951]). This method of seriation was critical to the formation of the basic sequence of cultural periods. However, historical types were overly-extended, and regional variation in these types was defined using a type-variety or binomial system of ceramic classification (Phillips 1970:23-25). Varieties of types express cultural and historical relationships confined to more restricted blocks of both time and space, or archaeological phases.

The type-variety system is not hierarchical in the sense that any combination of pottery traits can be used to define type-varieties as long as they are useful for understanding these time-space relationships. However, in practice, paste recipes are often first-order criteria for classification in the LMV. Decorative techniques, and to a lesser extent, vessel forms are also critical to some classifications. The following descriptions are for pottery recovered from Arcola, Carter, Hardee, and Mont Helena. Type-varieties found at Aden are reported in Chapter 4.

Plainware Descriptions

Baytown Plain, *var. Addis*

This variety was defined by Phillips (1970:48-50*)* and is associated with the Crippen Point and Winterville phases (Williams and Brain 1983:318-319*).* Ryan (2003:93) characterizes *var. Addis* according to densely packed (>30%) medium-fine grog (1/2-1/4 mm). Sample: 216. Provenience: Hardee (22IS502).

Baytown Plain, *var. Little Tiger*

This variety has been recently defined based on excavations at the Hedgeland site (16CT19) in Louisiana. Characteristics include medium-fine grog (1/2-1/4 mm) accounting for up to 10% of the paste (Ryan 2003:96). *Little Tiger* is intermediate to both *var. Addis* and *var. Valley Park*. These varieties are associated with the Coles Creek cultural tradition. Sample: 2. Provenience: Hardee (22IS502).

Baytown Plain, *var. Valley Park*

Formerly classified at Coles Creek Plain, Baytown Plain, *var. Valley Park*, was redefined by Phillips (Phillips 1970:55; Williams and Brain 1983:103). This variety is characterized by grog-tempering that is 1-3/4 mm in size, accounting for 10% of the ceramic paste (Ryan 2003:98). Baytown Plain, *var. Valley Park*, is the dominant plainware of the Late Woodland Coles Creek cultural tradition. The vast majority of the sample was recovered from Carter (22SH532), but small amounts were found in the mound fill at all sites. Sample: 47. Provenience: Carter (22SH532), Hardee (22IS502).

Baytown Plain, *var. Vicksburg*

This variety was defined by Phillips (1970:56) and consists of polished examples of pottery with ware similar to Baytown Plain, *vars. Valley Park* or *Little Tiger*. This variety is associated with a characteristic tapered rim (Williams and Brain 1983:105). Sample: 12. Provenience: Hardee (22IS500).

Bell Plain, *var. Bell*

This variety was defined by Phillips (1970:59) and is characterized by fine shell-tempered paste. Bell Plain, v*ar. Bell* is associated with the Late Mississippian period and is a popular variety in the Northern Yazoo Basin but is relatively minor in assemblages in the Southern Yazoo Basin. Sample: 1. Provenience: Arcola (22WS516).

Bell Plain, *var. Greenville*

This variety was defined by Williams and Brain (1983:105) based on the material recovered from Lake George and Winterville. Bell Plain, *var. Greenville* is associated with the Late Crippen Point and Winterville I phases and is characterized by small bits of shell in an otherwise predominately grog-tempered paste. Sample: 21. Provenience: Hardee (22IS500).

Bell Plain, *var. Holly Bluff*

Defined by Phillips (1970:60), this variety was popular at the Lake George site (Williams and Brain 1983:108) and reached its peak during the Lake George phase of the regional sequence. It is characterized by predominantly fine shell-tempering in a mixed shell and grog-tempered paste. Without breaking individual pieces, this variety could easily be sorted as Baytown Plain, *vars. Addis* or *Little Tiger.* Vessel forms are primarily bowls, including Yazoo bowls (strongly excurvate and flaring rims), often with Hayne's Bluff rim modes. Sample: 65. Provenience: Arcola (22WS516), Hardee (22IS500).

Mississippi Plain, *var. Yazoo*

This variety includes plain coarse shell-tempered pottery in the Lower Yazoo Basin (Williams and Brain 1983:111; Phillips 1970:135) and is equivalent to Mississippi Plain, *var. Neely's Ferry* defined for the Northern Yazoo Basin and the Central Mississippi Valley. Sample: 228. Provenience: Arcola (22WS516), Hardee (22IS502), Mont Helena (22IS505).

Decorated Pottery Descriptions

Anna Incised, *var. Anna*

Formerly a variety of L'eau Noire Incised, Anna Incised *var. Anna* is characterized by interior incising on plates and shallow bowls with ware equivalent to Bell Plain, *var. Greenville* and Baytown Plain, *var. Addis* (Phillips 1970:102; Williams and Brain 1983:120). Fully shell-tempered interior incised is sorted as Winterville Incised, *var. Blum*. *Anna* is associated with the Winterville I phase. Sample: 1 Provenience: Hardee (22IS502).

Barton Incised, *var. Barton*

This variety is characterized by line-filled triangles on the rim of coarse shell-tempered jars. Often, if the shoulder of the vessel is not present to demonstrate the absence of a decorative field, this pottery is sorted as Barton Incised, *var. unspecified* (Phillips 1970:44; Williams and

Brain 1983: 127). *Variety Barton* is associated with the Winterville I phase. Sample: 1 Provenience: Hardee (22IS502).

Barton Incised, *var. Estill*

This variety is characterized by line-filled triangles that extend from the rim to the shoulder on coarse shell-tempered jars. This variety is associated with the Winterville II and Lake George I phases (Phillips 1970: 45-46; Williams and Brain 1983:127).Sample: 2 Provenience: Hardee (22IS502).

Barton Incised, *var. unspecified*

This classification was used when *Barton* and *Estill* could not be distinguished. Sample: 12. Provenience: Arcola (22WS516), Hardee (22IS502).

Carter Engraved, *var. Carter*

This variety is characterized by curvilinear engraving on the exterior of pottery with ware equivalent to Bell Plain var. Greenville or Baytown Plain, *var. Addis*, and is diagnostic of the Winterville I and II phases (Williams and Brain 1983:136). Sample: 1. Provenience: Hardee (22IS502).

Carter Engraved, *var. Sara*

This variety is characterized by rectilinear engraving on the exterior surface of pottery with ware equivalent to Bell Plain, *var. Greenville*, or Baytown Plain, *var. Addis*, and is diagnostic of the Winterville I and II phases (Williams and Brain 1983:137). Sample: 1. Hardee (22IS502).

Chevalier Stamped, *var. Chevalier*

This variety is characterized by vertical rows of stamping on pottery with ware equivalent to Baytown Plain, *var. Valley Park*. Sample: 1. Provenience: Hardee (22IS502).

Coles Creek Incised, *var. Hardy*

This variety is characterized by multiple, parallel horizontal incisions on the rim of pottery with ware equivalent to Baytown Plain, var. *Addis*. These incisions are cruder than *var. Coles Creek* (Phillips 1970:73-74; Ryan 2003:115). This variety is associated with the Crippen Point I and II phases (Williams and Brain 1983:315). Sample: 1. Provenience: Hardee (22IS502).

Coles Creek Incised, *var. Mott*

This variety is characterized by multiple closely-spaced horizontal incisions on the exterior rim of pottery with ware equivalent to Baytown Plain, *var. Vicksburg* and is diagnostic of the Kings Crossing phase (Phillips 1970:75; Williams and Brain 1983: 153-154). Sample: 1. Provenience: Hardee (22IS502).

Coles Creek Incised, *var. unspecified*

This classification was used when varieties of Coles Creek Incised could not be sorted. Sample: 2. Provenience: Hardee (22IS502).

Evansville Punctated, *var. Sharkey*.

This classification is characterized by unzoned punctuation on coarse grog-tempered pottery with ware equivalent to Baytown Plain, *var*. *Addis* (Williams and Brain 1983:160). Sample: 1. Provenience: Hardee (22IS502).

Grace Brushed, *var. Grace*

Formerly a variety of Plaquemine Brushed (Phillips 1970: 153*)*, this variety is characterized by brushing on coarse-shell tempered pottery, equivalent to Mississippi Plain, *var. Yazoo* and diagnostic of the Winterville I phase (Williams and Brian 1983:165). Sample: 1. Provenience: Hardee (22IS502).

Larto Red, *var. Chicot*

This variety is characterized by red-slipping on the exterior of pottery with ware equivalent to Bell Plain, *var. Greenville,* or Baytown Plain *var. Addis*, diagnostic of the Winterville I and II phases (Williams and Brain 1983:169). Sample: 3. Provenience: Hardee (22IS502).

Leland Incised, *var. Bethlehem*

This variety is characterized by trailed incision on pottery with paste equivalent to Bell Plain, *var. Greenville*, or Baytown Plain, *var. Addis*. Defined by Williams and Brain (1983:174), this new variety was the result of distinguishing between trailed and wet-paste incision (wet-paste incisions now restricted to Coleman Incised). *Variety Bethlehem* is associated with the Winterville phase. Sample: 1. Provenience: Hardee (22IS502).

Leland Incised, *var. Ferris*

This variety is characterized by closely spaced trailed incisions on pottery with paste equivalent to Bell Plain, *var. Holly Bluff*, and is diagnostic of the Lake George I and II subphases (Phillips 1970:106-107; Williams and Brain 1983:175). Sample: 1. Provenience: Arcola (22WS516).

Leland Incised, *var. Leland*

This variety is characterized by trailed incision on pottery with ware equivalent to Bell Plain, *var. Holly Bluff*, and is diagnostic of the Lake George phase (Phillips 1970:104; Williams and Brain 1983:171-174). Sample: 2. Provenience: Hardee (22IS502).

Leland Incised, *var. unspecified*

This classification was used when varieties of Leland Incised could not be parsed. Sample: 2. Provenience: Arcola (22WS516).

Old Town Red, *var. Old Town*

This variety is characterized by red-slipping on coarse shell-tempered pottery and is diagnostic of the Crippen Point II subphase (Phillips 1970:145; Williams and Brain 1983: 191). Sample: 1. Provenience: Arcola (22WS516).

Parkin Punctated, *var. Hollandale*

This variety is characterized by somewhat random punctation on the exterior surface of coarse-shell tempered pottery (Williams and Brain 1983: 196). Phillips (1970:152) noted that the treatment was usually restricted to the rim. This variety is associated with the Winterville II through Lake George I subphases. Sample: 15. Provenience: Arcola (22WS516), Hardee (22IS502).

Parkin Punctated, *var. unspecified*

This variety was use for coarse shell-tempered pottery displaying punctations but could not be assigned to variety. Sample: 1. Provenience: Hardee (22IS502).

Plaquemine Brushed, *var. Catahoula*

This variety was used by Ryan (2003:142), but originally redefined by Belmont (n.d) from the type Catahoulsa Incised. It is characterized by deep brushing, approaching incision, on pottery with ware equivalent to Baytown Plain, *vars*. *Addis* or *Little Tiger.* Associated with the Routh phase in the Tensas Basin, this variety is likely a good Crippen Point II to Winterville I phase marker. Sample: 1. Provenience: Hardee (22IS502).

Plaquemine Brushed, *var. Plaquemine*

This variety is characterized by brushing on the exterior of pottery with ware equivalent to Baytown Plain, *var. Addis*, and is diagnostic of the Crippen Point phase (Phillips 1970: 152; Williams and Brain 1983: 196-197). Sample: 8. Provenience: Hardee (22IS510).

Winterville Incised, *var. Blum*

This variety is characterized by interior incision in curvilinear patterns on the interior surface of bowls with ware equivalent to Mississippi Plain var. Yazoo. This variety is associated with the Winterville I subphase (Phillips 1970:174; Williams and Brain 1983:208). Sample: 1. Provenience: Hardee (22IS502).

Residual Categories

Pottery that could not be identified to type (usually as a result of small size) was classified as Unidentified (UID), followed by decorative technique (Incised, Punctated), and paste (coarse shell-tempered). Sample: 16. Provenience: Arcola (22WS516), Hardee (22IS502).

Chapter 4: The Aden Site (22IS509)

Aden is located on the south side of what was Jeff Davis Bayou, about 1.5 km east of Deer Creek. The site originally included three mounds. At the time of the LMS survey, Phillips (1970:365) reported that Mound A was rectangular, three meters high, and with 23 by 17 m summit. Mound B was three and half meters high and 50 by 35 m at the base. Mound C, of indiscernible original shape was 50 m in diameter and two meters high. Now only Mound A and B remain (Figures 4.1-4.2), Mound C having been completely obliterated by cultivation. It is marked only by a scatter of artifacts 200 m west of Mound A. Mound B has suffered some damage as well, specifically removal of fill on the west side of the mound and a broad excavation into the southeast side of the mound, probably for use as a silo, a practice reported on other sites in the Lower Yazoo Basin (Phillips 1970). Mound A is in good condition, despite a historic house formerly abutting the north side.

Figure 4.1. The Aden Site, photo to the east.

As at other sites, investigations began by coring around the base of the mounds. Fifteen were placed around Mound A and ten around Mound B. In addition, cores were taken on the summits of both mounds (Figure 4.3).

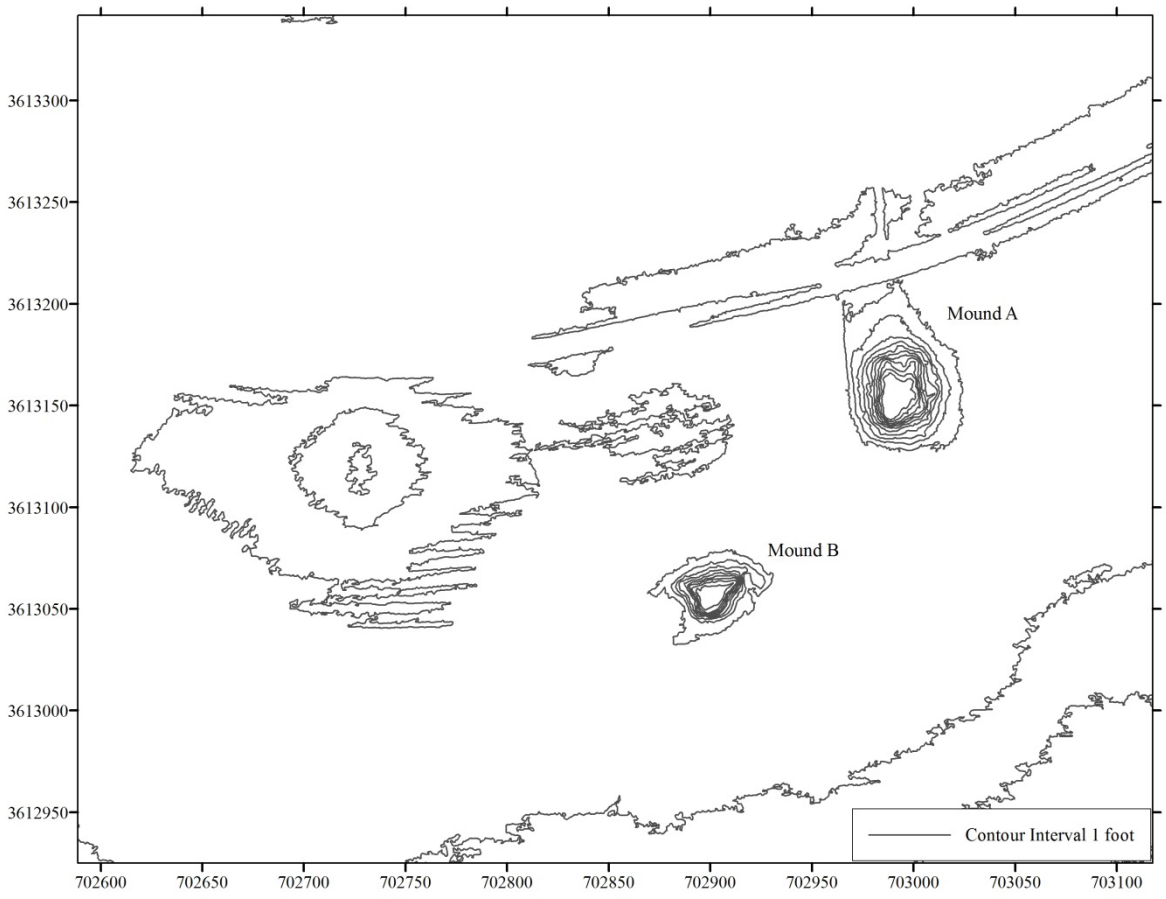


Figure 4.2. LIDAR-based contour map of Aden.

Excavation consisted of two 1-x-2 m units on the south flank of Mound A where probing encountered a shell deposit at the foot of the mound. Test Unit I was placed over the location of the shell-producing probe. Initially interpreted as a sub-mound deposit, it was feared that no mound stratification would be encountered by Test Unit 1. Consequently, the normal practice of limiting excavation to a single unit per mound was abandoned and a second unit, Test Unit 2, was placed two meters upslope from Test Unit 1 (Figures 4.4-4.5). On Mound B two units were also excavated. Test Unit 3 was located at the foot of the mound on the southwest corner. Test Unit 4 took advantage of the silo cut on the eastern side of the mound, by situating it directly on the edge of the intact summit surface (Figure 4.6).

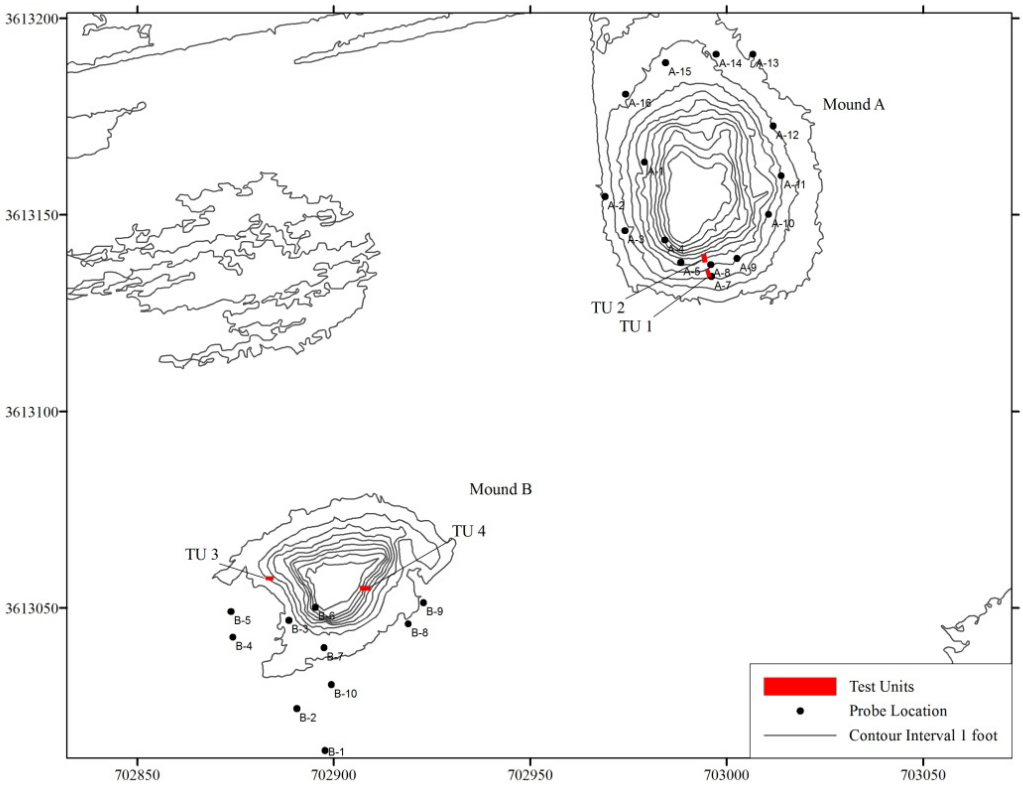


Figure 4.3. Probe and excavation unit locations.

Figure 4.4. Test Units 1 and 2 on south flank of Mound A.

Figure 4.5. Drawing profiles of Test Unit 1 walls.

Figure 4.6. Test Unit 4 on edge of silo trench on Mound B.

Test Unit 1

Test Unit 1 was excavated to 200 cm below ground surface (Figures 4.7-4.8). The upper 60-80 cm of deposit consists of slopewash from higher elevations. This wash overlies a 15-20 cm thick silty clay mound cap. Below this cap is a 60-80 cm thick organic flank midden. The uppermost part of this stratum has only sparse shell, below which is a thicker deposit with dense shell. This overlies a lighter midden stratum with sparse shell. At 140 cm depth on the north end of the unit a mound construction stage was encountered. A thin stratum of pale brown silt loam alluvium at 190 cm is interpreted as the pre-mound surface, although no buried A horizon was evident. This overlies a dark clay stratum, interpreted as backswamp deposition.

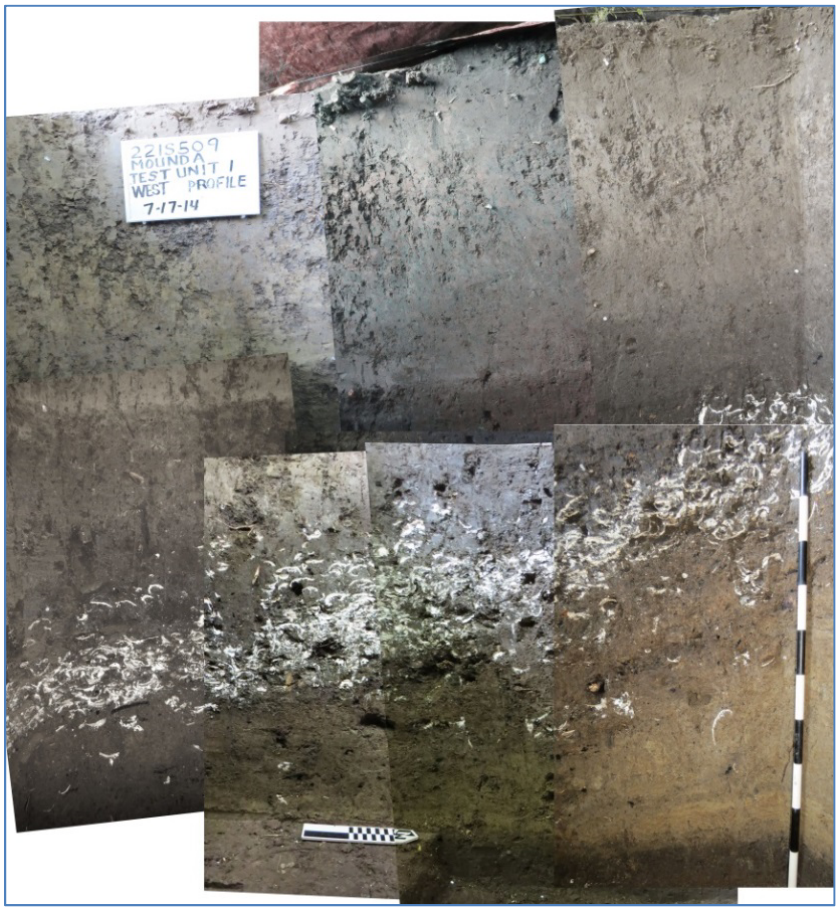


Figure 4.7. Photomosaic of Test Unit 1 west profile.

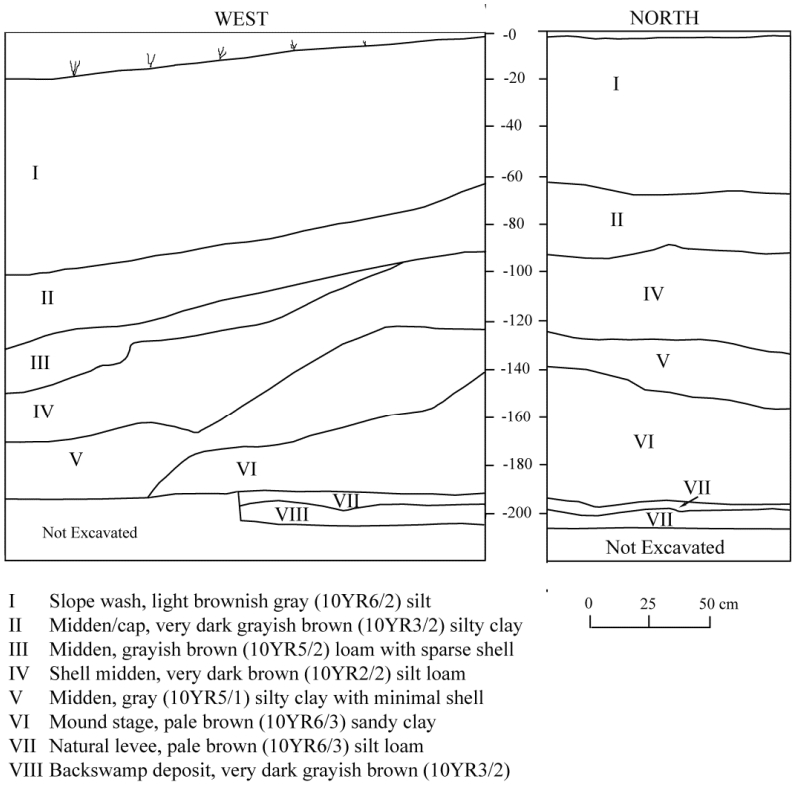
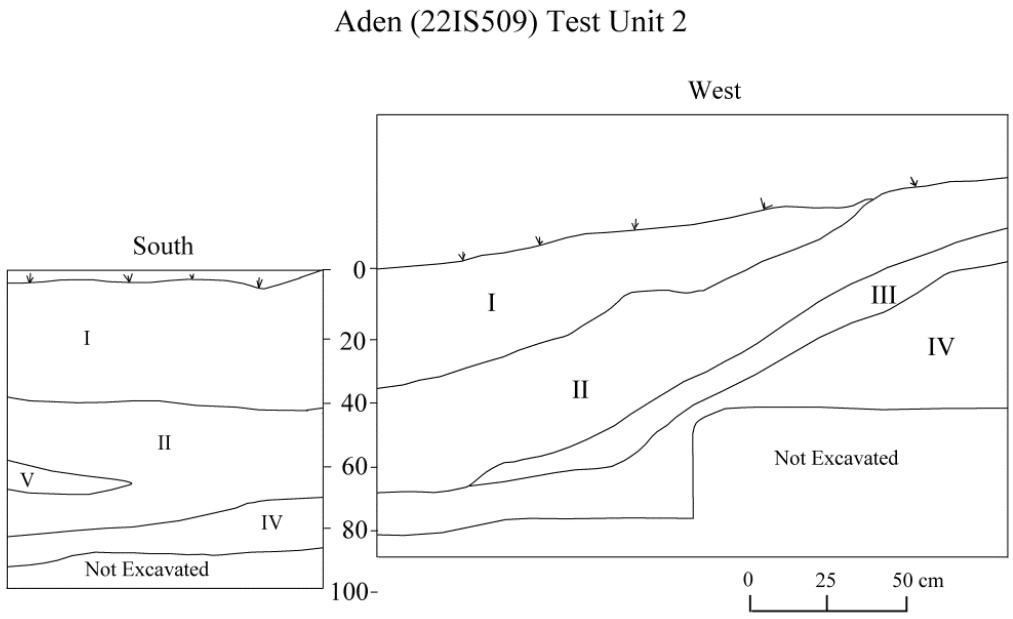


Figure 4.8. Test Unit 1 west and north profiles.

Test Unit 2

Test Unit 2 was excavated to 80 cm below the surface in the south half and to 60 cm below surface in the north half (Figures 3.9-3.10). At the north end of Test Unit 2, a dark organic midden was encountered immediately below the root zone. The rest of the unit is covered by slopewash that becomes progressively thicker toward the south. The underlying midden is 20-30 cm thick. The midden produced abundant faunal remains, including scattered shell, but would not be considered a shell midden *per se*. Artifact density was also high, including ceramics, lithics, and other material. Some ceramic sherds were quite large and appear to have been tossed onto the mound flanks from above (Figure 3.11). A second lower midden stratum underlies this one, distinguished by high ash content. This overlies a stratum of mound fill to the base of excavation.

Figure 3.9. Photomosaic of Test Unit 2 west wall profile.



I Slope wash, dark brown (10YR4/3) sandy silt
II Midden, very dark gray (10YR3/1) to very dark grayish brown sandy silt with scattered shell
III Ashy Midden, grayish brown (10YR5/2 silty sand
IV Mound fill, yellowish brown (10YR5/4) to brown (10YR5/3) silt loam
V Midden Lens, dark brown (10YR3/3) sandy silt

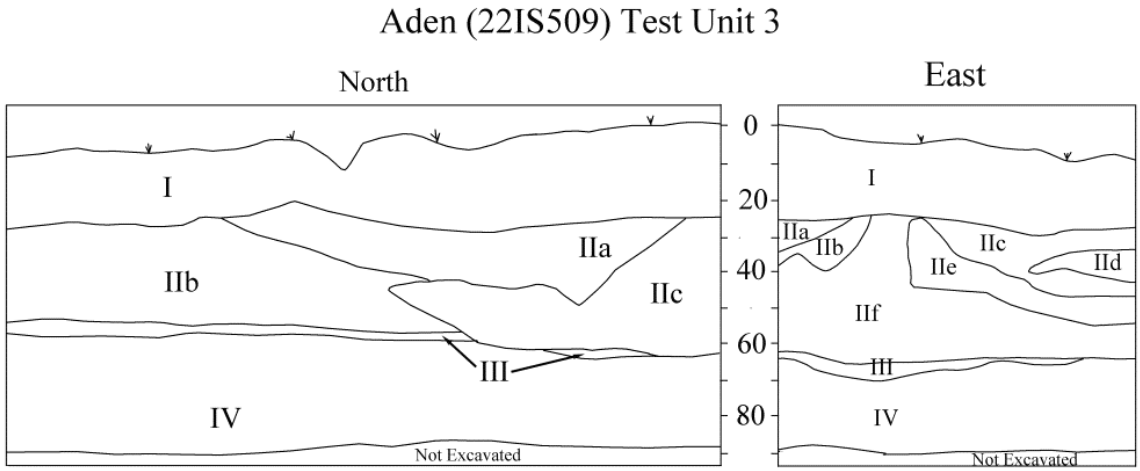
Figure 4.10. Test Unit 2 west and south wall profiles.

Figure 4.11. Artifacts in flank midden exposed by Test Unit 2.

Test Unit 3

Test Unit 3 was excavated to a depth of 85 cm b.s. (Figures 4.12-4.13). The uppermost stratum, 20-25 cm thick, consisted of slopewash that is incorporated into the plowzone. Underlying this stratum is basket-loaded fill to a depth of 60 cm b.s. This fill overlies a thin black organic stratum at most 5 cm thick. This is interpreted as the A horizon associated with the pre-mound surface. Below this is backswamp clay. It appears that in this area, the southwest corner of the mound, fill has been removed down to the present ground surface, leaving only the base of the construction fill in place.

Figure 4.12. Test Unit 3, west profile.



I Slope wash, plowzone, brown (10YR4/3) silt loam

II Mound fill with basket loading,
North Profile: IIa, dark gray (10YR4/1) mottled clay ; IIb, dark gray (10YR4/1) silty clay with iron staining; IIc, gray (10YR5/1) mottled silty clay
East Profile: IIa, dark grayish brown (10YR4/2) silty clay; IIb, black (10YR2/1) silty clay; IIc, dark gray (10YR4/1) mottled silty clay; IId, dark grayish brown (10YR4/2) silty clay; IIe, dark grayish brown (10YR4/2) silty clay; IIf, gray (10YR5/1) mottled silty clay

III Buried A horizon, organic black (10YR2/1) silty clay

IV Subsoil, pale brown (10YR6/3) mottled clay

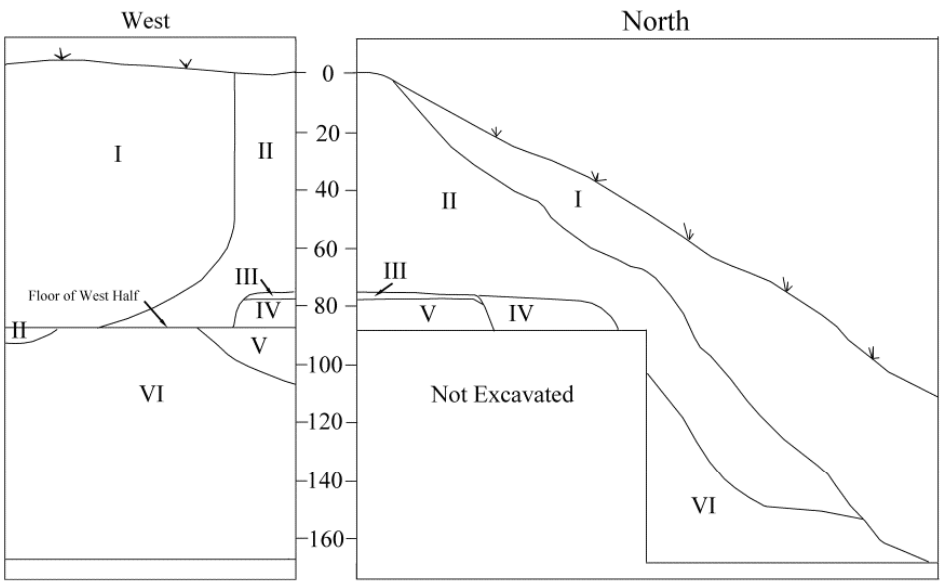
Figure 4.13. Test Unit 3 north and east profiles.

Test Unit 4

Measured from the west end of the unit, the west half of the unit was excavated to 90 cm b.s. and the east half to 170 cm. Having taken advantage of the historic excavation that has truncated the summit, the base of the east half was at 60 cm as measured from ground surface at the east end. The upper levels of the west half of the unit were badly disturbed by a recent animal burrow. This prevented recognition of Feature 1 until 90 cm below surface, into which the burrow intruded. In cleaning loose dirt from the section of burrow within Feature 1, it was discovered that the feature was in fact a historic grave. The burrow was backfilled, and excavation discontinued in this half of the square. At 89 cm b.s., where Feature 1 was first delineated, there were lenses of sandy clay that may be part of a mound cap.

The uppermost stratum is slope wash which thickens to 60 cm downslope (Figure 4.14-4.15). Stratum II is mound fill comprised of mainly clay. At the northwestern corner of the unit is a yellowish red sandy clay lens interpreted to be a veneer or cap. This in turn overlies a dark brown midden deposit marking the second to last mound summit surface. The lowermost exposed stratum is basket-loaded fill of the earlier mound construction stage. In the west profile, the outline of Feature 1 can be discerned.

Figure 4.14. Test Unit 4 north profile.



West Profile
I Historic disturbance, brown (7.5YR4/3) sandy clay
II Mound fill, brown (10YR4/3) clay
III Clay cap (?), yellowish red (5YR5/6) sandy clay
IV Dark grayish brown (10YR4/2) sandy clay
V Yellowish red (5YR5/6) sandy clay
VI Basket loaded mound fill, Gray (10YR5.1) clay and brown (10YR5/3) sand
North Profile
I Slopewash, dark grayish brown (10YR4/2) silt loam
II Mound fill, brown (10YR4/3) clay
III Clay cap (?), yellowish red (5YR5/6) sandy clay
IV Midden/surface, dark brown (10YR3/3) sandy clay with scattered baked clay, charcoal
V Dark grayish brown (10YR4/2) sandy clay
VI Basket loaded mound fill gray (10YR5/1) clay and brown (10YR5/3) sand

Figure 4.15. Test Unit 4 west and north profiles.

Radiocarbon Dates

Five samples were submitted to Beta Analytic, Inc., for AMS dating (Table 4.1). A bulk soil sample was submitted from the buried A horizon encountered in Mound B Test Unit 3. Four charcoal samples were submitted, two from the midden exposed in Mound A Test Unit 1 and two from the midden in Test Unit 2. Samples were chosen from the tops and bottoms of these deposits. The sample from Test Unit 3 dates the commencement of construction of one of the later, perhaps last construction stage of Mound B. The samples from Test Units 1 and 2 date the flank midden that accumulated on the latest construction phase of Mound A. Probability distributions of the five calibrated dates are shown in Figure 16.

The dates from the two test units on Mound A indicate that 1) there are two midden deposits represented rather than one, with that in Test Unit 1 somewhat later than that in Test Unit 2, and 2) that they accumulated very rapidly, possibly each representing single or just a few large scale dumping events. This would concur with the impression of the deposits based on excavation. Given the similarity of the dates averaging them would produce a shorter range. For the identical dates from TU1, the averaged date is 940±21 radiocarbon years BP, which calibrated gives a two sigma range of A.D. 1030-1155. To determine if averaging was feasible for the two dates from Test Unit 2, an f-test was used to exclude the possibility that the dates could be different. They are sufficiently likely to be the same that they were averaged, producing a two sigma range of A.D.970-1025. Probability distributions of the calibrated averaged dates are depicted in Figure 4.16.

Table 4.1. Aden Radiocarbon Dates.

Beta Sample	Sample No	Provenience	Radiocarbon Age	Calibrated Intercept	Calibrated 1 Sigma Range	Calibrated 2 Sigma Range
388752	22IS509-106	TU1, L. 13	940±30	AD 1045, AD 1095, AD 1120, AD 1140, AD 1145	AD 1030-1155	AD 1020-1165
388753	22IS509-80	TU2, L. 5	1050±30	AD 995	AD 980-1020	AD 905-920, AD 965-1025
388754	22IS509-127	TU1, L. 15	940±30	AD 1045, AD 1095, AD 1120, AD 1140, AD 1145	AD 1030-1155	AD 1020-1165
388755	22IS509-117	TU2, L. 7	1040±30	AD 1015	AD 985-1020	AD 970-1025
388756	22IS509-65	TU3, L.	1010±30	AD 1020	AD 1015-1025	AD 985-1040, AD 1110-1115

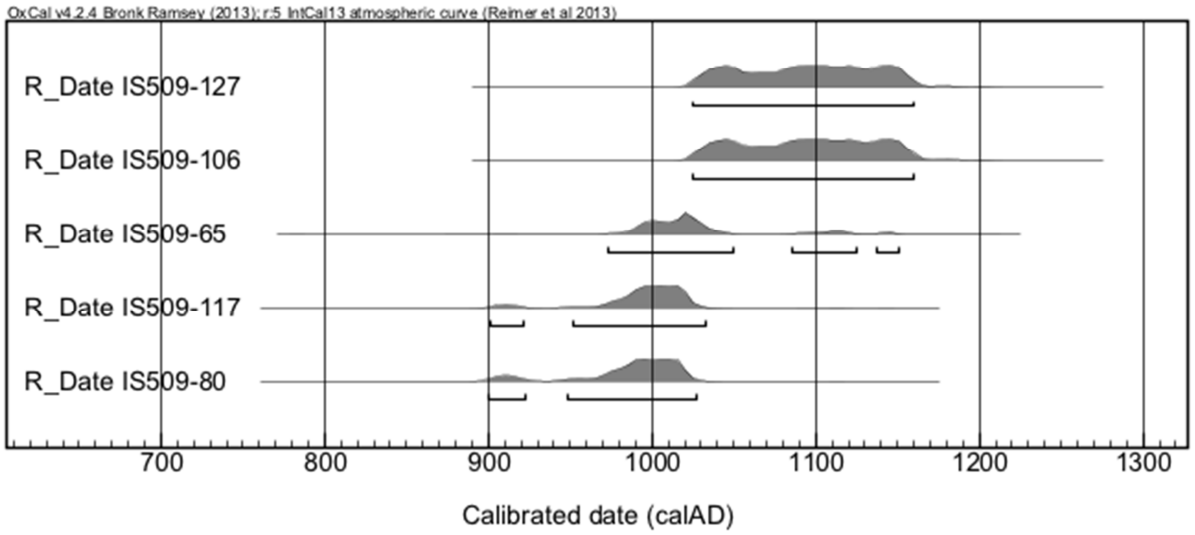


Figure 4.16. Probability distributions computed using Ox-Cal.

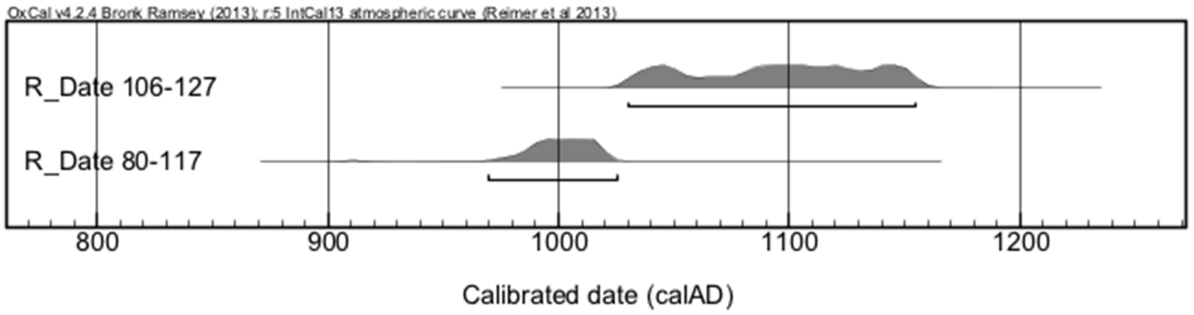


Figure 4.17. Probability distributions of calibrated average dates from Test Units 1 and 2 using OxCal.

Artifacts

A large assemblage of artifacts, mainly from Mound A, was recovered during testing. A total of 8543 prehistoric ceramic sherds, 154 pieces of debitage, cores and other debris from stone tool manufacturing and use, 5101 vertebrate faunal specimens, 15.4 kg of shell, 1.7 kg of baked clay, 4 quartz crystal fragments, a number of botanical samples, several mud dauber's nests, and assorted historic artifacts from the slopewash deposits. A number of unmodified cobbles and pebbles were also collected, presumably unmodified raw material for toolmaking. A careful analysis of lithic debris has not been conducted, but a cursory examination suggests it is the result primarily of expedient tool manufacture. Its distribution through the midden deposits suggest that it may be related to food preparation on the mound summit. The baked clay likely reflects hearth cleaning, as no structural daub was observed. However, the presence of three mud

dauber nests could be evidence of the summit structures. The quartz crystals are fragmentary as if smashed. The nearest source of quartz crystals is the Hot Springs area of Arkansas, in the Ouachita Mountains. It is a commonly occurring item on contemporary Plum Bayou culture sites centered on the lower Arkansas River (e.g. Rolingson 2002:61), suggesting some participation in long distance exchange. The faunal assemblage, not yet analyzed, has great diversity, despite its recovery by .86 cm mesh, and includes abundant deer remains as well as bear, raccoon, squirrel, swamp rabbit, turkey, turtles, snakes, gar, bowfin, sucker, catfish, and drum.

Ceramic Artifacts

A total of 8543 prehistoric ceramic sherds were included in the analysis. Of these, 7920 were undecorated (this number including 73 rims displaying lip incision or punctation, which were treated as modes) and 626 with decoration. The vast majority of the collection was grog tempered (n=8484); also collected were 61 shell tempered sherds and one untempered sherd. The distribution of ceramic types and varieties by provenience is presented in Tables 4.2-4.6.

Table 4.2. Ceramics recovered from the surface and in probes, Aden.

Type-Variety	Provenience									
	Auger Between TU 1 and 2	C Surface	General Surface	Probe 12	Probe 13	Probe 3	Probe 5	Probe 9	A Summit Auger	Total
Baytown Plain	24	49	49			1	1	2	1	127
Churupa Punctated, *var. Churupa*		1								1
Coles Creek, *var. Coles Creek*			1							1
Coles Creek, *var. Mott*			2							2
Coles Creek, *var. Unspecified*		1								1
Decorated-*Unspecified*				1						1
Marksville Stamped, *var. Unspecified*		1								1
Mazique Incised, *var. Kings Point*			1							1
Mississippi Plain, *var. Yazoo*		1	2							3
Plaquemine Brushed, *var. Plaquemine*					1					1
Plaquemine Brushed, *var. unspecified*		1								1
Unclassified-Stamped		1								1
Total	24	55	55	1	1	1	1	2	1	141

Table 4.3. Ceramics Recovered from Test Unit 1.

Type-Variety	Level																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	scrape	Sur-face	wall scrape	Total
Anna Incised, *var.Anna*											1												1
Baytown Plain	9	18	4	4	7	14	184	16	124	348	157	355	313	376	513	204	328	199	89	27		467	3756
Carter Engraved, *var.Carter*										1													1
Chevalier Stamped, *var. Chevalier*																1		1	8			2	12
Chevalier Stamped, *var. Unspecified*							1																1
Churupa Punctated, *var. Churupa*																		1					1
Coles Creek, *var. Campbellsville*										2	1				2	1	1					3	10
Coles Creek, *var. Chase*																	2	1				1	4
Coles Creek, *var. Coles Creek*							1			3	2		2	2	4	3	5	1				3	26
Coles Creek, *var. Ely*												1											1
Coles Creek, *var. Greenhouse*										2	1	2	1	3	2								11
Coles Creek, *var. Hardy*										1		2											3
Coles Creek, *var. Hunt*							1						3				1					2	7
Coles Creek, *var. Mott*								1		1	1	3		5	3	2				1		6	23
Coles Creek, *var. Phillips*										1					1							3	5
Coles Creek, *var. Stoner*							1			1		2	1	1	3	1	2	2	1			6	21
Coles Creek, *var. unspecified*			1			2			3	9	5	13	4	14	25	11	9	2	1	1		10	110
Coles Creek, *var. Wade*										3		1	3	1	8	2	5					1	24
Decorated, *var. unspecified*										1				1								1	3
Evansville, *var. Evansville*							1				2					1							4
Evansville, *var. Rhinehart*						1																	1
Evansville, *var. unspecified*							1																1
French Fork Incised, *var. Larkin*														1									1
French Fork Incised, *var. McNutt*												1											1
Hollyknowe Pinched, *var. Hollyknowe*											1												1
Mazique Incised, *var. Kings Point*									1	1					1	2							5
Mazique Incised, *var. Preston*												1											1

Table 4.3, continued.

Type-Variety	Level																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	scrape	surface	wall scrape	Total
Mississippi Plain, *var. Coker*									2														2
Parkin Punctated, *var. Hollandale*												1											1
Plaquemine Brushed, *var. Blackwater*							1		1		1												3
Plaquemine Brushed, *var. Plaquemine*																						1	1
Plaquemine Brushed, *var. unspecified*										1													1
Unclassified Incised												3	1		1			1				1	7
Winterville, *var. Wailes*			7																				7
Total	9	18	12	4	7	24	195	17	132	377	180	385	328	404	563	228	353	208	99	29	1	507	4080

Table 4.4. Ceramics Recovered from Test Unit 2.

Type-Variety	Level															
	1	2	3	4	5	6	7	8	9	10	11	12	Mixed	Surface	Wall Scrape	Total
Baytown Plain	211	582	564	482	403	340	228	252	228	122	5	2	8	4	210	3641
Chevalier Stamped, *var. Chevalier*		6	5		2	3		3	1							20
Chevalier Stamped, *var. Perry*				1												1
Coleman Incised, *var. Coleman*		1														1
Coles Creek, *var. Campbellsville*		1			1										1	3
Coles Creek, *var. Chase*		1	1		2			1	1							6
Coles Creek, *var. Coles Creek*		3	7	1	5	6	1	1	1						5	30
Coles Creek, *var. Greenhouse*						1										1
Coles Creek, *var. Hunt*		1			2	3	1			1					2	10
Coles Creek, *var. Judd Bayou*			1													1
Coles Creek, *var. Mott*		3	1	2	4	2	4						2		2	20
Coles Creek, *var. Phillips*			1												1	2
Coles Creek, *var. Stoner*	2	2	4	2	2	1	2	1	1	2				1	2	22
Coles Creek, *var. unspecified*	2	20	34	8	12	8	4	6	5	2					4	105

Table 4.4, continued.

Type-Variety	Level															
	1	2	3	4	5	6	7	8	9	10	11	12	Mixed	Surface	Wall Scrape	Total
Coles Creek, *var. Wade*	1	6	5	2	2	4	3	3	1	1						28
Decorated, *var. unspecified*				2	1			1	2						1	7
Evansville, *var. Evansville*		1														1
French Fork Incised, *var. French Fork*			1	1												2
French Fork Incised, *var. Larkin*			1												1	2
French Fork Incised, *var. McNutt*							1									1
French Fork Incised, *var. Unspecified*			2			1										3
French Fork Incised, *var. Wilzone*			1					1		1						3
Grace Brushed, *var. Grace*						1										1
Larto Red, *var. Vaughn*		1														1
Marksville Stamped, *var. Newsome*								1								1
Mississippi Plain, *var. Yazoo*		2	2		1	9	1								4	19
Plaquemine Brushed, *var. Blackwater*			1													1
Plaquemine Brushed, *var. Plaquemine*			1													1
Unclassified Incised	1			1		2										4
Unclassified-Punctated	1				1											2
Winterville, *var. Wailes*							1								3	4
Total	218	630	632	502	438	381	246	270	240	129	5	2	10	5	236	3944

Table 4.5. Ceramics Recovered from Test Unit 4.

Type-Variety	Level					
	3	4	6	7	8	Total
Baytown Plain	2	1	42	23	2	70
Coles Creek, *var. Mott*			1			1
Coles Creek, *var. unspecified*			1			1
Decorated, *var.* unspecified				1		1
Total	2	1	44	24	2	73

Table 4.6. Ceramics Recovered from Test Unit 4.

Sum of Count	Level															
Row Labels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Fea 1	Total
Avoyelles Punctated, *var. unspecified*				1												1
Baytown Plain	30	12	8	13	19	32	36	12	5	18	11	6	16	2	55	275
Carter Engraved, *var. Carter*									1	1					3	5
Coleman Incised, *var. Coleman*								1								1
Coles Creek, *var. Hardy*				1				1								2
Coles Creek, *var. Mott*														1		1
Decorated, *var.* unspecified	3	1					1	2			1				1	9
Evansville, *var. Evansville*							1									1
Evansville, *var. Rhinehart*															1	1
French Fork Incised, *var. Larkin*			1													1
Lake Borgne Incised				1												1
Mazique Incised, *var. Kings Point*										1						1
Mississippi Plain, *var.* Yazoo				1			1	1								3
Plaquemine Brushed, *var. Blackwater*															1	1
Total	33	13	9	17	19	32	39	17	6	20	12	6	16	3	61	303

Undecorated Ceramics

Baytown Plain, *var. unspecified* *(*502 rim, 7366 body, 2 lug handles) Williams and Brain 1983:91-105

A total of 7870 sherds were classified as Baytown Plain, *var. unspecified*. While there is some variation that conforms to ware categories established for the area, the sorting of plainwares beyond broad temper categories is not yet complete. The vast majority fall within the range of *var. Valley Park*, with smaller proportions of *Vicksburg, Sharfit*, and a distinct minority of earlier *Reed* and later *Addis* and *Little Tiger*. Recognition of *Addis* and *Little Tiger* relies on criteria established by Ryan (2004) based on investigations in the Tensas Basin in Louisiana,

specifically fine to medium sized temper, with temper density less than 30% assigned to *Little* Tiger and greater than 30% assigned to *Addis*. This differs from the original definition of Addis wares for the Natchez Bluffs area, which relies on heterogeneity of inclusions in the paste (Brain *et al* n.d.). This trait is not common in the Lower Yazoo; however, temper size does seem to distinguish later grog tempered wares. The varieties of Baytown Plain are indicative of Baytown and Coles Creek period components.

Mississippi Plain, *var. Coker* (2 body) Williams and Brain 1983:108

Two shell tempered sherds were sufficiently thin to warrant classification as *Coker*. Williams and Brain (1983) assign *Coker* the late Crippen Point phase.

Mississippi Plain, *var. Yazoo* (2 rim, 46 body) Williams and Brain 1983: 111

Mississippi Plain sherds were collected from both mounds and from surface collecting in the vicinity of Mound C. They occur in slopewash or, in the case of Test Unit 4, disturbed contexts. They point to some limited use of the site during the Mississippi period.

Decorated Type-Varieties

Of greatest interest are the grog-tempered ceramics that were deposited as a result of mound construction and use. These range in time from the Marksville through Early Mississippi periods. A small sample of earlier (Tchula period) and later (Mississippi and Protohistoric periods) sherds are discussed separately at the end of this chapter.

Grog-Tempered Decorated Ceramics

Anna Incised, *var. Anna* (1 body, Figure 4.18, b) Williams and Brain 1983: 120

The single *Anna* body sherd from a simple shallow bowl is decorated with a rectilinear design of fine incision on the interior vessel rim. *Anna* is considered to be a late Crippen Point phase variety.

Avoyelles Punctated, *var. Dupree* (1 body; Figure 4.18, a) Williams and Brain 1983: 121
The single example of *Dupree* is from a vessel of *Addis* paste. This variety is considered to fall within the Crippen Point phase.

Carter Engraved, *var. Carter* (1 rim, 5 body; Figure 4.18, c-i) Williams and Brain 1983: 136

The six sherds representing Carter are too small to discern overall design, although the largest of them could be a scroll motif (e.g., Williams and Brain 1983: 5.44, l). Three sherds appear to be from the same vessel, with a black, highly polished surface. Pastes are equivalent to *Addis* or *Little Tiger*, or in the case of the three aforementioned sherds, *Greenville.* Williams and Brain (1983: 315) place Carter Engraved in the Winterville phase.

Chevalier Stamped, *var. Chevalier* (15 rim, 19 body; Figure 4.18, a-g) Williams and Brain 1983: 140

Sherds with generally well executed parallel vertical lines of rocker stamping are included in the *Chevalier* variety. The decoration occurs on straight-sided or slightly tapering jars. At lease on example of a "wavy"-rimmed jar, poses a classification paradox, as one section

has typical rocker stamping while another section (represented by a conjoining sherd) is punctated (Figure 20). *Variety Chevalier* is considered a marker for the Aden phase.

Chevalier Stamped, *var. Perry* (1 rim; Figure 4.19, h) Williams and Brain 1983: 142

The single sherd classified as *var. Perry* is done so on the basis of its less careful rocker stamping, although it is on a paste equivalent to *Valley Park.*

Churupa Incised, *var. Churupa* (2 body) Williams and Brain 1983: 144

Churupa Punctated is a Marksville period type, thus predating the main mound construction phase of the site. (Phillips 1970:365) noted a strong early Issaquena phase component, represented by examples of Churupa Punctated, *var. Churupa,* and varieties of Marksville Incised and Marksville Stamped, in the vicinity of Mound C and posited that the early stages of construction of this mound date to that time range.

Coleman Incised, *var. Coleman* (1 rim, 1 body; Figure 4.18, j-k) Williams and Brain 1983: 145

Coleman Incised, *var. Coleman* is a marker for the Crippen Point phase. The sherds in the collection have paste equivalent to *Addis*.

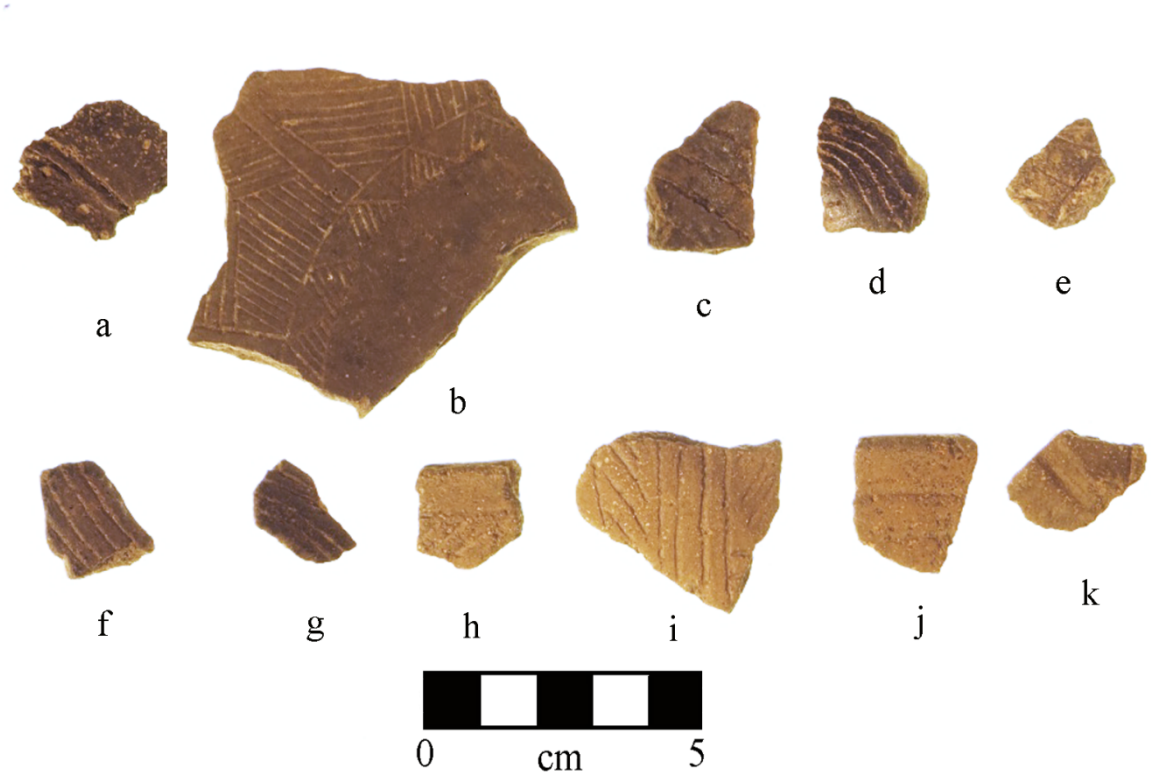


Figure 4.18. a, Avoyelles Punctated, *var. unspecified*; b, Anna Incised, *var. Anna*; c-i, Carter Engraved, *var. Carter*; j-k, Coleman Incised, *var. Coleman.*

Figure 4.19. a-g, Chevalier Stamped, *var. Chevalier*; h, Chevalier Stamped, *var. Perry*.

Figure 4.20. Chevalier Stamped and punctated sherd.

Coles Creek Incised, *var. Campbellsville* (121 rim, 1 body; Figure 4.21) Williams and Brain 1983: 147

The examples of *variety Campbellsville* all occur on bowls, most with straight rims except two that are slightly expanded and one that is interior thickened. The decoration, consisting of two widely spaced lines, with the upper one occurring between 7 and 22 mm below the lip. Line spacing is between 10 and 18 mm. The lines are neatly executed, generally shallow and overhang. All have lip incision, with four having a pair of lines. The ware is equivalent to *Valley Park,* but is particularly well made, with well smoothed to slightly polished surfaces. *Campbellsville* is considered to represent the Aden phase (Williams and Brain 1983: 315).

Coles Creek Incised, *var. Chase* (10 rim; Figure 4.22) Williams and Brain 1983:147; Kassabaum 2014

Included in this variety are sherds with incised everted rims are included as well as those exhibiting exterior rim straps, the latter fitting the original definition. Closely spaced lines just below the lip on straight rims were classified as *var. Wade.* This differs from Kassabaum's

(2014: 118-119) recent analysis, which folded *Wade* into either the *Chase* or *Hunt* variety. However, it was Kassabaum remarks that it is sometimes difficult to detect an added rim strap that prompted the decision to also include everted rims here, as the resulting vessel appearance is essentially the same. The sherds represent globular bowls and are well finished, several approaching what Williams and Brain have defined as Baytown Plain, *var. Sharfit*. Eight have lip incisions. Williams and Brain place the variety in the Bayland phase.

Coles Creek Incised, *var. Coles Creek* (39 rim, 18 body; Figure 4.23) Williams and Brain 1983:146

As Williams and Brain (1983:146) indicated, the *vars. Coles Creek* and *Mott* intergrade, At the ends of the spectrum, the former has clearly overhanging, broader lines that are more widely spaced and not so carefully executed, while the latter has more carefully executed narrower lines with less emphasis on appearing overhanging that are closely spaced. It must be admitted that those examples in the center of the spectrum were somewhat arbitrarily placed, with *var. Coles Creek* most often applied. A quick comparison with a collection from the Smith Creek site in Wilkinson County, curated at USM, suggested that even the broadest lined examples of *var. Coles Creek* in the Aden collection are not as broad as those from Smith Creek. Whether this reflects temporal or geographic variation is not clear at this point. For rims complete enough to tell, the number of lines encircling the vessel ranged from seven to nine. Three exhibited triangular punctations below the zone of incisions. Fifteen of the 29 rim sherds had lip incision, and one had lip punctations. One three sherds, two appearing to be from the same vessel, the lines were subsequently smoothed over while the clay was still wet. Vessel forms appear to be straight sided to slightly outslanting (flowerpot-shaped) jars. Rims are straight with flat or rounded lips.

Coles Creek Incised, *var. Ely* (1 rim) Phillips 1970:72

A single lip, separated from the rim has three lip incisions and on that basis is tentatively classified as *var. Ely*.

Coles Creek Incised, *var. Greenhouse* (11 rim, 1 body; Figure 24) Williams and Brain 1983:148

In the Aden sample, this variety occurs almost exclusively on well made, thin-wall vessels with straight to tapered rims. The incised lines are thin and shallow, and faintly overhang.

Coles Creek Incised, *var. Hardy* (2 rim, 3 body; Figure 4.25) Williams and Brain 1983:151

These examples of *var. Hardy* are decorated with thin, non-overhanging lines. In classifying these sherds as *Hardy* the design and its execution has taken precedence over the ware on which it was applied, as none of the examples conform to Addis paste characteristics.

Coles Creek Incised, *var. Hunt* (14 rim, 3 body; Figure 26) Williams and Brain 1983:151

This variety includes sherds from straight sided beakers with 2-3 lines, the first 3-10 mm below the lip and spread 4-10 mm apart. Rims are straight with mainly flat lips. No examples of lip incision are present.

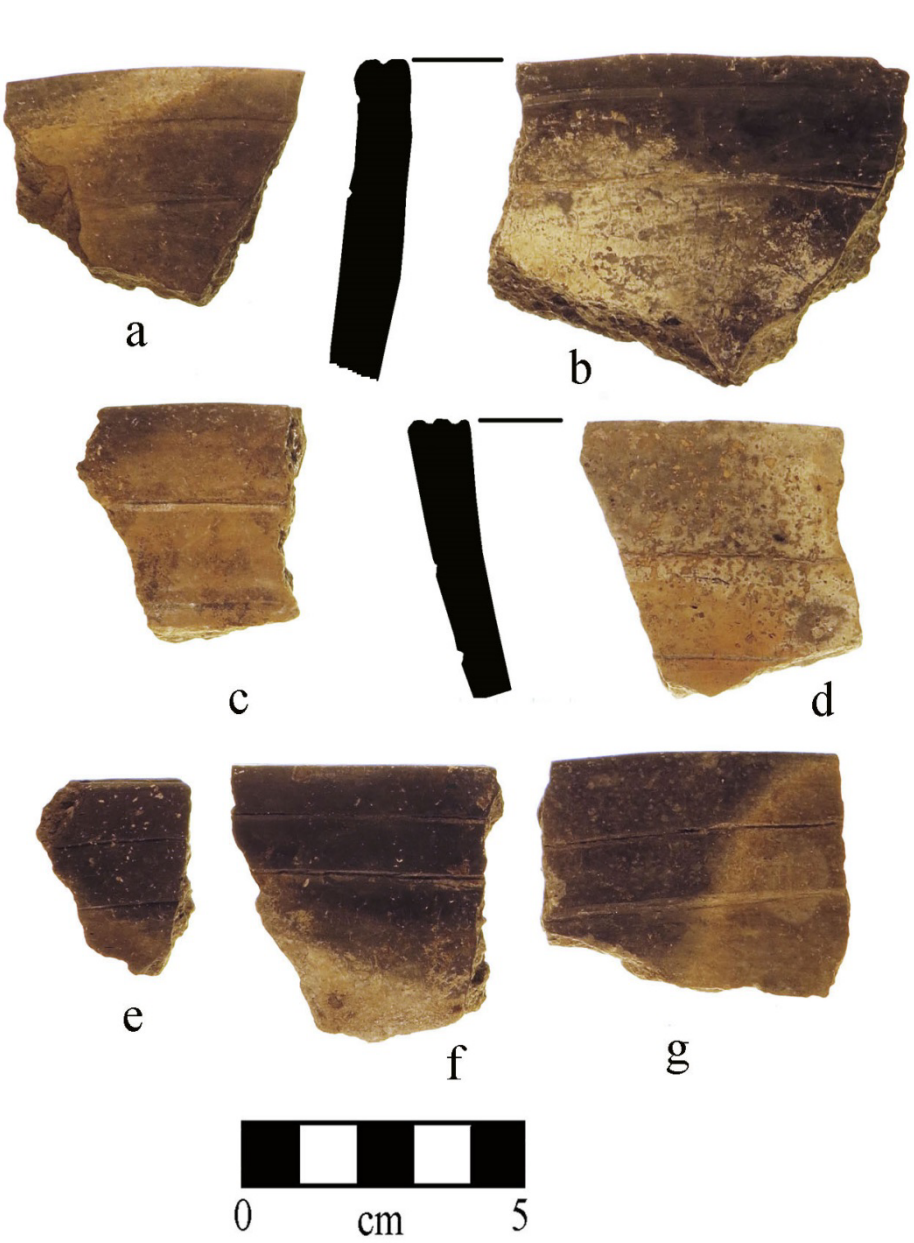


Figure 4.21. Coles Creek Incised, *var. Campbellsville.*

Figure 4.22. Coles Creek Incised, *var. Chase.*

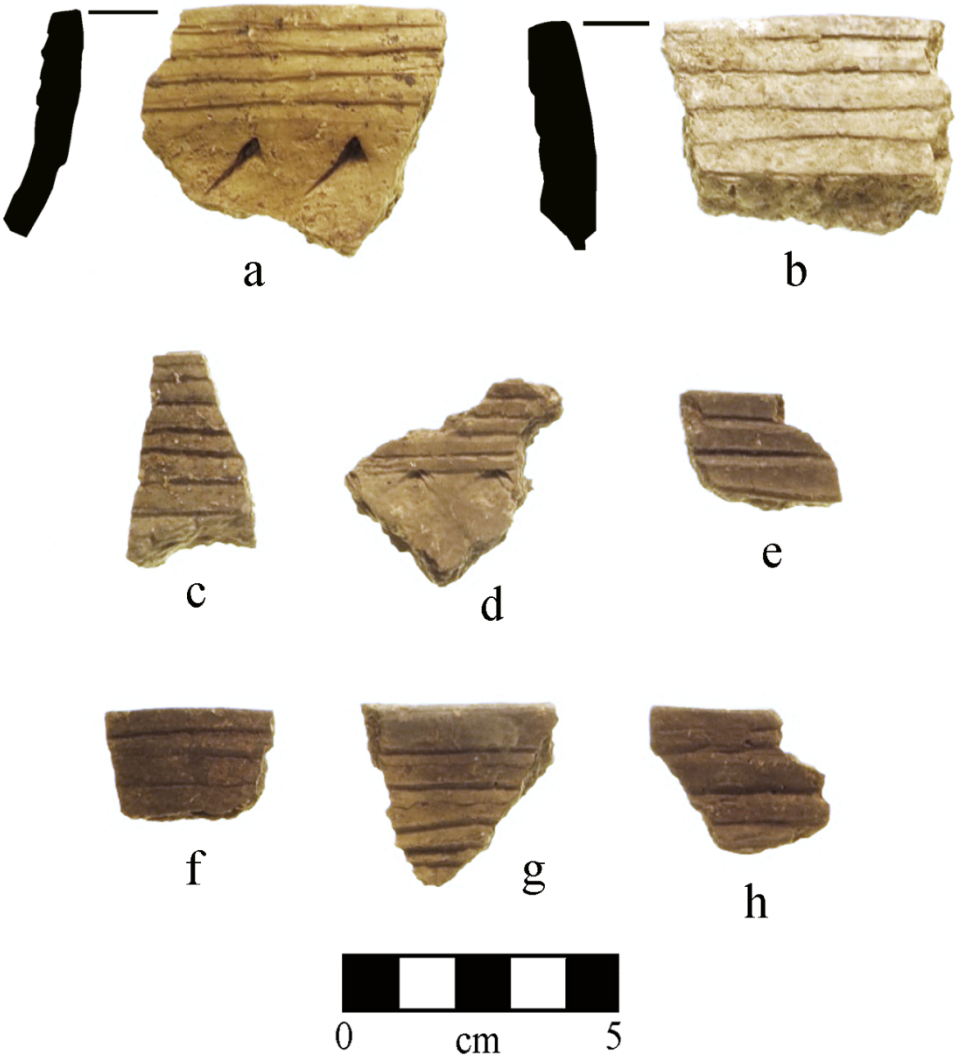


Figure 4.23. Coles Creek Incised, *var. Coles Creek*.

Coles Creek Incised, *var. Judd Bayou* (1 rim) Kassabaum 2014:125; Wells 1998:130-132

This single example of a parallel-to-the-lip interior incised line on the interior vessel surface is presumed to fall within the range of *var. Judd Bayou*, although other possible varieties exist.

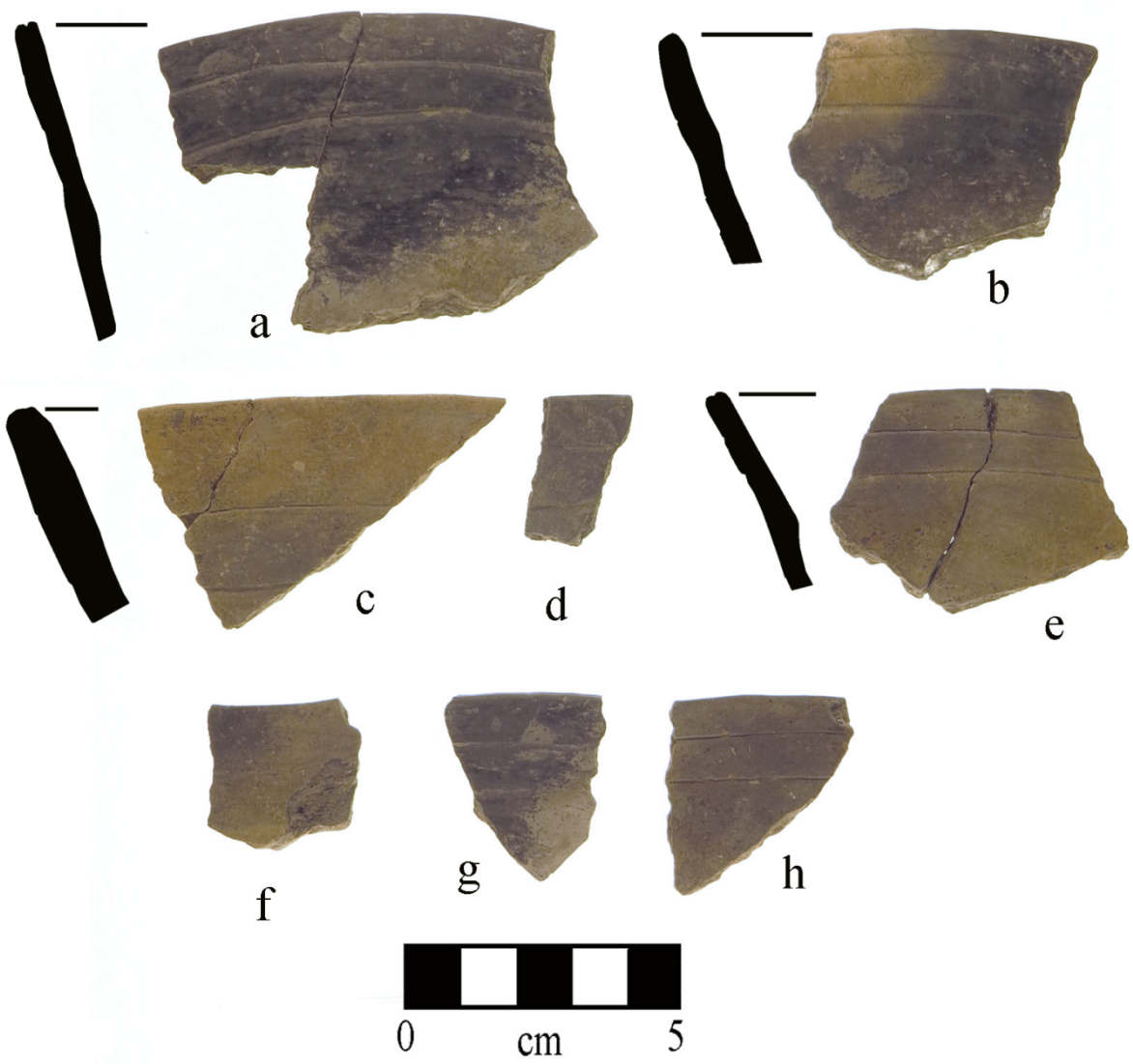


Figure 4.24. Coles Creek Incised, *var. Greenhouse*.

Coles Creek Incised, *var. Mott* (24 rim, 19 body; Figure 4.27) Williams and Brain 1970:151

As noted earlier, the division between *Mott* and *Coles Creek* is somewhat arbitrary. The sherds classified as Mott are neater in execution, the spaces between lines are narrower, and there are more lines (9-12). The decoration occurs on beakers with both straight and tapered rims. Lip incision occurs on 14 of the 24 rims. One sherd exhibits triangular punctations below the zone of incised lines. Returning to the subject of the number of lines encircling the vessel, it is interesting to note that for both *var. Coles Creek* and *Mott* the Aden collection has a higher line count than that reported for Feltus. Kassabaum (2014: 166) reported 4-5 and 6-7, respectively, compared with Adens range of 7-9 and 9-12.

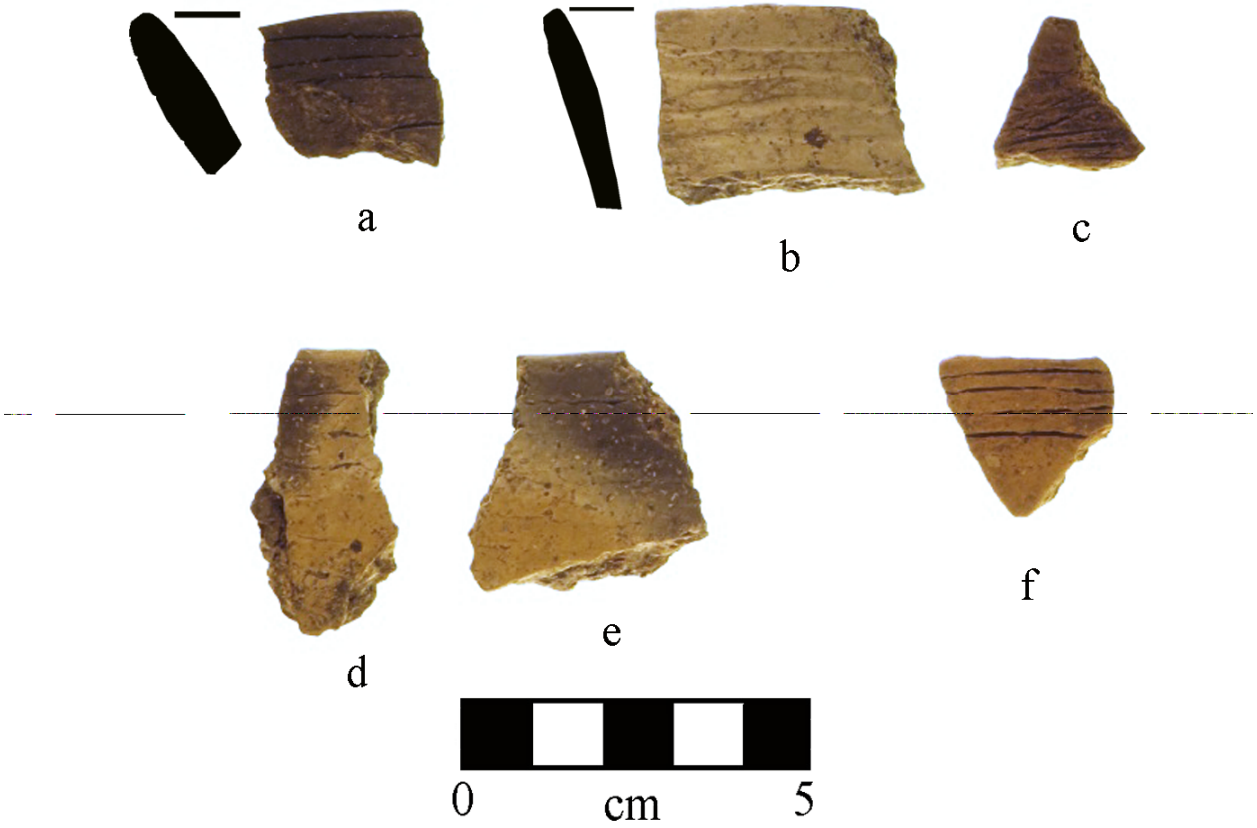


Figure 4.25. Coles Creek Incised, *var. Hardy.*

Coles Creek Incised, *var. Phillips* (7 rim; Figure 4.28) Kassabaum 2014:128-129; Williams and Brain 1983:154

The seven sherds classified as *var. Phillips* differ from the original definition in that they are not on paste comparable to *var. Reed,* but as Kassabaum found, the simple design of a single incised line just below the lip is found on later wares as well, and in this case it occurs on ware comparable to *Valley Park.* Three have additional lip incisions. We did not follow Kassabaum's lead in distinguishing well executed from cruder examples, given the small sample size, although it seems these would likely fall into her *Phillips B,* better quality subcategory. It is striking that at Feltus, the variety is the most commonly occurring, whereas at Aden it is a distinct minority. That said, there are a good number of sherds with single lines classified as Coles Creek Incised, *var. unspecified*, because they were too small to determine whether or not additional lines might be present.

Figure 4.26. Coles Creek Incised, *var. Hunt.*

Coles Creek Incised, *var. Stoner* (40 rim, 1 body; Figure 4.29) Williams and Brain 1983: 155

Classification of sherds as *var. Stoner* was based on line placement (which ranged from 11 to 40 mm below the lip), rather than ceramic paste, which falls in the range of *Valley Park.* Most have well smoothed surfaces. Twenty rims have additional lip incisions. Both incised and overhanging lines are present. Bowls appear to be the dominant vessel category represented. Rims are straight with one exception, an expanded rim that sports 2 lip lines.

Coles Creek Incised, *var. Wade* (47 rim, 4 body; Figure 4.30) Williams and Brain 1983: 156

What has been classified as Wade in the Aden collection includes primarily sherds with two to three lines fairly close to the lip (the uppermost within 10 mm) but lacking the rim strap or everted rim that characterizes sherds classified as *Chase*. Both overhanging lines and simple incision are present. Sherds represent bowls, beakers, and one necked jar with a curving rim having a point of vertical tangency at the midpoint. Just under half of the rim sherds have lip incision (n=22).

Coles Creek Incised, *var. unspecified* (56 rim, 160 body)

Included in this residual category are rims that were broken too near the lip to determine line count, as well as body sherds for which line orientation could be determined but nothing else. Only a small number of sherds of sufficient size could not be assigned to existing varieties. One of these (Figure 31) is a rim with two incised lines near the rim and lip incision (equivalent to *Wade*) with a straight or possibly slightly curved line running downward at a 30 degree angle. It was initially classified as an unspecified French Fork Incised, and appears to be a case of our archaeological classificatory boxes being merged by creative Coles Creek potters. The sherd is from a highly polished bowl.

Evansville Punctated, *var. Evansville* (2 rim, 4 body; Figure 4.32, a-f) Williams and Brain 1983:157

Included in the *Evansville* variety are sherds with fingernail punctations.

Evansville Punctated, *var. Rhinehart* (1 rim, 1 body; Figure 4.32, g) Williams and Brain 1983:158

The two sherds included in *Rhinehart* are both decorated with punctations made with a pointed tool, which on one sherd was held perpendicular to the vessel wall and the other at an angle. In both cases the punctations are denser than the *Evansville* sherds. The ware seems comparable to *var. Vicksburg*. The rim is small but appears to have been part of a flaring rim jar.

Evansville Punctated, *var. unspecified* (1 body; Figure 4.32, h)

One very small body sherd could have been absorbed by *var. Evansville,* but is distinctive in have a very smooth matte finish and temper size and density equivalent to *var. Little Tiger*. Punctation appears to have been accomplished using a cylindrical tool pushed obliquely into the clay.

French Fork Incised, *var. French Fork* (2 body; Figure 4.33, a) Williams and Brain 1983:160

Two sherds conform to the definition of *var. French Fork*. Both are very carefully executed with small closely spaced punctations on black polished ware equivalent to *Vicks burg*. Although it is classified as a body sherd, one appears to be the lower part of a tapering rim (missing the upper portion and lip).

Figure 4.27. Coles Creek Incised, *var. Mott*.

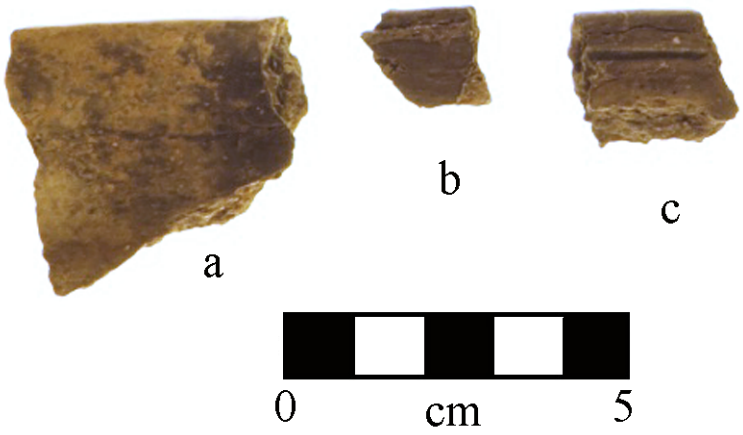


Figure 4.28. Coles Creek Incised, *var. Phillips*.

French Fork Incised, *var. Larkin* (1 rim, 3 body; Figure 4.33, b-f) Williams and Brain 1983:162

The present sample could be included with *French Fork* but all are on *Valley Park* ware and are a little coarser in execution that the single example of *French Fork*. One sherd is a combination of Coles Creek Incised on the rim and French Fork decoration below.

French Fork Incised, *var. McNutt* (1 rim, 1 body; Figure 4.33, g-h) Williams and Brain 1983:162

McNutt encompasses French Fork decoration using incision within bounded fields. The rim is very similar to the specimen described under Coles Creek Incised, *var. unspecified* differing in having only a single line below the rim and a large enough representation of the design to include a field with the ends of incised line fill. It is very well smoothed, but with a matte finish.

Figure 4.29. Coles Creek Incised, *var. Stoner*.

Figure 4.30. Coles Creek Incised, *var. Wade*.

Figure 4.31. Coles Creek Incised, *var. unspecified.*

French Fork Incised, *var. Wilzone* (1 rim, 2 body; Figure 4.34) Williams and Brain 1983:163
This variety includes stamping for field fill.

French Fork Incised, *var. unspecified* (1 rim, 2 body)
The *unspecified* French Fork sherds are large enough to identify to type but do not capture fields that have been filled.

Hollyknowe Pinched, *var. Hollyknowe* (1 body; Figure 4.35, a)
A single example of this variety is included in the collection.

Larto Red, *var. Vaughn* (1 body; Figure 4.35, b) Belmont n.d.; Wells 2005:344
This variety includes red filming on Coles Creek wares, in this case *Valley Park*.

Marksville Stamped, *var. Newsome* (1 body; Figure 4.35, c) Phillips 1970:125
This variety is a marker for the early Isssaquena phase component at the site, identified earlier by Phillips (1970:365).

Marksville Stamped, *var. unspecified* (1 body)
This example of Marksville Stamped could not be further sorted to variety.

Mazique Incised, *var. Kings Point* (4 rim, 2 body; Figure 4.35, d-f, h, i) Williams and Brain 1983:184
Four sherds with tapered rims on ware comparable to *Vicksburg* are classified as *var. Kings Point*. Two from adjacent levels conjoin and are from an open bowl. Three of the four

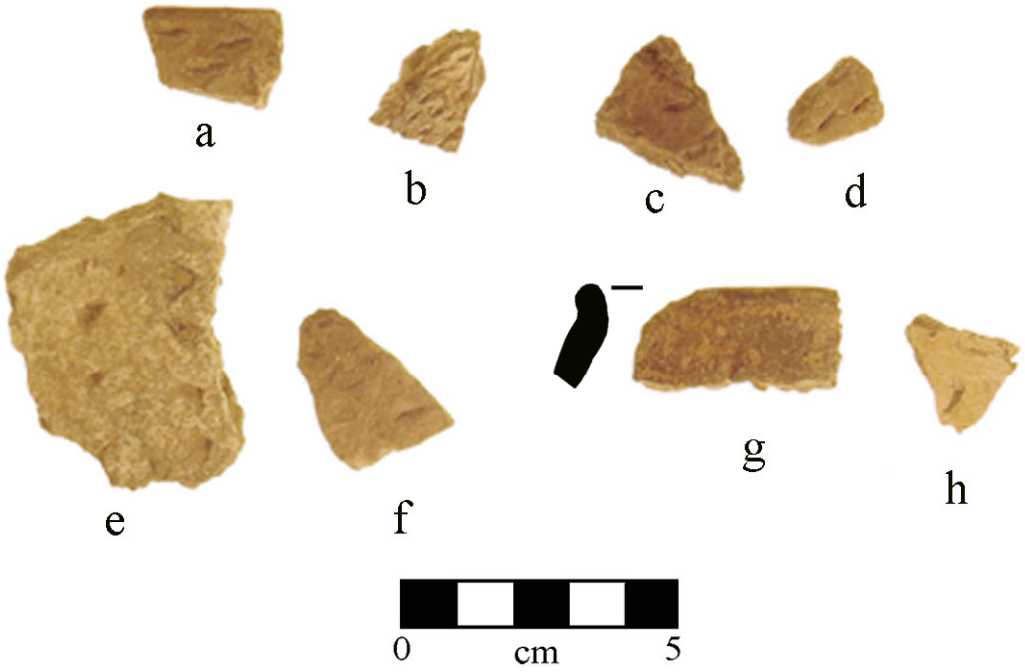


Figure 4.32. a-f, Evansville Punctated, *var. Evansville*; g, Evansville Punctated, *var. Rhinehart*; h, Evansville Punctated, *var. unspecified*.

rims have incised lips. One of the body sherds is the lower part of a tapered rim, but missing the lip
.

Mazique Incised, *var. Preston* (1 rim; Figure 4.35, g) Hally 1972: 310; Wells 2005:346

Hally established the *Preston* variety to accommodate sherds intermediate between *Kings Point* and *Manchac*. At Lake Providence, the variety occurs on *Little Tiger* paste, which is the case for the sherd from Aden. The rim is straight with a rounded lip.

Plaquemine Brushed, *var. Blackwater* (2 rim, 3 body; Figure 4.36, a-d) Ryan 2004:140-142; Wells 2005

The *Blackwater* variety accommodates brushed sherds on Little Tiger paste. On extremely thin tapered rim is unlike other sherds in the collection and could be non-local. The other rim is straight with a slightly rounded lip.

Plaquemine Brushed, *var. Plaquemine* (2 rim, 2 body; Figure 4.36, e-h) Williams and Brain 1983:199

The paste of these specimens approach that of Addis ware with respect to temper particle density. One sherd also has some shell inclusions. The rims are straight with rounded lips.

Plaquemine Brushed, *var. unspecified* (2 rim, 2 body) Williams and Brain 1983:199

Two sherds with brushing occur on ware more akin to *Valley Park*, and thus were relegated to the unspecified category.

Figure 4.33. a, French Fork Incised, *var. French Fork*; b-f, French Fork Incised, *var. Larkin*; g-h, French Fork Incised, *var. McNutt*

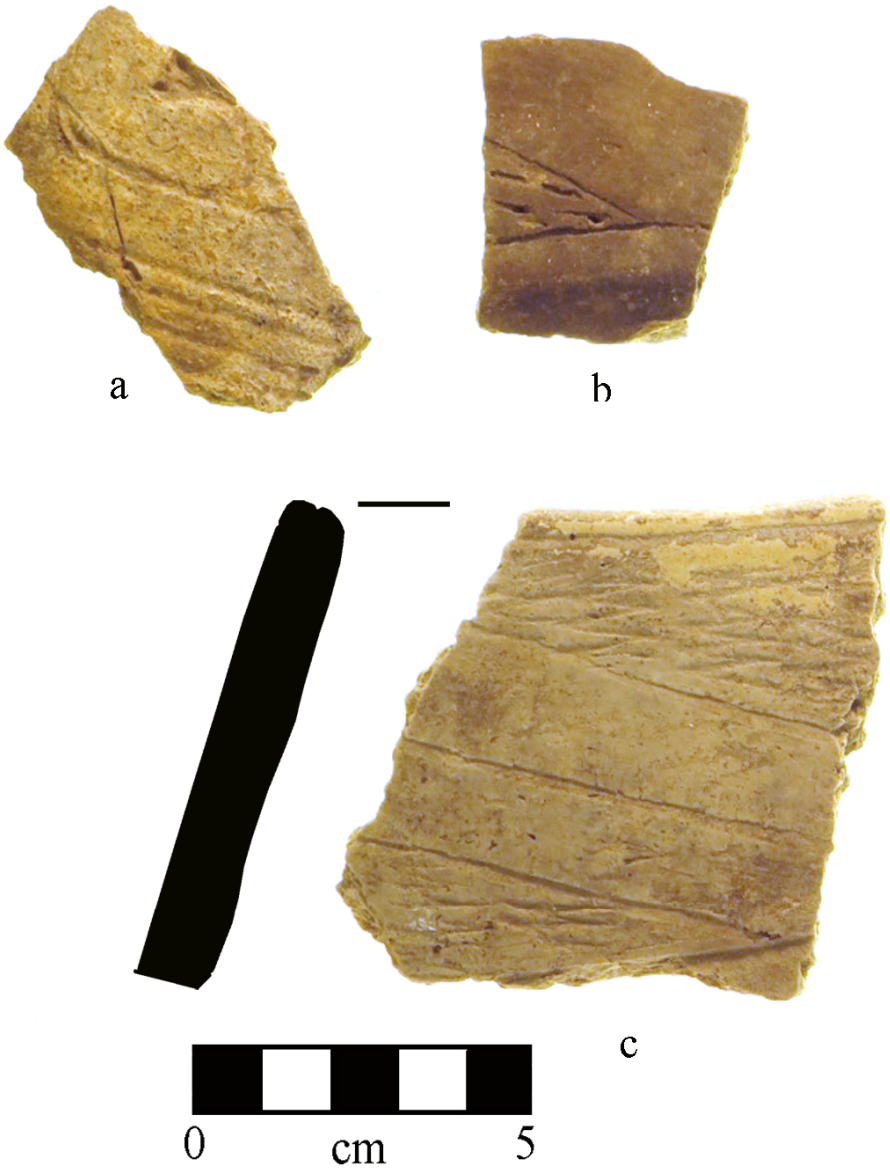


Figure 4.34. a-c, French Fork Incised, *var. Wilzone.*

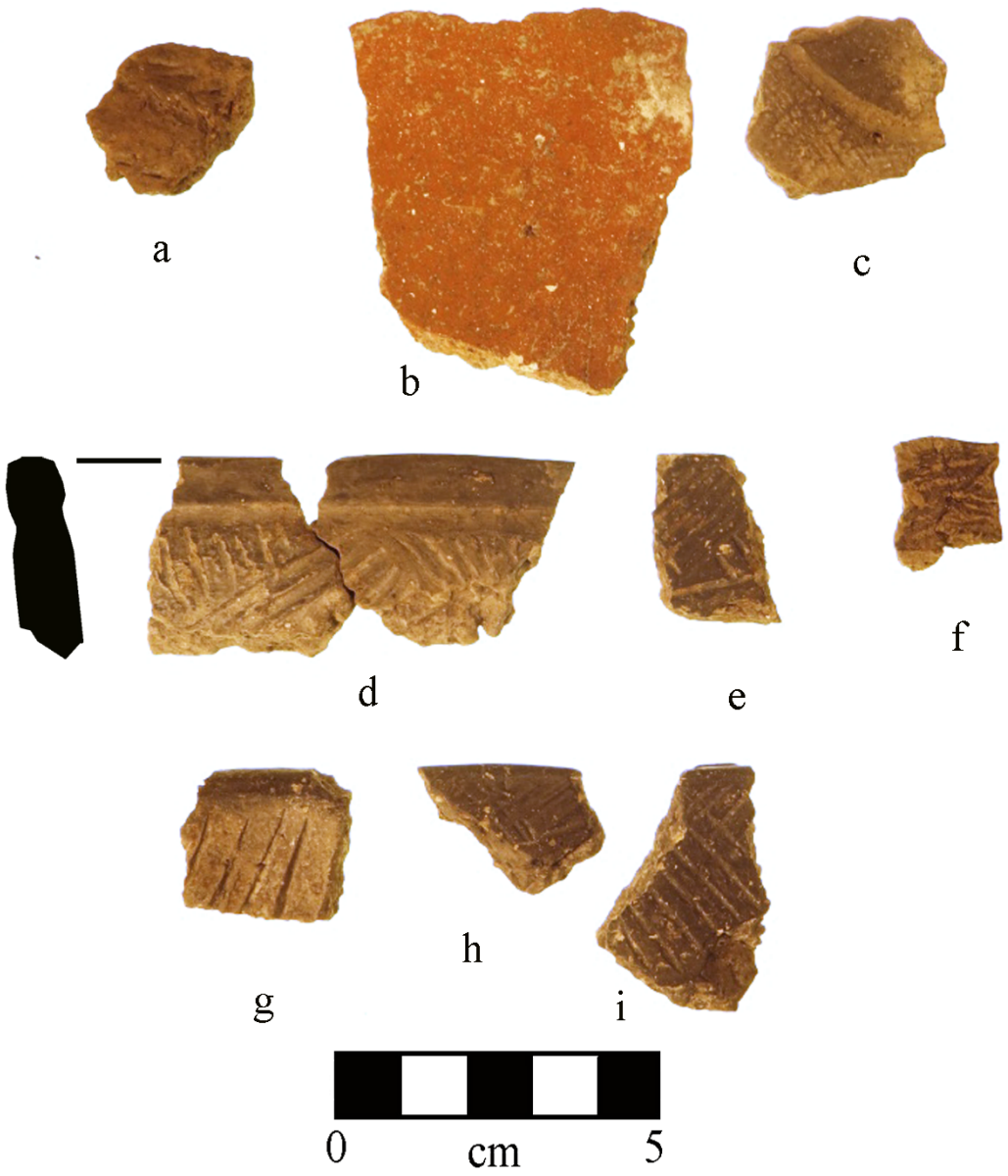


Figure 4.35. a, Hollyknowe Pinched, *var. Hollyknowe*; b, Larto Red, *var.Vaughn*; c, Marksville Stamped, *var. Newsome*; d-f, h, i, Mazique Incised, *var. Kings Point*, g, Mazique Incised, *var. Preston*.

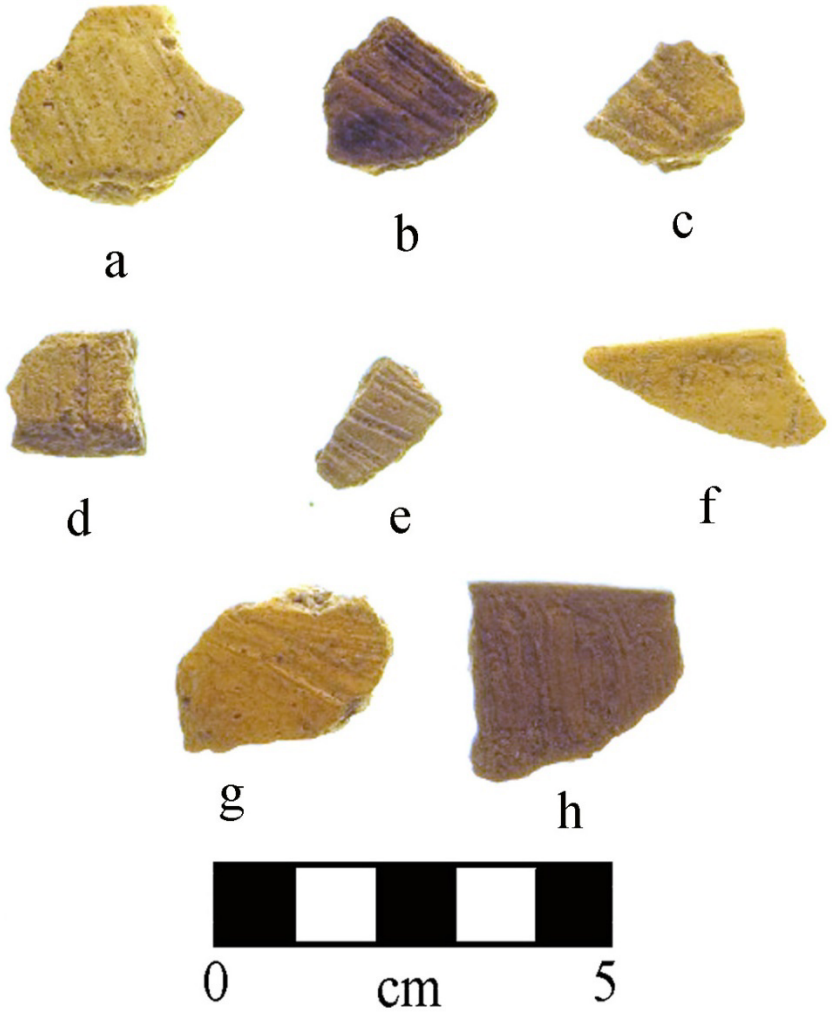


Figure 4.36. a-d, Plaquemine Brushed, *var. Plaquemine*; e-h, Plaquemine Brushed, *var. Blackwater*.

Shell Tempered Decorated Ceramics

Grace Brushed, *var. Grace* (1 rim; Figure 4.37, a) Williams and Brain 1983:163

Grace Brushed is a shell tempered Mississippi period type assigned to the early Winterville phase. The collected specimen is from a bowl with a tapered rim and round lip.

Parkin Punctated, *var. Hollandale* (1 body; Figure 4.37, c) Williams and Brain 1983:196

A single shell tempered body sherd was classified as this Mississsipi period type.

Winterville Incised, *var. Wailes* (11 body: Figure 4.37, d-h) Brain 1989:390

This protohistoric variety postdates other shell tempered examples from Aden. The collected sherds all appear to be from the same vessel, a thin-walled vessel of unknown form. Several sherds conjoin. One sherd appears to be at the junction of body and rim and if so, the

design appears to be festoons of concentric broad trailed lines beginning just below the rim. Lines are 5 mm wide and on some sherds the interior of the vessel wall is deformed from the application of the lines to the exterior, a secondary characteristic of this variety.

Other Decorated Ceramics

Lake Borgne Incised, *var. Unspecified* (1 body; Figure 4.37, b) Ford and Quimby 1945:61
Lake Borgne Incised is a Tchula period type, pointing to prehistoric occupation in the vicinity of Aden that predates the already recognized Marksville component. The decoration is distinctive in that the flat-tipped tool is dragged and jabbed into the pasted. As is the case with Tchefuncte most ceramics, the paste is temperless and has a laminated appearance in cross-section.

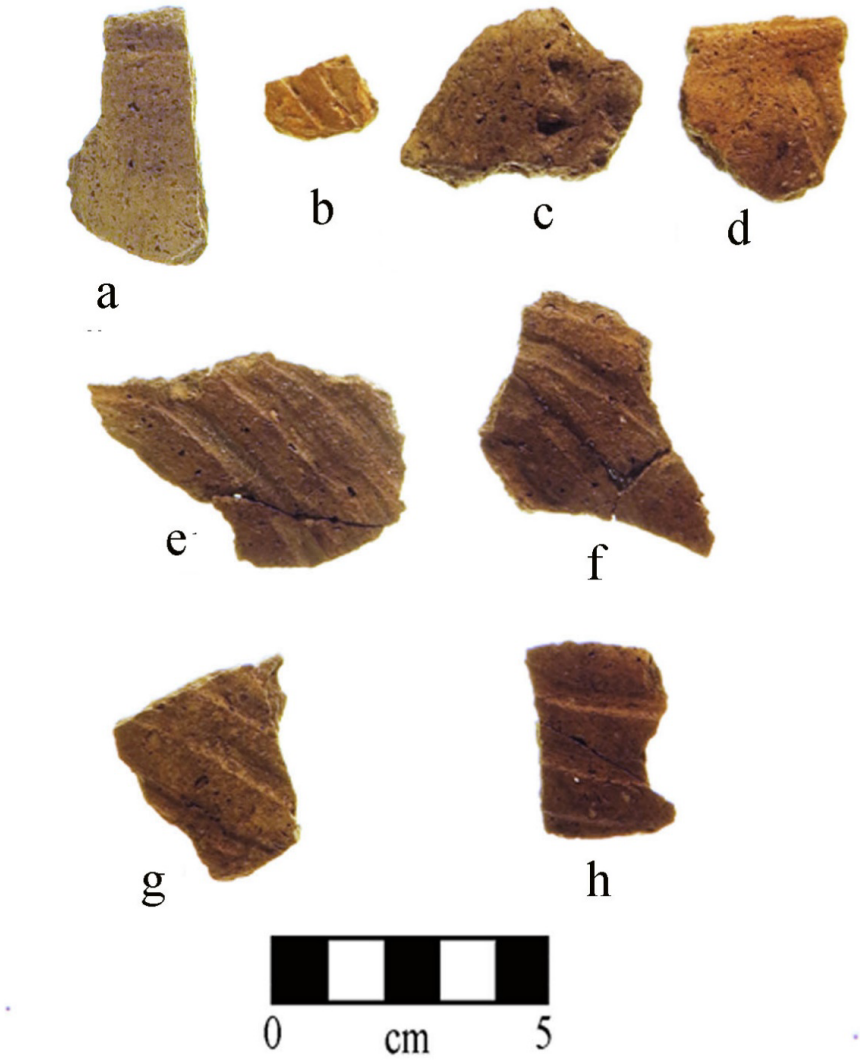


Figure 4.37. a, Grace Brushed *var. Grace*; b, Lake Borgne Incised *var. unspecified*; c, Parkin Punctated *var. Hollandale*; d-h, Winterville Incised *var. Wailes*.

Unclassified Decorated Sherds

Sherds too small to sort into typological categories were simply recorded by temper, vessel portion and decorative technique. This is summarized in Table 4.7.

Table 4.7. Summary of unclassified decorated sherds.

	Rim	Body	Total
Incised		5	5
Punctated	1	1	2
Stamped		1	1
Indeterminate Decorated	4	14	18

Miscellaneous Ceramic Specimens

Several handles and vessel fragments add to overall picture of Coles Creek ceramics at Aden:

Jackson Mode Lug Handle

An example of what is referred to as a Jackson mode lug handle (Belmont 1983 in Kassabaum 2014) was collected from the midden stratum of Test Unit 2 (Figure 38). It is a portion of a triangular lug handle on an open bowl (e.g. Ford 1951: Figure 22,e). It is decorated with punctations.

Interior Lug handle (?)

A rim sherd with a perpendicular appendage on the interior of the simple open bowl was collected from the midden stratum in Unit 2. It is decorated with punctations (Figure 39).

Figure 4.38. Jackson mode lug handle.

Figure 4.39. Interior "lug handle".

Ceramic Distribution

Table 4.8 presents the distribution of ceramic type varieties by general provenience. Although the sample size disparity makes comparison potentially problematic, nonetheless, it appears that the excavated deposits on Mound B are somewhat later than A at least in TU4 (which produced the vast majority of pottery from Mound B), with overall better representation of late Coles Creek varieties. In fact, it is most similar to ceramics from the slopewash context of Mound A (which presumably represents the latest use of Mound A's summit, mixed with whatever earlier sherds were part of mound construction fill; Table 4.9).

Table 4.8. Distribution of ceramic type-varieties by mound provenience.

Type-Variety	Mound A	Mound B	Mound C	Total
Anna Incised, *var. Anna*	1			1
Avoyelles Punctated, *var. Unspecified*		1		1
Baytown Plain	7422	400	49	7871
Carter Engraved, *var. Carter*	1	5		6
Chevalier Stamped, *var. Chevalier*	32			32
Chevalier Stamped, *var. Perry*	1			1
Chevalier Stamped, *var. Unspecified*	1			1
Churupa Punctated, *var. Churupa*	1		1	2
Coleman Incised, *var. Coleman*	1	1		2
Coles Creek, *var. Campbellsville*	13			13
Coles Creek, *var. Chase*	10			10
Coles Creek, *var. Coles Creek*	56	1		57
Coles Creek, *var. Ely*	1			1
Coles Creek, *var. G*reenhouse	12			12
Coles Creek, *var. Hardy*	3	2		5
Coles Creek, *var. Hunt*	17			17
Coles Creek, *var. Judd Bayou*	1			1
Coles Creek, *var. Mott*	43	4		47
Coles Creek, *var. P*hillips	7			7
Coles Creek, *var. Stoner*	43			43
Coles Creek, *var. Unspecified*	215	1	1	217
Coles Creek, *var. Wade*	52			52
Decorated, *var.* Unspecified	11	10		21
Evansville, *var. Evansville*	5	1		6
Evansville, *var. Rhinehart*	1	1		2
Evansville, *var. Unspecified*	1			1
French Fork Incised, *var. French Fork*	2			2
French Fork Incised, *var. Larkin*	3	1		4
French Fork Incised, *var. McNutt*	2			2
French Fork Incised, *var. Unspecified*	3			3
French Fork Incised, *var. Wilzone*	3			3
Grace Brushed, *var. Grace*	1			1
Hollyknowe Pinched, *var. Hollyknowe*	1			1
Lake Borgne Incised		1		1
Larto Red, *var. Vaughn*	1			1
Marksville Stamped, *var. Newsome*	1			1
Marksville Stamped, *var. Unspecified*			1	1
Mazique Incised, *var. Kings Point*	5	2		7

Table 4.8, continued.

Type, *var.* Variety	Mound A	Mound B	Mound C	Total
Mazique Incised, *var. Preston*	1			1
Mississippi Plain, *var. Coker*	2			2
Mississippi Plain, *var. Yazoo*	42	5	1	48
Parkin Punctated, *var. Hollandale*	1			1
Plaquemine Brushed, *var. Blackwater*	4	1		5
Plaquemine Brushed, *var. Plaquemine*	3			3
Plaquemine Brushed, *var. unspecified*	1		1	2
Unclassified Incised	11			11
Unclassified, *var.* Punctated	2			2
Unclassified, *var.* Stamped			1	1
Winterville, *var. Wailes*	11			11
Total	8051	437	55	8543

Table 4.9. Type-varieties from Mound A slopewash.

Type, variety	Count
Anna Incised, *var. Anna*	1
Chevalier Stamped, *var. Chevalier*	7
Coles Creek, *var. Campbellsville*	1
Coles Creek, *var. Chase*	2
Coles Creek, *var. Coles Creek*	6
Coles Creek, *var. Hunt*	1
Coles Creek, *var. Judd Bayou*	1
Coles Creek, *var. Mott*	3
Coles Creek, *var. Phillips*	2
Coles Creek, *var. Stoner*	3
Coles Creek, *var. Unspecified*	43
Coles Creek, *var. Wade*	10
Evansville, *var. Evansville*	3
Evansville, *var. Rhinehart*	1
Evansville, *var. Unspecified*	1
French Fork Incised, *var. Unspecified*	1
French Fork Incised, *var. Wilzone*	1
Grace Brushed, *var. Grace*	1
Larto Red, *var. Vaughn*	1
Mazique Incised, *var. Kings Point*	1
Mississippi Plain, *var. Coker*	2
Mississippi Plain, *var. Yazoo*	26
Plaquemine Brushed, *var. Blackwater*	3
Plaquemine Brushed, *var. Plaquemine*	1
Plaquemine Brushed, *var. unspecified*	1
Winterville, *var. Wailes*	7
Total	**130**

Table 10 and Figure 40 compare the midden deposits from TU1 and TU2 in Mound A. Obviously early (e.g Marksville Stamped) or later (Mississippi Plain, Winterville *var. Wailes*) have been removed. It has been argued that each midden deposit represent rapid episodes of accumulation. Radiocarbon dates on samples from the tops and bottoms of each deposit are essentially identical. Moreover, they suggest that these middens are sequential deposits, with that in TU2 having an averaged calibrated one sigma range of A.D. 970-1020 and TU1 somewhat later, A.D. 1020-1160. While both dates place the deposits near the middle of the Crippen Point phase, the ceramics span the chronologically ordered sets proposed by Williams and Brain (1983). An obvious possibility is that midden deposition is mixed with earlier fill and consequently earlier ceramics. However, mixing does not appear to be the case. The rapidity of deposition would seem to argue against infiltration of a significant amount of earlier mound fill. Moreover, in comparing the shifts in proportional representation of varieties from the two deposits, the trends all move in the expectable direction-smaller amounts or disappearance of earlier varieties and increasing representation or appearance of later varieties over time. Bucking the overall trend are a single sherd of Chevalier Stamped, *var. Perry*, in TU2 which is small and could very well fit within the range of Chevalier, and Coles Creek Incised, *var. Campbellsville*, which is unexpectedly better represented in TU1. In spite of these exceptions, overall, ceramic varieties appears to conform to changes expected from seriation. The data suggest that the temporal distributions of varieties comprising sets are more independent of each other than the set concept suggests, a proposition that requires evaluation with other data sets. As noted earlier, pastes of the ceramics of even the earliest varieties as we sorted them .e.g., Coles Creek Incised, *vars. Hunt, Phillips*, French Fork Incised, *var. Wilzone*) are not significantly different from the pastes of ceramics we assigned to Aden or Kings Crossing phase varieties, such that it appears that certain decorative ideas remained conservative even as paste recipes evolved.

Overall, the midden from TU2 is probably a good representation of a Kings Crossing assemblage, while in the upper midden sample from TU1, the transition to Crippen Point may have just begun to take place. This calls into question the temporal placement of these phases and when the break between should be placed. Across the Mississippi River in the Tensas Basin of Louisiana recent research at the Lake Providence sites has permitted the definition of the Preston Phase (A.D 1100-1250; Wells and Weinstein 2005: 492). It is preceded by the Balmoral phase, which they place between A.D. 1000 and 1100. Balmoral phase ceramics are consistent with those most characteristic of the Kings Crossing phase in the southern Delta, and given the radiocarbon evidence from Aden, it appears that this would be a good temporal placement for the phase. Whether this expands the length of time of the phase, or whether earlier phases will need chronological adjustment cannot be determined on the basis of the present data. One ramification of a later terminus of the Kings Crossing phase is that the Crippen Point phase is shortened by a century. If true, then the period of transition from Woodland to Mississippian culture was all the more rapid.

Summary and Conclusions

Archaeological investigations of the two remaining mounds at Aden excavated later construction episodes, surfaces and middens, dating to the Kings Crossing phase and into the

Crippen Point phase. Aden phase construction and use-related deposits may be present, but were not encountered. On Mound A two sequent Kings Crossing phase midden deposits produced abundant evidence of ritual feasting and a rich ceramic assemblage, as well as evidence of long distance contact in the form of quartz crystal fragments. Interpreted as refuse originating from activities on the summit of Mound A, the middens point to large scale ceremonial feasting events atop the mound. Slopewash deposits surmounting the middens indicate that ceremonial use of Mound A persisted into the Crippen Point phase. Slightly later ceramic markers were recovered from the summit excavation on Mound B, indicating its use also continued into the Crippen Point phase. There is also evidence of some seemingly minor use of Aden during the Winterville phase, reflected by a small number of ceramic markers including Mississippi Plain, *var.* Coker, Anna Incised, *var.* Anna, Carter Engraved, *var.* Carter, and Grace Brush, *var.* Grace. The latest evidence of the site's use is an apparently ephemeral occupation of the site during the protohistoric Wasp Lake phase, evidenced by several Winterville Incised, *var. Wailes*, sherds that are attributed to a single small pit intruded into the flank of Mound A (an offertory pit?). Finally, with respect to the pre-Coles Creek use of the vicinity, on the basis of a single Lake Borgne Incised sherd it appears that it was occupied at least as early as the Tchula period and that there is better evidence for occupation during the Issaquena phase of the Marksville period.

Table 4.10. Type-varieties from Mound A midden strata.

Type-Variety	TU1	TU2	Total
Carter Engraved, *var. Carter*	1		1
Chevalier Stamped, *var. Chevalier*	1	11	12
Chevalier Stamped, *var. Perry*		1	1
Coles Creek, *var. Campbellsville*	6	1	7
Coles Creek, *var. Chase*		5	5
Coles Creek, *var. Coles Creek*	12	22	34
Coles Creek, *var. Ely*	1		1
Coles Creek, *var. Greenhouse*	11		11
Coles Creek, *var. Hardy*	1		1
Coles Creek, *var. Hunt*	3	7	10
Coles Creek, *var. Mott*	14	12	26
Coles Creek, *var. Phillips*	1	1	2
Coles Creek, *var. Stoner*	8	12	20
Coles Creek, *var. Wade*	15	17	32
Evansville, *var. Evansville*	2		2
French Fork Incised, *var. Larkin*	1	1	2
French Fork Incised, *var. McNutt*	1	1	2
French Fork Incised, *var. Unspecified*		2	2
French Fork Incised, *var. Wilzone*		3	3
Mazique Incised, *var. Kings Point*	4		4
Mazique Incised, *var. Preston*	1		1
Plaquemine Brushed, *var. Blackwater*	1		1
Total	84	96	180

Radiocarbon dates from the midden deposits flanking Mound A indicate that the Kings Crossing phase may be later or at least end later than previously suppose since the later midden, dating to sometime after 1050, has only the smallest hint of Crippen Point ceramic diagnostics intermingled with a strong Kings Crossing phase. It is suggested that the time interval of the Kings Crossing phase may be more in line with the reformulated Balmoral phase time span in the Tensas Basin.

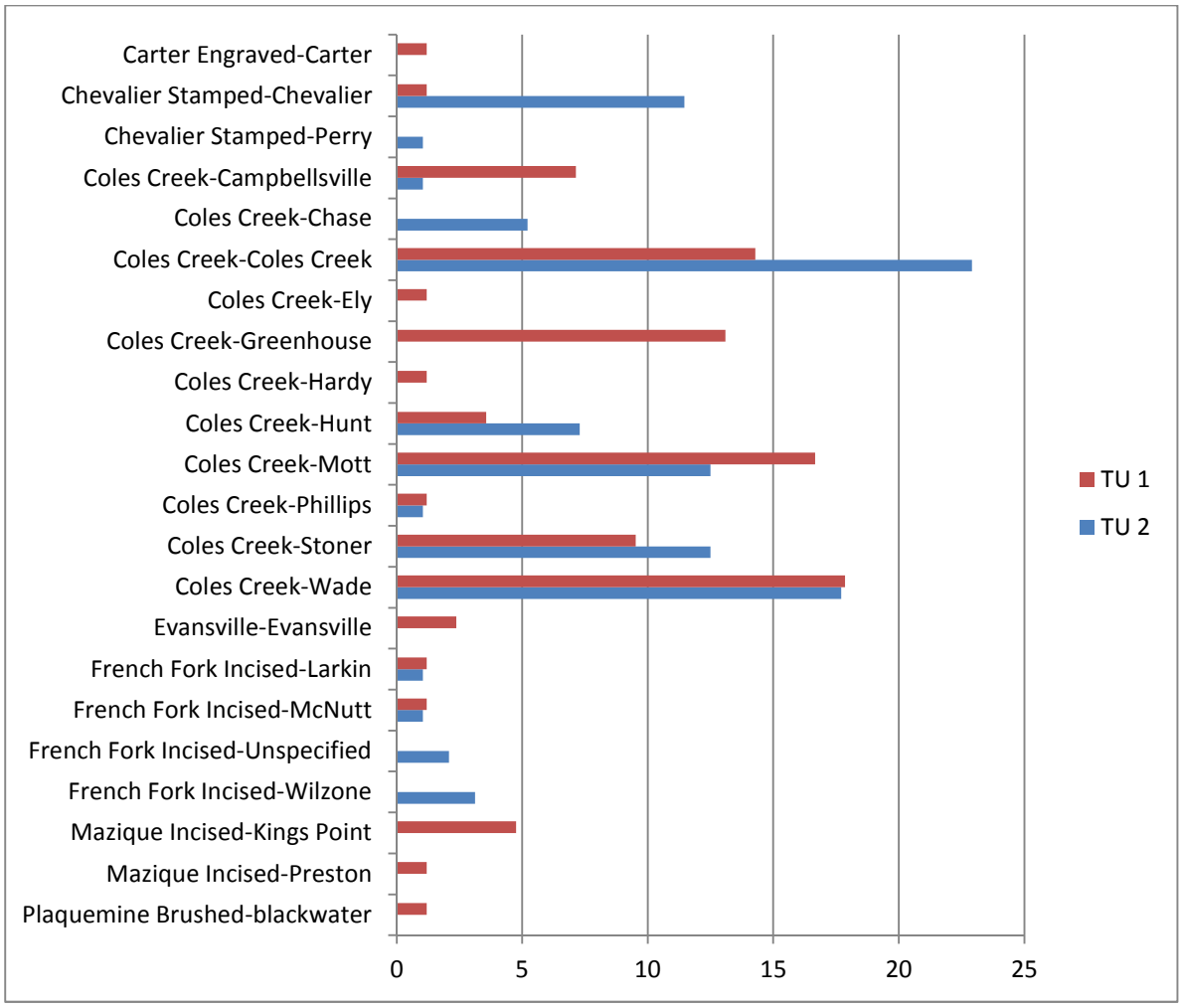


Figure 4.40. Relative frequencies of type-varieties from midden strata in TU1 and TU2.

Chapter 5: Conclusions

The 2014 season of Mound Trail investigations by the University of Southern Mississippi included revisits to Arcola (22WS516), Hardee (22IS502), Mont Helena (22SH505), and Carter (22SH532). Newly investigated sites include Dornbusch (22WR510) and Aden (22IS509). Mound C was the focus of investigation at Arcola to establish a date of construction for the smallest mound at the site. Mound C is contemporaneous with the remaining mounds at the site, with summit use during the Lake George II subphase. Similarly, test units were placed in the lower flanks of Mounds A at Hardee and Mont Helena to understand when those mounds were constructed. Mound A at Hardee may have been constructed during the Winterville II subphase, but was continually built during the Lake George phase. A Late Woodland village deposit is suspected at Hardee as the mound fill contained Coles Creek and transitional pottery varieties and vessel forms. This continuity is unusual in the Southern Yazoo Basin; most Late Woodland centers are completely abandoned with the ushering in of the Mississippi period. Shell-tempered pottery found beneath the mound at Mont Helena indicates the mound was constructed at some point after AD 1000. Auger tests in the off-mound areas at Carter were excavated to locate any village midden that may be present on the site; a thick and undulating deposit was found south of Mound B. Preliminary investigations at Dornbusch, including augers around sharply vertical flanks and through the summit, indicate the mound is a remnant loess bluff rather than a monumental earthen construction. The site was removed from the Mound Trail. Aden, a Coles Creek center, proved to be the most productive site on the project. Units placed on both mounds and A and B encountered what traditionally would be considered Kings Crossing phase (the centuries prior to AD 1000) ceramic assemblages. Mound A uncovered portions of two flank middens that based on radiocarbon dates and shifts in ceramics appear to be sequential. The earlier deposit dates just prior to AD 1000 and is primarily an organic deposit laden with ceramicss and faunal materials. The later deposit dates to circa AD 1000-1100 included not only ceramics and vertebrate faunal but also a significant amount of mussel shell. that dates The radiocarbon fall within the range of the Crippen Point phase (Williams and Brain 1983), rather than the Kings Crossing phase, but Crippen Point phase ceramics appear to have only made their initial appearance in the ceramic suite in the later deposit (and in overlying wash) and are scanty at best. Ceramics produced in conjunction with the radiocarbon dates suggest that we need to rethink the temporal divide of Kings Crossing and Crippen Point, and it was suggested that perhaps the phases be aligned with that between the Balmoral and Preston phases in the Tensas Basin. Obviously, the limited excavations at Aden are inadequate to sort out these chronological issues, but one thing that is clear: these phases are critical to understanding changing lifeways in the basin as they capture the transition to the Mississippian period, and their accurate placement has important implications for the rate of change during this cultural transformation. Beyond temporal considerations, Aden has provided an example of the potential of mound flank middens for understanding social dynamics, as these middens likely represent episodes of large-scale, rapid deposition of pottery and faunal remains associated with group meals and ceremonial activity, or what can be thought of as feasting.

All radiocarbon dates produced as part of this project can be found in table 5.1. Table 5.2 associates individual mounds tested as part of this project with regional phases. These associations do not capture all construction episodes within mounds as some mounds may have earlier and later components not encountered by our excavations. That said, immediately of note

is the absence of construction episodes that can be assigned to the Winterville I phase. This "hiatus" in mound construction is probably related to the populations in the basin moving to the largest centers of Winterville, Mayersville, and Lake George, sites that experience massive growth during this time.

In conclusion, Mound Trail excavations have provided a working chronology of smaller mound centers along Deer Creek and on former Mississippi River channels. This work has also provided a context for future research. Excavations have confirmed a peak in mound construction during the Lake George phase. This intensification of mound construction was recognized by LMS archaeologists working in the region in the mid-20th century based on artifact surface collections (Brain 1978). If this peak is related to a true population boom post AD 1350 or due to a series of population movements remains an important research question for the area. Ceramic series are remarkably consistent between Lake George centers across the entire Southern Yazoo Basin, casting doubt that population influx is responsible for the proliferation of centers. Mississippian groups moving to the basin from other regions would likely produce a much more diverse ceramic assemblage.

In addition to changing patterns of settlement in the basin, Coles Creek and Mississippian mounds appear to be constructed in a different fashion. Coles Creek mounds are composed of clayey fills that stabilized these earthen monuments. The mounds also have significantly more ceramics included in the fills. Mississippian centers, in contrast, have few ceramics in the fills and are built out of the nearby levee silts and sands. While the construction of mounds is an integral part of both Late Woodland and Mississippian society, these groups constructed mounds in different ways, perhaps for different ends. Flank excavations at Aden indicate that mound summits were the scene of large-scale communal activities that produced abundant refuse, while the summit activities at the Mississippian centers are more elusive. What were the changing social dynamics from the Coles Creek to Mississippian periods that were responsible for these differences? Future research in the basin can seek to address this research question, among others.

Table 4.1. Radiocarbon dates from 2014 MMT sites.

Site	Beta Number	Description	Conventional Age		2 Sigma Calibration
Mont Helena	388757	Beneath mound	990 +/- 30 BP	1090 +/- 30 BP	Cal AD 890 to 1015 (Cal BP 1060 to 935)
Aden	388756	Mound A TU1, L. 13	1020 +/- 30 BP	1010 +/- 30 BP	Cal AD 985 to 1040 (Cal BP 965 to 910) and Cal AD 1110 to 1115 (Cal BP 840 to 835)
Aden	388755	Mound A TU2, L. 5	1040 +/- 30 BP	1040 +/- 30 BP	Cal AD 970 to 1025 (Cal BP 980 to 925)
Aden	388754	Mound A TU1, L. 15	1000 +/- 30 BP	940 +/- 30 BP	Cal AD 1020 to 1165 (Cal BP 930 to 785)
Aden	388753	Mound A TU2, L. 7	1020 +/- 30 BP	1050 +/- 30 BP	Cal AD 905 to 920 (Cal BP 1045 to 1030) and Cal AD 965 to 1025 (Cal BP 985 to 925)
Aden	388752	Mound B TU3, Buried A	960 +/- 30 BP	940 +/- 30 BP	Cal AD 1020 to 1165 (Cal BP 930 to 785)
Hardee	388751	Buried A horizon	570 +/- 30 BP	560 +/- 30 BP	Cal AD 1310 to 1360 (Cal BP 640 to 590) and Cal AD 1385 to 1425 (Cal BP 565 to 525)
Hardee	388750	Feature on first stage	640 +/- 30 BP	610 +/- 30 BP	Cal AD 1290 to 1410 (Cal BP 660 to 540)
Arcola	388749	Sediments/Mound C fill	1470 +/- 30 BP	1560 +/- 30 BP	Cal AD 420 to 570 (Cal BP 1530 to 1380)
Arcola	388748	Post mold beneath floor/Mound C	400 +/- 30 BP	420 +/- 30 BP	Cal AD 1435 to 1490 (Cal BP 515 to 460) and Cal AD 1605 to 1610 (Cal BP 345 to 340)

Table 4.2. Phase associations of mound construction episodes encountered in test excavations, 2013-2014.

	Coles Creek				Plaquemine		Mississippian	
	Aden	Kings Crossing	Crippen Point	Crippen Point II	Winterville I	Winterville II	Lake George I	Lake George II
Aden Mound A	X	X						
Aden Mound B	X	X	X					
Carter Mound A			X					
Carter Mound B			X					
Anguilla Mound A						X		
Hardee Mound A						X	X	
Grace Mound A							X	
Grace Mound B							X	
Refuge Mound A							X	
Arcola Mound B							X	X
Arcola Mound A								X
Acrola Mound C								X
Cary Mound A								X

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Appendix A: Ceramic Database (Digital)