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Mossy Oak Revisited: A Case Study in Mississippian Ceramics

Lillian Cadwell

MOSSY OAK REVISITED: A CASE STUDY IN MISSISSIPPIAN CERAMICS

by

LILLIAN CADWELL

Under the Direction of Dr. Jeffrey B. Glover

ABSTRACT

The research presented here seeks to better understand the relationship between the Macon Plateau site and Mossy Oak ceramics. The Early Mississippian period in central Georgia was a time of great change with emerging political centralization and social ranking. This thesis aims to better understand Macon Plateau's relationship with outlying areas. To accomplish this objective the ceramic assemblage site from the site of Mossy Oak (11 Bi 17) is revisited and reanalyzed using spatial analysis and detailed investigations of Vining Simple Stamped pottery. Rather than taking a top-down, elite-focused approach, this thesis explores the impact of horizontal relationships between groups present at the inception of social institutions and social inequality at the dawn of the Early Mississippian and the rise of Macon Plateau.

INDEX WORDS: Southeastern archaeology, Social complexity, Ceramics analysis

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LILLIAN CADWELL

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by

LILLIAN CADWELL

Committee Chair: Jeffrey B. Glover

Committee: Daniel Bigman

Bethany Turner-Livermore

Electronic Version Approved:

Office of Graduate Studies

College of Arts and Sciences

Georgia State University

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DEDICATION

To my husband Adam who is a constant source of support and inspiration.

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1 INTRODUCTION

The Mississippian period (A.D. 1000-1600) of the American Southeast is characterized by the emergence civic-ceremonial centers headed by elite groups who held influence over their surrounding areas. Maize agriculture proliferated, and concurrently with the building of monumental mounds came shell-tempered pottery. The Macon Plateau site at Ocmulgee National Monument has all of the characteristic features of the Mississippian transition, however little is known about its relationship with other sites in its vicinity. In this study, I revisit the ceramic assemblage from the Mossy Oak site in Bibb County, Georgia, 11Bi17. The site of Mossy Oak is five miles south along the Ocmulgee River, well within the Macon Plateau's range of influence during the Mississippian. Mossy Oak was excavated during the Great Depression under the direction of Gordon Willey as part of the Works Progress Administration (WPA). These archaeological investigations revealed large scale Mississippian period (A.D. 1000-1600) settlements across central Georgia. Much of the material uncovered by these excavations remains unanalyzed. Moreover, the processes that drove the transition to the Mississippian in the Southeast are not well understood. The Mossy Oak ceramic assemblage dates roughly to the beginning of this period of transition. Additional analysis of these materials has the potential shed light on these processes of cultural change, which are of critical interest to anthropology.

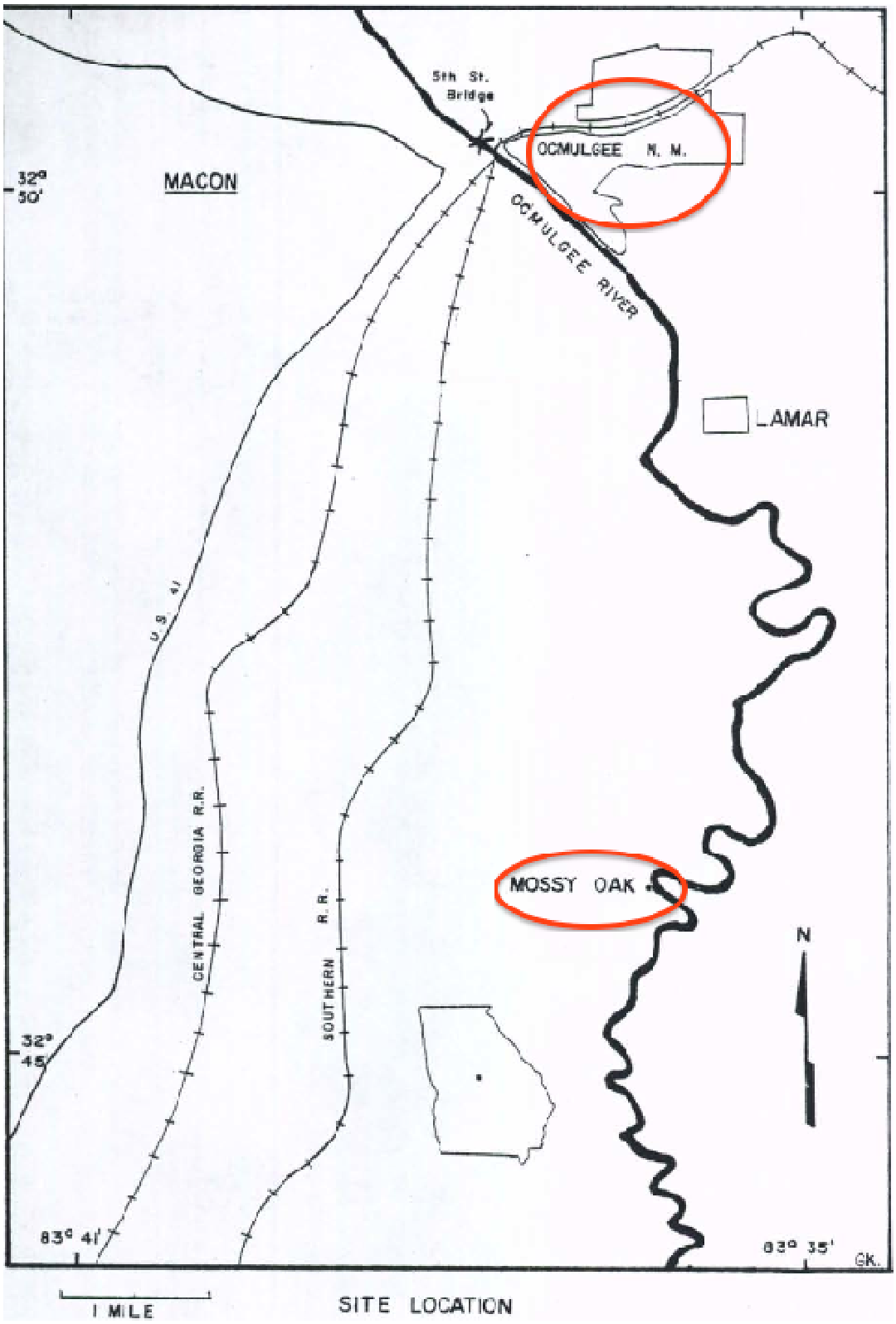

Figure 1 Location of Mossy Oak and Macon Plateau

There are unanswered questions concerning life at the onset of the Mississippian. First, the Mississippian is characterized by major cultural changes, such as organized building of monuments, differences in pottery tempering, and the proliferation of intensified maize agriculture. What brought on these changes? Was this transition the result of outsiders moving into the area, or increasing political complexity as a result of an evolutionary trajectory? In recent years, archaeologists have moved away from using top-down approaches to understand culture change, incorporating bottom-up or horizontal perspectives. Elites could not have built the earth lodge or large mounds at Macon Plateau without the conscious cooperation of people living nearby. Who were these commoners in Early Mississippian central Georgia? Were they coerced by powerful elites? What are some other reasons they may have given their labor to build the monuments of the Mississippian occupation at Macon Plateau? Moving away from traditional top-down approaches, I focus on the horizontal relationships between different groups. Could the open exchange of ideas at the inception of the rise of a powerful hierarchical capital have influenced its development? How do the horizontal relationships present in all human societies influence and drive culture change?

One way archaeologists investigate past cultural change is through the study of ceramics. Ceramics are the often the most numerous artifact uncovered from many archaeological sites (Rice 2005:10). This is especially true in Mississippian period contexts, and Mossy Oak is no exception. The ceramic types found in greatest abundance at Mossy Oak are designated “Vining Simple Stamped” and “Lamar” styles. Understanding where Vining Simple Stamped ceramics occur in the greater chronology of Mississippian Georgia has been a topic of considerable debate This study builds on of the work of Elliot and Wynn (1991), Pluckhahn (1997) and Bigman (2012), focusing on Vining Simple Stamped ceramics as an indicator of early Mississippian

activity in central Georgia. To understand the transition to the Mississippian period on the Macon Plateau, I examine the distribution of Vining Simple Stamped ceramics in time and space at Mossy Oak, addressing chronological and interpretive problems that this ceramic type has raised.

1.1 Hypotheses

In this study I focus on Vining Simple Stamped ceramics. Vining Simple Stamped ceramics present a gap in our knowledge of the earliest stages of Mississippian development at Macon Plateau. The presence of Vining Simple Stamped ceramics at Mossy Oak raises questions about Macon Plateau's relationship with sites in its vicinity. To understand the array of decision making processes that operated at the non-elite level, I test a number of hypotheses using statistical analysis based on measurements taken from Vining Simple Stamped pot sherds and perform spatial analysis based on these results.

1.1.1 What was the function of Mossy Oak during the Early Mississippian period?

If Mossy Oak was a village, as Willey described it (Willey 1937:43), then there should be evidence that a variety of activities took place there. A village is a permanent settlement and habitation site, where people lived, raised families, and spent time with members of the community. A village would therefore be a locus of various activities. It follows that a variety of ceramic forms would accompany those activities. To test this hypothesis I measured the orifice diameter of every Vining Simple Stamped rim sherd from Pits 1-8. If Mossy Oak was a village, then there should be wide variation in rim shapes over time and space. If there is instead a low range of variation in rim shapes, then the range of activities at Mossy Oak would likewise have been limited. A limited range of activities at Mossy Oak would indicate that the site served

a specific function such as a hunting or fishing camp or temporary farming campsite that was utilized intermittently by people from Macon Plateau.

I also observe differences in lip and rim form among Vining Simple Stamped sherds, two other variables indicating the function of a vessel. In the event that Mossy Oak was a habitation site, the lips and profiles of rim sherds should also incorporate a range of variation. Uniformity of lip forms and profiles, on the other hand, would indicate that a singular type of vessel was present at the site, making it unlikely that Mossy Oak was a habitation site.

Thickness is another metric useful for understanding vessel function at Mossy Oak. Vessels with different functions should have different thicknesses. To utilize this metric, I measured the sherd thickness of all of the Vining Simple Stamped ceramics from Pits 1 and 7 using digital calipers. I use these measurements to assess variability. A wide range of variability across sherd thicknesses indicates variety in vessel shape. Conversely, uniformity in sherd thickness indicates uniformity in vessel shape and function.

1.1.2 Did Mossy Oak's function change over time?

The Early Mississippian period marks a major transition in the way of life of people across the Southeast. On a regional scale, this transition is characterized by a shift to intensified maize agriculture, living in clustered, densely populated settlements with platform mounds at the center, political organization with elites and ascribed social ranking. On a site-to-site level, how do these greater changes across the region manifest smaller scale settlements? My hypothesis, based on the work of Bigman (2012), is that as Macon Plateau grew more populous, more people moved from the hinterlands into the center. This pattern should be reflected at Mossy Oak. If this is the case, ceramic materials should decrease as one moves through the Early Mississippian period, suggesting that more people left the village for the center. If this is not the case, the

density of the Mossy Oak ceramic assemblage should remain constant over time, or increase in volume indicating more activities and a possible increase in population. I will test this hypothesis by reconstructing the stratigraphy of sherd counts and sherd weights from Pits 1-8 by Willey's three-inch levels from the original excavations at Mossy Oak and compare and contrast the number of sherds and volume of sherds over time.

I also test this hypothesis is through spatial analysis. Using ArcGIS, I created an inverse distance weighting (IDW) interpolation raster of sherd count and weight data from Pits 1-8. The resulting visualization allows me to determine where activities were taking place at different times at Mossy Oak. If population indeed moved toward the center, there should be less activity across the site over time. Conversely, if there was not a pull toward the center, there should be stability or even an increase in activity across the site in the later stratigraphic levels.

Finally, I examine this hypothesis by looking at changes in the aforementioned metrics of Vining Simple Stamped rim sherd analysis for Pits 1-8 and sherd thickness from Vining Simple Stamped sherds of Pits 1 and 7. If Mossy Oak's function changed over time, that change should be reflected in other aspects of my analysis. For example, if less people occupied the site over time, less activities may have taken place at Mossy Oak in the later levels than the earlier levels. Such would be the case if there was a decrease in the variety of rim sherds and thickness measurements over time, indicating that the number of activities taken place at Mossy Oak decreased over time. Alternatively, consistency in these metrics would indicate consistent site function over time. A decrease in the overall quantity of sherds, but consistency in variation of vessel functions might indicate a decrease in population, but consistency in the type of activities taking place at Mossy Oak.

1.1.3 Was Vining Simple Stamped pottery decoration standardized?

Vining Simple Stamped ceramics are distributed across central and north Georgia. They roughly date to the Early Mississippian period. Distinct in style, they are characterized by linear, sometimes criss-crossing or chevron designs pressed into wet clay on the outsides of vessels before firing. Where Vining Simple Stamped ceramics fit into the ceramic chronology of central Georgia has been a source of confusion for archaeologists. One of the objectives of this study is to reduce confusion concerning Vining Simple Stamped ceramics and reaffirm their place in the ceramic chronology of Mississippian Georgia. To accomplish this goal, I examine the standardization of Vining Simple Stamped ceramics. My hypothesis is that multiple groups of Vining Simple Stamped potters were likely involved in their production. If this holds true it would indicate that a diverse population of people from different areas interacted in the area. This may also suggest that Vining Simple Stamped paddles were locally produced and exchanged across north Georgia. Alternatively, uniformity in stamping decorations would indicate stylistic solidarity in ceramics at Mossy Oak.

Figure 2 Distribution of Vining Simple Stamped ceramics (after Stoutamire et al. 1977:69)

To test this hypothesis, I measured, at random, three linear impressions on every Vining Simple Stamped sherd from Pits 1 and 7 from the width of the void left by the paddle when it was originally pressed into the clay. From these three measurements I calculated the standard deviation and mean. Using these metrics, I created scatterplots in order to determine whether or not there were any patterns in the data. If Vining Simple Stamped is standardized, I expect to see a single cluster of stamping measurements, indicating relatively standardized Vining Simple Stamped paddles. If multiple groups were involved in the production of Vining Simple Stamped

ceramics, I expect to see multiple clusters or no cluster at all, indicating either no standardization, or two distinct groups within Vining Simple Stamped ceramics.

1.1.4 Was Early Mississippian Georgia Founded by Outsiders?

Explanations for the profound changes that appear in the southeast fall into two categories. The first category of explanations suggests that the rise of the Mississippian results from migrants radiating from a single source, bringing with them a specific Mississippian ideology. Diffusion, therefore, is the primary source of culture change. The second category of explanations suggests that the rise of the Mississippian is explained by multiple independent developments spawned by the interaction of different groups that adopted maize agriculture and lived in larger settlements than in previous periods (Anderson and Sassaman 2012:159). In central Georgia, the appearance of shell-tempered ceramics is considered a diagnostic trait of the Early Mississippian period, especially Bibb Plain ceramics that have a constricted distribution to 10 km around Macon Plateau (Bigman 2012:3).

My hypothesis is that Mossy Oak was settled by local people who exploited the river for a variety of resources, including river mussel shell which could serve as a tempering agent in their pots. To test this hypothesis, I performed a presence/absence study on all of the Vining Simple Stamped ceramics from Pits 1 and 7 at Mossy Oak. Although Vining Simple Stamped ceramics are known for quartz tempering, my initial observations of the Mossy Oak collection indicate that shell tempering is present in some of the sherds. My expectation is that, if Mossy Oak was a local development shell tempering would be most prevalent at the earliest levels. Conversely, if the developments at Macon Plateau and patterns of political development were the result of outsiders to central Georgia migrating to the area with Mississippian ideals such as the

knowledge of how to use shell as a tempering agent in pottery, shell tempering will be most prevalent in the later levels at Mossy Oak.

Building upon this hypothesis, it is likely that migrants would be distinct from locals in more than one way. If the foreigners brought knowledge of shell tempering with them from their places of origin, my expectation is that this would be reflected in the degree of standardization of stamping decoration. If on the other hand Mossy Oak represents indigenous developments within central Georgia, comparing shell-tempered ceramics and quartz-tempered ceramics should show no difference in degree of stamping standardization. If this is not the case, then I would expect to see two clusters emerge divided by tempering agent.

1.2 Legacy Data

Aside from refining the ceramic chronology of Early Mississippian central Georgia and testing hypotheses concerning the function of Mossy Oak and Vining Simple Stamped ceramics over time, I also accomplish another important objective. In this study, I rely on curated, legacy data. No new excavation or collection of archaeological materials were necessary for this study, all of the data comes from Willey's 1937 excavations. There is a great deal of unanalyzed archaeological material from Works Progress Administration (WPA) era excavations (Anderson and Sassaman 2012:24). Mossy Oak is just one of many archaeological sites curated and cataloged at Ocmulgee National Monument in Macon, Georgia. These data are understudied and vital for future analysis. The potential for such research is not limited to the Mississippian period, but all periods of North American prehistory. Although archaeological methods have undergone considerable refinement since the 1930s, many archaeologists like Willey left behind detailed context information that make it possible to reconstruct chronologies and refine our understanding of the past. My hope is that this will be the first of many studies of previously

excavated materials waiting to be analyzed and shed light on the changing political dynamics across Georgia and the Southeast centuries ago. An overriding goal of this research is to illustrate the value of collections like Mossy Oak.

1.3 Outline of Thesis

I begin this study with a brief discussion of the archaeological investigations that produced the Mossy Oak collection. I then provide a discussion of the background of research on the Woodland and Mississippian periods in the Southeast. It is important to situate this research in a greater regional context and discuss the changes in human society observed in the periods leading up to the Early Mississippian. This background discussion will also consider the specific changes experienced by Woodland and Mississippian people in central Georgia.

After providing the cultural background for the study of the Mossy Oak collection, I turn to theoretical perspectives that have shaped archaeological research in the Southeast. The neo-evolutionist perspective has driven a lot of interpretations of the Mississippian period in the Southeast. I draw upon alternative perspectives, focusing on horizontal relationships between groups and the roles they play in processes of culture change.

Next I provide a description and justification of the methods used to collect my data. The Mossy Oak collection is predominantly ceramics, and I provide brief explanations to how ceramic data are useful in reconstructing past human behavior. I explain my methodology as groundwork for my analysis.

In my analysis chapter I present the results from each of the tests I performed. I follow my analysis with a chapter discussion of my results and interpretations of the data. In this discussion I evaluate each of my hypotheses and reflect upon my expected results compared with my actual results. I conclude with suggestions for future research

2 BACKGROUND AND CULTURAL CONTEXT

Macon Plateau and the Mossy Oak site were excavated as part of the Works Progress Administration (WPA) Depression period initiative to employ large groups of people and alleviate unemployment (Stoltman 2004:23). Beginning in 1933, Arthur Kelly used a large team to conduct archaeological investigations on the Macon Plateau. These projects employed over seven hundred laborers around Macon, making them the largest archaeological expedition in Georgia (Bigman 2012:4, Walker 1994:20). Although a great deal of archaeological materials were unearthed between 1933 and 1938 at Macon Plateau, Kelly never performed an in depth analysis and "many artifacts recovered in the 1930s remain unanalyzed" (Bigman 2012: 5).

A preliminary archaeological investigation was performed by Kelley at Mossy Oak in 1936. Unfortunately, he neglected to include stratigraphic or contextual information about his findings and no report was ever written (Stoutamire et al. 1977:10). Gordon Willey returned to Mossy Oak in 1937 and excavated eleven randomly selected pits across the site in arbitrary three-inch levels beginning from when cultural material was first uncovered from the surface (Stoutmire et al. 1977:5). A team of students from Florida State University returned to reassess the Mossy Oak collection in 1977, but no in-depth analysis of the ceramic assemblage beyond reconstruction a limited chronology exists. The bulk of the artifacts uncovered these investigations at Macon Plateau and Mossy Oak are curated at the visitor's center at Ocmulgee National Monument or at the Southeastern Archaeological Conference headquarters in Tallahassee, Florida.

Lonnie Davis has directed the National Park Service's efforts to catalogue and curate the Mossy Oak collection, ensuring that the material has been preserved and organized for study. The Mossy Oak assemblage has been organized in a way that makes it possible to revisit and

perform in-depth analysis on the ceramic assemblage. The Macon Plateau site has undergone considerable analysis in recent decades by David Hally, Mark Williams, and Daniel Bigman and the information provided by these studies provides an excellent foundation for deploying the Mossy Oak data to refine our understanding of the Late Woodland Early Mississippian transition in Georgia.

2.1 Regional Patterns

Table 1 Time Periods Discussed in Text

Period	Approximate Dates
Middle Woodland	100 B.C.- A.D. 500
Late Woodland	A.D. 500-1000
Early Mississippian	A.D. 900-1200
Middle Mississippian	A.D. 1200-1400
Late Mississippian	A.D. 1400-1600

In this project I focus on the transition from the Late Woodland period (A.D. 500-1000) to the Mississippian period (A.D. 1000-1600) in Central Georgia. Across the American Southeast, a large region spanning from Florida to the Ohio River Valley and from the Mississippi River to the Atlantic Ocean, archaeologists have characterized this shift as resulting from increasing networks of interaction, culminating in the rise of civic-ceremonial centers, intensified maize agriculture, increase in social stratification, and the proliferation of shell-tempered pottery (Anderson and Sassaman 2012; Bigman 2012; Pauketat 2005). Understanding this transition is an ongoing focus of research in Southeastern archaeology. Why did changes in social organization occur at this time period? Were these changes part of a natural evolutionary scheme favoring the development of complexity or caused by other factors? Did outsiders encourage the people of the Southeast to adopt these lifestyle changes or was this a local

development? Could these changes have developed independently in different areas, or did one area influence the entire region?

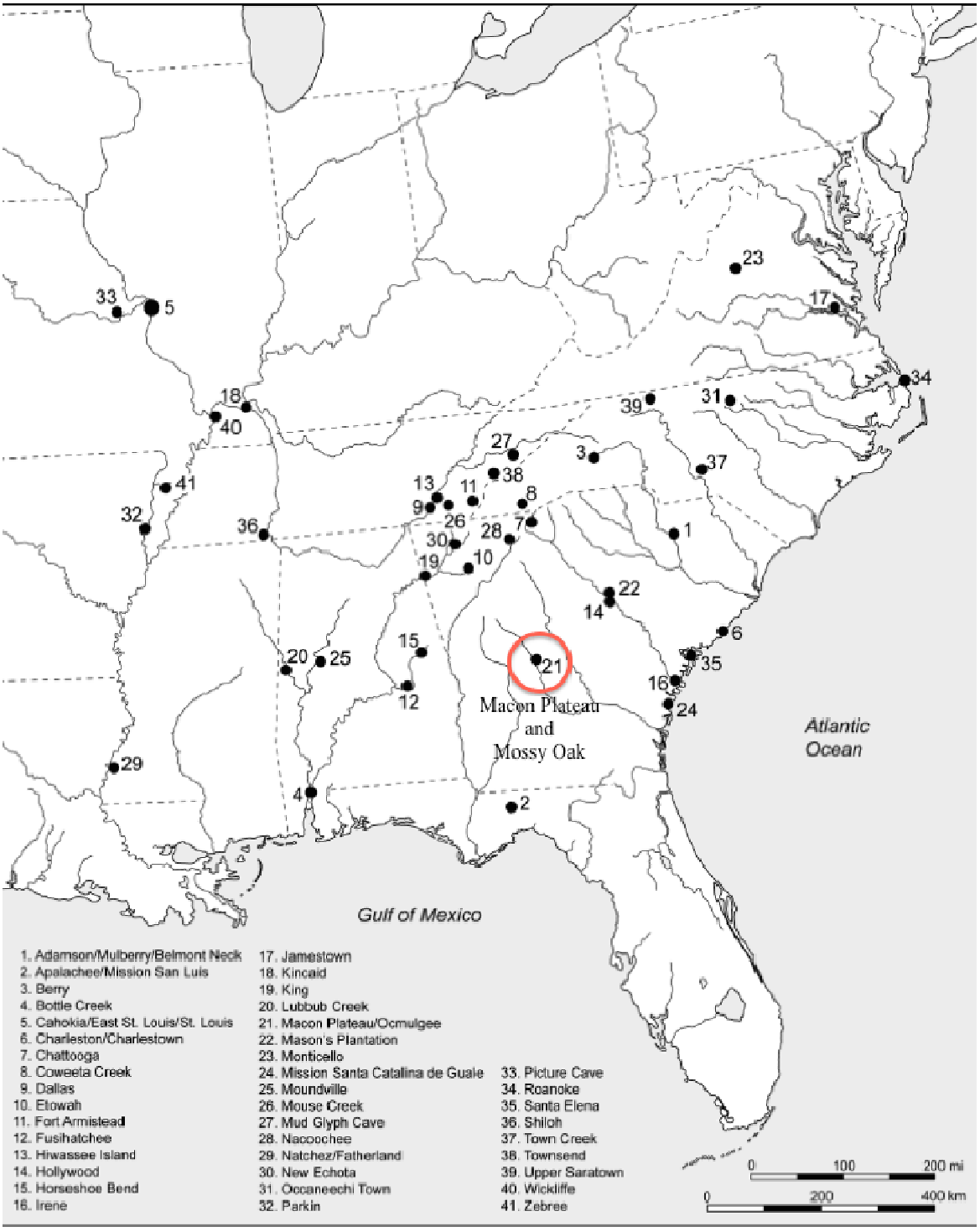

Figure 2 Regional Map of the Southeast with Important Mississippian Sites Labeled (after Anderson and Sassaman 2012:154)

2.2 Scales of Analysis on the Late Woodland to Early Mississippian Transition

This section addresses the Late Woodland to Early Mississippian transition beginning at a regional scale encompassing the entire Southeast and then focusing on central Georgia, primarily the Macon Plateau site at Ocmulgee National Monument and Mossy Oak. The chronological designations "Late Woodland" and "Early Mississippian" are labels created by archaeologists in the modern period to denote periods of time (Anderson and Sassaman 2012, Bigman 2012). There is a slight overlap between these periods as a result of the transitional nature of this period of North American prehistory. This section concludes with a discussion of the archaeological investigations that occurred at Macon Plateau and Mossy Oak. The goal of this section is to describe the macro regional and local background of the Woodland-Mississippian transition and to place the Mossy Oak assemblage in context with other archaeological research performed in central Georgia.

2.2.1 The Late Woodland Period (A.D. 500-1050)

The major periods of North American prehistory are as follows: Paleoindian, Archaic, Woodland, and Mississippian. These are designations for periods of time assigned by archaeologists working in the present. The Late Woodland period in the Southeast constitutes a void between the far-reaching Hopewell Interaction Sphere trading network of the Middle Woodland (100 B.C. - 500 A. D.) and the rise of integrated civic-ceremonial centers lead or influenced by elite individuals or groups over the landscape that characterizes the Mississippian period. In this way "The Late Woodland cannot be understood without a working knowledge of its antecedents" (Nassaney 2001:159).

The Late Woodland period is a period of a decline in the kinds of materials associated with the Hopewell Interaction Sphere. The Hopewell Interaction Sphere is a far reaching

exchange network named for the Hopewell Site in the Scioto River Valley, Ohio (Dancey 2005). It connected the eastern North America from Illinois to Florida. Hopewell is characterized by monumental funerary mound complexes were buried individuals were adorned with exotic grave foods of foreign origin. Copper ear spools and plates, lithic tools, and shell jewelry were traded across the American Southeast far from their places of origin indicating the regional interconnectedness that defines this time period (Dancey 2005:114).

In Georgia, a paddle stamped pottery style known as "Swift Creek" is the hallmark ceramic type of this period. Swift Creek ceramics are named after an archaeological site with several burial mounds located six kilometers southeast of Ocmulgee National Monument (Kelly 1938). Wooden paddles were used to create the distinctive "elaborate curvilinear complicated stamped ceramics that often display animal or cosmological motifs" (Anderson 1998:275). The designs crafted on the wooden paddle would be pressed into the sides of the vessels while it was wet, creating grooved three-dimensional patterns. Swift Creek patterns are defined by complicated, curved designs on the paddles. Petrographic analysis demonstrates that not only were the finished products moving throughout the region but the paddles used to create the characteristic decoration were also traded as part of the Hopewell Interaction Sphere (Snow and Stephenson 1998:110). Swift Creek ceramics are widely distributed across Georgia, and have been found in Hopewell contexts as far away as Indiana (White 2002:49)

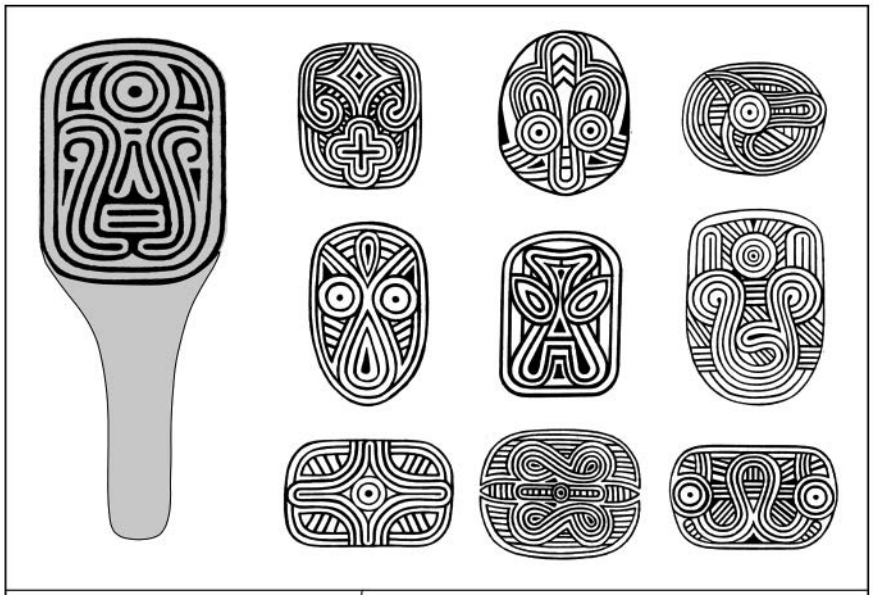

Figure 3 Swift Creek Ceramic Paddle Designs (Anderson and Sassaman 2012:138)

In contrast to the Middle Woodland period, variability in subsistence, settlement, exchange and social organization characterize the Late Woodland Period (Nassaney 2001:161). Foraging strategies with increasing reliance on tropical cultivars and maize agriculture intensified during the Late Woodland, however maize accounts for only a small proportion of diet by A.D. 800 (Nassaney 2001:161). Nevertheless, Woodland people were sedentary, living in permanent settlements using both hunting and gathering and cultivation (Espenshade 2008:142). This subsistence strategy may have been reflected in the changing landscape with groups of people moving between different resources on a seasonal basis, returning to the same places over and over (Nassaney 2001:162). The trade networks of the Late Woodland appear to have exchanged more utilitarian items, rather than the exotic goods such as shell beads and copper ear spools characteristic of the Hopewell period. Utility items such as ceramics were part of the Hopewell Interaction Network as well, but the following period the exchange exotic non-

utility items decreased. The large burial mounds with their exotic grave goods "almost disappear" (Cobb and Nassaney 1995:206) as the Hopewell Interaction Sphere fades out.

There is a shift away from Hopewell macro-regionalism to local interaction in settlement patterns (Anderson and Sassaman 2012: 126). Aside from elaborate burial mounds with earthen walls enclosing burial areas, there is no clear pattern of settlement planning in the Middle Woodland period (White 2002:54). The burial mounds, apparently unattached to settlements, may have been "ritual centers for dispersed populations who aggregated for mortuary rituals" and not "territorial markers" of specific groups (Anderson and Sassaman 2012: 124).

As use and construction of isolated burial mounds declines, a pattern of dispersed villages emerges on the landscape (Mehrer and Collins 1995:56). Rather than isolated burial mounds, Late Woodland people laid the groundwork for the beginning of the civic-ceremonial centers that would define the later Mississippian period (Anderson and Sassaman 2012:127-128). These mounds were built with platform tops, and some of the sites dating to this period have architectural features such as hearths and post-holes (Jeffries 1994:82). In addition to these mounds, settlements had central plazas and walled buildings (Mehrer and Collins 1995:37).

Although isolated burial mounds faded out in the Late Woodland period some of the ceramic components of previous periods continued. Swift Creek remained a long-lasting ceramic type. Out of Swift Creek traditions came Weeden Island ceramic styles that radiated out of the Gulf Coastal Plain most notably at the sites of Kolomoki in Georgia and McKeithan in Florida (Anderson and Sassaman 2012:127). Weeden Island was similar to Swift Creek in complicated decorations but was also adorned with incisions and paint, sometimes punctuated and formed in effigy shapes (Anderson and Sassaman 2012:127). Archaeologists working at

Kolomoki uncovered Weeden Island effigy vessels alongside "naturalistic" Swift Creek decorated pottery from Late Woodland contexts (Snow 1998:63). Napier style ceramics also emerged during this period further diversifying the ceramic assemblage from the Late Woodland (Chase 1998:59). Napier ceramics have both complicated and simple stamps and different surface treatment than their Swift Creek contemporaries and predecessors (Chase 1998:59). Cord marking also emerges during this time period, similar to paddle stamping where cords are twisted onto paddles and then pressed into the sides of pre-fired pottery to create three-dimensional designs. These design techniques influenced ceramic styles of the later Mississippian period (Wauchope 1966:59).

2.2.2 The Mississippian Period (A.D. 1000-1600)

The dispersed villages of the Late Woodland social landscape coalesced into patterns that loosely resembled the Middle Woodland antecedents but were organized quite differently. Maize agriculture intensified, and local small-scale social organization gave way to institutionalized social ranking, and populations clustered nearby rivers (Peregrine 1992:2). A new world system emerged with "institutionalized social ranking and the presence of permanent offices" (King 2003:4). Wall-trenches became part of domestic architecture. People utilized crushed shells in pottery production. Social ranking became more prevalent indicated by the increased exchange of exotic and ceremonial items across the region (Anderson and Sassaman 2012:152-153). The Mississippian settlement pattern was typified by large multi-mound centers with associated residential architecture. However, like the settlement patterning of the Late Woodland chiefdom these so-called Mississippian chiefdoms had a great deal of variability (Anderson and Sassaman 2012, Milner 2004, Pauketat 2005, Pauketat 2007).

To explain these changes, archaeologists cite shifts toward the proliferation of maize agriculture as the catalyst of the demographic reorganization of the landscape at the onset of the Mississippian period. The Medieval Warm Period from A.D. 800 to 1200 may explain, in part, the rapid adoption and intensification of maize (Anderson and Sassaman 2012:163). Farming is thought to provide groups with "reliable and storable" food sources (Anderson and Sassaman 2012:159) promoting sedentary lifestyles that do not require seasonal movement of groups to procure resources. Larger food yields in turn lead to population growth and surplus food supplies allow some members of society to not participate in food gathering and production (Anderson and Sassman 2012:159). However, the problem with this explanation is that the adoption of intensified maize agriculture was widespread during the Mississippian period, it had been a component of Woodland period diet in Georgia prior to intensification (Espenshade 2008:142). The changes associated with the shift from Woodland to Mississippian were more complicated than a shift in diet.

One of the first definitive Mississippian sites to appear in the Southeast is Cahokia in southern Illinois, outside of modern day St. Louis. At its height (approximately A.D. 1100) this multi-mound center extended influence up to 20 kilometers away, drawing on and controlling an extensive hinterland (Pauketat 2005:197). During this time Cahokia boasted a population of approximately 15,000 people (Anderson and Sassaman 2012: 166), making it one of the largest settlements in North American prehistory. Over 100 mounds encompass the 14 square kilometer Mississippian polity (Pauketat and Emerson 1991: 922). These mounds are characterized by flat-tops that rose above the horizon like "truncated pyramids" and often had architectural features for public or elite use (Pauketat and Emerson 1991: 922). Shell tempered pottery makes an appearance in the Ramey-incised vessels from Cahokia that are found in administrative contexts

at other sites in southern Illinois. These intricately decorated vessels also appear in elite contexts outside of the American Bottom, perhaps indicating a shared Mississippian world view (Pauketat and Emerson 1991: 924).

The Southeastern Ceremonial Complex (SECC) is another key defining characteristic of the Mississippian period. The SECC comprises a suite of artifacts loosely involved in what some scholars describe as the "prestige-goods economy" or the shared ideology of the Mississippian Southeast (Peregrine 1995). However, Pauketat (2005:207) cautions that the SECC "never existed as a homogenous pan-regional phenomenon." Examples of SECC artifacts include figurines of kneeling male and female individuals, effigy vessels, stamped ceremonial metal weaponry, copper plates, engraved stone pallets and shell gorgets, sculptures depicting serpents, birds or humans, and a recurring motif of an eye in the palm of a hand (Anderson and Sassaman 2012: 174-175, Milner 2004: 137). SECC items such as Ramey-Incised pottery from Cahokia were exchanged to promote an elite ideology (Pauketat and Emerson 1991: 935). These exotic goods and accompanying iconography that was often violent highlight the consolidation of elite power that defines the Mississippian period and sets it apart from preceding periods of North American prehistory.

The growing influence of elites and proliferation of ranked societies are reflected materially through architecture. The mounds of the Mississippian were different from their predecessors in many ways. Middle Woodland mounds were typically isolated burials containing individuals adorned with exotic items (Anderson and Sassaman 2012:123). Mississippian mounds are by contrast were the center of civic-ceremonial architectural complexes. These mounds were flat-topped, supporting with architectural features evidenced by patterns of post-holes or wall trenches on the mound summits. These architectural features may

have been used in public ceremonial demonstrations or as residences for higher-ranked groups (Milner 2004:125).

Domestic architecture also reflected increasing stratification and different forms of social organization. Residential areas were organized around central plazas, sometimes with mounds included, with palisades and walled buildings (Mehrer and Collins 1995:37). Architectural features such as walled buildings with palisades may have been defensive in nature. Increasing violence during this period is also indicated through the iconography of the SECC. Accounts from the DeSoto expeditions lend further evidence of Mississippian period violence and social stratification. During the A.D. 1540 trek through Georgia, DeSoto and his team encountered "a densely settled native population subject to the administrative control of several local chiefs who themselves were vying for tribute and political preeminence" (Hatch 1995:154). Monumental mounds, violent iconography, exchange of exotic goods, and skeletal traumas (Hatch 1995, Pauketat 2005) reflect the dynamic political landscape of the Mississippian period.

2.3 Shell Tempered Ceramics

The appearance of widely distributed shell-tempered ceramic types occurs at A.D. 900 (Anderson and Sassaman 2012: 156). These shell tempered ceramics are typically considered a herald of the Mississippian period. A variety of ceramics types known from the Mississippian period utilize crushed river mussel shells as a tempering agent, including the aforementioned elite Ramey-Incised ceramics from Cahokia to the utilitarian Bibb Plain type exclusive to central Georgia (Bigman 2012:181, Pauketat and Emerson 1991:922). Potters mixed crushed shell with wet clay as a means of fortifying the vessel before firing (Rice 2005:406-407). Shell tempering can be identified in the cross-section of ceramic artifacts as linear voids where leached out shell once was present in the body of the vessel (Bigman 2012:193).

Figure 4 Shell Tempering in Profile of Vining Simple Stamped Sherd

There are problems with citing shell tempering as the definitive chronologic marker heralding the beginning of the Mississippian period. First, shell tempering occurs in various areas prior to the onset of the Mississippian period, such as the Ozarks and the Middle Atlantic

Seaboard (Anderson and Sassaman 2012:156). Second, shell tempering is not a ubiquitous trait of all ceramic types of the Mississippian period. The majority of pottery from Georgia dating to the Middle Woodland to Mississippian has sand-grit tempering (Bigman 2012:3). While shell tempered types appear in Mississippian assemblages, they sometimes co-occur with other types that utilize other forms of tempering such as quartz and grit.

To explain the sudden occurrence and widespread distribution of shell-tempered ceramics, scholars have classically argued that they were brought into central Georgia by outsiders or foreign invaders. These shell-tempered pottery bearing immigrants, the argument goes, disrupted the Late Woodland way of life, settling into nucleated villages that grew into settlements with central plazas, palisades, and truncated pyramids for their elites to demonstrate their power and influence over the landscape (Anderson and Sassaman 2012:159, Williams 1994:137). This theory discounts the possibility that social and political changes in the Mississippian Southeast could have been local developments by indigenous actors.

2.4 Central Georgia: Macon Plateau and Mossy Oak

The Ocmulgee National Monument is home to the Mississippian center known as the Macon Plateau site. Macon Plateau has at least eight mounds covering an area of over seventy hectares (Hally and Williams 1994:94). The origins of these mounds has been the subject of considerable debate linked to the origins of ranked societies displaying classic Mississippian traits in central Georgia. Were the monumental mounds and the earth lodge products of an immigrant population to the area or a local development? Shell tempered ceramics and monumental mounds seem to appear suddenly at Macon Plateau and are accompanied by rapid population growth atypical for the surrounding area during this time (Bigman 2012:3, White 2002:66). The debate concerning the origins of Macon Plateau reflects overarching questions

concerning the profound changes that occurred across the Southeast around A.D. 900-1000. Were Mississippian characteristics developed at a single location, subsequently diffusing out across the landscape. Or did similar changes occur in different places with site-specific variability? Or were shifts in social relationship and organization rooted in local histories, reflecting a variable, diverse system of interrelated but different changes in lifestyle?

Using Macon Plateau and its environs, my study contributes to the discussion of these questions and revisits some of the issues discussed concerning the chronology of Late Woodland and Early Mississippian ceramics. My study revisits the ceramic assemblage excavated from Mossy Oak. The site has two occupational levels spanning the transition from the Late Woodland to the Middle Mississippian period and lies five kilometers south of Ocmulgee National Monument along the banks of the Ocmulgee River. Mossy Oak had no mounds or monumental architecture, but its temporal and geographic proximity to the mounds of Macon Plateau imply that at a minimum the people living through the Late Woodland and the Early Mississippian transition at Mossy Oak would have been aware of activities at Macon Plateau. Further, the ceramic assemblage from Mossy Oak has caused a great deal of confusion in understanding the Late Woodland - Early Mississippian ceramic chronology from central Georgia.

Macon Plateau and Mossy Oak are located on the Coastal Plain in Georgia near the Fall Line. People living in this area would have been able to exploit a variety of different resources from the Coastal Plain and the Piedmont located directly north of the Fall Line (White 2002:6-7). The shoals at the Fall Line along the Ocmulgee River provide “rich fisheries” and broad deposits of mineral rich alluvium occur where the Coastal Plain region begins (Hally and Williams 1994:84). Multiple resources were available to Woodland and Mississippian people making

modern day Bibb County an excellent place to forage or settle (Bigman 2012:15). Other mound centers across the region favored multi-resource ecotones such as Hopewell, Etowah, Cahokia and Moundville. The climate in central Georgia is characterized by mild winters with hot, humid summers (Gremillion 2004:55). Mild climate combined with "long frost-free seasons and substantial rainfall" would eventually aid in the development and intensification of maize agriculture characteristic of the Mississippian period (Hatch 1995:136).

2.5 Ceramic Chronology and Unanswered Questions

For central Georgia, Napier ceramics characteristic of the Late Woodland period fade out around A.D. 800 and are replaced by Woodstock and Early Etowah styles at the beginning of the Mississippian period (Bigman 2012:2). Woodstock ceramics are most frequently found in the Piedmont and are known for surface decorative treatment reminiscent of Napier styles (White 2002:64; Williams and Thompson 1999:90). Etowah ceramics have a wide variety of tempering agents including shell, grit, sand or quartzite (Wauchope 1966: 64). Shell tempering although diagnostic of the beginning of the Mississippian period in central Georgia falls out of use by A.D. 1250 when Savannah stamped pottery replaces Etowah ceramics throughout much of Georgia (Bigman 2012:3). Lamar period ceramics, known for complicated stamping and fine, uniform tempering dominate the Late Mississippian period, c. A.D. 1350-1540 (Hally 1994:147). Lamar ceramics comprise the majority of the shallowest levels of the ceramic assemblage at Mossy Oak.

At Macon Plateau the chronology was further refined by Bigman (2012). The results of his analysis indicate that Vining Simple Stamped occurs in highest abundance in the levels before construction of the western edge of the South Plateau (Bigman 2012:206). In lower frequency, Napier Complicated Stamped co-occurs alongside Vining in the lowest levels, but

falls out of use, and thus should not be considered an Early Mississippian type. Based on these findings Bigman concludes that Vining Simple Stamped at Macon Plateau should be considered an Early Mississippian type (Bigman 2012:206).

Bibb Plain is exclusive to the area directly surrounding Macon Plateau (Bigman 2012:312). It is identified as shell-tempered, restricted rim jars and water bottles and sometimes has a surface treatment of a thin red film (Williams 1994:131-132). As Vining Simple Stamped ceramics decrease over time at the Macon Plateau, Bibb Plain increases and dominates the Early Mississippian assemblage at Middle and South Plateau (Bigman 2012: 207). In the earliest levels shell tempering comprises more than half of Bibb Plain ceramics, but this fades out over time across the Macon Plateau site.

Halstead Plain ceramics appear before construction of the South Plateau's western edge making it "one of the earliest additions to the Early Mississippian" assemblage (Bigman 2012:206). Halstead appears in lower frequency than other types, because it may have represented an elite or more socially restricted type. (Bigman 2012:208). Hawkins Fabric Marked is another ceramic type found at Macon Plateau, and replaces Napier Complicated Stamped at the South Plateau (Bigman 2012:206) Eventually on the Middle Plateau Hawkins Fabric Marked ceramics replace Halstead Plain (Bigman 2012:208-209) Neither of these ceramic types that were important to the assemblage at Macon Plateau occur at the Mossy Oak site. However, Vining Simple Stamped, which is associated with the earliest levels and pre-construction phase at Macon Plateau, occurs in abundance at the lowest levels at the Mossy Oak site (Stoutamire et al. 1977), confirming that at some point the occupations of these two sites overlapped.

Chronologically placing ceramic types has been a problem in understanding the ceramic chronology of the Late Woodland to Early Mississippian transition in the Southeast. Swift Creek ceramics are well recognized for their aesthetic designs so far as the original archaeologists working in the region assumed that they must represent more sophisticated pottery traditions than other types. Simple stamping designs are defined by straight, parallel lines in contrast to the curvilinear designs associated with complicated stamps. Arthur Kelly identified Vining Simple Stamped ceramics as "simple, criss-cross, or linear grooved stamps" (1938:43). This type was originally excavated at the Vining site in central Georgia. Unfortunately for understanding ceramic chronology in Georgia, it was long understood that Vining Simple Stamped ceramics dated to the Early to Middle Woodland period, prior to the development of Swift Creek on the basis that it was not as sophisticated or fancy as complicated stamped styles (Elliot and Wynn 1991:3). The issue was further confused by interpretations of the Mossy Oak site. Rather than defining the simple-stamped pottery uncovered there as Vining Simple Stamped, it was given the title "Mossy Oak Simple Stamped" and defined as an Early Woodland type without in-depth analysis (Elliot and Wynn 1991:3). Kelly's original conclusion that Vining Simple Stamped pottery was best placed as occurring chronologically between Swift Creek ceramics and the Mississippian Lamar ceramic tradition is correct based on his own findings of Vining Simple Stamped occurring in Late Woodland archaeological contexts from Macon Plateau and Brown's Mound (Elliot and Wynn 1991:3). Two separate ceramic type names for a single ceramic type and notions that straight lines must have been antecedent to curvilinear designed contributed to the confusion of understanding where Vining Simple Stamped belongs in the ceramic chronology of Georgia has been long confused.

3 THEORETICAL PERSPECTIVES

Archaeologists consider the appearance of institutionally ranked societies one of the hallmark characteristics of the Mississippian period (A.D. 1000-1600) in the Southeast (Anderson and Sassaman 2012; Bigman 2012; Pauketat 2005). The traditional narrative argues that Mississippian chiefdoms appeared the Southeast, bringing with them intensified maize agriculture, shell tempered ceramics, bows and arrows, and hierarchical societies with ascribed status bestowed on elite groups (Anderson and Sassaman 2012; Blitz and Lorenz 2006; Hally 1999; Pauketat 1994, 2007). Large, densely populated centers appeared as a result and sometimes asserted their influence over their landscape until they declined or were replaced by another rising chiefdom.

The traditional narrative of the rise of the Mississippian period implies that the Mississippians were a homogenous and easily identifiable group, who were more politically and socially complex than their Woodland predecessors, and that Mississippian society was something altogether new and sudden. In this chapter I challenge these notions, arguing that the Woodland to Mississippian transition involved a great deal of variability, incorporating many segments of Mississippian society. Moreover, I consider the possibility that classic Mississippian traits are a result of indigenous developments rather than a suite of cultural changes imposed by outsiders.

3.1 The Neo-Evolutionist Perspective

The anthropological concept of chiefdom originated out of mid-20th century notions about the political evolution of societies. Anthropologists such as Sahlins (1963), White (1947), Service (1962), Steward (1949) and Fried (1967) critiqued older, cultural-historical models that described the material culture of past societies, seeking instead to explain why societies change

over time (Trigger 2006:372; Yoffee 1979:6). These scholars sought to borrow from the biological sciences to explain why societies operate in certain ways and why societies change over time (Trigger 2005:33). Neo-evolutionary models of the mid twentieth century assumed that one form of human society would eventually lead or develop into another depending on how the society responded to its social and environmental surroundings (White 1947:178). In this way human history "is a continuation of biological evolution, in which societies advance from lower to higher forms" (Yoffee 2005:4). Implicit in this assumption was that greater social complexity resulting from evolutionarily advancement and better environmental fitness.

The Neo-evolutionary perspective divided all human societies into categories defined by their evolutionary level of complexity. Service (1962) identified four types of human societies based on complexity of social-political organization: bands; tribes; chiefdoms and states. In this scheme bands are the least complex of societies, followed by tribes. The distinction between bands and tribes lies in size and settlement strategy, tribes are larger and sometimes live in settled villages (Flannery 1972:402). Bands and tribes lack social ranking beyond age and gender and were thus considered egalitarian by the Neo-evolutionists (e.g. Binford 1962:222). Bands and tribal societies often rely on foraging strategies for subsistence and maintain a degree of mobility across the landscape (e.g. Flannery 1972:400). These types of societies are more difficult to identify archaeologically due to their lifestyle, which results in less permanent and obvious material correlates of their existence.

Neo-evolutionists consider state level societies to be the most complex of all societies. State societies are stratified and different groups have differential access to resources, goods and prestige. State societies are seen archaeologically through monumental architecture such as pyramids, bureaucratic administration in the form of written texts or records, evidence of social

hierarchy in differentiated burial size and number and type of grave goods, and the presence of regional control and organization seen through architectural works such as aqueducts or roads. State societies rely on intensified agriculture with surplus crop yields that allows some members of society to not engage in food production or procurement (Stein 1998:6). These non-food producers either constitute a labor force that is organized to construct large public monuments such as pyramids, become craft specialists, or members of an institutionalized bureaucracy. Aside from the variety of occupations available to members of state societies, there are elites who wield ideological, political or economic power over state societies. Social stratification is reflected in burial practices, among other material correlates (e.g., Binford 1962:222). Internments with lots of exotic or prestige items are thought to belong to individuals with higher statuses, while unadorned burials reflect individuals in society with less power. Similarly, individuals buried inside of large monuments contrasted with those buried in modest or unmarked graves also can indicate differences in social standing within state-level societies. Social stratification can also be reflected in domestic architecture (Flannery 1972:404). Residences that are considerably larger, more fortified, or lavishly decorated compared to residences that are smaller, or more uniform in size to one another reflect the material realities of the varying lived experiences of people of different social statuses. In this way many neo-evolutionists equated state society with classic civilizations such as those in the Mesopotamia and Bronze-age Egypt.

Somewhere between the egalitarianism of bands and tribes and the hierarchical complexity of state societies lie chiefdoms. Chiefdoms occupy a position one rung below state societies on the evolutionary ladder promoted by the neo-evolutionist perspective, and were the fore-runners to state-level societies (Earle 1987:286). Unlike bands and tribes, chiefdoms had

social ranking. Achieved social ranking is a rise in status as the result of particular accomplishments. Ascribed social ranking is bestowed upon individuals belonging to a special lineage, or descendant from an important individual or mythical figure. All societies have achieved social ranking. According to Neo-evolutionists, ascribed social rank is a feature of states, and one of the defining features of chiefdoms. People with elevated social ranking had the ability to influence other members of society. Chiefdoms are often difficult to identify in the archaeological record. Like states, chiefdoms sometimes have monumental architecture and indications of differentiation in social rank in burial or architecture (Flannery 1972: 403). Distinguishing between a state and a chiefdom based on the archaeological record alone is extremely difficult.

The neo-evolutionists sought to develop universal models for explaining culture change in all human societies in the same way that biological evolutionary models were universally applied to all species. Neo-evolutionists conceptualized a society's success based on their problem solving adaptations (Service 1968: 407). Changes in human society such as the adoption of agriculture are evolutionary advancements, part of a society's response to their environment. Neo-evolutionary models of cultural change were influenced by Steward's (1949) notion of cultural ecology. Steward conceptualized culture as humanity's adaptation to its surrounding physical environment (Trigger 2006: 372). However, unlike other models that proposed a singular path to the evolution of socially complex society, Steward's concept of cultural ecology allowed for multiple paths toward multiple ends. Social ranking, for example, was an adaptation societies developed as a response to rapid increases in population (Steward 1949:23). The development of agriculture led to surplus food supplies, which in turn allowed for an increased population and the need for some kind of organization to ensure cultural stability.

Elites rose from the larger populations to organize, influence, and/or exploit growing populations as a "natural" response to environmental pressures.

Neo-evolutionist models searched for cross-cultural regularities to explain what they assumed to be the pinnacle of social evolution: the development of complex, hierarchical societies. Neo-evolutionists believed a particular combination of factors would predictably lead to complexity and the emergence of the state (Carneiro 1970:733). Neo-evolutionists termed this combination of universally occurring factors that inevitably led to the development of complex societies "prime movers." Prime movers were the catalyst that nudged societies along the evolutionary trajectory toward complexity and statehood (Service 1968). Some prime movers were environmental factors or how a society responded to climate and geography. Other prime movers were social and demographic in nature. Aggregating into tribal villages may have been a response to competitive pressure to access for particular resources and over time in response to increasing competitive pressure tribal villages may have aggregated into chiefdoms and eventually states. The emergence of the state was "a predictable response to certain specific cultural, demographic, and ecological conditions" (Carneiro 1970:169). Universal models of culture change were mathematical in such a way that statehood was seen to be a predictable response to particular pressures placed upon any human society.

The formulaic approach to understanding human societies was favored by neo-evolutionists who conceptualized human societies as systems. Systems theorists argued that human societies work as a group of inter-related parts with the goal of maintaining homeostasis and responses to stimuli were understood as feedback (Trigger 2006). Culture was an adaptive system and change could be explained in terms of feedback (Trigger 2006:419-420). Approaching human societies as systems made archaeologists the best suited to explaining

cultural change because archaeologists had access to data spanning the entirety of human history (Binford 1962: 224). Viewing human society as a system was popularized by Binford (1962) and later expanded upon by Flannery (1972).

Flannery argued that cultural ecology was inadequate to fully explain states, or "high cultures" or "civilizations" (Flannery 1972:399). Flannery argued that cultural ecological models ignore aspects of complex human societies such as art and religion and are better suited for the explanation of "hunters-gatherers and primitive food producers" (Flannery 1972:400). The goal of systems theory was to create a "generative model for the state" (Flannery 1972: 398). This generative model involved a complicated variety of outputs and rules towards the creation of a state. In this way the creation of a state involved a great deal of feedback loops and mathematical processes and mechanisms for what Flannery described as "pathologies" or instances of "socio-environmental stress" (Flannery 1972: 413-414). Flannery's complicated systems model ignores the actions of non-elite human agents within cultures and conceptualizes culture as an organized machine growing ever more complex as an output of specific inputs such as proximity to resources and competition. Change in culture was only explained in systems theory as feedback by external stimuli, and not originating from within the system itself.

The problem with creating a universal model to explain cultural change is that human societies are extremely variable. No single prime mover or combination of prime movers adequately explains all instances of the development of complexity (e.g., Wright and Johnson 1975:286). The equation of prime movers and human responses "are so diverse, the problems so numerous, and the solutions so potentially variable that no single determinant can be equally powerful for all cases" (Service 1968:406). A single universal explanation of why social stratification and complexity develop in particular areas does not exist. Different prime movers

could sometimes lead to evolutionary changes in culture some of the time, but not always (Service 1968:408). These approaches do not consider the potential internal causes of change, but exclusively focus on external factors such as environmental pressure or competition with neighboring groups (e.g., Brumfiel 1992:553). Neo-evolutionists did not consider that cultural change could occur from within a culture but only motivated by external factors.

The equation resulting in social complexity was not a simple one nor a universal one. Neo-evolutionary models explained cultural change in extremes. Only particular societies would develop into states, and statehood was not a predictable outcome for all societies in different parts of the world. Some complex societies developed for the benefit of their populations. For example, adopting agriculture freed some people from food production activities. Other neo-evolutionary explanations saw the development of complex societies as a means to monopolize resources against their competitors (Yoffee 1979:16-17). Multivariate explanations of cultural change emphasized individual leaders as mechanisms and arbiters of societal change. Leaders either sought to benefit their constituents, or coerce them to benefit themselves.

The development of centralization and the accompanying social ranking and stratification was conceptualized as an adaptive strategy to social and environmental pressures (Blanton et al. 1996:1). To best understand culture change the neo-evolutionists took a "top down" approach focusing on elites at the highest levels of a society's political and social hierarchy. The members of society that were not part of the centralized elite were homogenized into a single group. Elites were the only members of society that could make an impact through their decision-making abilities. Top-down models disregard the agency of other groups of society such as the laborers, craft specialists, and food producers. Human behavior is reduced to the effects of different

external stimuli, and cultural success is viewed as the development of statehood (e.g., Brumfiel 1992:552).

The top-down approach to understanding human societies advocated by the neo-evolutionist perspective neglects to explain many aspects of human behavior and cultural change. The top-down approach also ignores the decisions of non-elite groups in processes of cultural change. By characterizing the societies of the Mississippian period as "chiefdoms," a neo-evolutionary perspective glosses over the great degree of variability of these societies. Further, this approach only acknowledges human agency in processes of political and cultural change in regard to elite groups. Non-elite groups were inevitably affected by and contributed to changes in culture. Politics affect the lives of every person in society and focusing entirely on the state ignores human agents, participants in those transformative processes, from the state's own production (Smith 2003:14). Generalizing rising complexity as an inevitable output of specific inputs downplays the contributions of people in society and the difficulties of systemic change.

Variability amongst all human societies contradicts the neo-evolutionist perspective. In neo-evolutionist organization models "no agreement for the demographic threshold between chiefdoms and states" was ever agreed upon (Feinman 1998:97). Models favoring the idea of statehood as the goal of society also assumed that population growth was constant, ongoing, and a positive global phenomenon (Feinman 1998 98), dismissing instances of population decline or stasis as cultural failure (Brumfiel 1992:552). Service (1962) and Flannery's (1972) organization of societies into bands, tribes, chiefdoms, and states downplays variability across cultures and ignores the possibility of complexity amongst what anthropologists consider the most "simple" of societies.

Divergent strategies or paths to complexity are difficult to conceptualize even though Steward (1949) and Wright and Johnson's (1975) variants of neo-evolutionism allowed for multiple trajectories to complexity (Yoffee 2005:6). These views often conceptualized human societies as systems viewing variables such as environment or competition with neighboring groups as inputs and the resulting cultural response as outputs. However, simplistic categorical distinctions of levels of complexity and the concept of a linear trajectory of a society toward success or failure understates the mechanisms that contribute to cultural change that may be less obvious than a built monument to an archaeologist. Determining the line between what constitutes a state versus what constitutes a chiefdom is impossible.

3.2 Alternatives to Neo-Evolutionism

There is a great degree of variability in human societies. Human societies do not fit neatly into defined categories and do not respond the same ways to stimuli. Recognizing this diversity across human societies, other archaeologists felt that it was necessary to conceptualize human societies and cultural change in different ways. Rather than focusing on prime movers to explain culture change, archaeologists sought to explain the variability in human societies and conceptualize culture change beyond terms of success or failure.

3.2.1 The Dynamic Model

Marcus (1998) proposed the Dynamic Model as an approach to explaining social evolution and culture change while accounting for variability in human systems. The Dynamic Model accounts for periods of decentralization and dissolution, illustrating that human systems are unstable and thus not predictable (Marcus 1998:93). "Complexity" or "statehood" according to Marcus was not an inevitable result of the evolution of human societies. Rather, her model accounts for ebbs and flows illustrating the instability and variability inherent in societies.

Unfortunately, the Dynamic Model builds off of neo-evolutionary thinking and continues to account for social change from the top down.

The Mississippian Mound center of Etowah ebbed and flowed, like any human society. The story of Etowah does not follow a steady linear march towards statehood. The archaeological record of Etowah tells a story of an unsteady march towards, and then away from what Flannery (1972) and neo-evolutionist theorists call complexity. Monumental mound construction at Etowah may have begun during the Early Mississippian period (A.D.1000-1200), evidenced by a midden filled with a large deposit of an of animal bones and pottery representing a single deposition event (King 2003:54-55). The site was then abandoned for a brief time only to be reoccupied during a renewed and more intense monumental construction phases during the Middle Mississippian period (A.D. 1200-1350) (King 2003:63). During this period burials became more elaborate. Special child burials have been recovered, indicating that the people of Etowah recognized ascribed status during this phase of occupation (King 2003:64). After a century of so-called complex behavior at Etowah, it was abandoned again, then reoccupied and abandoned a final time by the Late Mississippian period (A.D. 1350-1600). The occupational history of Etowah illustrates one of the fundamental problems with neo-evolutionary theory: "[A]lthough a general worldwide trend toward growth in polity size does seem apparent, the actual trend is more jagged" (Feinman 1998:99). Human societies are unpredictable and population growth does always not follow a linear trajectory.

3.2.2 World Systems Theory

World systems theory is another approach to understanding change in human societies. This perspective is derived from sociology. World Systems Theory rests on the notion that the world is divided into politically powerful cores and weak peripheries. Cores are defined as

places of consumption that exploit resources from peripheral regions. These peripheries support the cores as places of extraction (Wallerstein 1976:351). Archaeologists have adopted this perspective as a means to explain the emergence of elite groups. World systems theory also explains why individual actors would increase labor outputs to the benefit of these exclusive groups (Peregrine 1992:6). The world systems perspective suggests that the development of ranked or hierarchical societies results from the exchange of prestige items between elite groups across geographic regions.

Prestige or luxury goods are items that are nonlocal in origin and require specialized or extra labor to create, and the exchange of those goods among elites drove pre-capitalist societies (Peregrine 1992:6). Examples of these prestige goods from the archaeological record are the copper plates of the Mississippian Southeastern Ceremonial Complex (SECC) or the feathers, jade and cotton clothing found in the Oaxaca Valley, Mexico (Blanton and Feinman 1984:86). Elite groups living in centralized cores participated in the external trade of prestige-good items as a means to legitimate their own power (Peregrine 1992:6). The redistribution of prestige items reinforced the core's influence over its periphery.

Cahokia, the major Mississippian center, or core, is a good example of how the world system approach can be applied archaeologically in the Southeastern United States. Cahokia is characterized as a large administrative center located nearby the Mississippi River. "[T]he archaeological traces of smaller subsidiary centers and smaller habitation sites" are found located nearby (Pauketat and Emerson 1991:921). These smaller sites lay in the periphery of the site, which has over 100 mounds the largest of which towered 30 meters over the surrounding floodplain (Pauketat and Emerson 1991:922). The periphery provided the core with raw resources, mainly "maize, fish and deer" (Yerkes 2005:247) that were the main components of

diet at Cahokia. Elite power at the core legitimized its dominance over the periphery through the exchange of particular goods. The exchange of special containers "would have been essential to for the centripetal movement of appropriated surplus and any centrifugal redistributions by the elite" (Pauketat and Emerson 1991:922). Through this exchange the core at Cahokia was able to establish an ideology of extraction based on the sacred nature of Ramey-Incised jars, which are typically found widely distributed in rural contexts. However, these pots were manufactured exclusively at Cahokia indicating that "Ramey-Incised jars may have been controlled by elites" and their distribution reflected that control (Pauketat and Emerson 1991:923). The distribution of Ramey-Incised jars reflects a world system of a powerful core, Cahokia, which extracted raw materials from its less politically powerful periphery, and maintaining dominance through the exchange of special, ideologically charged ceramics.

3.2.3 Dual-Processual Model

In agreement with Marcus (1998)'s Dynamic Model and building upon Peregrine (1992)'s application of world systems theory to ancient societies, Blanton and colleagues (1996) expand upon the importance of the prestige economy to explain culture change with a "dual-processual" model. The dual-processual model characterizes how power is negotiated amongst individuals and groups (Blanton et al. 1996:2). Societies follow one of two strategies to negotiate political relationships. Network strategies refer to relationships between different actors materialized through exchange and presentational events (Blanton et al.1996:4). Corporate strategies emphasize group solidarity "based on natural, fixed, and immutable interdependence between subgroups" (Blanton et al. 1996:6). The dual-processual model conceptualizes cultural change and social inequality as the result of groups employing one of

these strategies to promoting group identity and solidarity and distinguishing the group from others.

King (2003) uses this dual-processual model to characterize change over time at the Mississippian mound center of Etowah. Network strategies are visible archaeologically in the appearance of prestige-good economics involving the exchange of exotic items between individuals. The "international style" that develops out of this exchange in turn legitimates elite authority (Blanton et. al. 1996:5). King argues that Etowah's second fluorescence during the Middle Mississippian period typifies network strategies. The leaders of Middle Mississippian Etowah employed the use of "exotic and symbolically charged" items and the construction of the monumental mounds to create aggrandizing displays reinforcing their dominance over the landscape (King 2003:128). This contrasts with the Early Mississippian settlement at Etowah where a corporate strategy was employed. Middens with large quantities of ceramics and bone may have been created during ritual mound construction and subsequent feasting activities "that served to reinforce the solidarity of corporately organized chiefdoms" (King 2003:113). Similar to the redistribution of the Ramey-Incised jars at Cahokia, feasting is a means for elite groups to redistribute resources among groups creating a sense of group membership and obligation.

The dual-processual model addresses some of the problems with neo-evolutionary thinking by incorporating corporate strategies. However, network strategies continue to focus on elites at the top of society, effecting culture change through their aggrandizing actions. This model fails to "provide an account of why subjects might be engaged in either strategy" (Smith 2011:419). The dual-processual model does not address explain why societies adopt a particular strategy, nor does it offer any explanation for why non-elites would allow for network strategies to occur. Corporate strategies promote group membership and cohesion. By contrast network

strategies focus on elite groups participating in the exchange of prestige items while non-elites are unacknowledged agents in providing the elites with the resources to perform their exchanges with other elites. Ideology alone is not an adequate explanation for why societies employ network strategies. King (2003) argues that the shift between the corporate strategy of the Early Mississippian period and the network strategy of the Middle Mississippian reoccupation is a result of general dissatisfaction with one system coupled with population increase and resource stress (King 2003:125). However, this does not explain why the people of Mississippian northern Georgia, unhappy with corporate group organization, would have reintegrated a century later under a powerful ruling elite.

3.2.4 Critique of the Alternatives

The problem with the dual-processual model is related to problems inherent in neo-evolutionary models and the world systems model. There is an implicit assumption that "ordinary people don't do much that matters" (Pauketat 2007:84). These models imply that when hierarchy exists the only groups that influence others are elites. By extension, these models imply that complex societies in the past were "totalitarian regimes ruled by despots who monopolized the flow of goods, services, and information" imposing their will over a powerless citizenry of non elites (Yoffee 2005:5). Non elites, those who are exploited and live in areas of extraction, do not make decisions that impact cultural change and have little agency over the way their societies are organized.

3.3 The Theoretical Resolution: Abandon Arbitrary Categories

As the critiques of neo-evolutionary perspectives have demonstrated, definitions of chiefdoms and states are inadequate to encompass the wide array of variability present in human societies. Subdividing chiefdoms further into categories of simple, complex, and paramount

(King 2003: 6; Stein 1998:8) further confuse the issue and fail to provide any real explanation of why societies change and why social ranking exists. These definitions ask the wrong questions and often require case-by-case definitions of terminology rendering categorical types meaningless (Pauketat 2007:14). Most importantly the search for categories of human societies "strips away most of what is interesting and important" about past societies such as ideology, identity, and the "multifaceted struggle for power" (Yoffee 2005:6). Abandoning defining a society's organization category allows archaeologists to ask more meaningful and important questions of the archaeological record.

Pauketat (2007)'s practice based historical-processual approach attempts to address these problems. His approach serves to "inject a dose of history and agency" into understanding complexity in the past (Pauketat 2007:14-15). Abandoning the top-down approaches of other models helps to de-emphasize elite groups and prestige good economies. The historical approach focuses on "big history" and the overall trajectory of the large-scale processes of culture change rather than explaining them away through environmental pressures or aggrandizing elites (Pauketat 2007:15). Elites are not ignored, but the contributions, accomplishments, and stories of non-elites are included in understanding past life ways. The historical-processual approach dismisses traditional categories of social organization and abandons equating human societies as evolutionary systems.

Human societies in the historical approach are conceptualized as an "ongoing historical process, not an evolutionary phenomenon" (Pauketat 2007:17-18). By abandoning the search for chiefdoms and categorical terminology archaeologists can cease setting off on thorny expeditions searching for them (Flannery 1972:403). A much better point of departure for archaeologists is to explore the concept of heterarchy; how different parts of society work together to create

different institutions and cultural phenomena (Crumley 1995). The historical processual approach explores "dimensions of all social formations that can only be understood by studies of the continent histories of the peoples involved" (Pauketat 2007:63). In this way the success of the Cahokian and Etowah elites could be conceptualized as contingent on the support and actions of non elite groups within their respective societies.

3.4 Archaeological Conundrums: Cahokia and Jenne-jeno

While archaeological data from Cahokia can be viewed through a world systems lens (see above), I think the historical-processual approach provides a better theoretical framework to understand Mississippian political and social relationships. For decades Cahokia a has suffered from an ongoing identify crisis. It is too large to be grouped with other classically defined Mississippian chiefdoms (Pauketat 2007:136). In the past, Pauketat (1994) characterized Cahokia as a "paramountcy" (Pauketat 1994:176). A paramountcy or paramount chiefdom occupies the space on the evolutionary ladder of societal complexity between chiefdom and state. Paramount chiefdoms have minimally two levels of political hierarchy, controlling other chiefdoms and acting as a single polity extending over vast areas (King 2003:6). However, the parameters for defining a paramountcy or paramount chiefdom are extremely similar to definitions of what constitutes a state in that states have complicated political hierarchies including elite groups whose power extends across a vast territory (Flannery 1972: 404, Yoffee 2005:17). Cahokia challenges these definitional requirements and demonstrates their inadequacies in understanding human societies.

Jenne-jeno in West Africa also challenges typological approaches to the study of past societies. This complicated polity was long ignored by archaeologists searching for explanatory models of the state due to its odd archaeological signature (McIntosh 2005:17). Part of Jenne-

jeno's invisibility to archaeologists results from Western notions of what urban centers should look like (McIntosh 2005:23). Jenne-jeno lacks detectable hierarchy. Rather, Jenne-Jeno was a complex heterarchical society during the first millennium B.C.. The site is not a traditional city. It is best understood using a "pulse model". This model suggests that the development of urbanism at Jenne-jeno as a solution to "the dilemma of how to maintain boundaries between specialized subgroups" and is heterarchical in that it lacks "coercive centralized authority" (McIntosh 2005:108). Jenne-jeno existed as part of a self-organizing landscape that cities and urban centers, even ones like Cahokia "emerge spontaneously out of simpler, often apparently chaotic landscapes" (McIntosh 2005:42). The physical surroundings of Jenne-jeno and the Middle Niger region were subject to unpredictability and climatic extremes (McIntosh 2005:206) unlike societies that typify the earliest complex societies situated along predictable river floodplains.

Jenne-jeno and Cahokia challenge older notions of social complexity, demonstrating that it is impossible to divide human societies into arbitrary categories such as chiefdoms or states. Archaeology's focus on the systems or the actions of elite groups has "made it difficult to recognize, much less study, patterns of relations that are complex but not hierarchical" (Crumley 1995:3). The concept of heterarchy recognizes non-hierarchical relationships between different actors or groups. Perhaps the people who built mounds at Cahokia interacted with the potters that molded the Ramey-Incised vessels and exchanged the vessels with groups in the hinterlands, transporting foodstuffs from the farm fields to the settlement. For Jenne-jeno the pulse model suggests that a complex network of different groups aggregating and dissolving as well as the unpredictably of the Middle Niger's flood patterns resulted in a social entity altogether different from a classic complex society.

3.5 Synthesis

This study incorporates these perspectives, drawing on a historical approach and the pulse model. I apply these perspectives to understanding the relationship between the Macon Plateau and Mossy Oak archaeological sites. Mossy Oak existed as a small hinterland site to the Macon Plateau site at the Late Woodland – Early Mississippian transition in central Georgia. Its relationship to the mounds at the Ocmulgee National Monument has never been investigated. In this study, I avoid a top-down approach, considering heterarchical aspects of the relationship between Mossy Oak and the Macon Plateau.

It is important to note that though I do not emphasize down perspective on the relationships between Mossy Oak and the Macon Plateau, hierarchical relationships did in fact exist. Social organization at Macon Plateau during the Early Mississippian was hierarchically organized. All of the traits of ranked society mentioned in this chapter are present, however the existence of hierarchy does not mean that the actions and decisions of people occupying mid to low levels of that hierarchy did not make an impact on Macon Plateau. This study aims to understand the nature of that impact through the analysis of ceramic data.

4 METHODOLOGY

This chapter describes the methodology I used to analyze the Mossy Oak collection. The majority of the Mossy Oak collection consists of ceramics. First this chapter explains why ceramic data are useful resources for archaeologists in understanding past behavior and changes in cultures over time. Second, this chapter examines problems in understanding the ceramic chronology at Mossy Oak and in central Georgia, more broadly. Third, this chapter describes the archaeological investigations that originally took place at Mossy Oak in order to understand the potentials and limitations of the Mossy Oak collection. Finally, this chapter discusses the methods used to analyze the Mossy Oak collection for the purposes of this study.

4.1 The Utility of Ceramic Data

Observing temporal and spatial variation based on stratigraphic context allows archaeologists to reconstruct past human activity and examine how it changes over time (Ford 1952:319). Broken pottery, or sherds are fragmentary in nature, but also durable and of little interest to collectors or looters (Rice 2005:24). Analyzing sherds reveals the stages of ceramic manufacture because the process of creating a vessel is additive "in which the successive steps are recorded in the final product" (Rice 2005:25). These successive steps represent "culturally conditioned decisions" made by the potter, influenced by his environmental and social surroundings (Rice 2005:25). In this way ceramic data is a resilient and informative resource to understanding past human behavior.

Obvious visual and morphological differences in ceramic assemblages allow archaeologists to develop typologies. In combination with stratigraphic data, these typologies facilitate the creation of chronologies that highlight changes in material culture over time (Ford 1952:318). Archaeologists organize ceramic data into these chronologies to describe past

cultures. Key traits used to assign types include paste, sherd thickness, exterior decoration, and variation in rim form, base form, and handle shape. Early studies of ceramics conceptualize particular ceramics as ethnic markers, or the definitive material expression of past cultures (Williams and Elliott 1998:8).

Using ceramic chronologies as a time line linking present groups with those in the past is known as the direct historical approach. The direct historical approach works backwards from a known entity or defined ceramic type. A typological approach draws on stylistic similarities to trace the development of a particular type of ceramics into prehistory (Steward 1942: 337). These types are conceptualized as cultural traits, similar to the way an ethnographer describes the material culture of modern societies (O'Brien and Lyman 2002: 38). The direct historical approach contends that ceramic types are the definitive material expression of past cultures (Williams and Elliott 1998:8). It follows then that ceramic types reflected the cultural ideas of the people who manufactured them (O'Brien and Lyman 2002: 49).

The direct historical approach to analyzing archaeological data is problematic. This approach requires a much higher degree of data resolution than is often available. This approach also conceptualizes artifacts, such as specific ceramic types, as material correlates of groups of people themselves. Archaeological data is fragmentary, never encompassing the entirety of a past society. Some materials do not preserve. The direct historical approach relies on the most obvious distinctions between artifacts. For the study of ceramics these attributes most often include surface treatment such as incising, stamping, and motif design (Ford 1952), however sometimes less obvious differences between vessels can provide information on cultural decision making such as tempering or vessel shape.

Conflating material culture with cultural groups as conceptualized by the direct historical approach is likewise problematic. In the Southeast, for example, some forms of ceramics such as Swift Creek are widely distributed, while other types like Bibb Plain have limited distribution but occur in similar contexts (Williams and Thompson 1999). The characterization of the Middle Woodland (100 B.C.- A.D. 500) in the Southeast as "Swift Creek culture" and by extension was populated by the "Swift Creek people" homogenizes past people and glosses over nuances in site-to-site variability. Human societies do not fit into neatly organized categories, so it is impossible for them to correspond to the categories archaeologists create with ceramic data. Moreover, classificatory models tend to over-emphasize fancy designs and styles over ones defined as "simple" (Elliott and Wynn 1991:2). In this manner the distinctions between simple or plain types are often ignored and misinterpreted.

4.2 Mossy Oak and Central Georgia: Ceramic Problems

The ceramic assemblage of the Mossy Oak site is a prime example of the limitations of classic models of culture history. Vining Simple Stamped ceramics were first identified by A. R. Kelly working in central Georgia. They type was named for the Vining site near Rock Eagle, Georgia (Elliott and Wynn 1991: 2; Kelly 1938:8). This ceramic type is distributed across central Georgia and identified by "simple, criss-crossed, or linear grooved stamps" on red, medium brown, or gray clay with quartz tempering (Elliott and Wynn 1991:12; Kelly 1938: 43). Kelly determined that Vining Simple Stamped ceramics appear after Swift Creek types known to correspond to the Middle Woodland period (100 B.C. - A.D. 500) but before the Lamar Period of the Late Mississippian (A.D. 1400-1600) (Elliott and Wynn 1991:2).

Later analysis by Jenning and Fairbanks (1939) discarded Kelly's classification and created a new type based on the same attributes called Mossy Oak. Fairbanks and Jennings

assumed that the newly identified Mossy Oak Simple Stamped ceramics predated Swift Creek and had a wide distribution across Georgia (Fairbanks 1956:10). Wauchope (1966) furthered the confusion by grouping the Mossy Oak and Deptford Simple Stamped types together as Early Woodland (1200 -100 B.C.). For half a century "despite any conclusive evidence" quartz, simple stamped ceramics were assumed to predate Swift Creek in Georgia (Pluckhahn 1997:22). Many quartz-tempered, simple stamped ceramics were mislabeled and misclassified as Mossy Oak Simple Stamped and assumed to date to the Early Woodland period.

The interpretation of Mossy Oak Simple Stamped as an Early Woodland type prevailed until Elliott and Wynn (1991) revisited the issue. Their analysis of archaeological sites between the Oconee and Ocmulgee Rivers in central Georgia reaffirmed Kelly's original identification of a single quartz simple stamped type as temporally occurring after Swift Creek and before Lamar (Elliott and Wynn 1991:12). They discarded the name "Mossy Oak Simple Stamped" and revived Kelly's "Vining Simple Stamped" designation. However, Vining Simple Stamped place in ceramic chronology for Georgia remains poorly defined (Pluckhahn 1997:22). Elliott and Wynn (1991) speculated that Vining Simple Stamped was best understood as an Early Mississippian type and estimated its dates to A.D. 800-1200 (Elliott and Wynn 1991:12). Excavations at the Tarver site in Central Georgia produced radiocarbon dates from contexts containing Vining Simple Stamped ceramics refining its chronological placement to A.D. 985-1170 (Pluckhahn 1997: 30). These studies have led to the abandonment of the Mossy Oak Simple Stamped ceramic type (Williams and Thompson 1999:13). Revisiting the ceramic assemblage from the Mossy Oak site, perhaps the locus of where the confusion began, would undoubtedly further refine the ceramic chronology of central Georgia. One of the goals of this

project is to refine the ceramic chronology of Georgia in regards to Vining Simple Stamped ceramics.

4.3 Previous Archaeological Investigations at Mossy Oak

Archaeological investigations at Mossy Oak began in 1936 under Arthur Kelly. They intensified under the direction of Gordon Willey the following year. Mossy Oak is located five miles south of Macon Plateau along the Ocmulgee River. The Works Progress Administration (WPA) had funded archaeological investigations across central Georgia, most famously on the Macon Plateau, employing large numbers of laborers to excavate archaeological sites. A large amount of archaeological material was uncovered across central Georgia during this time but much of it remains unanalyzed. The Mossy Oak collection is curated by the National Park Service at Ocmulgee National Monument or at the Southeastern Archaeological Conference headquarters in Tallahassee, Florida. Fortunately for the purposes of this study, the National Park Service has carefully cataloged the Mossy Oak collection.

Archaeological methods have undergone considerable refinement since the 1930s. It is impossible to reconstruct Kelly's methods at Mossy Oak because he left behind no recording of the archaeological context of the objects he excavated. However, Willey left detailed notes and descriptions of his methodology. Willey's notes are supplemented by research conducted by a team of archaeology students from Florida State University who revisited the Mossy Oak collection in the late 1970's. Using these resources I was able to reconstruct the archaeological context of the Mossy Oak ceramic assemblage. My analysis is hopefully the beginning of many that return to the WPA collections to better understand prehistory in Georgia.

Willey's excavations at Mossy Oak involved excavating ten ten-foot square pits at random locations across the site. Willey's excavation of the first eight pits broke ground on

September 30, 1977. The project team lumped the overburden of the topmost layer of these pits into a single context, “level 0”. Once they descended below the overburden (in some pits the overburden continued over three feet below the surface), Willey organized archaeological data into arbitrary three-inch levels from where cultural material began, sometimes three to five feet below the original surface. He identified an upper midden which he labeled level “M”, a sterile layer he designated “level S” and a lower midden “level XM”. The team dug Pits 9 and 10 into the side of the bluff on the riverbank with the goal of specifically investigating the so-called “XM” level. A subsequent Pit 11 tests the stratigraphy of Pits 9 and 10. For the purposes of this study Pits 9, 10 and 11 were omitted from the data since they do not contain archaeological material from the upper levels and were not excavated from the surface, but rather on an angle into the site.

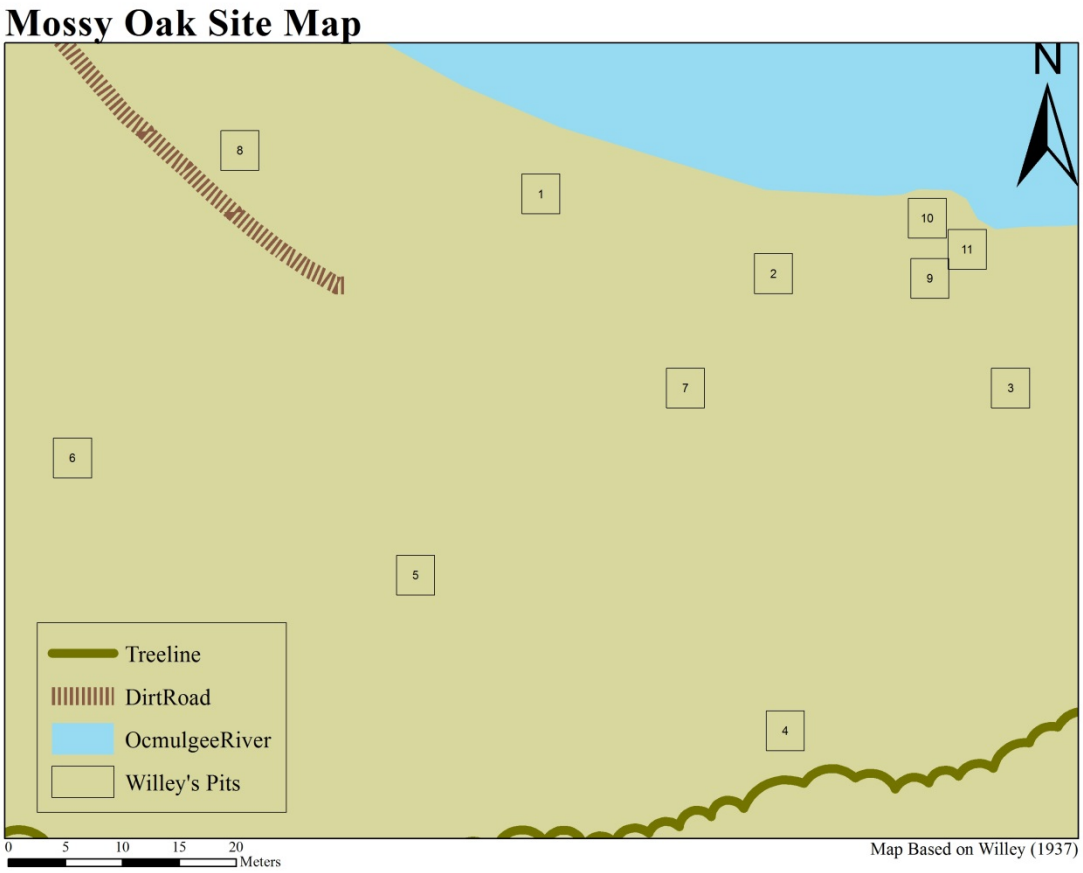

Figure 5 Mossy Oak Site Map illustrating location of Willey's Pits

Although Willey left extensive notes, the Mossy Oak ceramic assemblage presents significant limitations. The site is currently owned by the Cherokee Brick Company of Macon, Georgia. Willey's notes leave no indication of the use of an established site datum, so a detailed reconstructing the exact stratigraphy across the site is impossible. Without access to Willey's datum it is impossible to account for natural rises and falls across the surface. This makes it difficult to create a site-wide chronology connecting the data from each of the pits together. Depositional processes likewise make it difficult to identify what Willey describes as the "sterile" layer dividing the Middle to Late Mississippian Lamar Phase (A.D. 1400-1600) and the Vining Phase (A.D. 900-1200). The ceramic assemblage of Mossy Oak yields no full vessels.

Finally, human remains were uncovered from Pit 2 and Pit 4 during Willey's excavations; however the Native American Graves and Repatriation Act precludes study of those materials.

Even with these limitations, the Mossy Oak ceramic assemblage has a great deal of potential to contribute to the understanding of prehistoric Georgia. Understanding the distribution of ceramics types over time at Mossy Oak can help further refine the regional ceramic chronology. Beyond the ceramic chronology, exploring modal analysis of the ceramics at Mossy Oak can further understanding of past human behavior during the Early Mississippian (A.D. 1000-1200). It was situated nearby the monumental Macon Plateau site and no doubt had a relationship with the site. Analyzing the nuances of the ceramic assemblage at Mossy Oak aids in our understanding of the social and political relationships that existed between these sites and how those relationships changed over time.

4.4 Mossy Oak Revisited

I selected the Mossy Oak ceramic assemblage for two reasons. First, the National Park Service had cataloged this collection and identified each sherd by type. Second, ceramic types such as Vining Simple Stamped and Bibb Plain were present in this collection indicating that Mossy Oak was contemporary with Macon Plateau. After establishing its contemporaneity with Macon Plateau I employed a number of techniques to investigate changes in the assemblage over time.

To organize my data, I recorded all my collected measurements into a spreadsheet. Every ceramic sherd was assigned a serial number by the National Parks Service, and these corresponded to context cards directly copied from Willey's notes. During the first phase of my research, I recorded the sherds found in each of Willey's three-inch levels. I omitted ceramic sherds that did not correspond to a context card for Pits 1 through 8 as well as sherds that were

without context and sherds from profiles. For the second part of my analysis, I assigned every Vining Simple Stamped sherd from Pits 1 and 7 a study number. I chose these pits that had the highest proportion of Vining Simple Stamped sherds on the basis of the data provided by Stoutmire and colleagues (1977).

4.4.1 Distribution Analysis and Reconstructing Willey's Levels

Willey identified two features he described as middens during his excavations separated by a layer of sterile soil. To confirm this I tabulated counts and weights of all of the ceramics uncovered from Pits 1 - 8 based on type and stratigraphic level. I then plotted the distributions of total weight of ceramics, total weight of Vining Simple Stamped ceramics, and the proportion of Vining Simple Stamped ceramics to determine if there were any patterns or breaks in the data. Sherd count has limitations and "can be misleading" in understanding the total volume of ceramics excavated from a unit (Rice 2005:291). Acknowledging the limitations of sherd count, I weighed every individual sherd because "sherd weights will effectively standardize the data for differences caused by large versus small sherd sizes or thickness" (Rice 2005:291). For the purposes of this study observing both the number of sherds and the total sherd weight would best reconstruct occupational phasing at Mossy Oak.

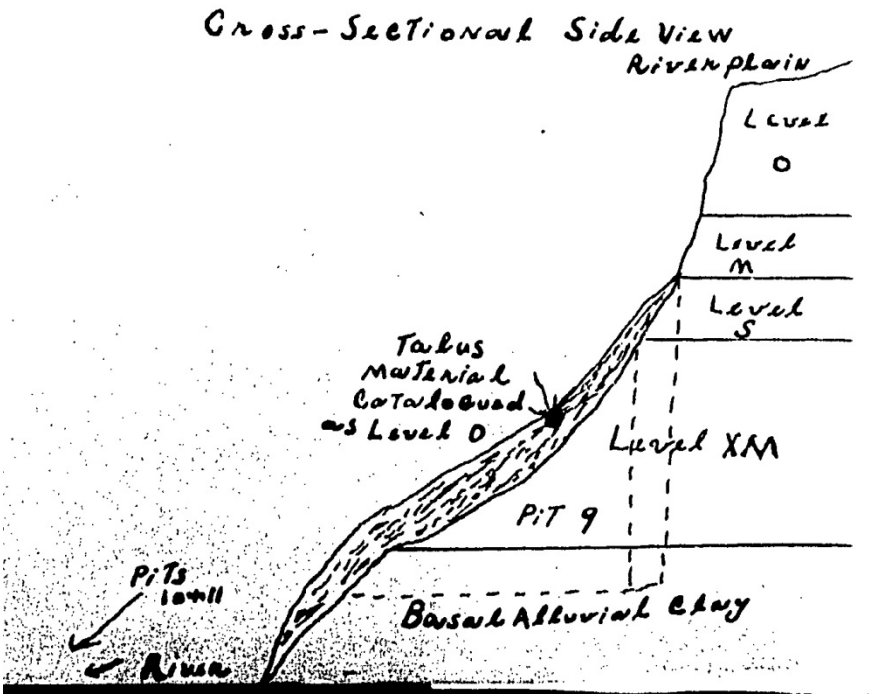

Figure 6 Willey's drawing of his interpretation of phasing at Mossy Oak (Willey 1937:66)

4.4.2 Detailed Study Pits 1 and 7

Building on Willey's work, I performed more detailed analysis on the ceramic assemblages from Pits 1 and 7. These pits had the highest amount of total sherds, and based on their distributions I determined that they were the most representations of the entirety of Mossy Oak in terms of Vining Simple stamped ceramics. As such, my in-depth analysis of the Mossy Oak ceramic assemblage focused exclusively on this ceramic type.

I measured each sherd's thickness using digital calipers and weighed each sherd in grams. Sherd thickness, or the measurement from the interior surface to the exterior surface of the sherd across the profile, is a useful metric because "thickness of the vessel walls is related to the size of the container and its intended use" (Rice 2005:226). The weight of every Vining Simple Stamped sherd was noted again as a means to best understand any patterns that might emerge based on other metrics.

I also noted the tempering agents visible in the profile of each sherd. Tempering agents refer to materials added to the clay "that modifies its properties when wet or dry as well as during and after firing" (Rice 2005:406). Vining Simple Stamped is typically identified as having quartz temper (Elliott and Wynn 1991:3). Quartz temper is characterized by small, angular quartzite inclusions in the profile of the sherd. Quartz temper contrasts with shell temper, which is evidenced by linear, horizontal voids created by leaching that leaves only the imprint of the shell inclusions in the pottery (Bigman 2012:193). The presence of shell tempered pottery in the Southeast a diagnostic features of the Early Mississippian era (Anderson and Sassaman 2012: 153). Mossy Oak's close proximity to the Ocmulgee River also makes the presence of shell tempering an important occurrence for this study. Determining that some Vining Simple Stamped ceramics contained shell tempering at Mossy Oak could have important implications for understanding political and social relationships during the Early Mississippian (Rice 2005:413).

I used digital calipers to measure the distance between impressions made by stamps. Vining Simple Stamped ceramic decoration was created by pressing wooden paddles with wrapped cords into the wet sides of the vessel before firing, creating patterns of crisscrossing parallel lines (Elliott and Wynn 1991:3). In order to test variation within the decoration of Vining Simple Stamped and to see if it changed over time I chose three stamp impressions at random on the vessel. Some sherds were heavily worn, making the identification of stamping impressions unreliable, so they were omitted from this phase of the study. I measured the distance between the groove created by single, linear impressions. Variation in these measurements could indicate the use of different paddles, or changes in decoration preference by the potters over time. No study that uses this method has been performed in the past, so this was

also an experiment to see if this was a useful metric of analysis to look at modal changes in stamping.

Figure 7 Example of stamping decoration measurement procedure

4.4.3 Orifice Diameter Analysis

I also analyzed rim form. I recorded the form of every Vining Simple Stamped rim sherd from Pits 1 through 8 using two methods. I drew the profile of each rim and measured orifice diameter by measuring the angle of curvature of each sherd. My aim in drawing each rim sherd and measuring the orifice diameter of each vessel was to ascertain variation in the possible functions of each vessel. Vessel function is determined by vessel shape (Hagstrum and Hildebrand 1990) and as it follows vessels of particular or variable function can help determine

the function of the site itself. This approach is useful for understanding Mossy Oak because the function of Mossy Oak as a site is not well understood.

5 RESULTS

In this chapter, I describe the results of my study of the Mossy Oak ceramic assemblage. First, I provide a chronology and settlement history of the Mossy Oak site based on typological data I collected. Using these data I also present a spatial analysis of the site using Geographic Information System, including an inverse distance weighting (IDW) interpolation of sherd density to understand how site function changed over time. Next, I present data from my analysis of rim sherds from Pits 1 through 8. I then present the data from my in depth analysis of the Vining Simple Stamped ceramics from Pits 1 and 7, beginning with vessel thickness, illustrating the results of my experimental decorative study. Finally, I provide a discussion of my presence/absence study of shell tempering in Vining Simple Stamped ceramics and its relationship to stamping standardization.

5.1 Chronology

One of the reasons I revisited the Mossy Oak ceramic assemblage was to refine the ceramic chronology of central Georgia and enhance our understanding of where Vining Simple Stamped ceramics fit into that chronology. Vining Simple Stamped ceramics are of particular interest because they co-occur at the nearby Macon Plateau site, suggesting that there was a relationship between Mossy Oak and the contemporary Macon Plateau mounds. Establishing contact and looking at changes in Vining Simple Stamped ceramics over time will have implications for understanding of the relationship between the Macon Plateau and smaller sites in the vicinity.

Willey identified two major occupation phases at the Mossy Oak site. The topmost level likely dates from the Middle to Late Mississippian based on the fact that the vast majority of ceramic materials are Lamar. By Lamar I refer to all ceramics labeled Lamar including Lamar

Complicated Stamped, Lamar Bold Incised, Lamar Roughened, Lamar Plain, Lamar Course Plain, Lamar Incised, and Lamar Incised and Punctated, all of which are found in Phase 3 at Mossy Oak. In this study I focus on the Vining Simple Stamped component of the site, so the differences across Lamar types and styles are not considered.

Although Lamar ceramics dominate the upper most levels at Mossy Oak, some Vining Simple Stamped continue to occur. Vining Simple Stamped is the most prevalent ceramic type of the Phase 1, however there is some occurrence of Lamar ceramics in these deeper levels. This could be the result of depositional processes; Mossy Oak was located along the Ocmulgee River and subject to a wide range of site formation processes. The presence of a deeply buried Lamar phase midden in Pit 3 illustrates the fluidity of movement of scant amounts of ceramics back in time. This would especially be the case if people were returning to activity areas such as the architectural features in Pit 7.

The following discussion of chronology refers to "levels" as Willey's arbitrary three-inch stratigraphic units. I divide these levels into "Phases." Phase 1 corresponds to the earliest cultural deposits at Mossy Oak occurring before the observed break in activity. Phase 2 refers to the Vining Simple Stamped component of the cultural material that prevails after this break. This study focuses on these phases and the presence of Vining Simple Stamped ceramics within these phases. Phase 3 refers to the Late Mississippian Lamar component of the site. Although a variety of Lamar styles are present in the Mossy Oak ceramic assemblages, because the focus of this study is the Early Mississippian activity at the site, I treat all of the Lamar types as a single stylistic unit. Absolute dating has not been performed on any artifact from the Mossy Oak assemblage, so this study relies on these phases as loosely corresponding to A.D. 500-1000 for

the Late Woodland, and A.D. 1000-1600 for the Mississippian. Phase 1 and Phase 2 probably date to this transitional phase.

Willey describes the separation between the later Lamar phase and the earlier phase defined by a majority of Vining Simple Stamped ceramics as "sterile" (Willey 1937:43). However, the results of this study indicate that there was some stratigraphic overlap between these phases. The total ceramic counts and weights from Pits 1, 2, 5 and 7 follow this pattern. The uppermost levels have an overwhelming majority of Lamar ceramics. Although there is stratigraphic overlap between Lamar and Vining ceramics these ceramic complexes are separated in time. This physical overlap is likely the cause of depositional processes such as bioturbation and stratigraphic disturbance by reuse of the site overtime. Case in point is the Pit 3 midden. Pit 3, although buried deeper than other pits at 69"-99", was likely a Phase 3 midden. This is evidenced by the paucity of Vining Simple Stamped ceramics in all levels. People during the Phase 3 Lamar occupation may have dug a pit to deposit their refuse, based on the volume of Lamar ceramics from this pit. Willey even noted that the soil from the cultural deposit of this pit was black (Willey 1937:51)

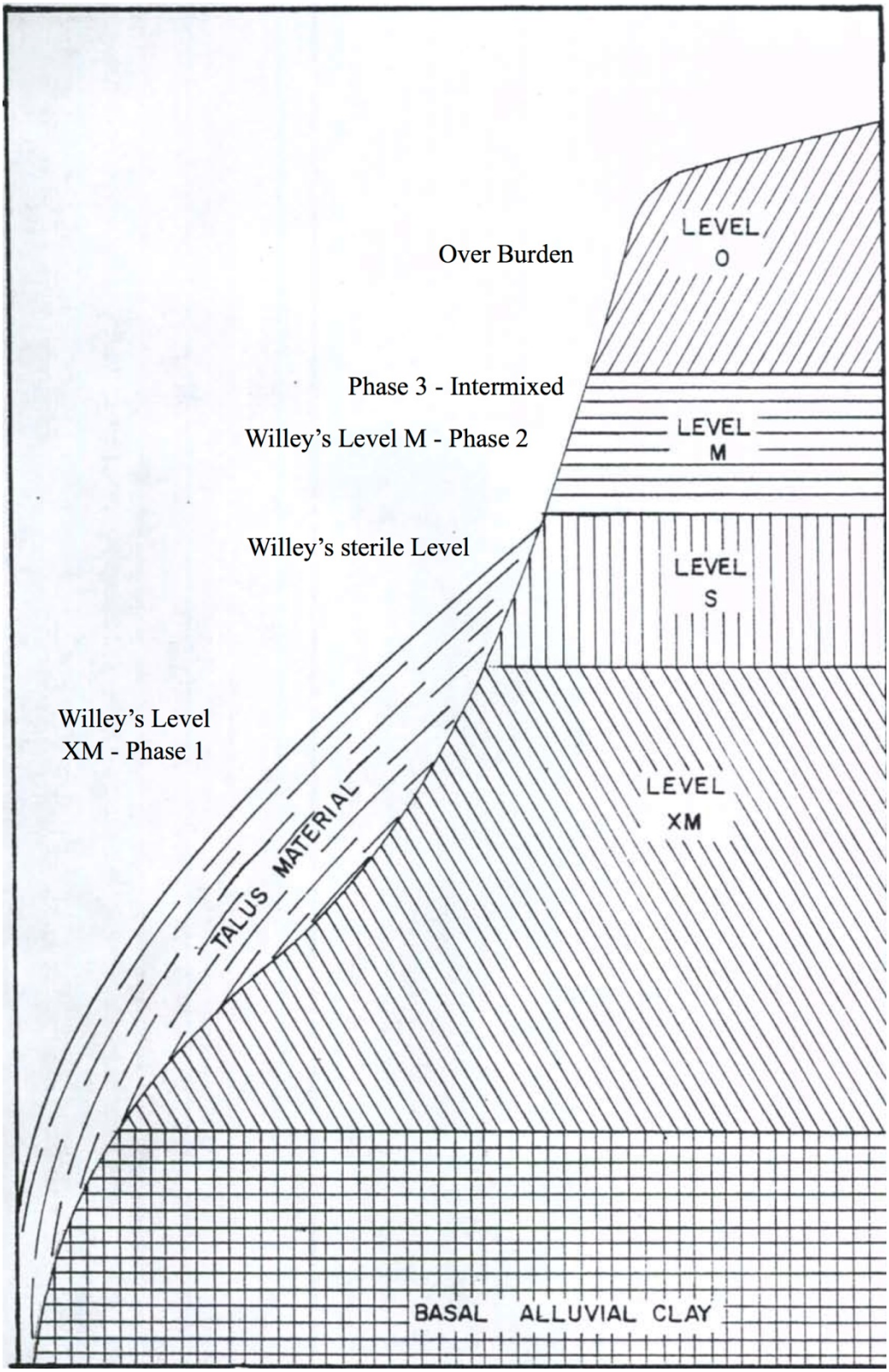

Figure 8 Willey's Profile with New Phasing (after Stoutamire et al. 1977:12)

As stratigraphic layers become deeper the total ceramic assemblage decreases and then begins to increase again, this time with Vining Simple Stamped ceramics in the majority. This break can be observed in Pit 1 occurring below 60", Pit 2 below 34", Pit 5 below 64" and below 31" in Pit 7. In Pit 8 the break between Phase 1 and Phase 2 occurs below 54", however this is less clear due to the small sample size of Pit 8. Pits 3, 4, and 6 do not follow this pattern. Pits 4 and 6 may not have been in use during the earliest levels as evidenced by their total ceramic counts and weights. These metrics follow a normal distribution curve, with Vining Simple Stamped ceramics composing a small minority of the assemblage.

Minority ceramic types that are not Lamar or Vining Simple Stamped are found exclusively in the higher levels. After the transition from Phase 2 to the Phase 1 these ceramic types disappear entirely. Bibb Plain sherds during Phase 2 in Pits 1 and 2 and are also present in the Pit 3 midden. A single Bibb Plain sherd occurs just after the break at 64" in Pit 5. A single Deptford Simple Stamped sherd was found in the 13"-16" level in Phase 2 of Pit 7. A single Etowah Simple Stamped sherd comes from Pit 2 at 28"-31" and from Phase 2 in Pit 2. Macon Thick occurs in the Pit 3 midden and in the 19"-22" level of Pit 7. Napier Complicated is scattered throughout the site, occurring in Pit 4 at 39"-42" and Pit 6 at 42"-45". Other Napier specimens were excavated from Pit 7 at 25"-28" and Pit 1 at 42"-45." Seven examples of Ocmulgee Fields plain were unearthed from Pit 5 at the 58"-61" level above the break at 64", as well as one example from Pit 7 at 19"-22". Weeden Island also occurs in Phase 2 in Pit 1 at 39"-42", Pit 2 at 13"-19" and Pit 7 at 13"-16." The Pit 3 midden also yielded two Weeden Island ceramic sherds. Phase 1 and Phase 2 date to the Early Mississippian. Overlying Phase 1 and Phase 2 is a late Phase 3 component corresponding to the Late Mississippian.

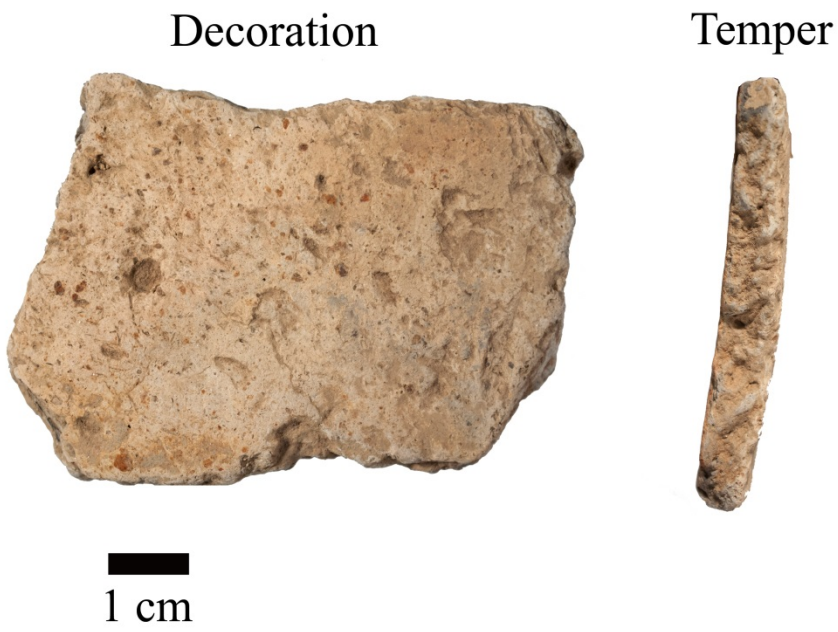

Figure 9 Bibb Plain Pit 1

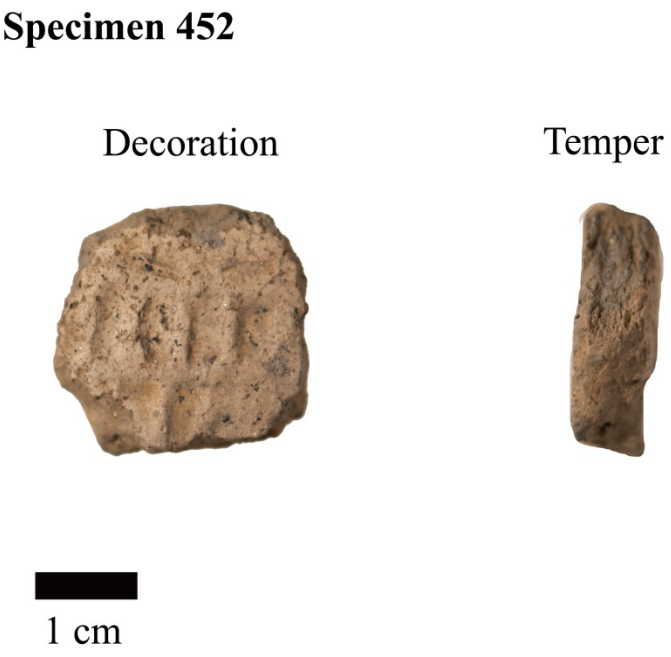

Figure 10 Depford Check Stamped Pit 7

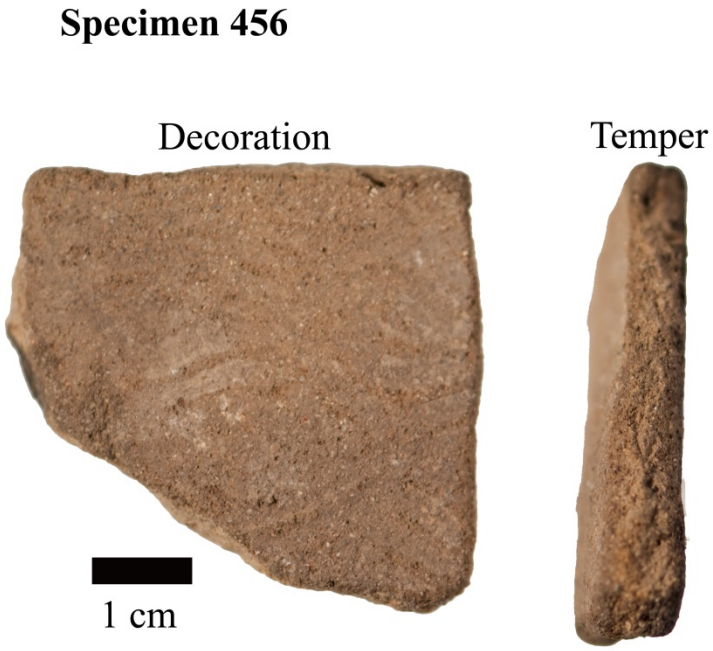

Figure 11 Etowah Simple Stamped Pit 2

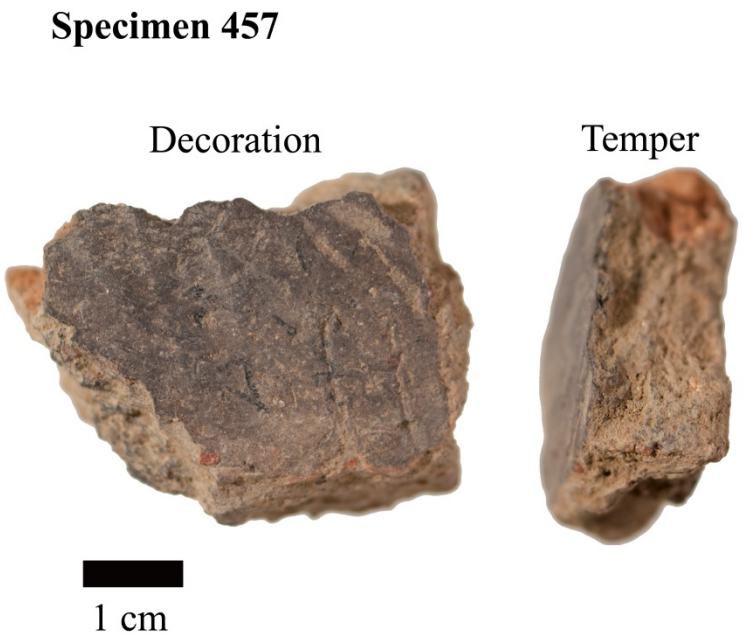

Figure 12 Macon Thick Pit 7

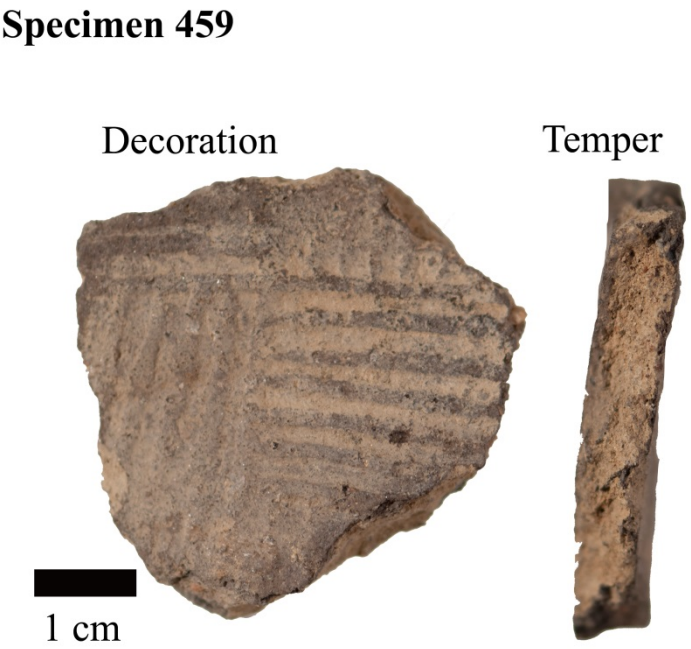

Figure 13 Napier Complicated Stamped Pit 4

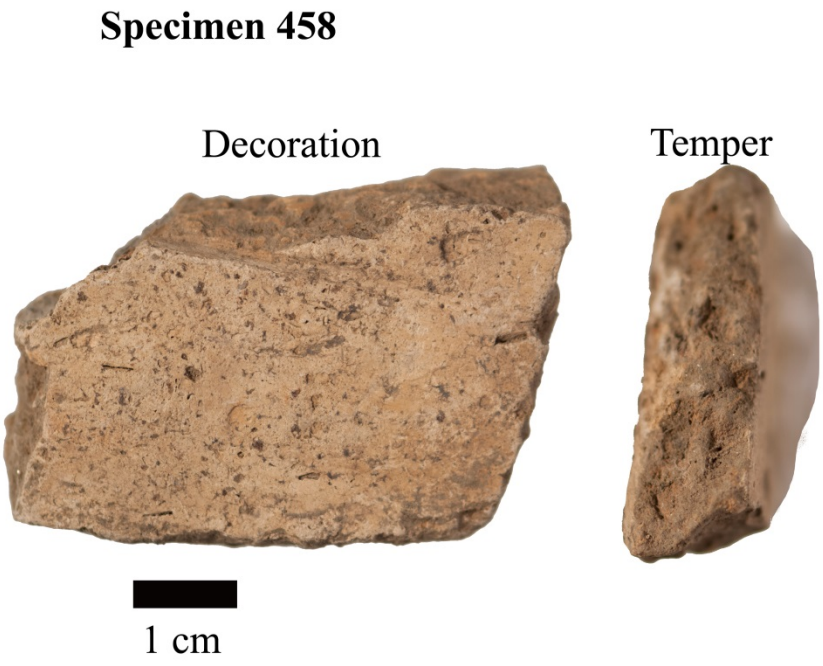

Figure 14 Ocmulgee Fields Plain Pit 5

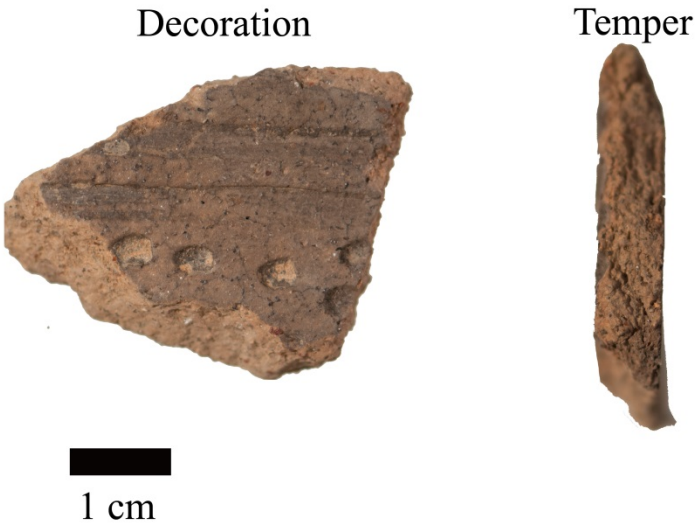

Figure 15 Weeden Island Pit 1

Willey excavated Pits 1 through 8 from the surface of the site rather from an established datum. Precisely comparing the relative stratigraphy of all eight pits is therefore impossible, complicating the task of a chronology that incorporates all eight pits. He chose the location of these eight 10 foot square pits at random across the surface of the site near the river. He described this area as "level terrain about five or six feet above the river level" (Willey 1937:43). The National Parks Service created context cards from the notes Willey wrote during excavation. These context cards make reconstructing the chronology from each pit possible. What follows is a brief description of the phasing of each pit as well as a description of the distribution of Vining Simple Stamped ceramics from each level.

5.1.1 Pit 1

Pits 1 and 2 are closest to the Ocmulgee River. Archaeological material in Pit 1 began at 39" and continued to 72". Willey identified two separate midden layers with cultural material below each (Willey 1937). The distribution of ceramics decreases with depth, though there is an increase at the lowest level. Two apparent breaks occur in Pit 1 at level 51"-54" where the total ceramic weight dips to 263 g. The subsequent 54"-57" level shows a resurgence where the weight of the total ceramic assemblage increases to 480.2 g then decreases in the 57"-60" level to 138 g and rises again at the 63"-66" level to 517.8 g. The variation in ceramics weight along with a general decreasing trend overall indicates that over time intensity of use of this area changed and gradually increased during the later Lamar-Mississippian occupation. Based on these observations for Pit 1 the break between the Phase 1 and Phase 2 of the Early Mississippian occupation occurs below 60".

The highest levels have scant amounts of Vining Simple Stamped ceramics, consisting of less than 10% of the total assemblage from 39" to 48" by weight. Descending below 48" the

proportion of Vining Simple Stamped ceramics increases from 35% of the total weight in the 48”-51” layer to an overwhelming majority (97% by weight) of the assemblage in the 63”-66” level. However, Vining Simple Stamped ceramics are entirely absent from the lowest 69”-72” level. This may not be significant as this level only yielded a single ceramic sherd. The data from Pit 1 indicates that Vining Simple Stamped ceramics were more frequently used in the lowest levels dating to the earlier periods at Mossy Oak. During the middle stratums, 48”-60” in Pit 1 Vining ceramics accounted for over a third to about half of the total ceramics and continued to decreased in the shallowest levels at less than ten percent of the total assemblage in levels 39”-48”. Based on these observations, Phase 2 in Pit 1 occurs above 60”, and the Phase 1 is represented by the levels below 60”.

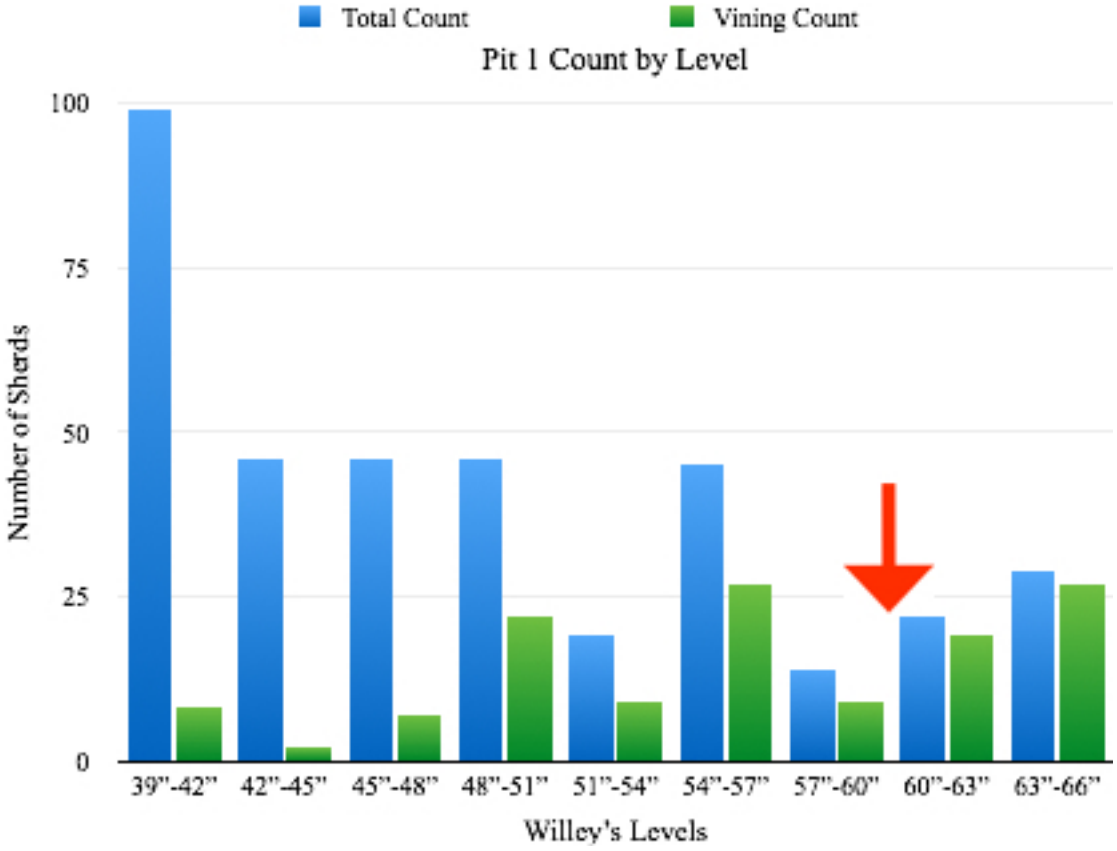

Figure 16 Pit 1 Number of sherds per Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

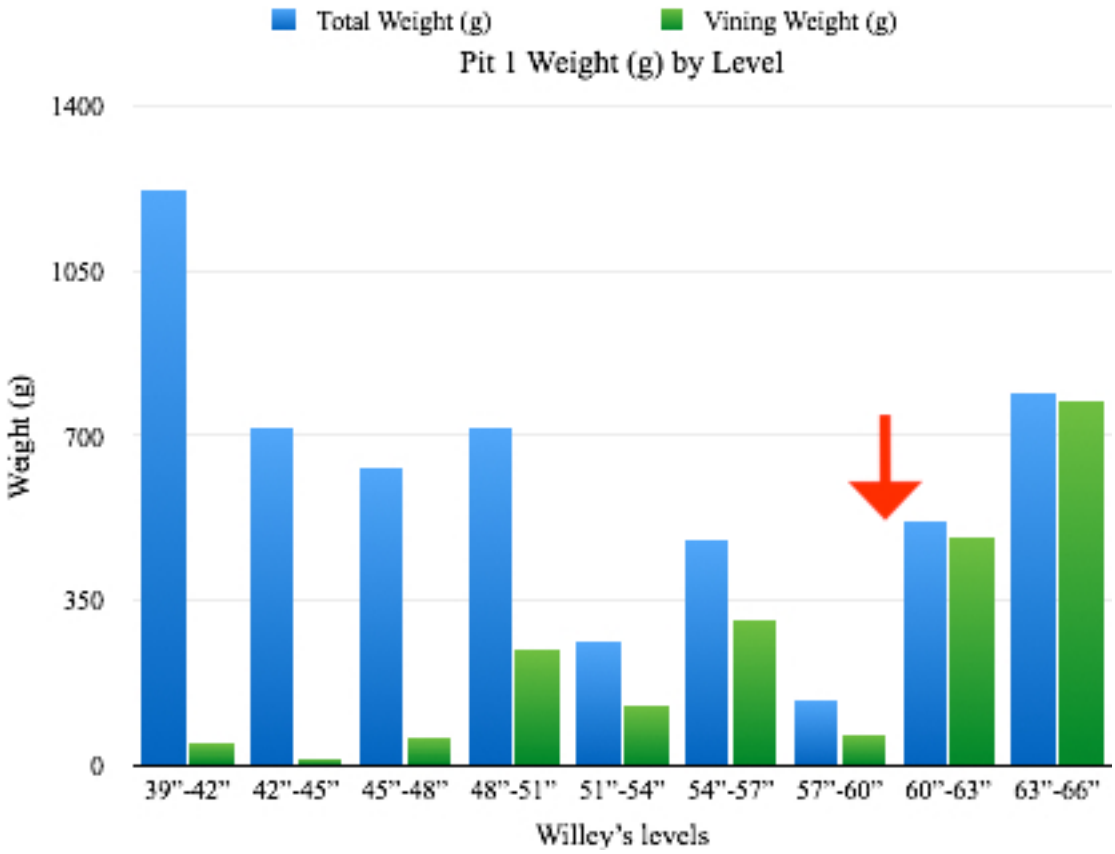

Figure 17 Pit 1 Ceramic Weight (g) Willey's Levels Red Arrow Indicates Division Between Phases 1 and 2

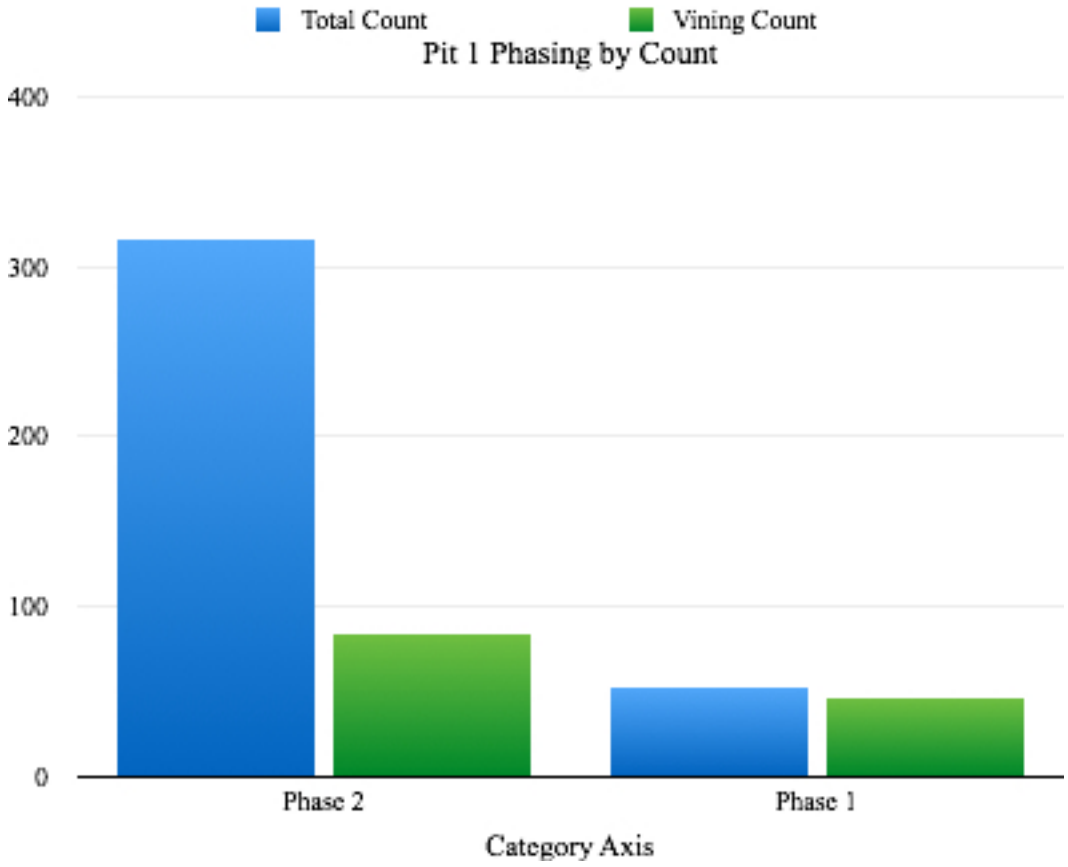

Figure 18 Pit 1 Number of Sherds per Phase

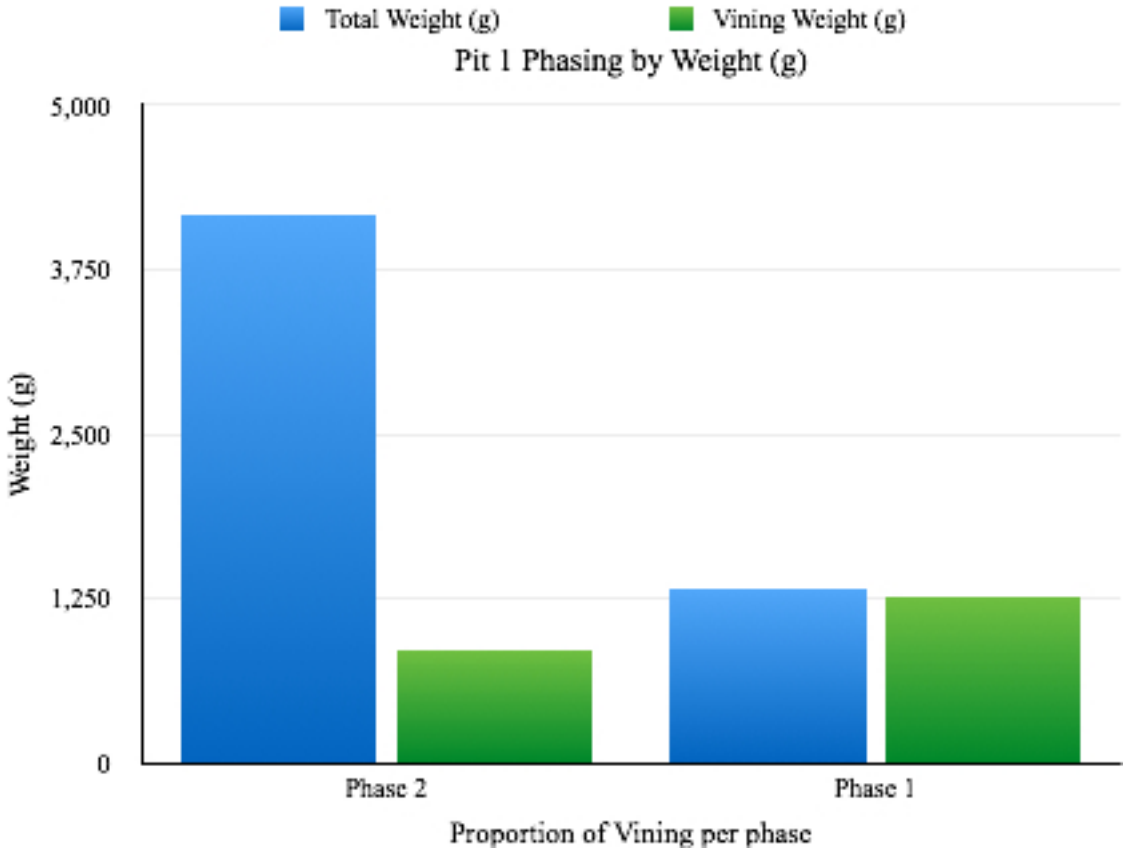

Figure 19 Pit 1 Total Weight (g) of Ceramics per Phase

Table 2 Pit 1 Summary Table

Pit 1 Summary Table

Level	Type	Count	Weight (g)
39”-42”	Bibb Plain	5	132
	Lamar Coarse Plain	5	32.4
	Lamar Complicated	51	639.8
	Lamar Incised	2	12
	Lamar Pinched	1	11.2
	Lamar Punctated	2	28.2
	Lamar Punctated & Bold Incised	2	28.2
	Vinings Simple Stamped	7	44.4
42”-45”	Lamar Bold Incised	1	5
	Lamar Bold Incised & Punctated	1	14.6

	Lamar Coarse Plain	1	5.8
	Lamar Complicated	34	605.8
	Lamar Incised	2	15
	Lamar Pinched	1	14.6
	Lamar Plain	2	26.2
	Napier Simple Stamped	1	4
	Vinings Simple Stamped	2	15.2
45”-48”	Lamar Bold Incised	6	63
	Lamar Coarse Plain	4	41.8
	Lamar Complicated	25	379.6
	Lamar Complicated & Punctated	1	61.4
	Lamar Incised	2	15.6
	Vining Simple Stamped	41	580.6
48”-51”	Lamar Bold Incised	4	47.4
	Lamar Coarse Plain	2	21.8
	Lamar Complicated	15	333.8
	Lamar Complicated & Bold Incised	1	50.6
	Lamar Punctated	2	18
	Vinings Simple Stamped	22	245.6
51”-54”	Lamar Bold Incised	2	32.6
	Lamar Bold Incised & Punctated	1	10.7
	Lamar Coarse Plain	3	29.8
	Lamar Complicated	1	18.2
	Lamar Plain	3	46.8
	Vining Simple Stamped	9	124.8
54”-57”	Lamar Bold Incised	1	3
	Lamar Coarse Plain	4	20.4
	Lamar Complicated	10	97.8
	Lamar Plain	3	48.6
	Vining Simple Stamped	27	310.4
57”-60”	Lamar Bold Incised	1	7.4
	Lamar Coarse Plain	1	4.8

	Lamar Complicated	2	47.8
	Lamar Incised	1	13
	Vining Simple Stamped	9	65
60”-63”	Lamar Complicated	2	23.2
	Lamar Plain	1	9
	Vining Simple Stamped	19	485.6
63”-66”	Lamar Complicated	2	17.4
	Vining Simple Stamped	19	485.6
69”-72”	Lamar Bold Incised	1	9.2

5.1.2 Pit 2

Cultural material was uncovered starting at 13” below the surface in Pit 2. It continued to 48”. Also near the river, Pit 2 was situated slightly to the south of Pit 1. Unlike Pit 1, the overall weight of the ceramic assemblage from Pit 2 increases with depth rather than decreases. Looking at the changes in total weight of the ceramic assemblage over time reveals two peaks in Pit 2, separated by an apparent interlude of decrease in overall weight. From 13” to 31” the weight of the ceramic assemblage increases peaking at 1989.3 g. In the subsequent level 31”-34”, the overall weight of the assemblage drops to 517 g and remains low until it peaks again at the 45”-48” level at 2398 g, illustrating the opposite pattern than what was observed for Pit 1. The most intense activity period for ceramics overall in Pit 2 is observed at its lowest recorded level rather than its highest.

Vining Simple Stamped ceramics account for 22% of the entire ceramic assemblage from Pit 2 by weight. The occurrence of Vining Simple Stamped ceramics in Pit 2 follows a similar pattern to that of Pit 1, however there is a stark contrast between the shallow and deep levels. From 13” to 34” Vining Simple Stamped ceramics make up at most five percent of the total assemblage per level. At the 34”-37” level Vining Simple Stamped accounts for 24% of the

total assemblage by weight, however in the subsequent 37”-43” layer, Vining Simple Stamped only accounts for 6.4% of the assemblage. In the deepest level of Pit 2, the proportion of Vining Simple Stamped ceramics by weight jumps to over 90%. This is similar to Pit 1; upper levels have scant proportions of Vining Simple Stamped ceramics by weight. These proportions increase in the lowest levels. The lowest level indicates that more intense activity took place in the lowest levels that fell out of use in later periods. Ceramic distributions in Pit 2 indicate that Phase 2 ends at 34” and everything excavated below 34” represents the Phase 1.

This may indicate a shift in usage of this area over time. The original excavation uncovered charcoal and charred corn cobs from the 28”-40” levels (Willey 1937:37). The levels from 43”-49” include burials, and curiously this corresponds to the decrease in the proportion of Vining Simple Stamped ceramics by weight from 24% in the 34”-37” layer to 6% in the 37”-43” layer. The 45”-48” layer yields the highest proportion of Vining Simple Stamped ceramics either contemporary with the burials or an area that the burials were cut into. Data from all burials uncovered during the Mossy Oak excavations is unavailable for the purposes of this study. Regardless, the data reflects the same pattern of increasing proportions of Vining Simple Stamped ceramics at the earliest, most deeply buried levels in Pit 2 as in Pit 1. The presence of the burials at the lowest levels alongside Vining Simple Stamped ceramics as well as the lower proportion of Vining Simple Stamped ceramics at higher levels which yielded large amounts of charcoal and charred food remains indicates shifts in site use over time.

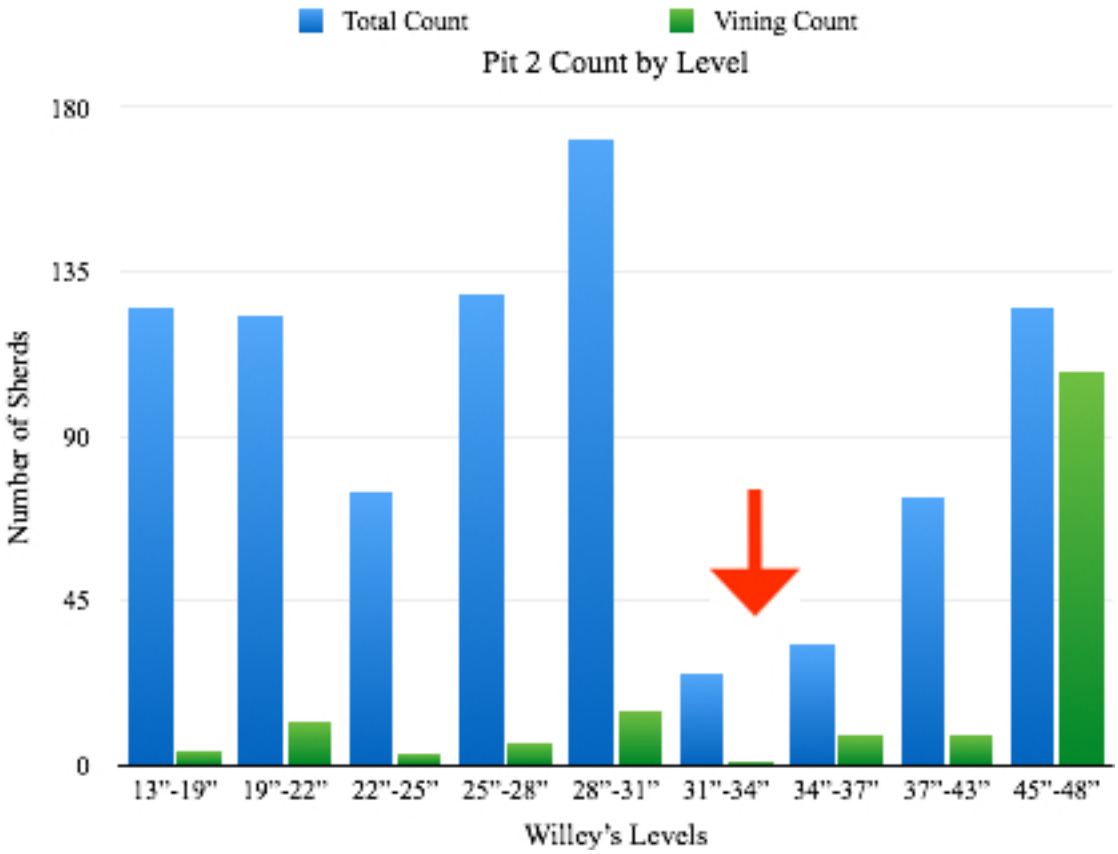

Figure 20 Pit 2 Number of Sherds per Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

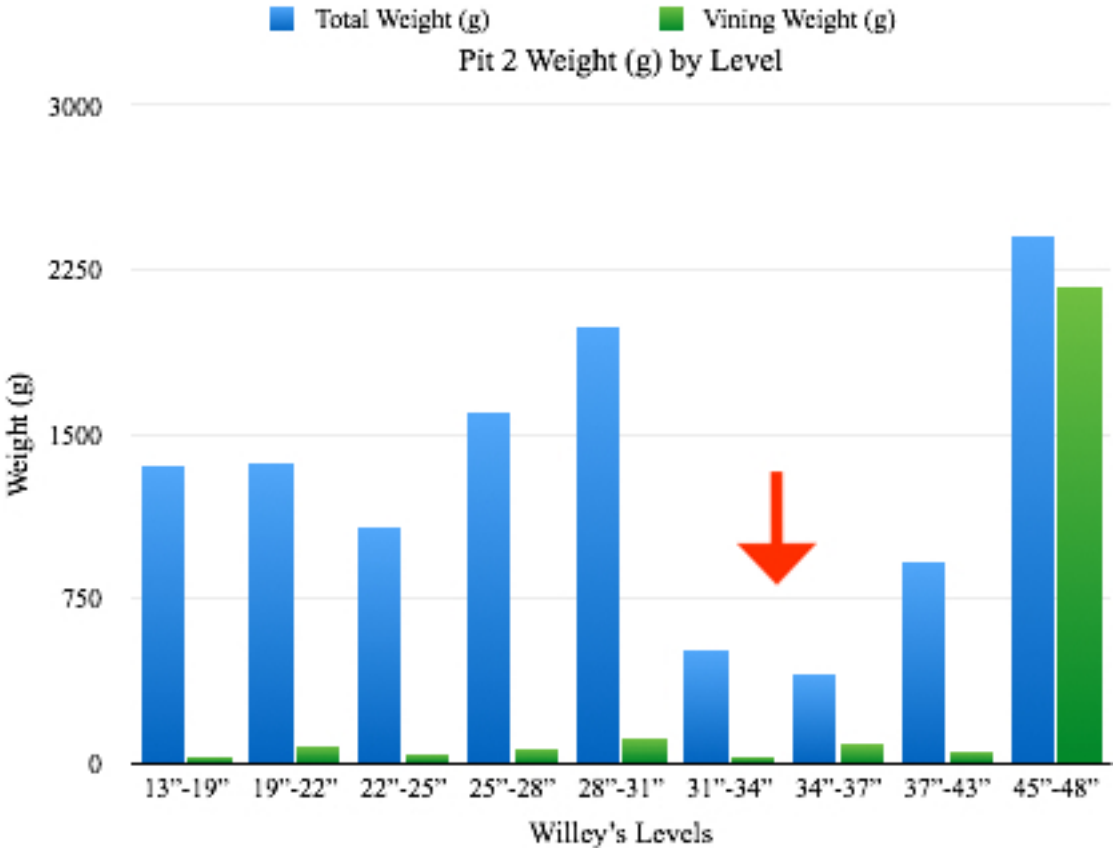

Figure 21 Pit 2 Ceramic Weight (g) per Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

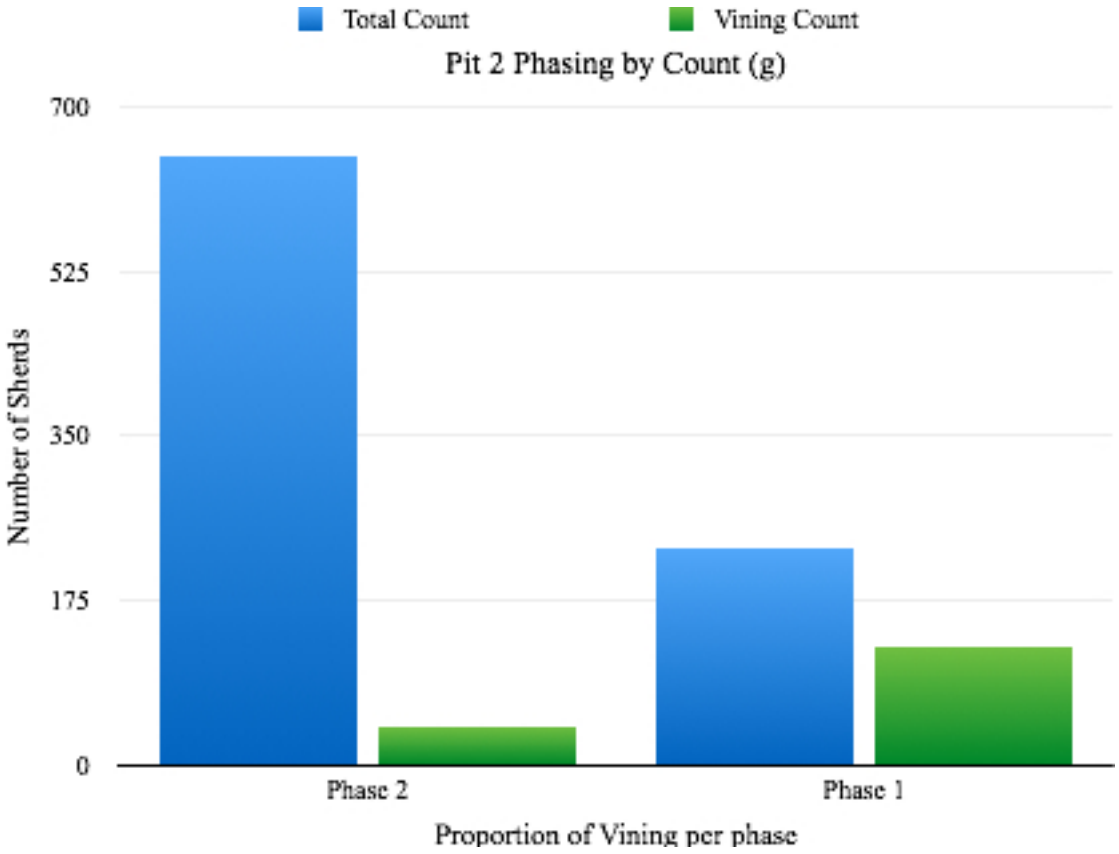

Figure 22 Pit 2 Number of Sherds by Phase

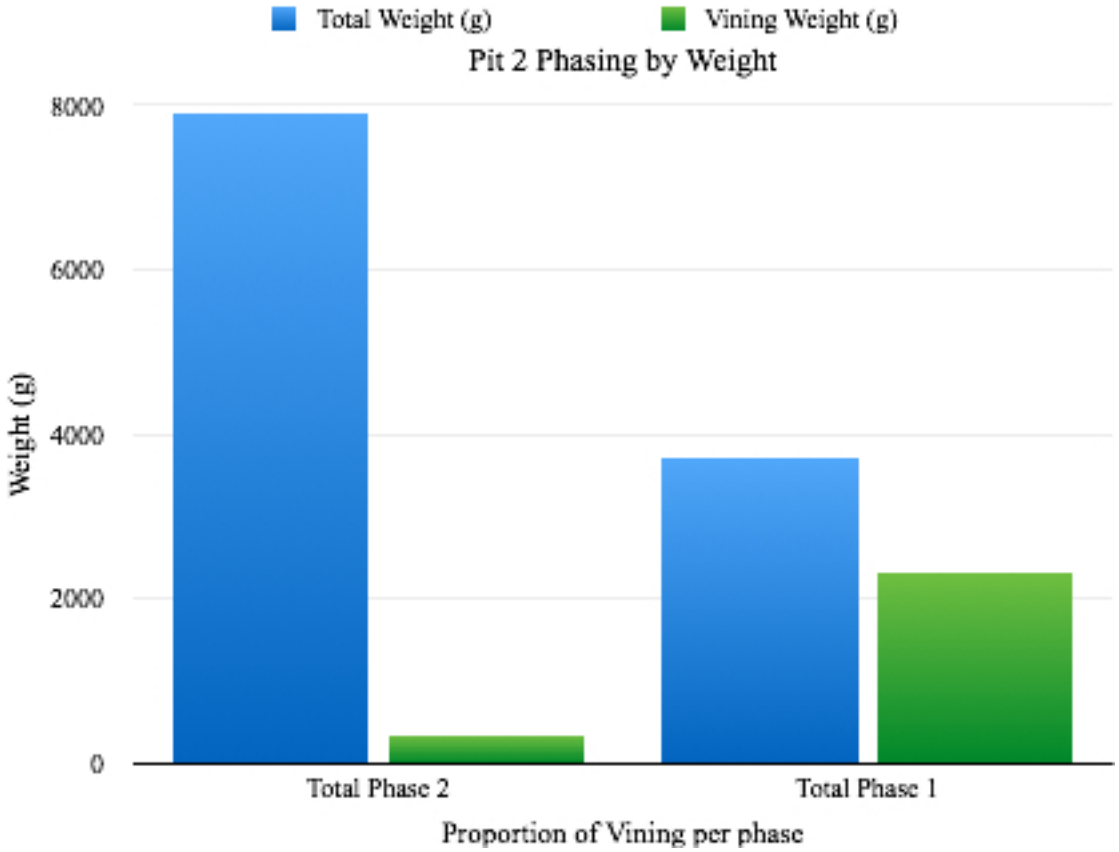

Figure 23 Pit 2 Total Weight (g) of Ceramics by Phase

Table 3Pit 2 Summary Table

Pit 2 Summary Table

Level	Type	Count	Weight (g)
13”-19”	Lamar Bold Incised	8	42.6
	Lamar Coarse Plain	2	14.8
	Lamar Complicated	85	909
	Lamar Incised	8	121.4
	Lamar Incised & Punctuated	1	6.8
	Lamar Pinched	1	3.6
	Lamar Plain	14	203.6
	Lamar Punctated	1	5.2
	Vinings Simple Stamped	4	23.6
	Weeden Island	1	20.8

19”-22”	Bibb Plain	4	103.6
	Lamar Bold Incised	9	88.2
	Lamar Bold Incised & Punctated	2	36.8
	Lamar Coarse Plain	5	42.8
	Lamar Complicated	73	850.6
	Lamar Incised	2	15.6
	Lamar Incised & Punctuated	1	21.8
	Lamar Plain	10	101.6
	Lamar Punctated	2	10
	Lamar Punctated & Bold Incised	2	22.2
	Lamar Punctated & Complicated	1	6.8
	Vining Simple Stamped	12	73
22”-25”	Lamar	1	32.4
	Lamar Bold Incised	3	35.4
	Lamar Bold Incised & Punctated	1	20.4
	Lamar Coarse Plain	9	105.6
	Lamar Complicated	41	638.8
	Lamar Complicated & Punctated	1	16
	Lamar Incised	5	44.6
	Lamar Pinched	1	7.8
	Lamar Plain	5	78
	Lamar Punctated	3	44
	Lamar Punctated & Complicated	1	9
	Unidentified Incised	1	7.6
	Vining Simple Stamped	5	60.6
25”-28”	Lamar Adorno	1	13.2
	Lamar Bold Incised	13	104
	Lamar Coarse Plain	6	65.2
	Lamar Complicated	80	1111.4
	Lamar Complicated & Punctated	2	26.4
	Lamar Incised	88	1203
	Lamar Pinched	1	7

	Lamar Plain	11	112.8
	Lamar Punctated	6	66.8
	Vining Simple Stamped	6	61.4
28”-31”	Bibb Plain	1	24
	Etowah Simple Stamped	1	20.4
	Lamar Bold Incised	223	2892.8
	Lamar Bold Incised & Punctated	2	25.6
	Lamar Coarse Plain	11	82.2
	Lamar Complicated	84	1013.7
	Lamar Complicated & Punctated	2	20.8
	Lamar Incised	9	209.2
	Lamar Incised & Punctuated	1	9.6
	Lamar Pinched	2	19.6
	Lamar Plain	17	164
	Lamar Punctated	5	76.4
	Unidentified	6	76.4
	Vining Simple Stamped	15	109.2
31”-34”	Lamar	1	232.2
	Lamar Bold Incised	4	30.8
	Lamar Coarse Plain	3	22.4
	Lamar Complicated	11	105.6
	Lamar Incised	2	25
	Lamar Plain	3	73.8
	Vining Simple Stamped	1	27.2
34”-37”	Lamar Bold Incised	2	14.6
	Lamar Coarse Plain	1	15.4
	Lamar Complicated	15	193.6
	Lamar Incised	1	17.2
	Lamar Plain	1	11.8
	Lamar Punctated	2	22.6
	Lamar Punctated & Incised	1	9
	Unidentified	2	20.4

	Vining Simple Stamped	8	96
37”-43”	Lamar Bold Incised	6	59.8
	Lamar Coarse Plain	2	17.6
	Lamar Complicated	25	256
	Lamar Plain	24	471.4
	Lamar Punctated	2	9
	Unidentified	5	44.6
	Vining Simple Stamped	74	974.8
45”-48”	Plain	17	248.8
	Vining Simple Stamped	108	2149.2

5.1.3 Pit 3

Willey notes that Pit 3 is likely a midden (Willey 1937: 51). Cultural material begins at 69” below the surface and continues for thirty inches ending at 99”. Pit 3 follows a different distributional pattern for total ceramic weight than Pits 1 and 2. Where Pits 1 and 2 appear to increase in total weight of ceramics at their lowest levels, Pit 3 declines as depth increases. There appears to be two major peaks for Pit 3. In the first recorded level (69”-72”) the total ceramics weight is 529.6 g. Total weight jumps to 2,424.4 g for the subsequent 72”-75” level. The weight remains relatively steady from 75”-78”, holding at 2,087.6 g, then drops in the following 78”-81” level to only 33 g. This is followed by another increase to 1,742.9 g in the 81”-84” level and continues increasing to 3,295.2 g in the 84”-87” level. After this second spike the overall weight of the ceramic assemblage drops to 824.8 in the 87”-90” level and continues to decline through the end of the pit at 99”. This may reflect two major intense use periods time in this pit.

Vining Simple Stamped ceramics account for only 2.1% of the entire assemblage from this pit. The highest proportion of Vining Simple Stamped ceramics is from the 81”-84” layer

where Vining Simple Stamped accounts for only 5.4% of the total collection by weight. Intermittent layers are devoid of Vining Simple Stamped ceramics. The proportion of Vining Simple Stamped ceramics in Pit 3 does not share the same pattern of increasing in proportion with depth as in Pits 1 and 2. No discernible pattern of Vining Simple Stamped ceramics is observed in Pit 3. It is my opinion that Willey's interpretation that Pit 3 cuts into a Lamar period, or Phase 3 midden could be correct. No indication of Phase 1 or Phase 2 activity is present in Pit 3.

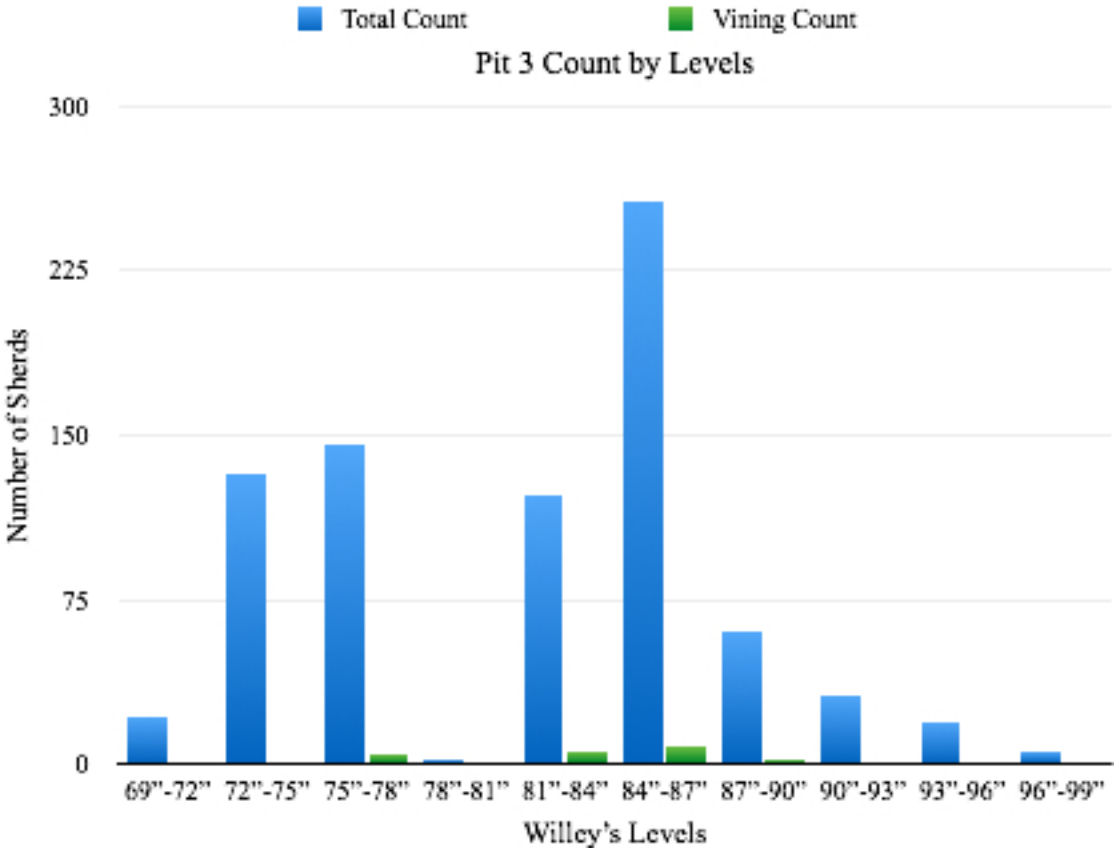

Figure 24 Pit 3 Number of Sherds per Willey's Levels

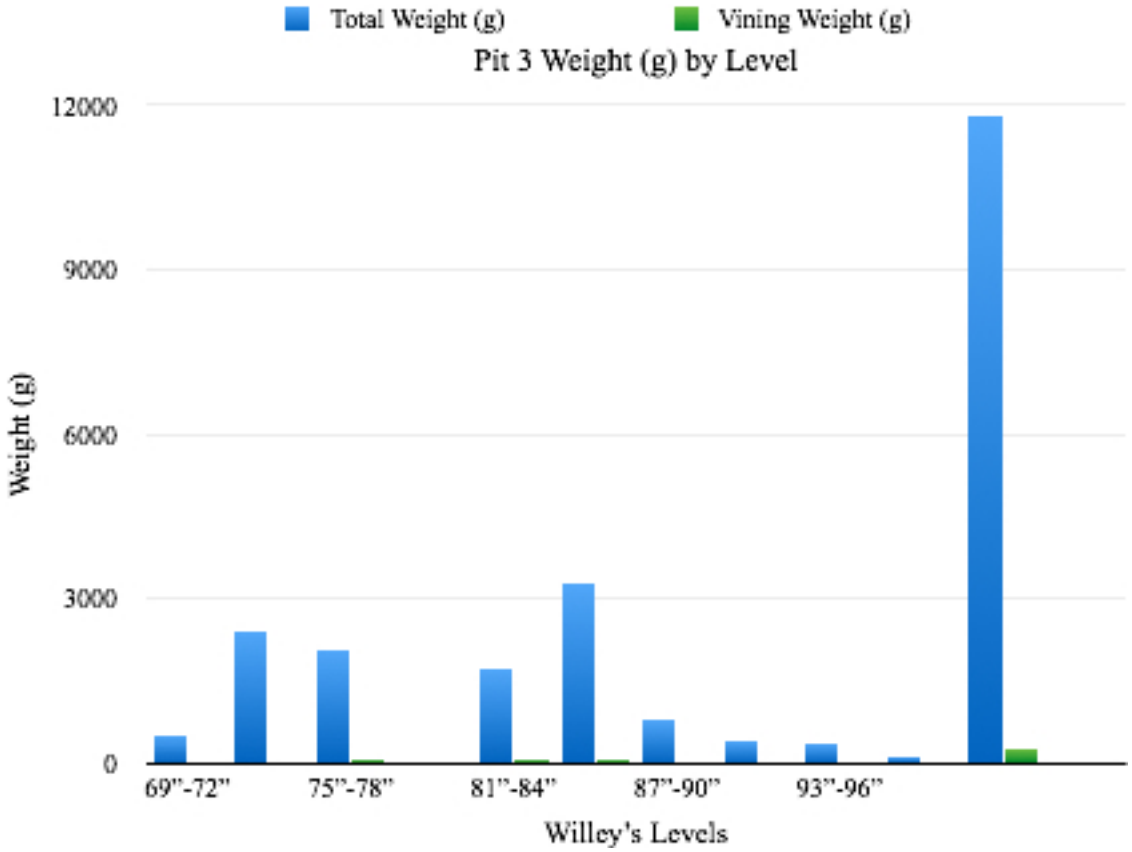

Figure 25 Pit 3 Ceramic Weight (g) per Willey's Levels

Table 4 Pit 3 Summary Table

Pit 3 Summary Table

Level	Type	Count	Weight (g)
69"-72"	Lamar Bold Incised & Punctated	3	118.2
	Lamar Complicated	11	196.4
	Lamar Incised	2	10.4
	Lamar Plain	5	168.2
	Macon Thick	1	36.4
72"-75"	Lamar Bold Incised	16	233
	Lamar Bold Incised & Punctated	5	141.8
	Lamar Coarse Plain	19	274.2
	Lamar Complicated	66	1154.2
	Lamar Incised	1	19.2

	Lamar Pinched	1	17
	Lamar Plain	14	408
	Lamar Punctated	1	19.6
	Unidentified	2	74.2
	Vining Simple Stamped	1	4.6
	Weeden Island	6	78.6
75”-78”	Bibb Plain	1	13.6
	Lamar Bold Incised	12	153.6
	Lamar Coarse Plain	16	180.6
	Lamar Complicated	82	1153
	Lamar Incised	2	14.6
	Lamar Pinched	3	27.8
	Lamar Plain	22	403.6
	Lamar Punctated	2	28.6
	Macon Thick	1	23.6
	Vining Simple Stamped	4	60.8
	Weeden Island	1	27.8
78”-81”	Lamar Pinched	1	11.4
	Lamar Plain	1	21.6
81”-84”	Bibb Plain	2	51.2
	Lamar Bold Incised	13	179
	Lamar Coarse Plain	5	50.4
	Lamar Complicated	83	1207.5
	Lamar Complicated & Punctated	1	12
	Lamar Incised	2	25.8
	Lamar Pinched	2	21.8
	Lamar Plain	6	63.8
	Lamar Punctated	3	36.2
	Vining Simple Stamped	6	95.2
84”-87”	Lamar Bold Incised	21	301.2
	Lamar Bold Incised & Punctated	2	14.6
	Lamar Coarse Plain	27	319.6

	Lamar Complicated	139	1843.6
	Lamar Complicated & Pinched	2	48
	Lamar Incised	4	33
	Lamar Pinched	7	95.6
	Lamar Plain	34	464.8
	Lamar Punctated	8	74.8
	Unidentified	4	38.6
	Vining Simple Stamped	8	61.4
87”-90”	Lamar Bold Incised	4	23.6
	Lamar Coarse Plain	9	74
	Lamar Complicated	31	548.6
	Lamar Pinched	1	5.4
	Lamar Plain	7	77.2
	Lamar Punctated	2	30.6
	Plain	4	52
	Vining Simple Stamped	2	13.4
90”-93”	Lamar Bold Incised	4	28.2
	Lamar Coarse Plain	2	18.4
	Lamar Complicated	18	249.4
	Lamar Plain	5	68.6
	Lamar Punctated	2	31
93”-96”	Lamar Bold Incised	1	19.8
	Lamar Bold Incised & Punctated	1	39.8
	Lamar Coarse Plain	1	9.4
	Lamar Complicated	14	282.6
	Lamar Incised	1	13.6
	Vining Simple Stamped	1	16.6
96”-99”	Lamar Complicated	4	84.2
	Lamar Plain	2	21.2

5.1.4 Pit 4

The total ceramic assemblage from Pit 4 follows a somewhat normal distribution curve, unlike Pits 1, 2 and 3. Cultural material begins below 33" in Pit 4. Level 33"-36" yielded 422.8 g of ceramic material while the subsequent 36"-39" level peaked at 770.2 g. The weight of the total ceramic assemblage as well as the number of ceramic artifacts steadily declines after this level, to 421.4 g for the 39"-42" level, dropping to 118 g at 45"-48". The lowest level 51"-54" collected only four sherds totaling 35.8 g.

Pit 4 returns to a similar pattern as Pits 1 and 2, however yielded considerably less of the total proportion of the ceramic assemblage for the entire pit. Vining Simple Stamped ceramics only account for 9.4% of the total Pit 4 assemblage by weight. Vining Simple Stamped ceramics account for only 2% of the total proportion by weight in the shallowest 33"-36" level. The proportion of Vining Simple Stamped ceramics begins to increase, accounting for 11% of the total assemblage by weight from 39" to 45" and subsequently continues to increase. From 45"-48" Vining Simple Stamped ceramics are almost a third of the total assemblage at 33% and that increases to half from the 48"-51" layer. The proportion slightly decreases to 40% for the deepest level of Pit 4. It is interesting that as the total density of ceramic artifacts reveals an overall decline descending through Pit 4 the proportion of Vining Simple Stamped ceramics increases. This may indicate a shift in use area, or perhaps that the amount of Vining Simple Stamped ceramics that were used remained constant throughout the life use of Pit 4. The available data for Pit 4 ends at 54". A burial was uncovered below this level at Pit 4, and any remaining data is unavailable for this study. If a Vining phase does exist for Pit 4, it would likely start below 45" but the data supporting the presence of a Pit 4 Vining phase is not strong.

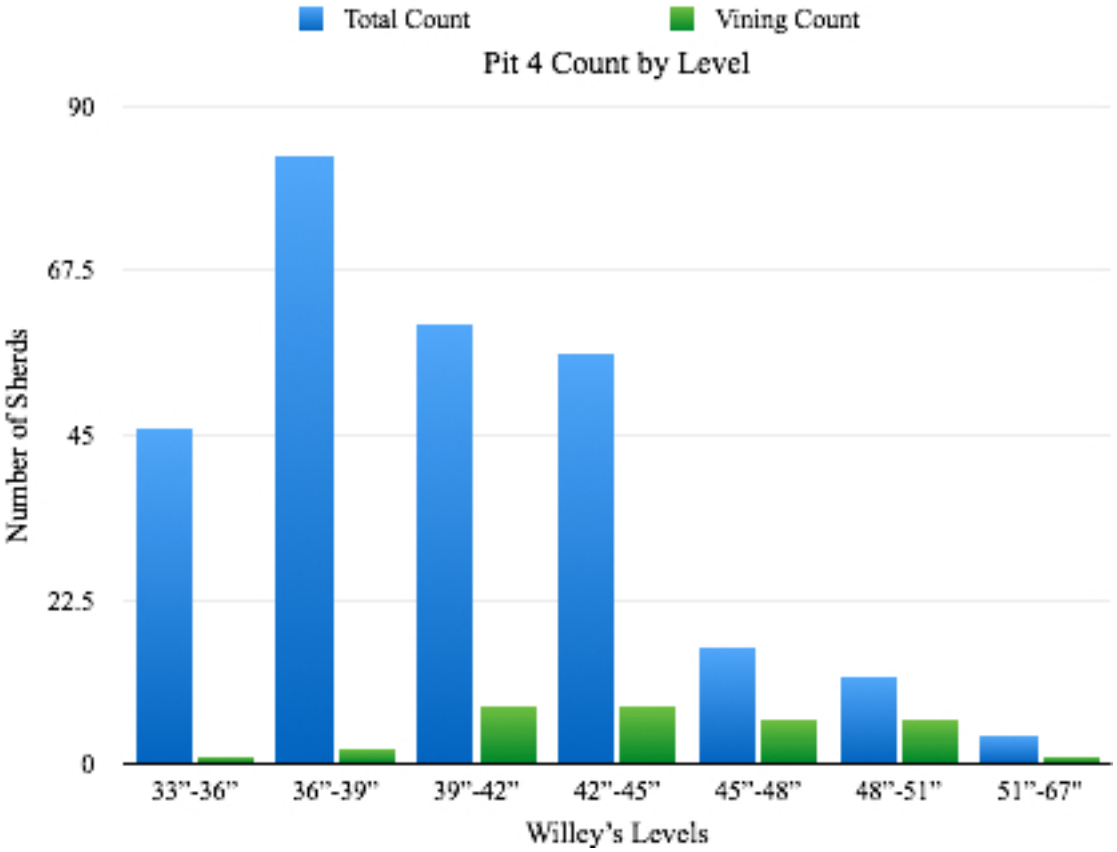

Figure 26 Pit 4 Number of Sherds per Willey's Levels

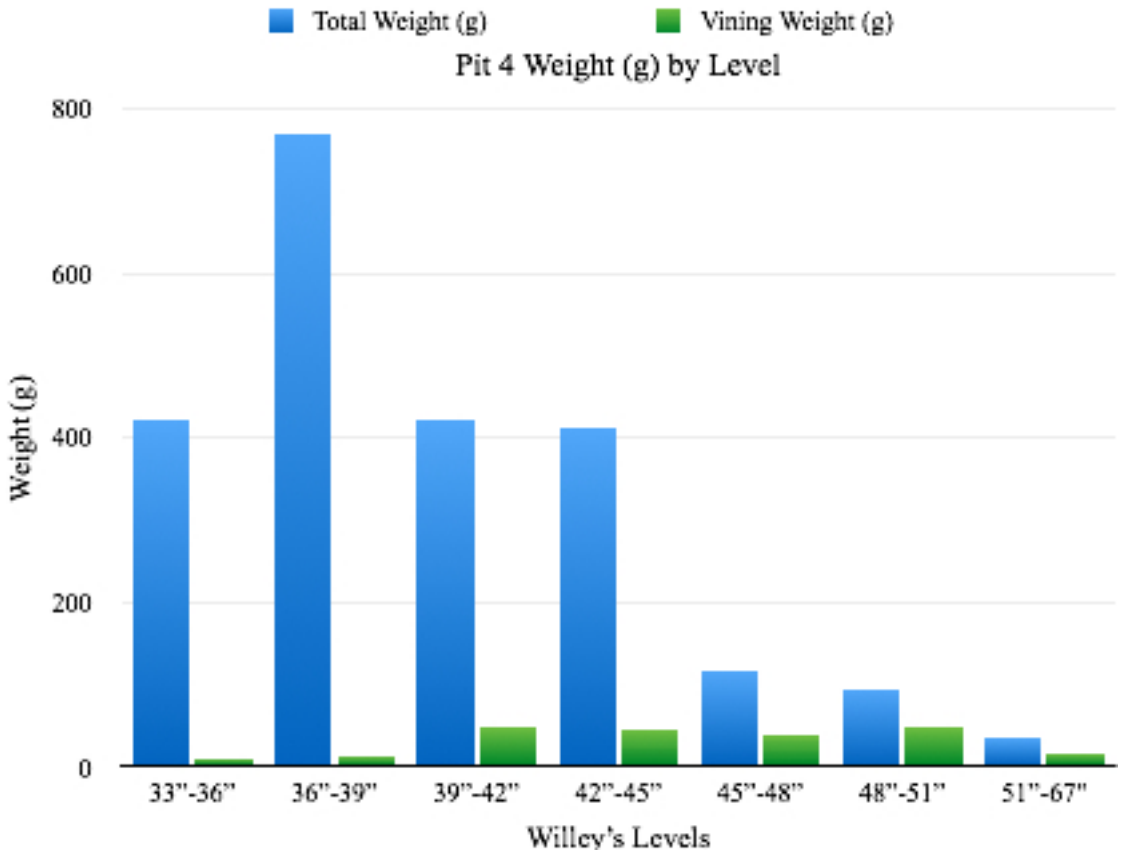

Figure 27 Pit 4 Ceramic Weight (g) by Willey's Levels

Table 5 Pit 4 Summary Table

Pit 4 Summary Table

Level	Type	Count	Weight (g)
33"-36"	Lamar Bold Incised	2	11.6
	Lamar Complicated	33	321.6
	Lamar Incised	3	20.6
	Lamar Plain	5	50
	Lamar Punctated	2	10.2
	Vining Simple Stamped	1	8.8
36"-39"	Lamar Bold Incised	7	48.4
	Lamar Coarse Plain	2	13.4

	Lamar Complicated	58	566
	Lamar Incised	3	25.6
	Lamar Pinched	1	13.2
	Lamar Plain	9	68.4
	Lamar Punctated	1	23.6
	Vining Simple Stamped	2	11.6
39”-42”	Lamar Bold Incised	7	61.6
	Lamar Coarse Plain	2	9
	Lamar Complicated	21	165.2
	Lamar Incised	2	8.4
	Lamar Pinched	3	14.4
	Lamar Plain	12	63.2
	Lamar Punctated	4	33.2
	Napier Complicated	1	17.6
	Vining Simple Stamped	8	48.8
42”-45”	Lamar Bold Incised	7	74
	Lamar Coarse Plain	2	11.6
	Lamar Complicated	14	106.2
	Lamar Incised	3	18
	Lamar Pinched	4	43.4
	Lamar Plain	17	106.2
	Plain	1	7.4
	Vining Simple Stamped	8	45.4
45”-48”	Lamar Coarse Plain	3	12
	Lamar Complicated	6	55.8
	Lamar Incised	1	11.6
	Vining Simple Stamped	6	38.6
48”-51”	Lamar Bold Incised	1	18.4
	Lamar Complicated	3	17.6
	Lamar Plain	2	9.8
	Vining Simple Stamped	6	47.4
51”-67”	Lamar Complicated	3	21.2

	Vining Simple Stamped	1	14.6

5.1.5 Pit 5

The total weight of the ceramic assemblage follows a similar pattern in Pit 5 as identified in Pit 1. Cultural material began at 49" below the surface. In the first level only nine sherds were uncovered, weighing 86.6 g combined. The highest peak for total weight of ceramic artifacts in Pit 5 was in the 52"-55" level where 1,103.4 g of ceramic sherds were collected. The weight decreases for the next three levels, bottoming out between 61"-64" at 95.2 g of ceramics artifacts. In the next level (64"-67") the total ceramic weight increases to 489.6 and follows a wave like distribution pattern for the remainder of the pit. Level 64"-67"" produced 208.4 g of ceramic materials, level 70"-73" only yielded 46.2 g, and the final level of excavation at 73"-76" increased to 536.6 g of ceramics.

The Vining Simple Stamped component of the assemblage from Pit 5 follows the same pattern as Pits 1 and 2. In the first level from 49" to 52" no Vining Simple Stamped sherds were collected. The next three levels spanning a depth from 52"-61" have low proportions ofVining Simple Stamped sherds, which account for maximally 6% of the ceramic assemblages. However the proportion of Vining Simple Stamped ceramics jumps to 63% of the total ceramic assemblage by weight in the 61"-64" level. Due to this increase this level marks the beginning of Phase 1 for Pit 5. For the subsequent level the proportion of Vining Simple Stamped by weight drops to 35% but by count of each individual sherd, the style accounts for over half of the ceramic assemblage. Vining Simple Stamped ceramics dominate the assemblage in the deepest

three levels 67”-76”, making up 100% of the assemblage from 70”-73”.

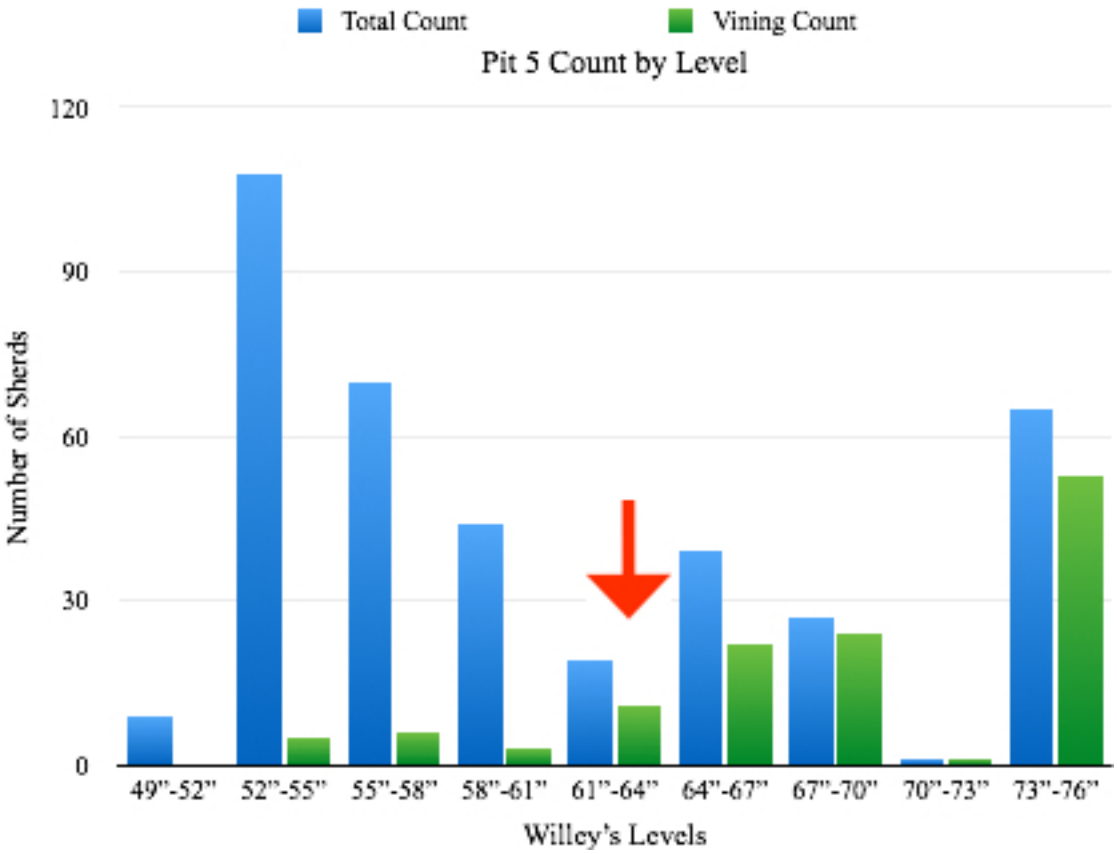

Figure 28 Pit 5 Number of Sherds per Willey's Levels, Red Arrow Indicating Division Between Phases 1 and 2

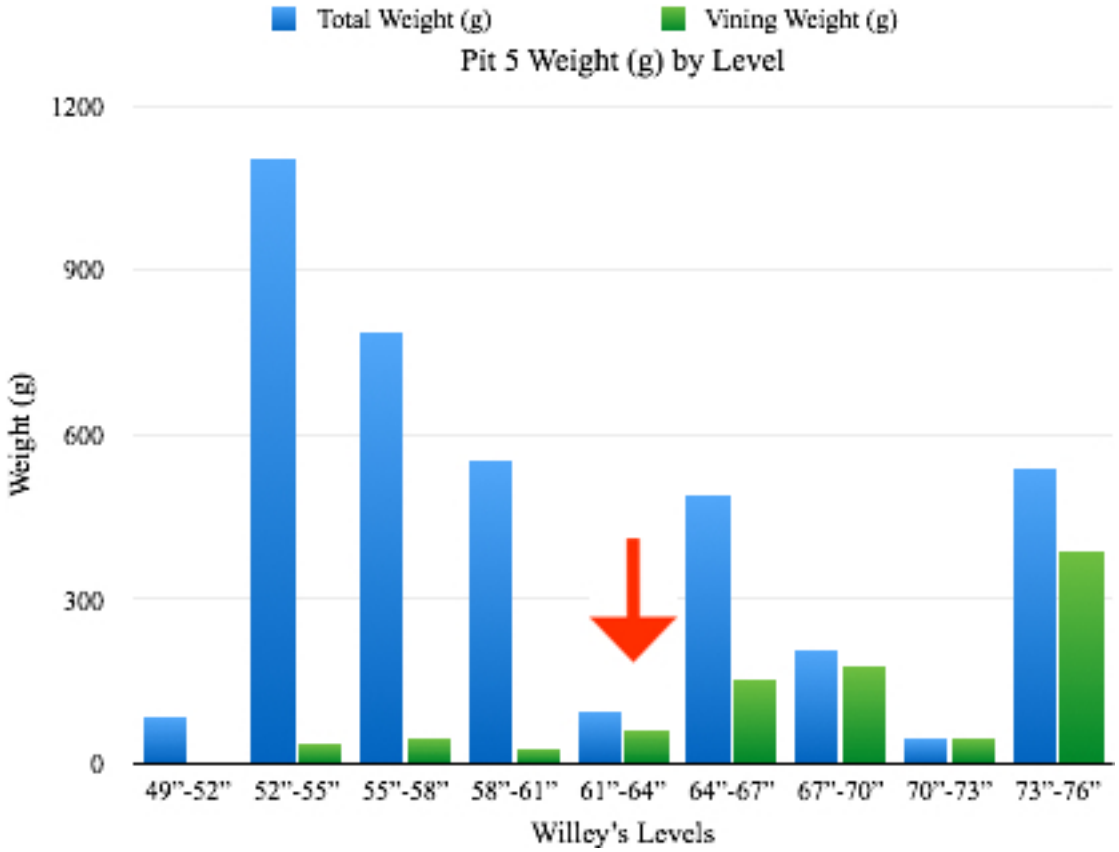

Figure 29 Pit 5 Ceramic Weight (g) by Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

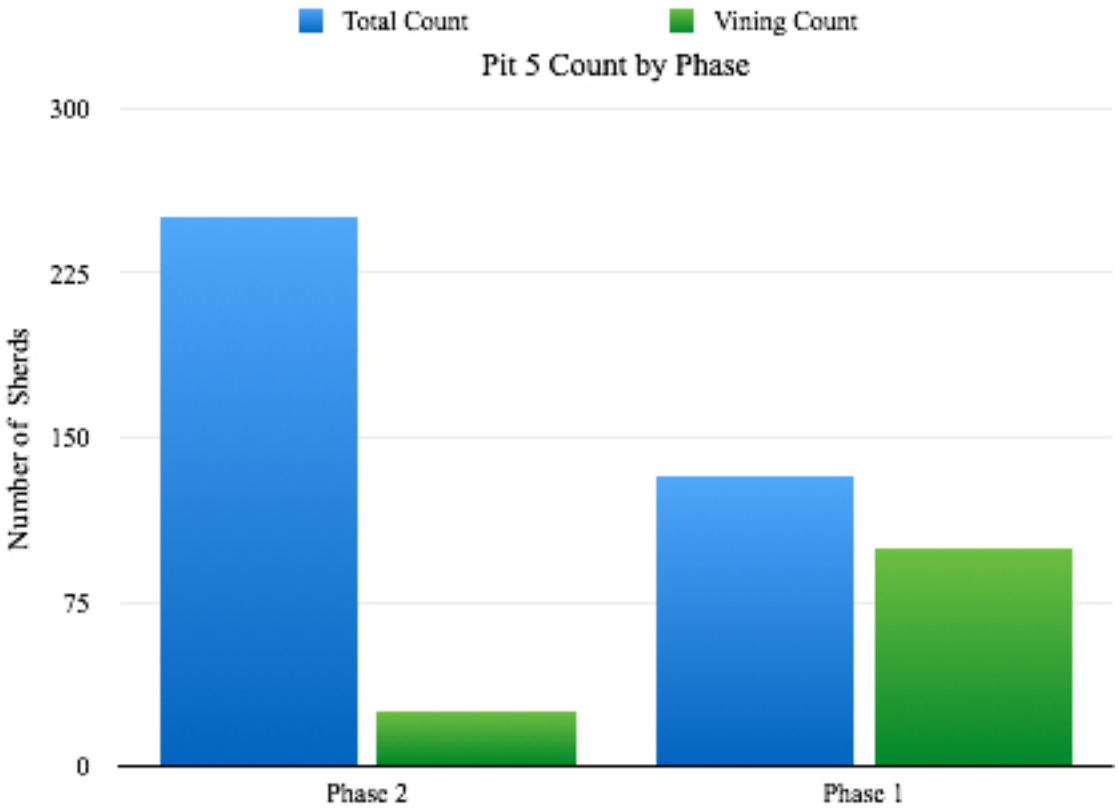

Figure 30 Pit 5 Number of Sherds per Phase

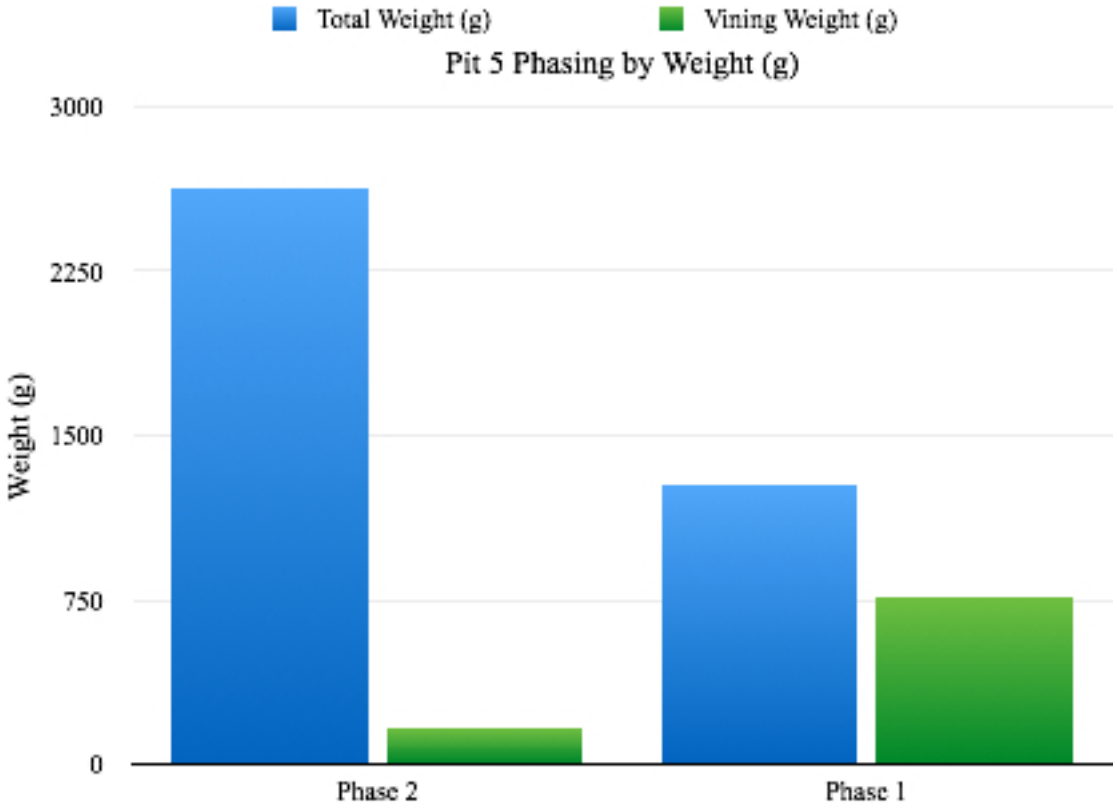

Figure 31 Pit 5 Total Weight (g) of Ceramics by Phase

Table 6 Pit 5 Summary Table

Pit 5 Summary Table

Level	Type	Count	Weight (g)
49”-52”	Lamar Coarse Plain	4	29.4
	Lamar Complicated	2	17.4
	Lamar Plain	3	39.8
52”-55”	Lamar Bold Incised	9	67
	Lamar Coarse Plain	22	165.6
	Lamar Complicated	50	600.4
	Lamar Incised & Punctuated	3	24.6
	Lamar Pinched	1	5.8
	Lamar Plain	14	127.4
	Lamar Punctated	1	11.6

	Unidentified	3	64.6
	Vining Simple Stamped	5	36.4
55”-58”	Lamar Bold Incised	6	43.8
	Lamar Bold Incised & Punctated	1	8.6
	Lamar Coarse Plain	12	156.2
	Lamar Complicated	38	461.2
	Lamar Plain	4	50
	Unidentified	3	20.2
	Vining Simple Stamped	6	47.4
58”-61”	Bibb Plain	2	19.6
	Lamar Bold Incised	2	13.8
	Lamar Complicated	22	227.6
	Lamar Plain	6	50.6
	Lamar Punctated	2	24.8
	Ocmulgee Fields Plain	7	189.8
	Vining Simple Stamped	15	265.2
61”-64”	Bibb Plain	1	8
	Lamar Bold Incised	4	11
	Lamar Complicated	1	2.8
	Lamar Plain	2	12.8
	Vining Simple Stamped	11	60.6
64”-67”	Lamar Bold Incised	2	27.6
	Lamar Complicated	11	233.4
	Lamar Plain	4	74.6
	Vining Simple Stamped	22	154
67”-70”	Bibb Plain	2	15.6
	Lamar Plain	1	16.6
	Vining Simple Stamped	24	176.2
70”-73”	Vining Simple Stamped	1	46.2
73”-76”	Lamar Bold Incised	1	7
	Lamar Coarse Plain	4	48.2
	Lamar Complicated	3	37.6

	Lamar Pinched	1	7
	Lamar Plain	3	49.8
	Vining Simple Stamped	53	387

5.1.6 Pit 6

Ceramics were collected from Pit 6 33" below the surface to 48". The levels that yielded the highest weight of the total ceramic assemblage were levels 33"-36" at 640. 2g and 36"-39" at 668.6 g. These combined levels account for 77% of the total assemblage from Pit 6. Total weight of ceramics drops to 122.4 g in the following 39"-42" level, rising slightly in the following 42"-45" level (213.4 g) and dropping to 55.6 g at the deepest level 45"-48".

The pattern observed for the proportion of Vining Simple Stamped ceramics in Pits 1, 2, 4 and 5 is in Pit 6. The proportion of Vining Simple Stamped ceramics appears to follow a somewhat normal distribution, beginning at the shallowest level 33"-36" at less than 7% of the assemblage and steadily rising to 15% for the subsequent 36"-39" level. It peaks at 35% of the assemblage collected from 39"-42" and then decreases to 19% in the following 42"-45" level. In the deepest level, 45"-48," no Vining Simple Stamped ceramics were collected. This is not surprising given that only nine ceramic artifacts were collected from that level.

These patterns illustrate that there was a drastic increase in the intensity of site use when Lamar type ceramics were prevalent (in the latest levels). While the distribution of Vining Simple Stamped ceramics follows a normal distribution curve, the declining nature of the total assemblage may reflect a steady, long-lasting albeit small Vining Simple Stamped component to Pit 6. The data for Pit 6 do not support the notion that there was a strong distinction between Phase 1 and Phase 2. Due to the small proportions of Vining Simple Stamped ceramics throughout the pit indicates that Pit 6 may only represent limited activity from one of the Early

Mississippian phases. My interpretation is that Pit 6 represents Phase 1 because of the smaller proportions of Vining ceramics across Pits 1 and 8 in Phase 2. If Pit 6 belonged to Phase 2, it is my belief that it would have a clear distinction between the phases. It is also possible that the material from Pit 6 spanned both Early Mississippian phases at Mossy Oak and was consistently an area of low activity.

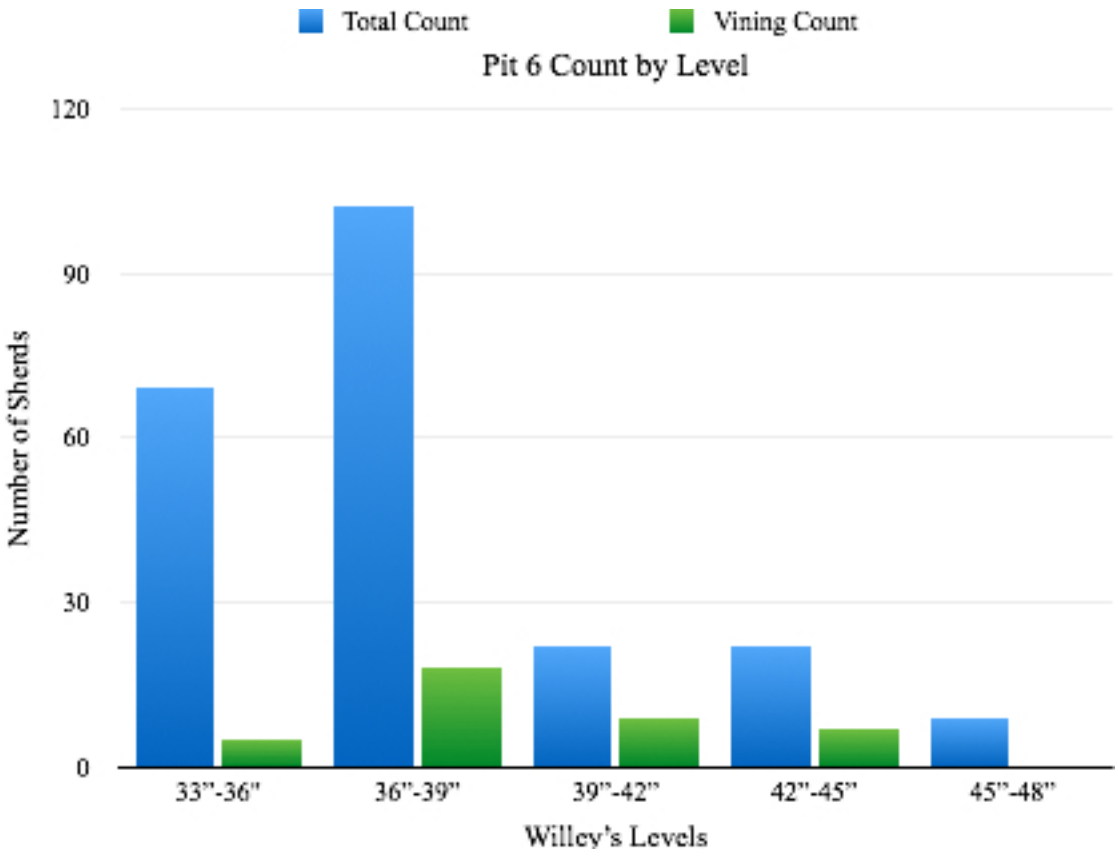

Figure 32 Pit 6 Number of Sherds per Willey's Levels

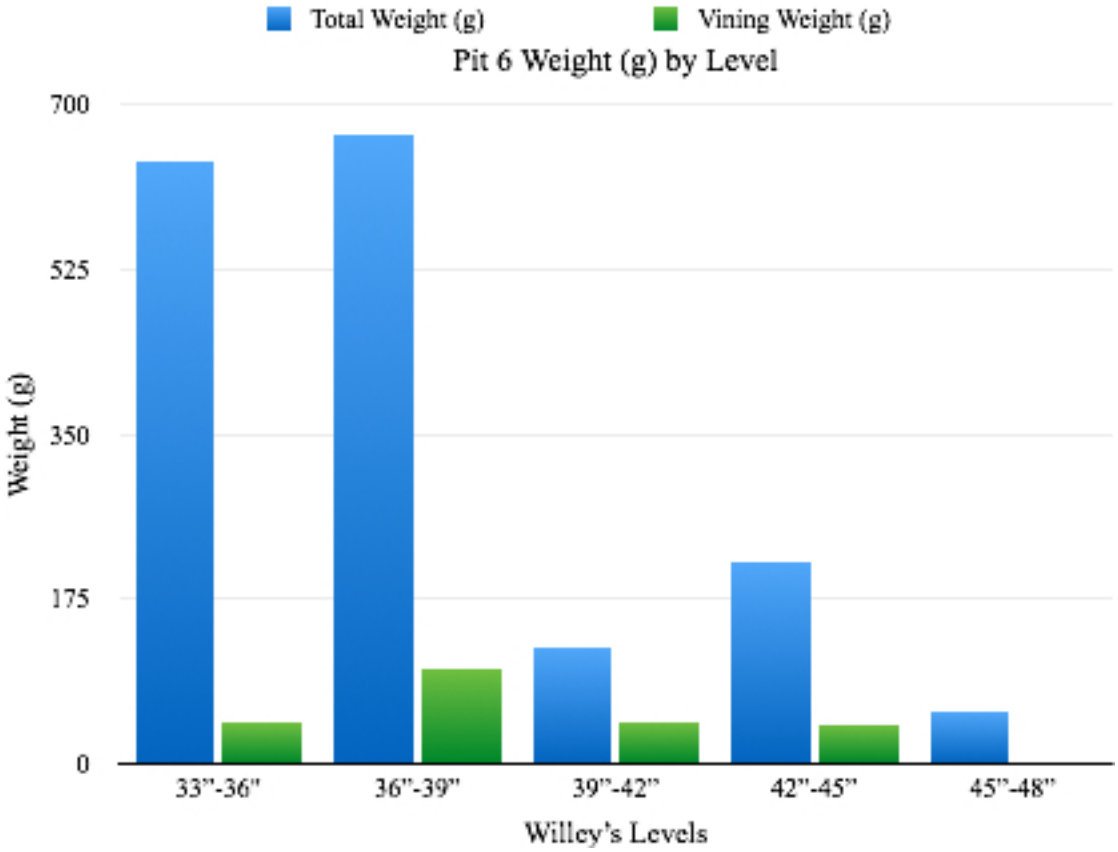

Figure 33 Pit 6 Ceramic Weight (g) by Willey's Levels

Table 7 Pit 6 Summary Table

Pit 6 Summary Table

Level	Type	Count	Weight (g)
33"-36"	Lamar Bold Incised	8	65.4
	Lamar Bold Incised & Punctated	1	10.2
	Lamar Coarse Plain	14	117.2
	Lamar Complicated	30	272.8
	Lamar Pinched	2	18.4
	Lamar Plain	7	100.4
	Lamar Punctated	2	12.2
	Vining Simple Stamped	5	43.6
36"-39"	Lamar Bold Incised	8	89.6
	Lamar Coarse Plain	17	103.4

	Lamar Complicated	47	313.4
	Lamar Pinched	2	17.4
	Lamar Plain	9	36.6
	Lamar Punctated	1	7.4
	Vining Simple Stamped	18	100.8
39”-42”	Lamar Complicated	8	54.6
	Lamar Plain	2	9.8
	Lamar Punctated	1	6.2
	Vining Simple Stamped	9	43.2
42”-45”	Lamar Bold Incised	2	12.4
	Lamar Bold Incised & Punctated	1	52.6
	Lamar Complicated	11	70.2
	Napier Complicated	1	36.2
	Vining Simple Stamped	7	42
45”-48”	Lamar Complicated	9	55.6

5.1.7 Pit 7

Pit 7 produced the largest ceramic assemblage of all the pits analyzed for this study, including 1,175 sherds weighing a total of 11,472.4 g. Cultural material was collected from the surface to 7” where Willey began excavating in three inch intervals. Following a similar pattern to Pits 1 and 2, Pit 7 appears to have two major peaks separated by a decline. The first of these peaks is at level 13”-16” with a total ceramic weight of 1,457 g. This peak remains steady through the following 16”-19” level at 1,435.7 g. The density of ceramics drops from 19”-22” to 917.g and then nearly phases out at 22”-25” at 301 g. During this level Willey speculates on the basis of finding “orange colored clay with charcoal” that this area may have belonged to a household (Willey 1937: 60). The situation changes at 28”-31” as total ceramic density begins to rise again steadily at 865.4 g to 1033.6 g at 31”-34”. Willey observed post hole markings

beginning at this level that remain until they fade away at 43". The second peak occurs at 34"-37" at 1,399.6 g and then abruptly drops to 146.8 g at the 37"-40" level. The total weight of the ceramic assemblage is under 100 g in the subsequent four levels (40"-55").

The pattern observed specifically for Vining Simple Stamped ceramics is slightly different from the pattern observed in other pits. During the first peak of the total assemblage in Pit 7 also reveals an increase in the proportion of Vining Simple Stamped ceramics. From 7"-16" Vining Simple Stamped ceramics constitute less than 5% of the total assemblage. With the peak amount in total ceramics at level 16"-19", Vining Simple Stamped jumps to 26.4% of the total ceramic assemblage. However while the distribution of total ceramics declines in the subsequent levels Vining Simple Stamped is nearly absent with only a single sherd from the levels 19"-25". After the distributional valley of total ceramics, the proportion of Vining Simple Stamped ceramics increases along with the total assemblage in the deeper levels. When the total assemblage ceramic weight reaches its peak at 34"-37" 89.6% of those ceramics are Vining Simple Stamped. Vining Simple Stamped ceramics dominate the subsequent levels as the total assemblage fades out from 37"-55", the proportion of Vining Simple Stamped ceramics remains steady between 80-100% of the total assemblage. Vining Simple Stamped ceramics comprise 25.1% of the total ceramic assemblage for Pit 7. Phasing for Pit 7 reflects a small Phase 2 component above 25" with a long Phase 1 component below 25".

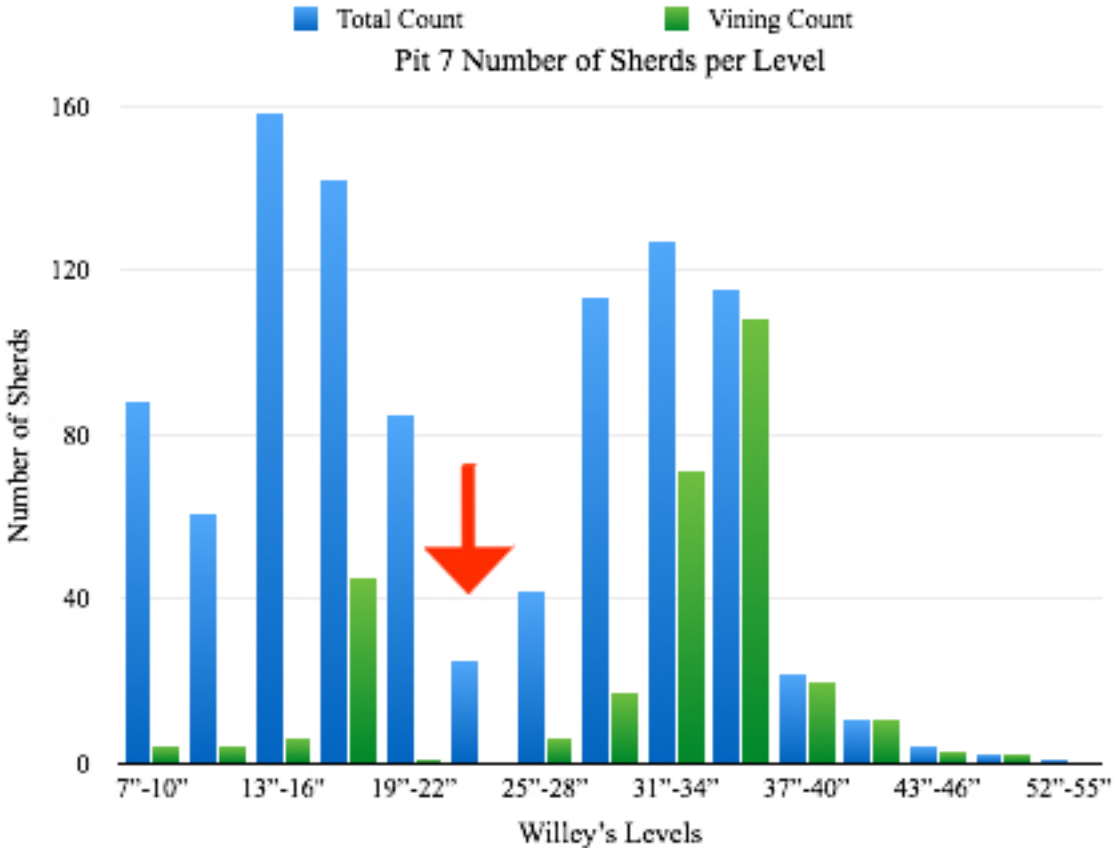

Figure 34 Pit 7 Number of Sherds per Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

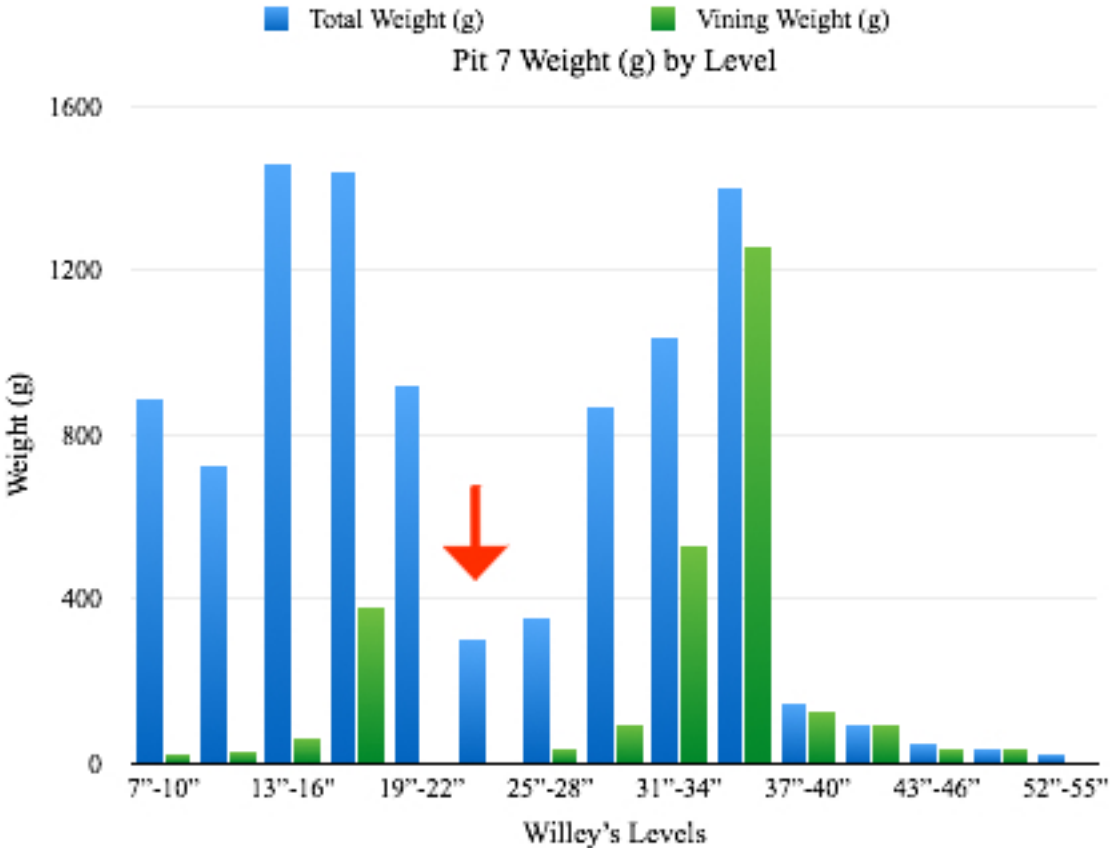

Figure 35 Pit 7 Ceramic Weight (g) by Willey's Levels

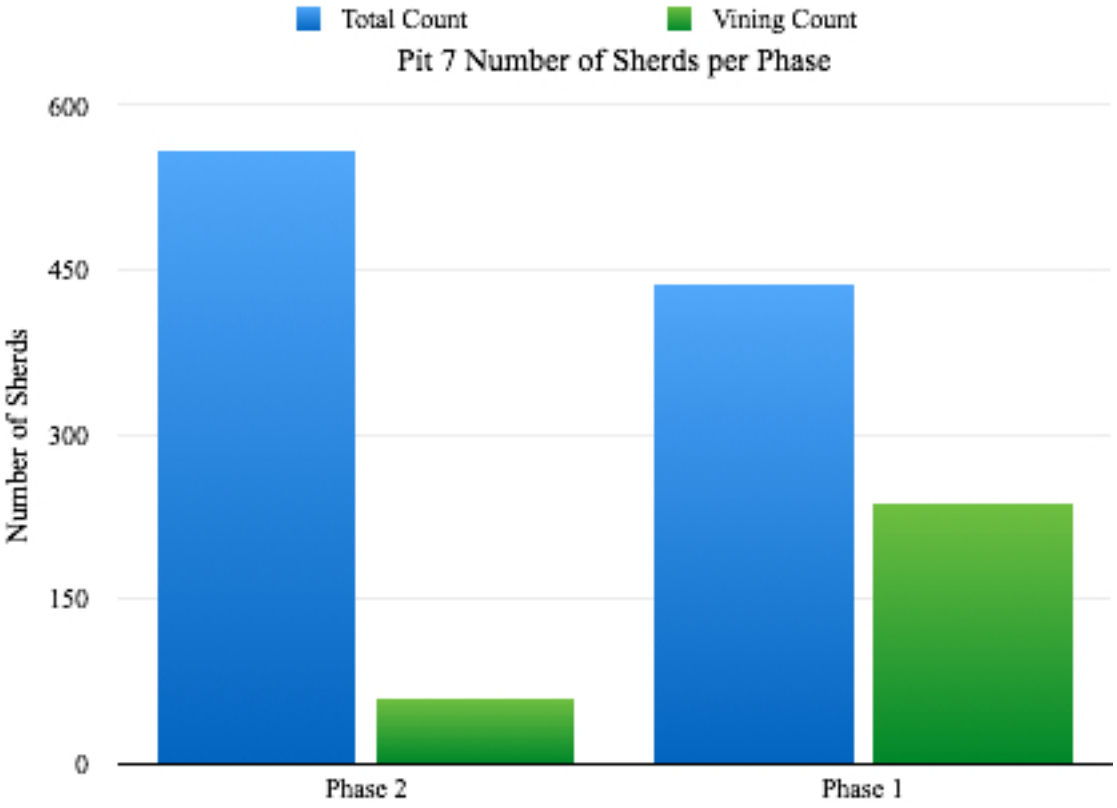

Figure 36 Pit 7 Number of Sherds per Phase

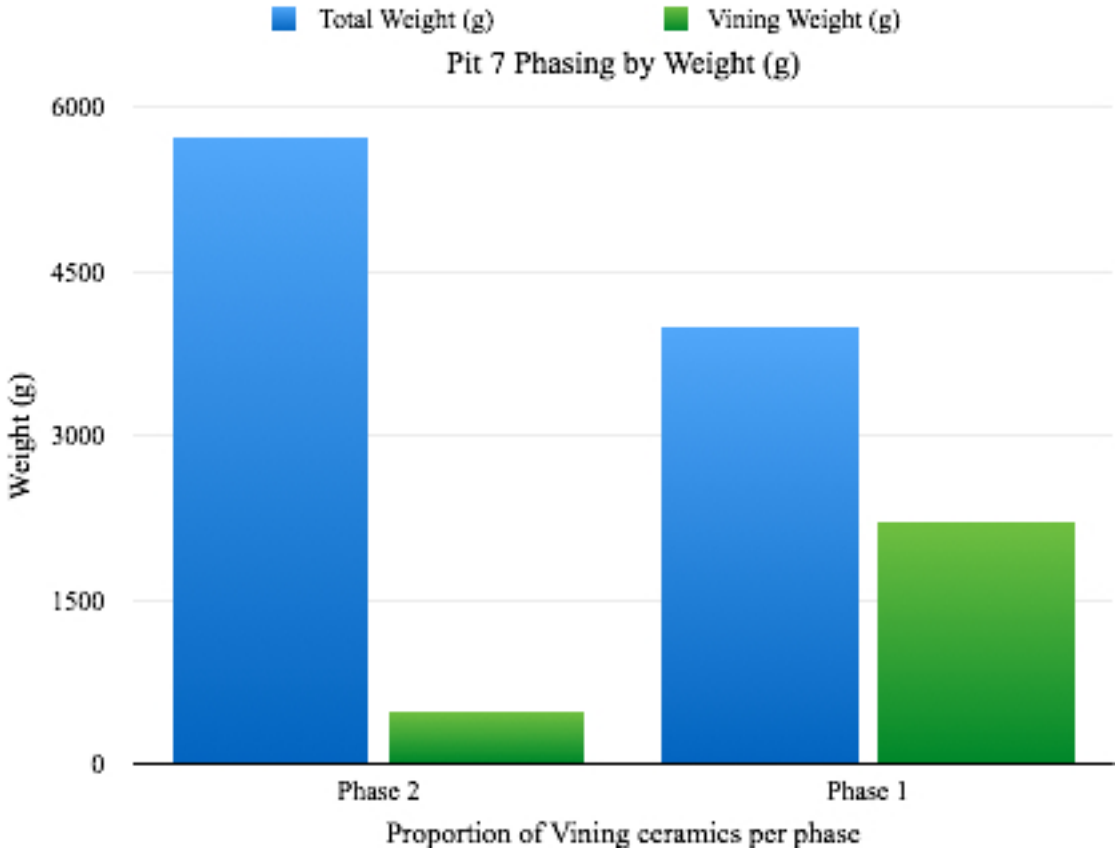

Figure 37 Pit 7 Total Ceramic Weight (g) per Phase

Table 8 Pit 7 Summary Table

Pit 7 Summary Table

Level	Type	Count	Weight (g)
7”-10”	Lamar Bold Incised	14	143.2
	Lamar Coarse Plain	10	108
	Lamar Complicated	36	395.8
	Lamar Incised	6	80.6
	Lamar Plain	15	120.4
	Lamar Punctated	3	16.2
	Vining Simple Stamped	4	19.6
10”-13”	Lamar	1	10
	Lamar Bold Incised	1	8
	Lamar Coarse Plain	13	144.6

	Lamar Complicated	31	420.8
	Lamar Pinched	2	19
	Lamar Plain	9	92.4
	Vining Simple Stamped	4	28
13”-16”	Deptford Check Stamped	1	6
	Lamar Bold Incised	19	147.6
	Lamar Bold Incised & Punctated	3	43.4
	Lamar Coarse Plain	21	175.2
	Lamar Complicated	77	782
	Lamar Pinched	4	35.6
	Lamar Plain	20	162
	Lamar Punctated	6	36.6
	Vining Simple Stamped	6	62
	Weeden Island Punctated & Incised	1	6.6
16”-19”	Lamar Bold Incised	9	108.8
	Lamar Bold Incised & Punctated	3	27.8
	Lamar Complicated	61	662.9
	Lamar Incised	1	6
	Lamar Pinched	6	62.4
	Lamar Plain	16	188.2
	Vining Simple Stamped	45	379.6
19”-22”	Lamar Bold Incised	11	63
	Lamar Bold Incised & Punctated	1	5.2
	Lamar Coarse Plain	5	75.4
	Lamar Complicated	47	534.8
	Lamar Pinched	1	24
	Lamar Plain	12	85.8
	Lamar Punctated	3	63.8
	Macon Thick	3	56
	Ocmulgee Fields Plain	1	3.8
	Vining Simple Stamped	1	5.8
22”-25”	Lamar Bold Incised	1	5.8

	Lamar Coarse Plain	2	25.2
	Lamar Complicated	19	241.2
	Lamar Pinched	1	12.6
	Lamar Plain	2	16.2
25”-28”	Lamar Bold Incised	3	18.4
	Lamar Coarse Plain	10	78
	Lamar Complicated	19	184.6
	Lamar Plain	2	19
	Napier Complicated	1	12.4
	Unidentified Incised	1	8.2
	Vining Simple Stamped	6	34.6
28”-31”	Lamar Bold Incised	8	55.6
	Lamar Coarse Plain	17	114.6
	Lamar Complicated	53	474.8
	Lamar Plain	14	104.8
	Lamar Punctated	4	19
	Vining Simple Stamped	17	96.6
31”-34”	Lamar Bold Incised	6	60.8
	Lamar Complicated	35	303.2
	Lamar Pinched	2	12.2
	Lamar Plain	11	116.8
	Lamar Punctated	2	11
	Vining Simple Stamped	71	529.6
34”-37”	Lamar	1	54
	Lamar Coarse Plain	2	38.2
	Lamar Complicated	3	42.6
	Lamar Plain	1	10.8
	Vining Simple Stamped	108	1254
37”-40”	Lamar Coarse Plain	1	5.6
	Lamar Complicated	1	11.6
	Vining Simple Stamped	20	129.6
40”-43”	Vining Simple Stamped	11	93.6

43”-46”	Lamar Incised	1	8.2
	Vining Simple Stamped	3	37.8
46”-52”	Vining Simple Stamped	2	33.6
52”-55”	Vining Simple Stamped	1	21.4

5.1.8 Pit 8

Pit 8 includes the smallest number of ceramics by pit analyzed for this study, with only 156 total sherds collected. Combined the ceramic assemblage from Pit 8 weighs 1,385.2 g. Cultural material was collected from 48”-60” inches in three inch levels. The weight of the sherds in the pit follows a normal distribution curve. In the shallowest level (48”-51”) excavators collected 347.6 g of ceramic artifacts. The amount of ceramic artifacts collected increased in the subsequent level 51”-54” to 612.8 g and then declined to 368 g in the 54”-57” level. At the deepest level Willey’s team only collected 56.8 g of ceramics.

The distribution of Vining Simple Stamped ceramics follows a normal distribution pattern, peaking at level 54”-57”. The proportion of Vining Simple Stamped ceramics follow a similar pattern to Pits 1, 2, 5 and 7, increasing in deeper deposits. In level 48”-51” Vining Simple Stamped ceramics only comprise 2.9% of the total ceramic assemblage by weight. This increases to 20.8% in the 51”-54” level and jumps to 73.2% at 54”-57”. All of the sherds collected from the deepest level 57”-60” were Vining Simple Stamped ceramic sherds. No clear break exists between Phase 1 and Phase 2 in Pit 8, however because Vining Simple Stamped ceramics are most prevalent below 54”, I believe that this level marks the end of Phase 1 and

everything recovered above it represents Phase 2.

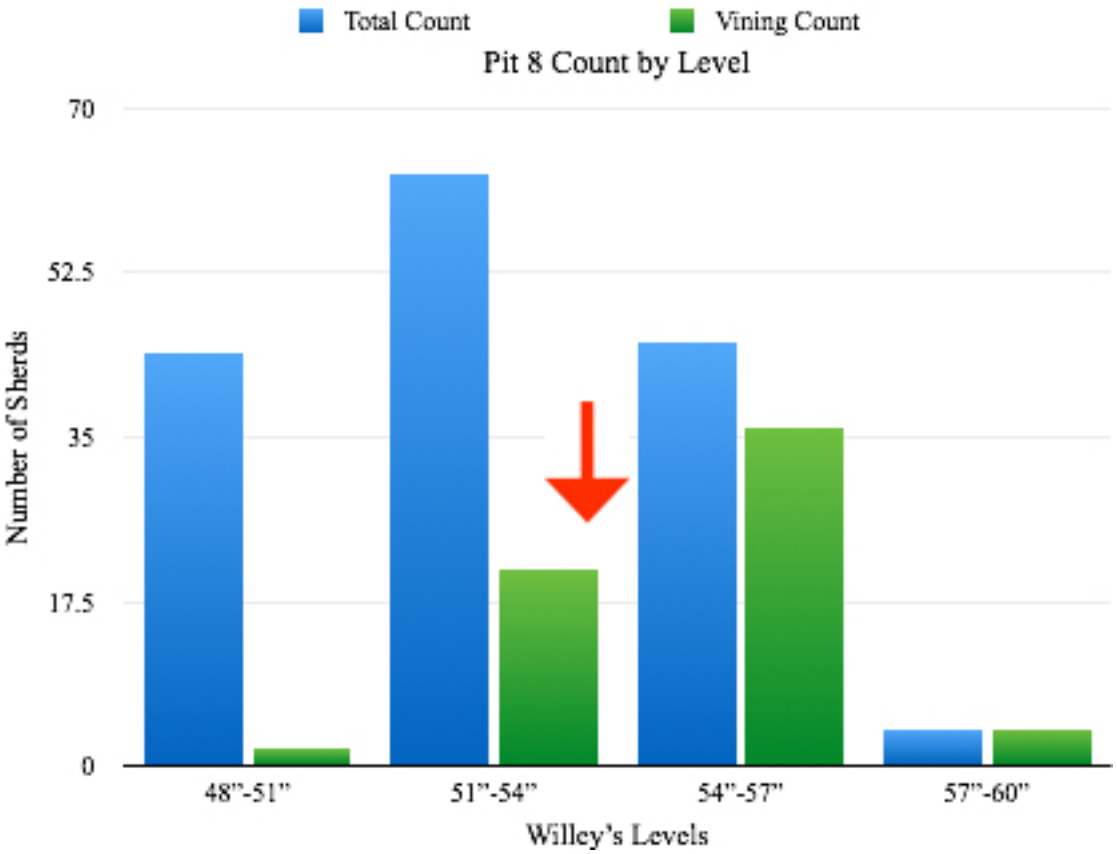

Figure 38 Pit 8 Number of Sherds per Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

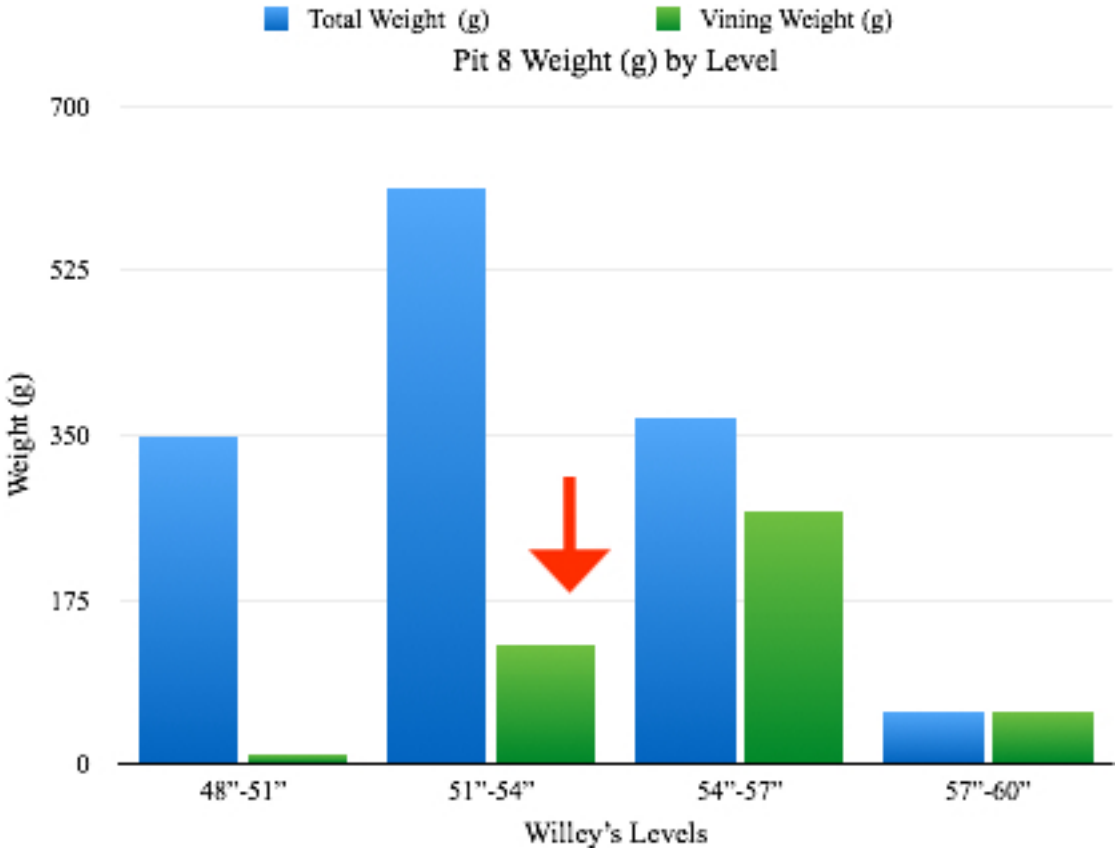

Figure 39 Pit 8 Ceramic Weight (g) by Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

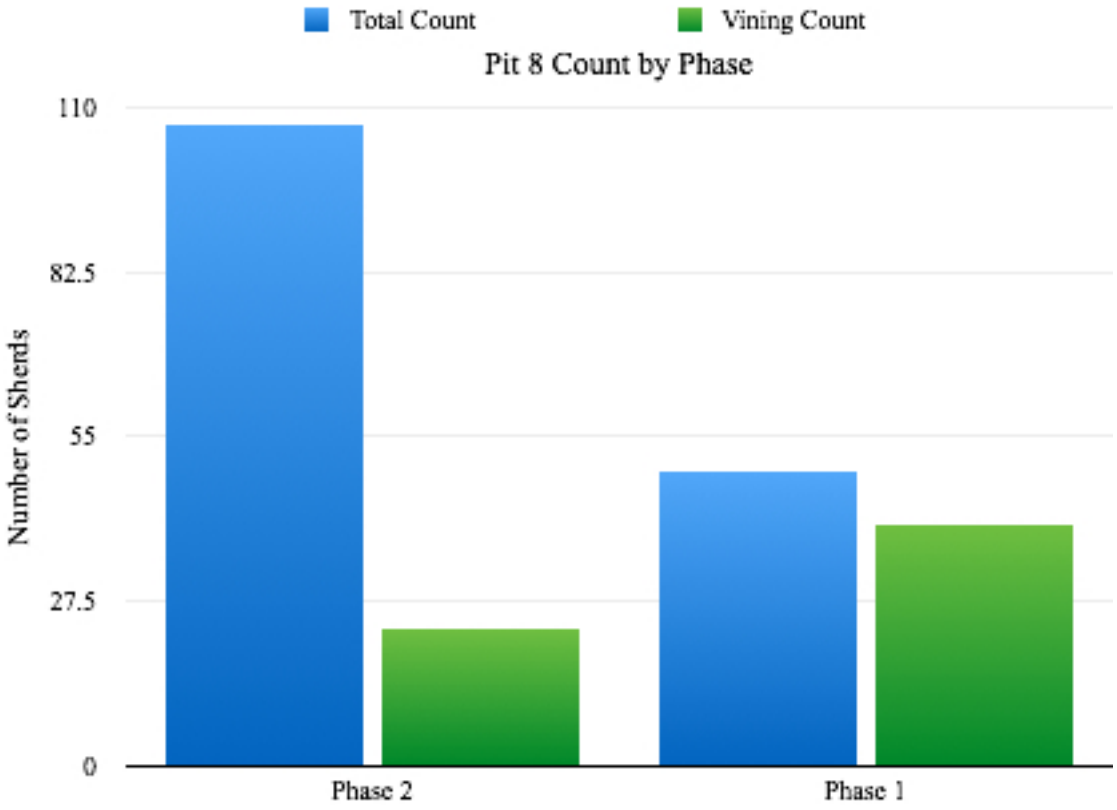

Figure 40 Pit 8 Number of Sherds per Phase

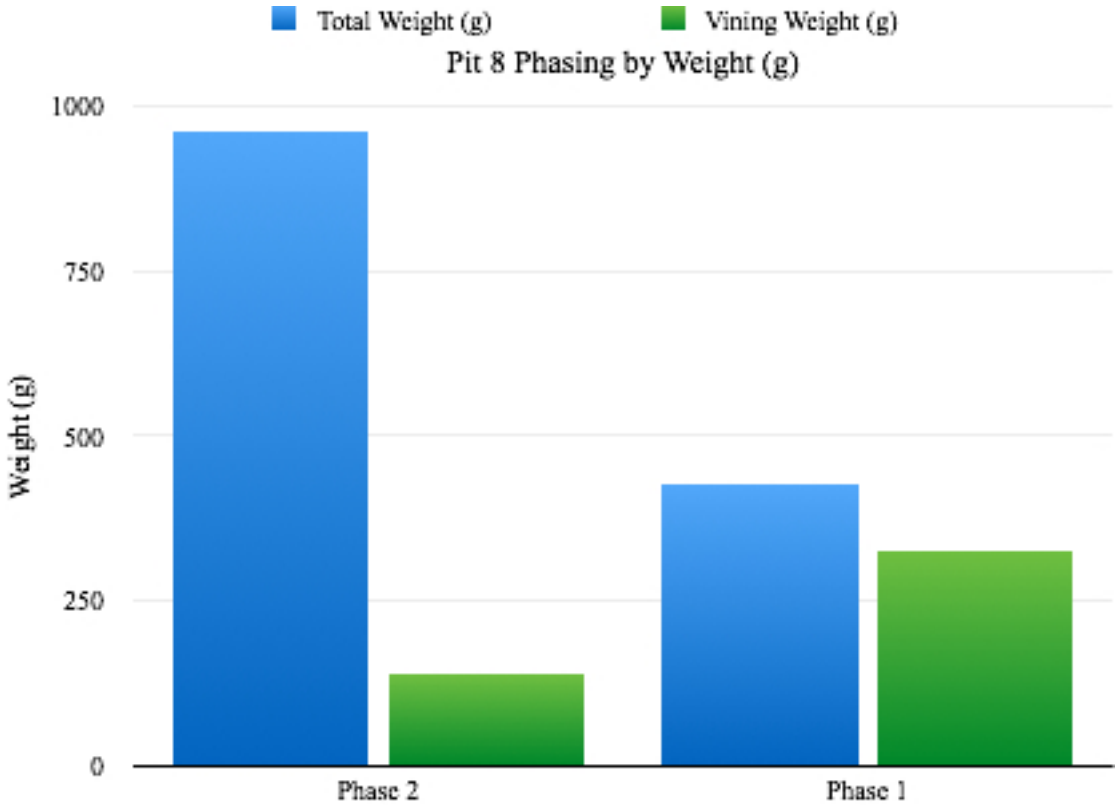

Figure 41 Pit 8 Total Weight (g) per Phase

Table 9 Pit 8 Summary Table

Pit 8 Summary Table

Level	Type	Count	Weight (g)
48”-51”	Lamar Bold Incised	1	25
	Lamar Coarse Plain	10	71.6
	Lamar Complicated	26	209.4
	Lamar Incised	1	4.2
	Lamar Plain	4	27.4
	Vining Simple Stamped	2	10
51”-54”	Lamar Bold Incised & Punctated	1	12.2
	Lamar Coarse Plain	6	35
	Lamar Complicated	28	378.4
	Lamar Pinched	1	16

	Lamar Plain	5	34.4
	Lamar Punctated	1	9.6
	Vining Simple Stamped	21	127.2
54”-57”	Lamar Bold Incised	1	5.2
	Lamar Complicated	5	67.2
	Lamar Plain	3	26.2
	Vining Simple Stamped	36	269.4
57”-60”	Vining Simple Stamped	4	56.8

5.2 Orifice Diameter Study

The Mossy Oak ceramic assemblage includes 57 Vining Simple Stamped rim sherds distributed across Pits 1-8. No full vessels or obvious joins were present, complicating the task of understanding vessel function. All of the rim sherds used in this study are in varying degrees of fragmentation, further obscuring vessel functionality. Using an orifice diameter template, I estimated the diameter of the orifice opening in centimeters. I also drew the profiles of each rim sherd. I also photographed each rim sherd.

Vining Simple Stamped rim sherds are most prevalent in Pits 1, 2 and 7. Pit 1 has 15 rim sherds, Pit 2 has 12, and Pit 7 has 18. The other pits only have small amounts of Vining Simple Stamped rim sherds, Pit 3’s collection has a single rim sherd, Pit 4 has three rims, Pit 5 yielded four, and pits 6 and 8 only had two. To reconstruct variability within pits, I calculated the standard deviation, mean, mode and median of rim sherds pit by pit, excepting Pit 3 which had only one sherd.

There was a large degree of variability in orifice diameters site-wide. The mean orifice diameter at the site was 13.02 cm. The standard deviation of orifice diameters was 4.5 cm. Pit 8 had the greatest variability in rim diameter measurements with a standard deviation of 7.43 cm

and Pit 4 had the least with a standard deviation of 2.29 cm. However, Pits 4 and 8 have very few Vining Simple Stamped rim sherds. Pits with larger amounts of rim sherds followed similar standard deviations to what was calculated site wide. Pit 1 had a standard deviation of rim sherds at 5.12 cm calculated for 15 specimens, and Pit 2 had a standard deviation of 4.34 cm calculated from 12 specimens. However, Pit 7 (n=18) had a standard deviation of 3.3 cm, indicating less variability from that pit.

Over time this pattern stays relatively constant. Six sherds were excluded from this part of the study because they lacked context. The standard deviation of 19 sherds from Phase 2 is 4.76 cm, and the standard deviation of 32 rim sherds from Phase 1 is 4.18 cm. Means remains close as well. The mean Vining rim sherd orifice diameter was 12.69 cm. It grew to 13.68 cm for Phase 2. Overall it does not appear that variability across the site changes from Phase 1 to Phase 2.

Other indications of variability across vessel shapes come from observations of vessel shape. Out of the 56 rim sherds studied, nine appear to flare outwards, curving from the exterior of the vessel. These flared rims do not share orifice diameter measurements, and range from estimates of 7 cm to 21 cm. I identified three general rim shapes; flattened, round, and pinched. Flattened rims were identified by a straight lip, rounded rims had rounded lipping, while pinched appeared to decrease in thickness to a very thin rounded lip. From the sample of Vining Simple Stamped sherds from Pits 1-8, 33 were classified as flattened, 17 as rounded, and 6 as pinched. This pattern of variability extends across the site. Similar to the site-wide standard deviation of orifice diameters at 4.5 cm, flattened rims have a standard deviation at 4.76 cm, rounded rims have a standard deviation of 4.37 cm and pinched rims have a standard deviation of 4.13 cm. Further, mean orifice diameter measurement remains steady. Flattened rims have a mean orifice

diameter of 13.45 cm and pinched rims have an average orifice diameter of 13.42 cm. Rounded rims are slightly smaller with an average orifice diameter measuring to 12.03 cm.

There is no clear relationship between rim shape and pit, save for the observation that Pits 1, 4 and 6 do not have any pinched rims. Pinched rims are the least frequent classification of rim shape, with only six examples total. Variability in orifice diameter across types for Phase 2 follows similar patterns for site-wide variability, however rounded rims show more variability than other types, which have a standard deviation of 6.14 cm. This contrasts with variability for rounded rim sherds during Phase 1 that has a standard deviation of 2.14 cm. During Phase 1 flattened rims remain constant, with a 4.86 cm, standard deviation compared to 4.75 cm standard deviation during Phase 2. Only one pinched specimen was found in a Phase 2 context, so standard deviation data for pinched rims from Phase 2 are unavailable. During Phase 1 pinched rims had a standard deviation of 4.55 cm following the site-wide standard deviation in orifice diameter of 4.5 cm. This may indicate that during the Vining phase rounded rims were more standardized, however this is not a strong hypothesis due to the small sample size of 4 rounded rims from Lamar phase contexts and 9 for the Vining phase.

Table 10 Variability in Rim Shape at Mossy Oak Pits 1-8

Variability in Rim Shape

Rim Classification	Sample Size	Standard Deviation (cm)	Average (cm)	Mode (cm)	Median (cm)
Flattened	33	4.76	13.45	9	12
Rounded	17	4.37	12.03	12.5	12.25
Pinched	6	4.13	13.42	10.5	12.25

Table 11 Phase 1 Variation in Rim Types based on Orifice Diameter

Phase 1 Rim Variation

Classification	Sample Size	Standard Deviation (cm)	Average (cm)	Mode (cm)	Median (cm)
Flattened	17	4.86	13.09	7.5	12
Rounded	9	2.14	11	12.5	12
Pinched	5	4.55	13.7	10.5	12.5

Table 12 Phase 1 Variation in Rim Types based on Orifice Diameter

Phase 2 Rim Variation

Classification	Sample Size	Standard Deviation (cm)	Average (cm)	Mode (cm)	Median (cm)
Flattened	11	4.75	13.15	9.5	11.25
Rounded	4	6.14	13.86	n/a	15.75
Pinched	1	n/a	n/a	n/a	n/a

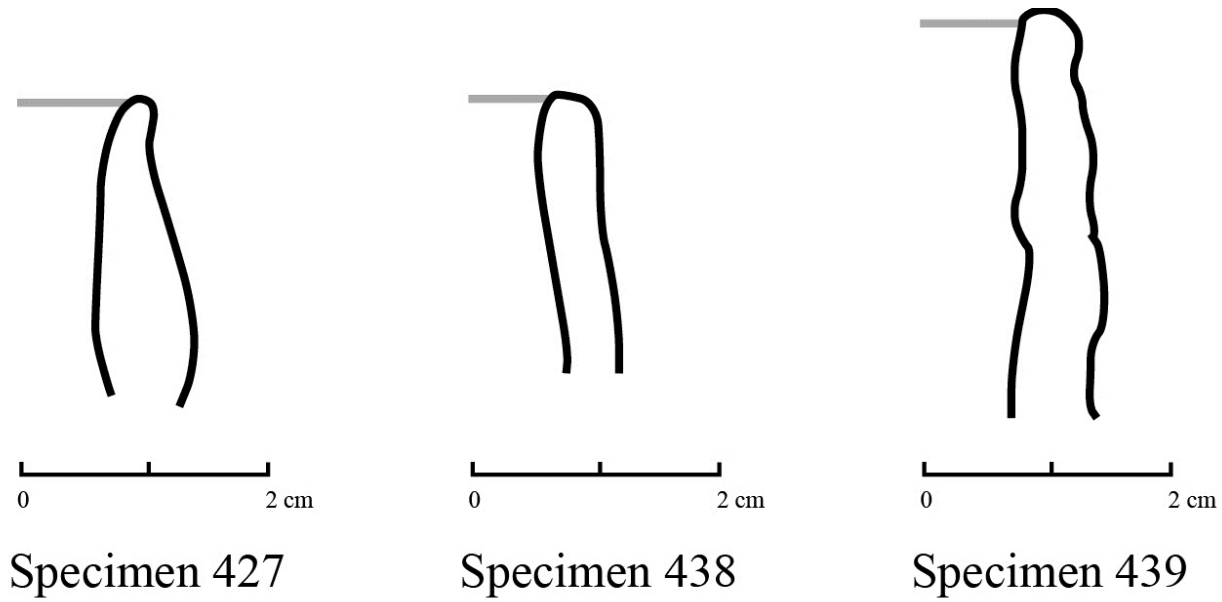

Figure 42 Examples of Variation in Rim Form: Pinched, Flattened, Rounded

Overall the results from the study of orifice diameters indicate that there is variability in Vining Simple Stamped vessels at Mossy Oak. The preferred shape of rims at Mossy Oak are flattened rims and this pattern continues across time. Rounded rims have the largest degree of

variability, with more uniformity during the Vining phase and less variability during Phase 2. Pinched rims are the minority type; only a single specimen occurs in the Early Mississippian component of the Pit 3 midden and five from Phase 1, and they are completely absent from Pit 1.

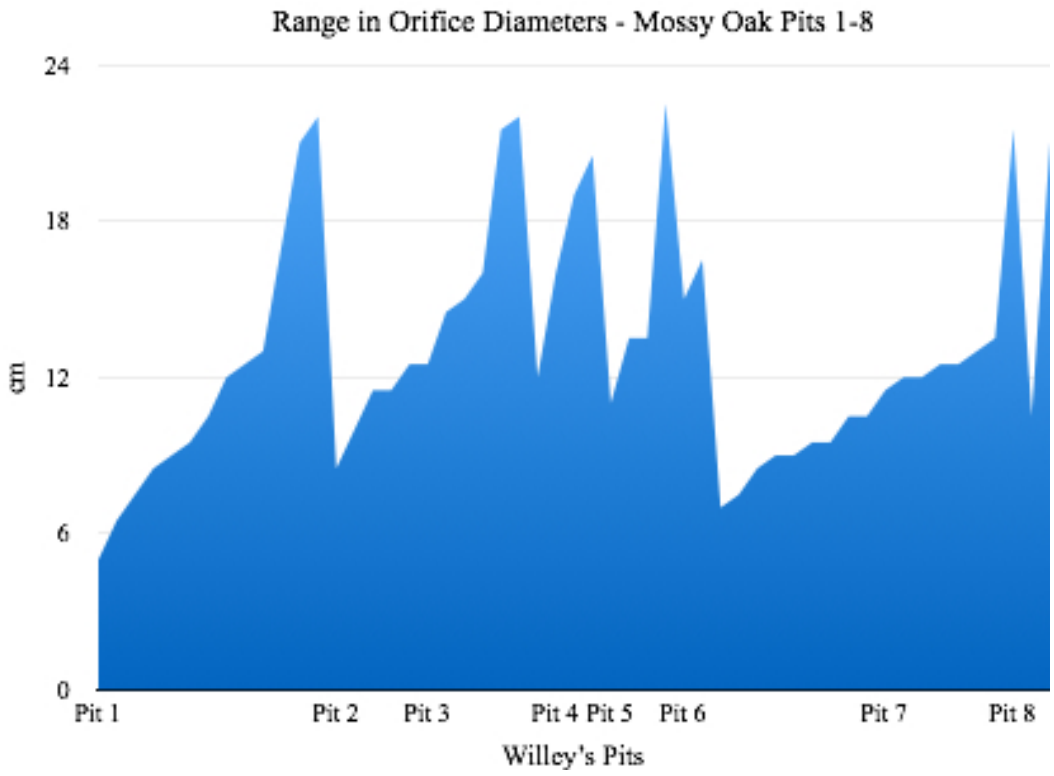

Figure 43 Range in Orifice Diameters (cm) at Mossy Oak Pits 1-8

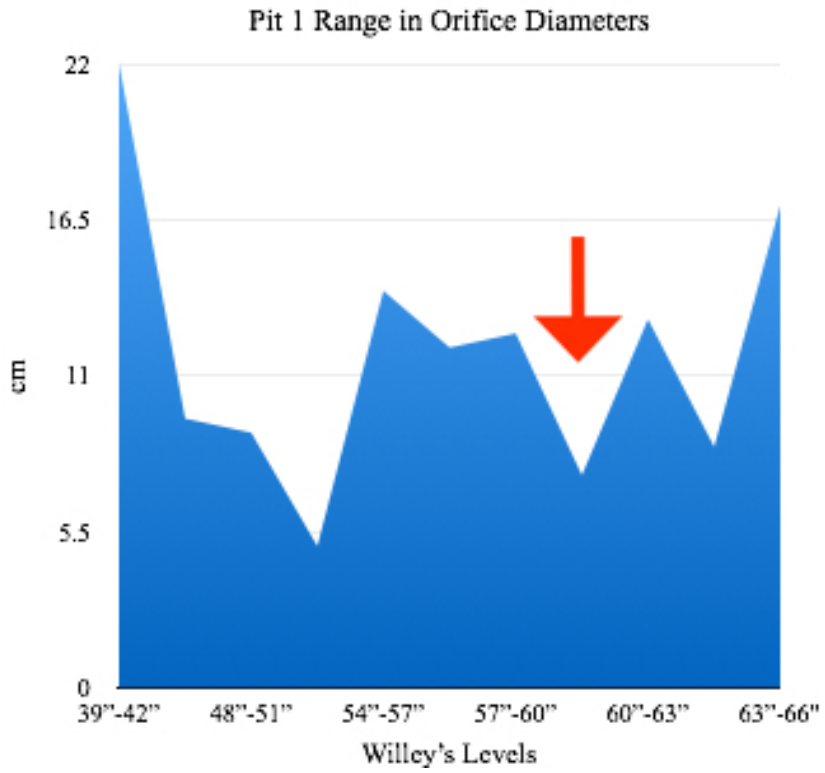

Figure 44 Pit 1 Range in Orifice Diameters (cm), Red Arrow Indicates Division Between Phases 1 and 2

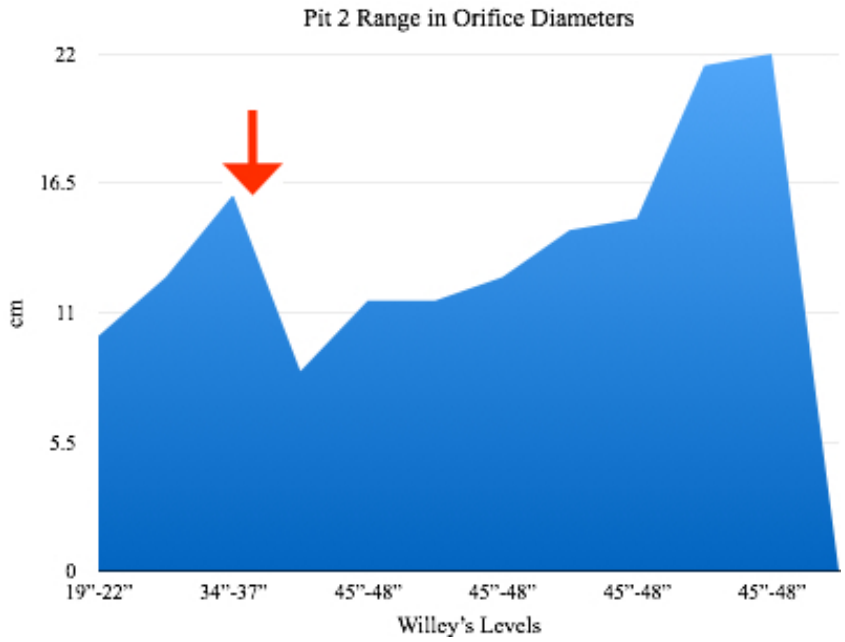

Figure 45 Pit 2 Range in Orifice Diameter (cm), Red Arrow Indicates Division Between Phases 1 and 2

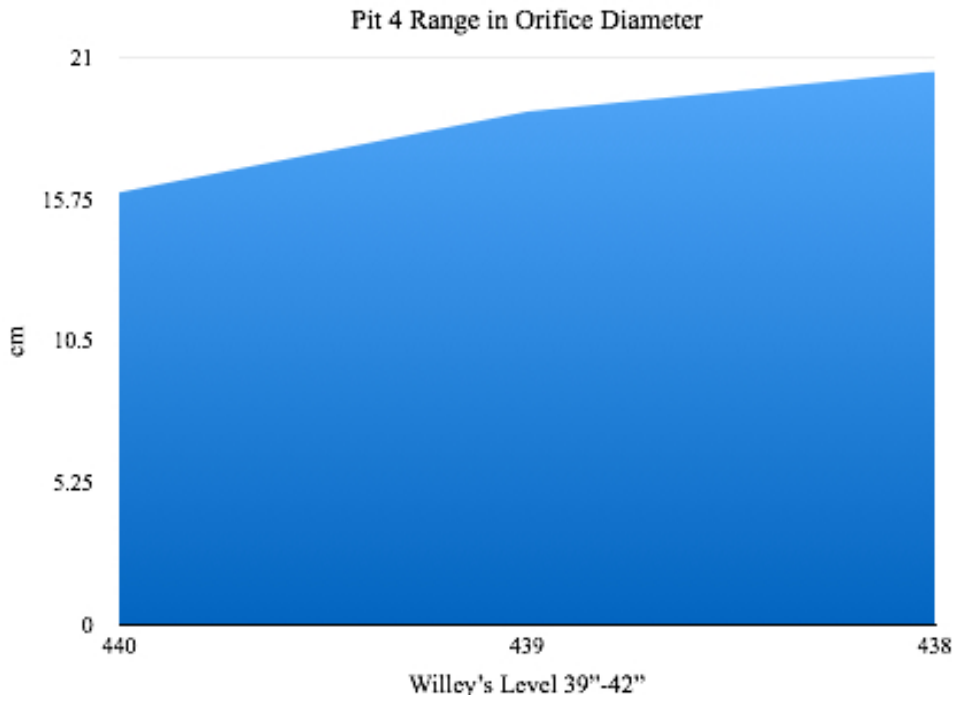

Figure 46 Pit 4 Range in Orifice Diameter (cm)

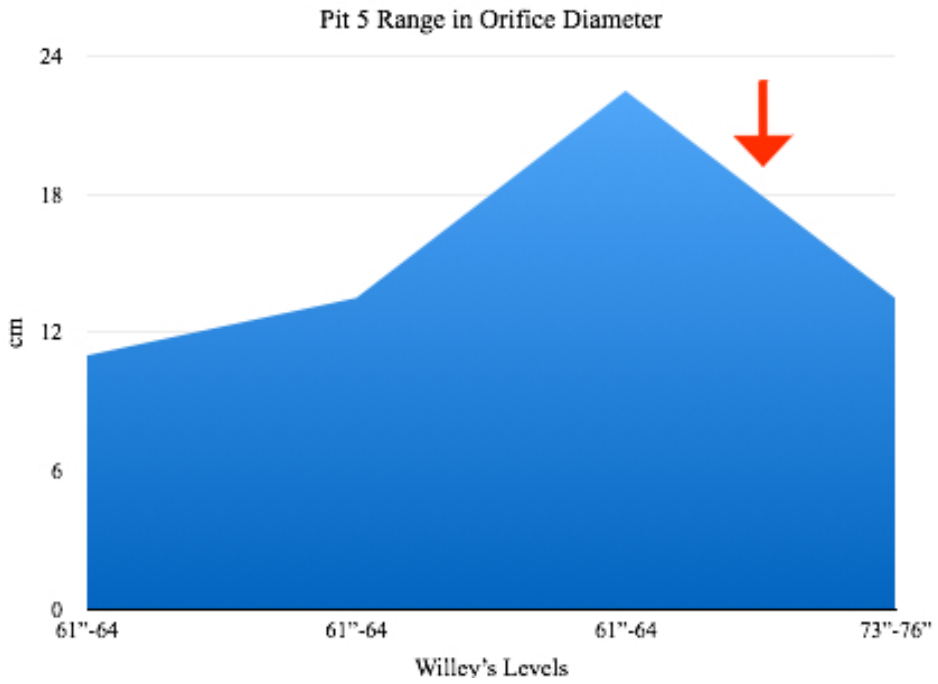

Figure 47 Pit 5 Range in Orifice Diameter (cm), Red Arrow Indicates Division Between Phases 1 and 2

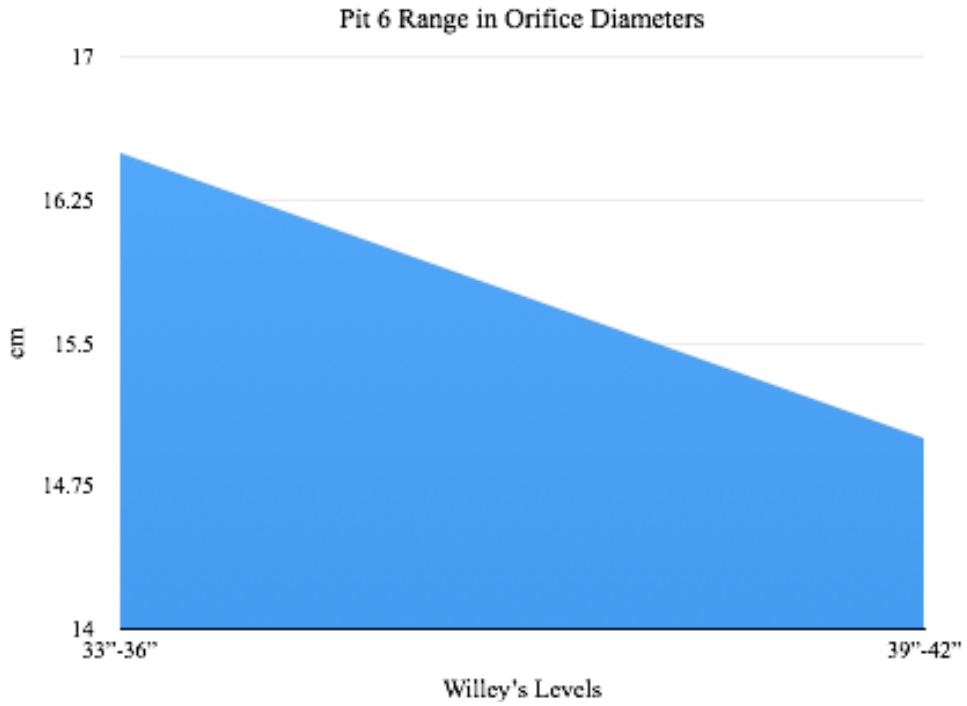

Figure 48 Pit 6 Range In Orifice Diameters

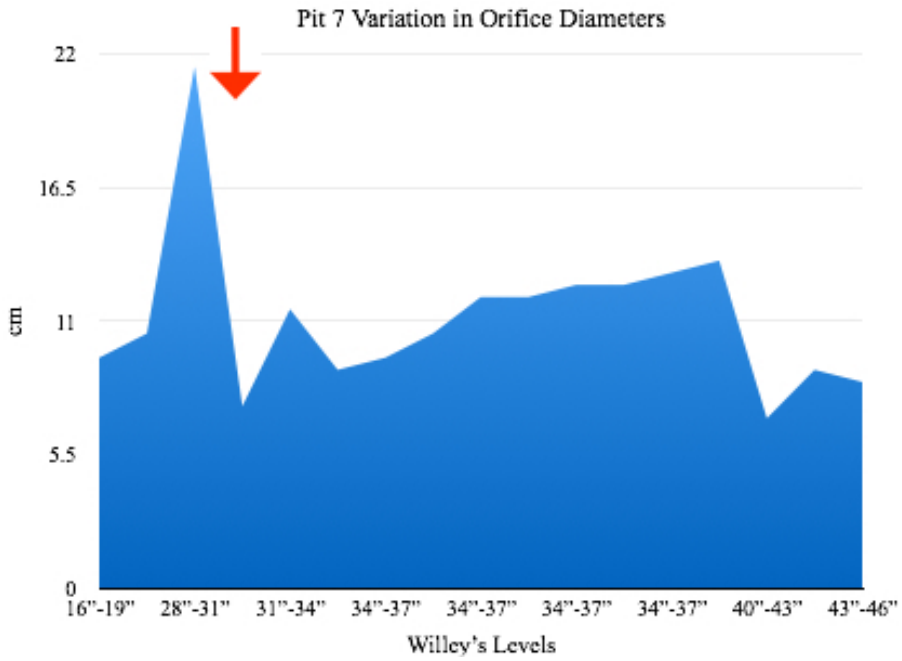

Figure 49 Pit 7 Range in Orifice Diameters (cm) Red Arrow Indicates Division Between Phase 1 and 2

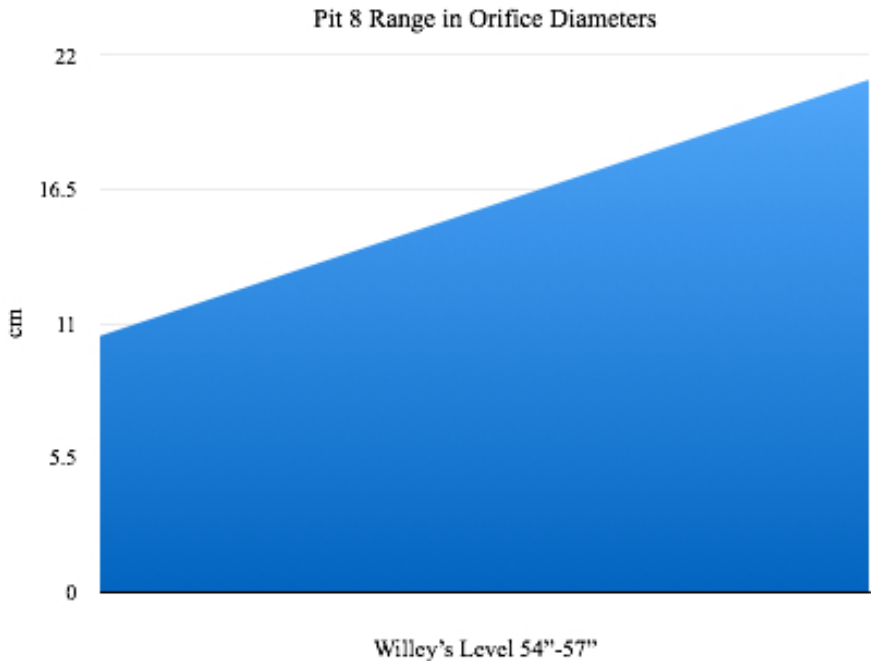

Figure 50 Pit 8 Range in Orifice Diameter (cm)

5.3 Spatial Analysis

To reconstruct the spatial relationships between the pits, I created a GIS of the site. I drew upon ceramic data from the pits to create a raster model of the site using an Inverse Distance Weighted interpolation. There is a profound shift in activity areas from Phase 1 to Phase 2. The Phase 1 raster of sherd count indicates that Pit 7 was the center of activity at Mossy Oak. These results correspond with architectural features that Willey identified during his investigations of post-holes and charred corn remains appearing at level 25”-28” and decreasing below 43” (Willey 1937:60). Pit 7 may have been the site of concentrated domestic activity, however when the same test is performed using total weight of Vining Simple Stamped ceramics during Phase 1 the story changes. Pit 7 remains a center of activity, but in this analysis Pit 2 represents a large concentration of activity as well. Willey’s notes reveal that charred corn was found below 34” in Pit 2 and burials were uncovered from below 43” (Willey 1937:47).

The IDW raster of total count of Vining Simple Stamped from Phase 2 indicate that activity at Pit 7 continued, although to a much smaller degree than in Phase 1. The concentration of activity shifted away from Pit 7 in favor of Pit 1. Pit 1 is slightly closer to the river’s edge than Pit 7. This pattern is also reflected when I performed the IDW interpolation using sherd weight of Vining Simple Stamped ceramics from Phase 2, although slightly more exaggerated away from Pit 7 toward Pit 1. Overall activity at Mossy Oak decreased from Phase 1 to Phase 7 and shifted closer to the river over time.

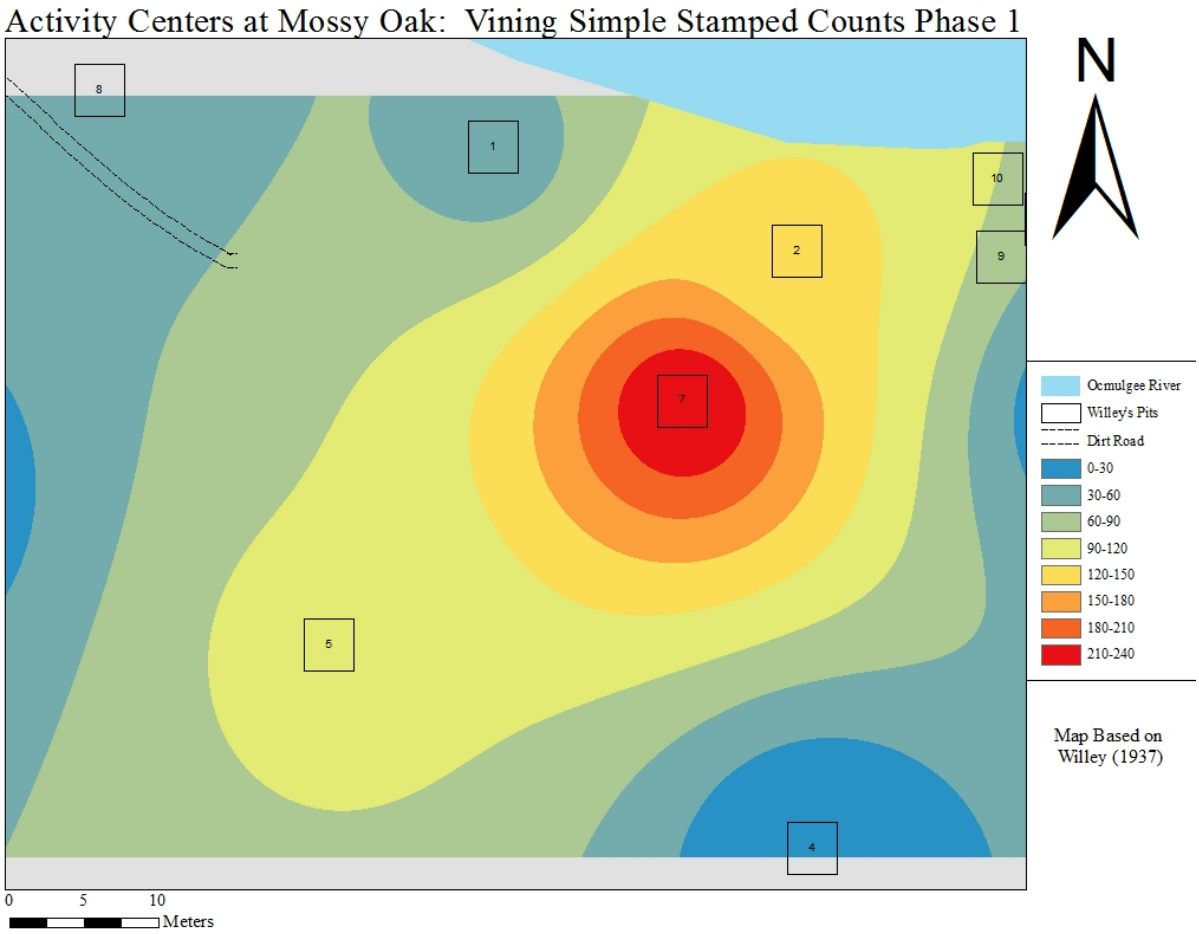

Figure 51 Phase 1 Spatial Distribution Based on Number of Vining Simple Stamped Sherds

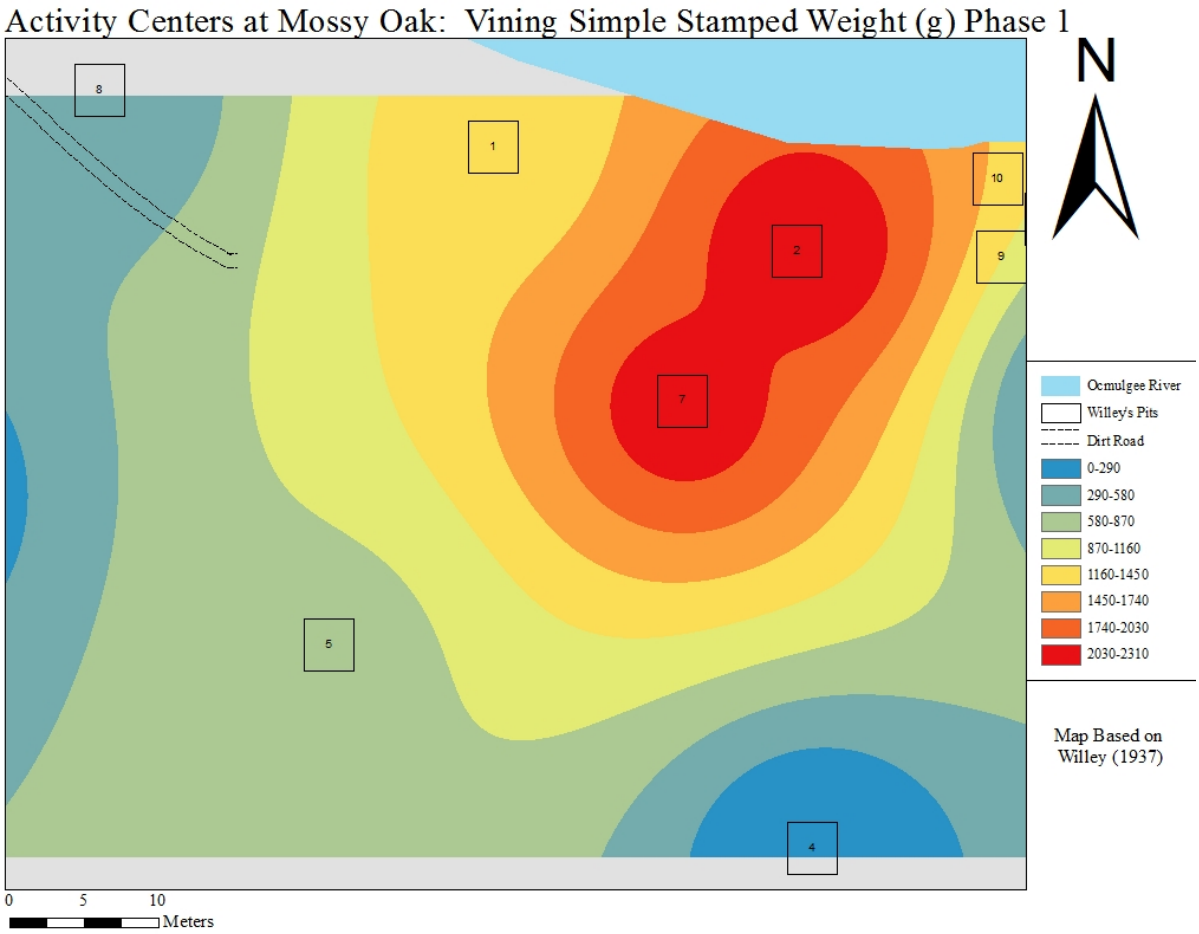

Figure 52 Phase 1 Spatial Distribution Based on Weight (g) of Vining Simple Stamped Sherds

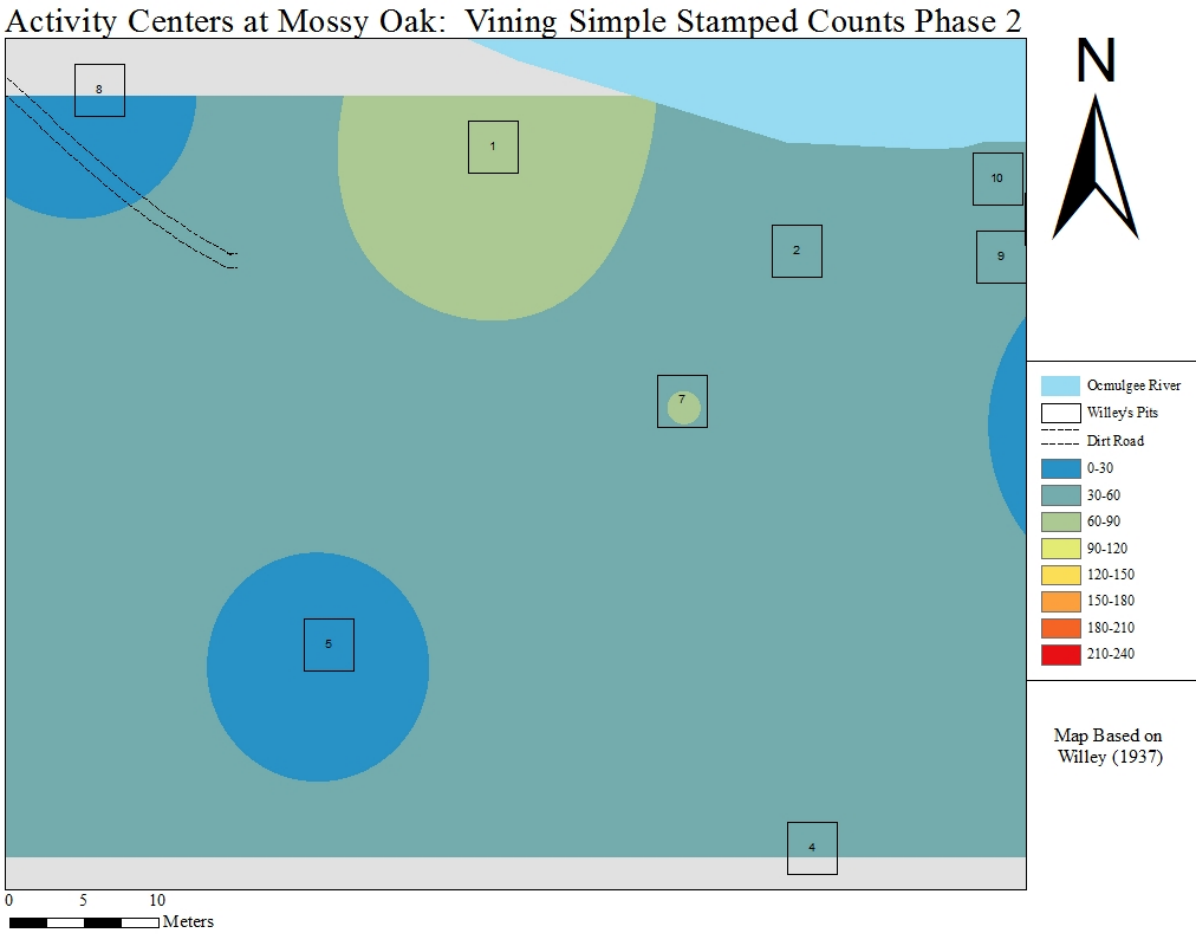

Figure 53 Phase 2 Spatial Distribution Based on Number of Vining Simple Stamped Sherds

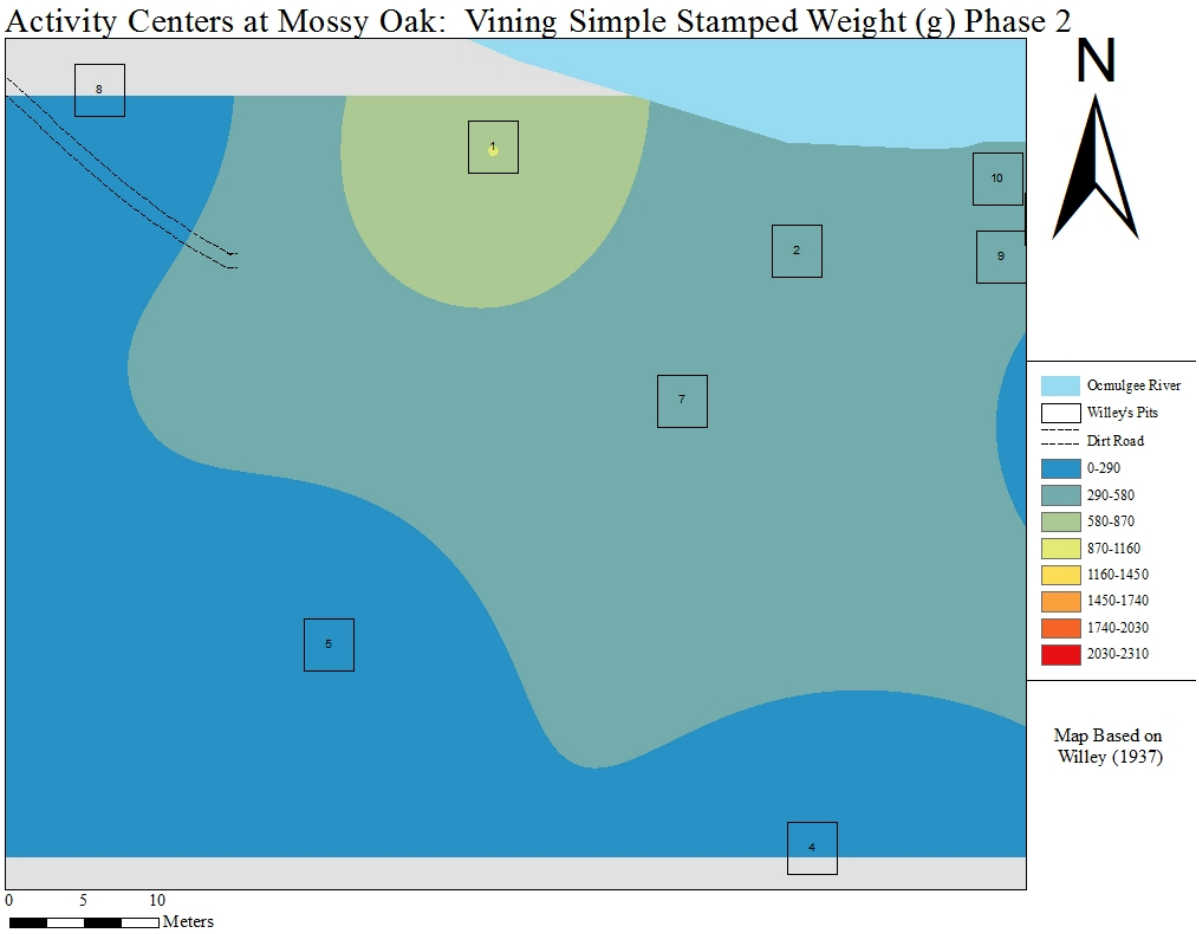

Figure 54 Phase 2 Spatial Distribution based on Weight (g) of Vining Simple Stamped sherds

5.4 Pit 1 and 7 Tempering

Another chronological pattern emerges when observing changes in Vining Simple Stamped ceramics specifically over time. Shell tempering, observed by leached voids in the profile of ceramic sherds, is often cited as a chronologic marker heralding the transition between the Woodland and Mississippian eras in the Southeast (Anderson and Sassaman 2012; Bigman 2012). This tempering agent is often thought to have come from outside groups immigrating to

the area during the Late Woodland-Early Mississippian transition. I performed a presence/absence analysis to test this theory.

Shell tempering as a component in the Vining Simple Stamped ceramic assemblage persists through all levels, but is found at higher proportions at the lowest levels of Pits 1 and 7. During Phase 2 in Pit 1 shell-tempered Vining Simple Stamped ceramics account for 15.8% of all Vining Simple Stamped sherds. This proportion increases below 51" to 27.9% of all Vining sherds. The proportional difference between shell and quartz tempering of Vining Simple Stamped ceramics in Phase 1 and Phase 2 is more staggering for Pit 7. For Phase 2 in Pit 7 shell tempering accounts for 15% of the total Vining assemblage. This proportion increases to almost half of the assemblage (46.7%) below 31". The lowest levels of Pit 7 43"-55" no quartz tempered sherds were uncovered, the Vining Simple Stamped assemblage has entirely shell tempering.

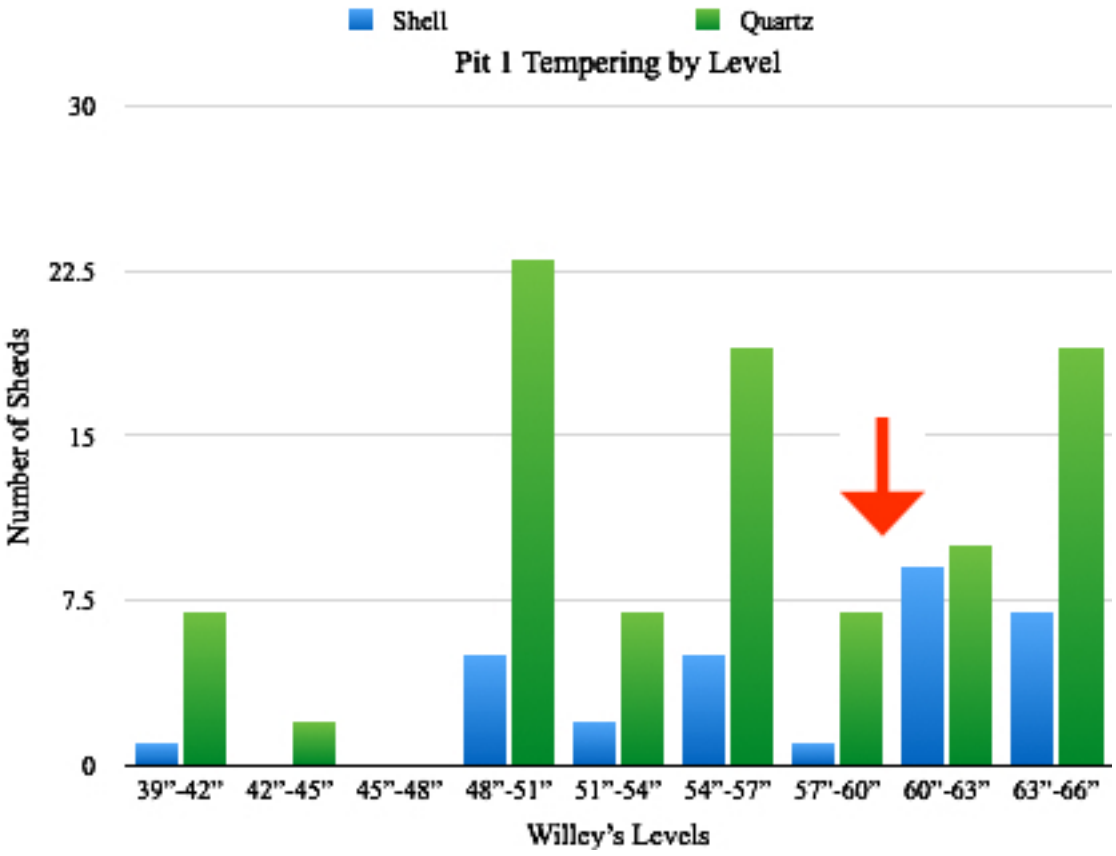

Figure 55 Pit 1 Tempering Material by Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

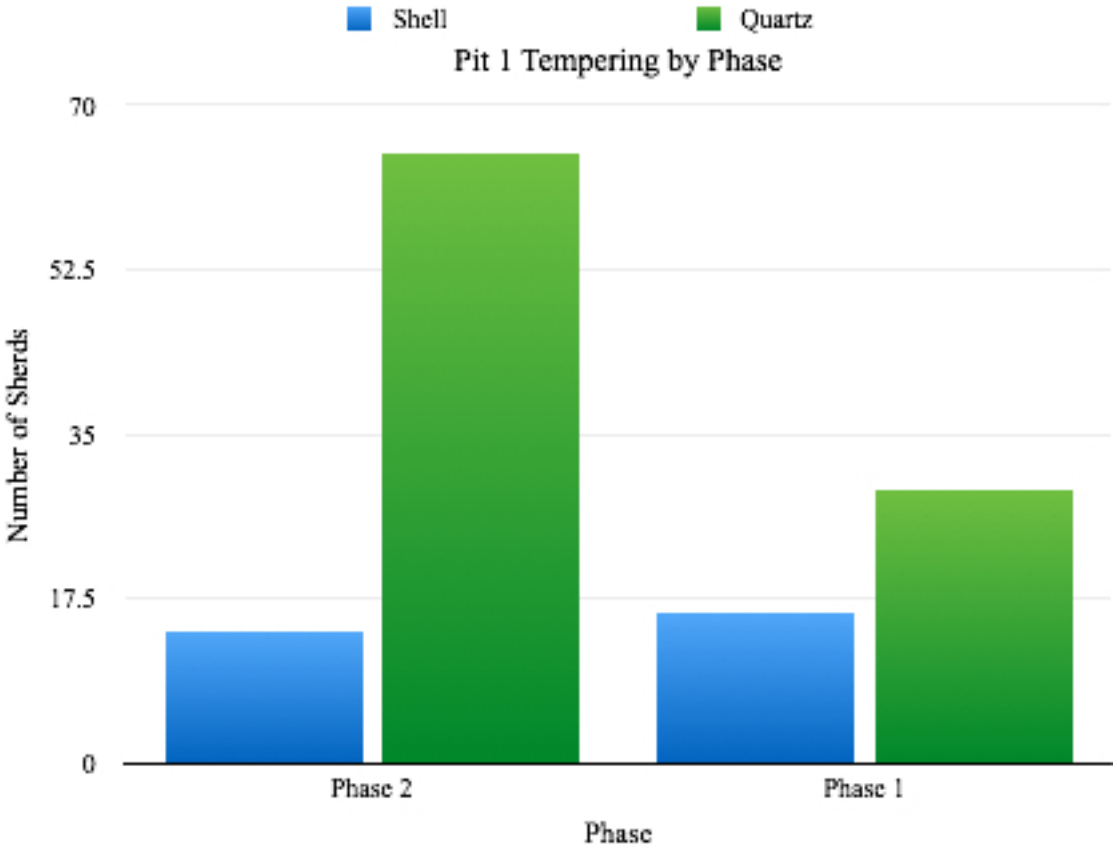

Figure 56 Pit 1 Tempering Material by Phase

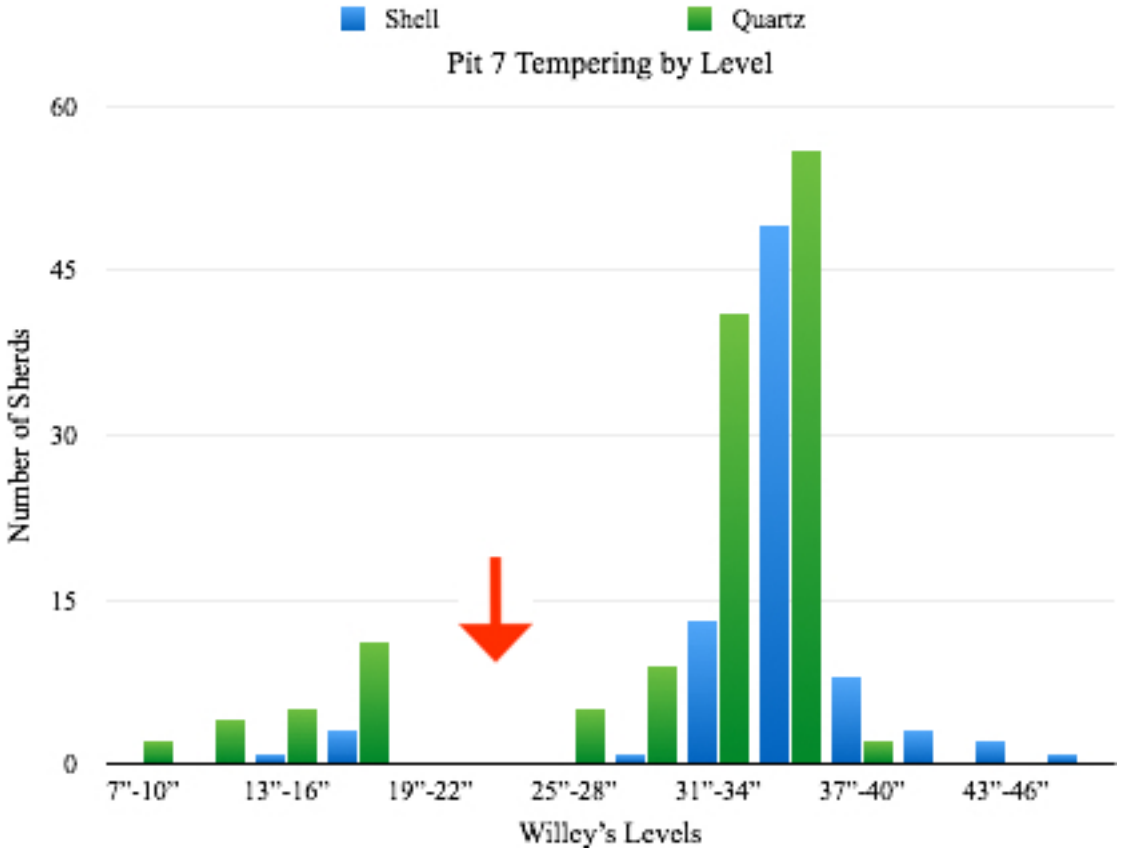

Figure 57 Tempering Material by Willey's Levels, Red Arrow Indicates Division Between Phases 1 and 2

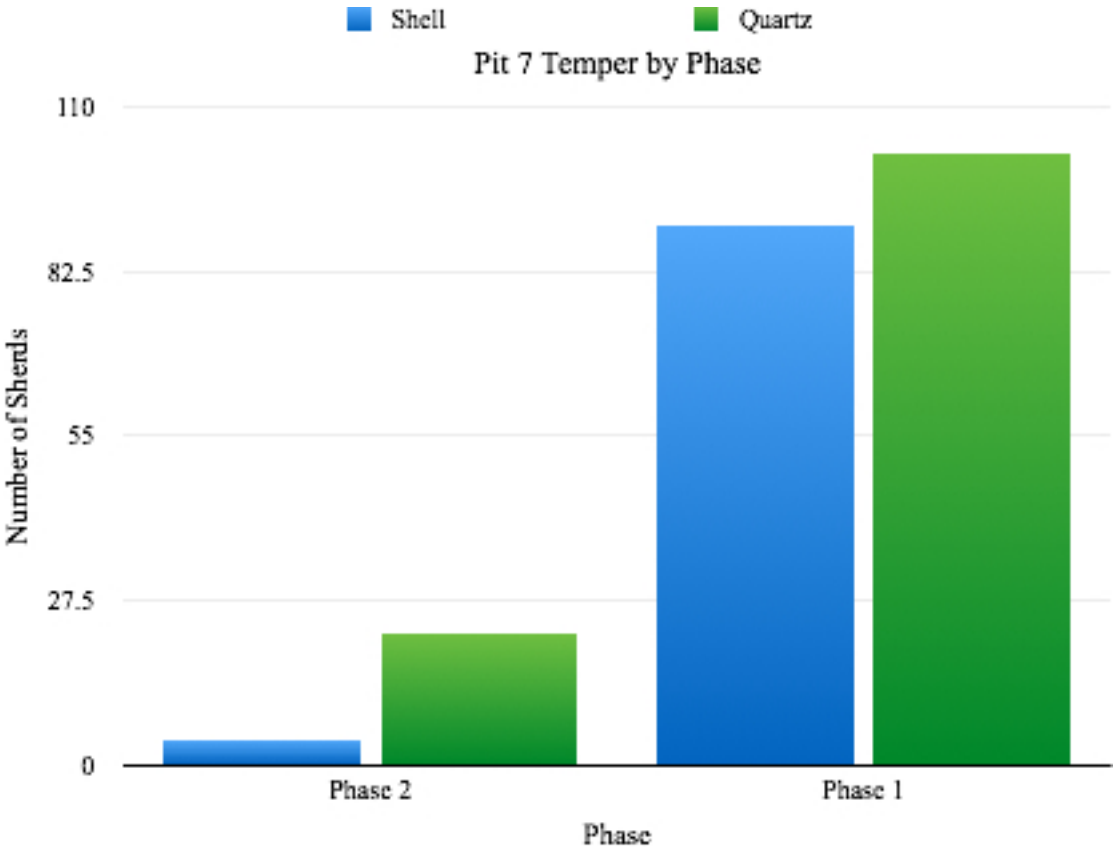

Figure 58 Pit 7 Tempering Material by Phase

5.5 Other Metrics and Interesting Consistencies

To understand the function of Mossy Oak as a site, and to understand how and if the site changed over time, I measured sherd thickness of every Vining Simple Stamped sherd from Pits 1 and 7. The range of thickness measurements from Vining Simple Stamped sherds from Pits 1 and 7 range from 3.98 mm to 11.08 mm. To conceptualize the degree of change, I calculated the standard deviation of thickness measurements per level, and per phase. I also calculated the mean of thickness measurement per level and per phase. For Pit 1, standard deviation of sherd thickness ranged from 0.46 mm to 1.34 mm during Phase 2 and ranged from 0.99 mm to 1.09 mm for Phase 1. Mean ranged from 7.28 mm to 8.5 mm for Phase 2 and from 7.9 mm to 8.3 mm

during Phase 1. These results indicate that there slightly less variation in Phase 1 than in Phase 2. However, the standard deviation of thickness measurements for Phase 1 is 1.00 mm and 1.03 mm for Phase 2, indicating little to no variation across phases. The mean of thickness measurements reflects the same pattern; the mean of sherd thickness for Phase 2 is 7.92 mm and 8.1 mm for Phase 1. Thickness of vessel walls is important to the understanding of vessel function (Rice 2005:226) and these results indicate that Vining Simple Stamped ceramics had the same function over time.

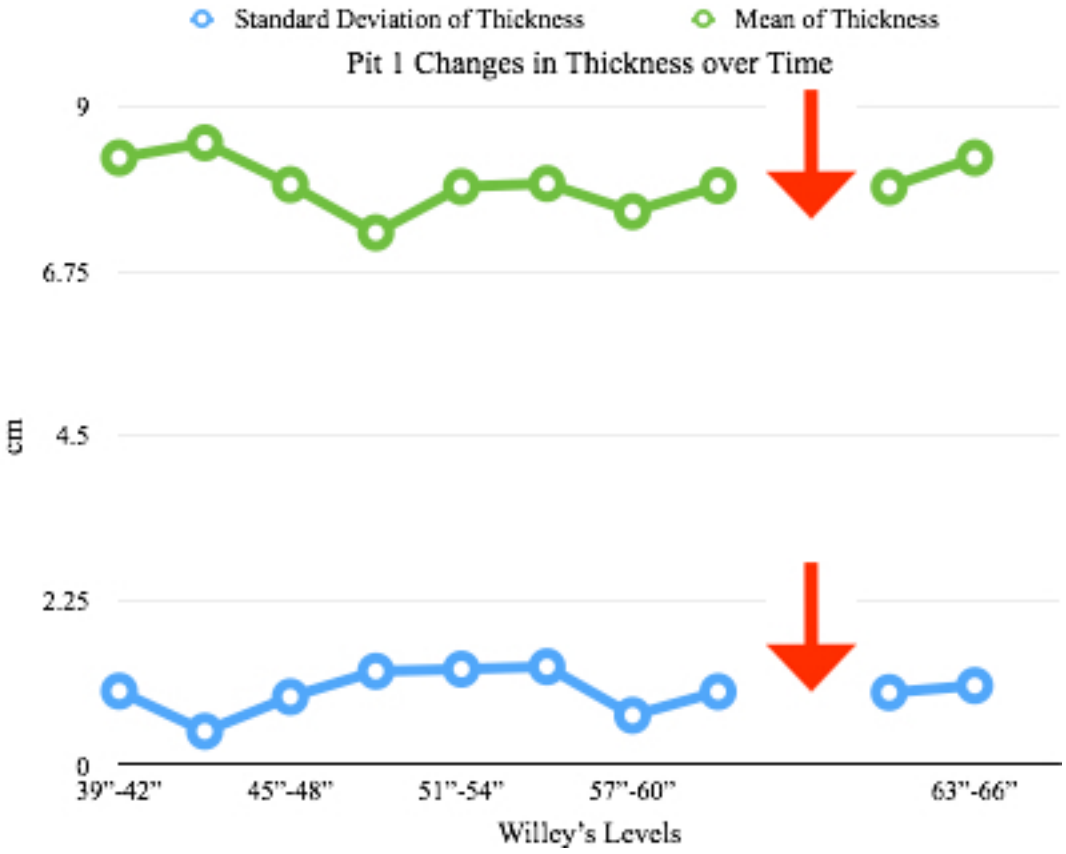

Figure 59 Pit 1 Comparison of Sherd Thickness (mm), Red Arrow Indicates Division Between Phases 1 and 2

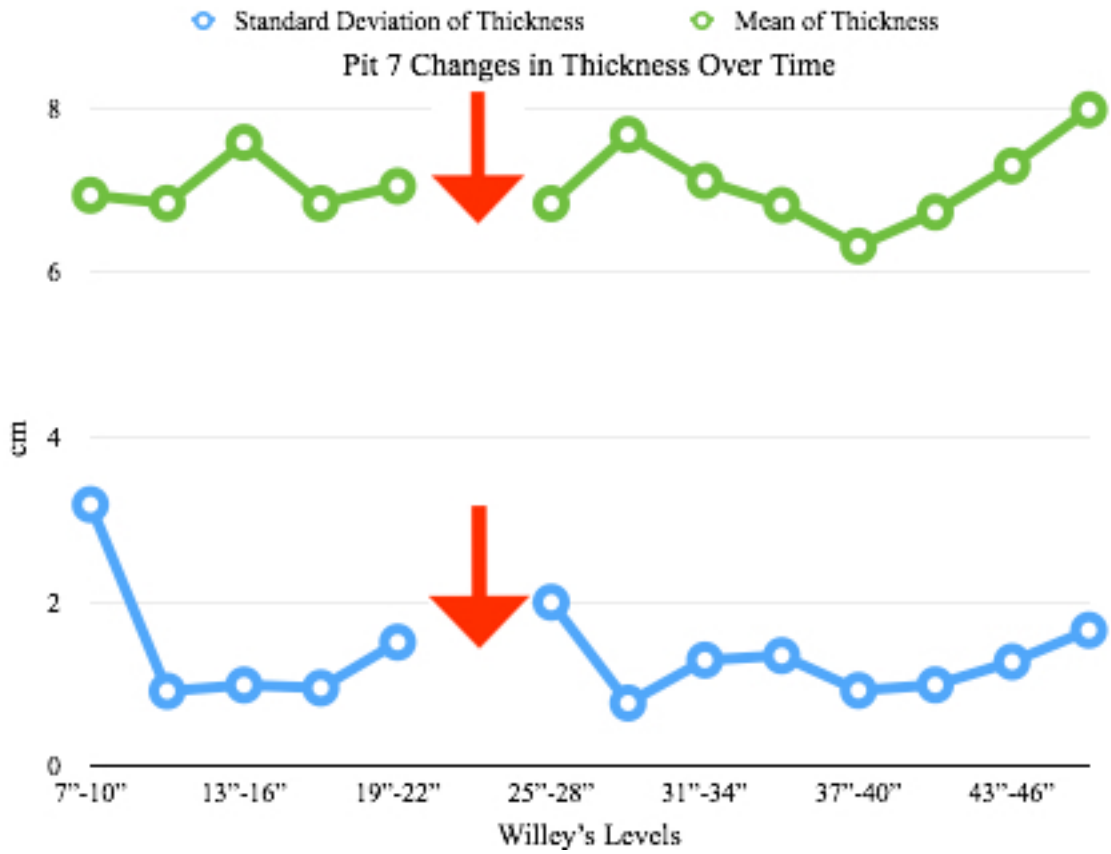

Figure 60 Pit 7 Comparison Sherd Thickness (mm), Red Arrow Indicates Division Between Phases 1 and 2

The straight-lined, sometimes criss-crossing paddle-stamped decoration is what defines Vining Simple Stamped ceramics. I also measured the voids created by stamping impressions on Vining Simple Stamped. I randomly chose three linear stamp impressions on each Vining Simple Stamped sherd from Pits 1 and 7 to understand how and if decoration changed over time. After collecting these measurements I measured the mean and standard deviation of the three impressions from each sherd. I then plotted these points to try to discern any patterns, however no pattern emerged. I compiled the data into scatter plots using standard deviation as the x axis value and average as the y axis value. The scatterplots lacked any discernible patterning. The data from Pit 1 creates a single cluster when plotted as a scatterplot with a very slight trend

toward increasing in distance between stamps. Pit 7 data presents in a more condensed cluster, but also demonstrates a slight trend toward increasing variation, however no strong pattern emerges. This data indicates that Vining Simple Stamped ceramics at Mossy Oak were relatively standardized in decoration. Potters at Mossy Oak likely used carved consistent designs into their Vining Simple Stamped paddles over time.

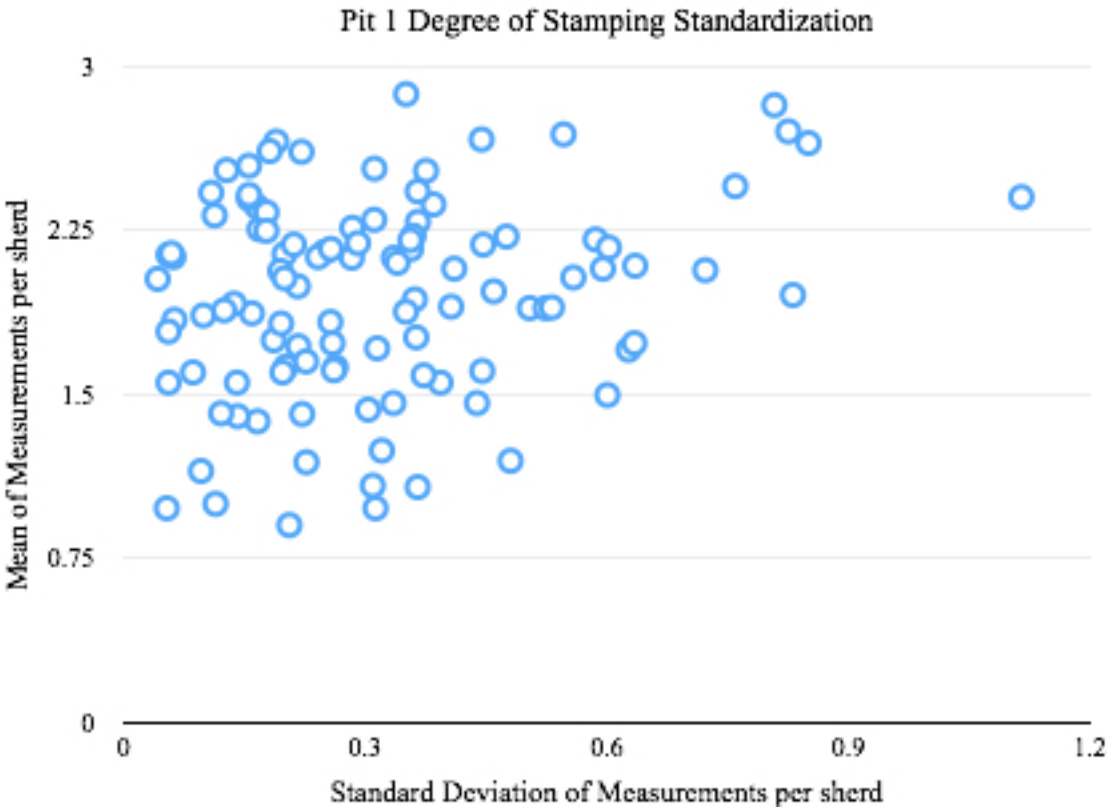

Figure 61 Pit 1 Degree of Stamping Standardization

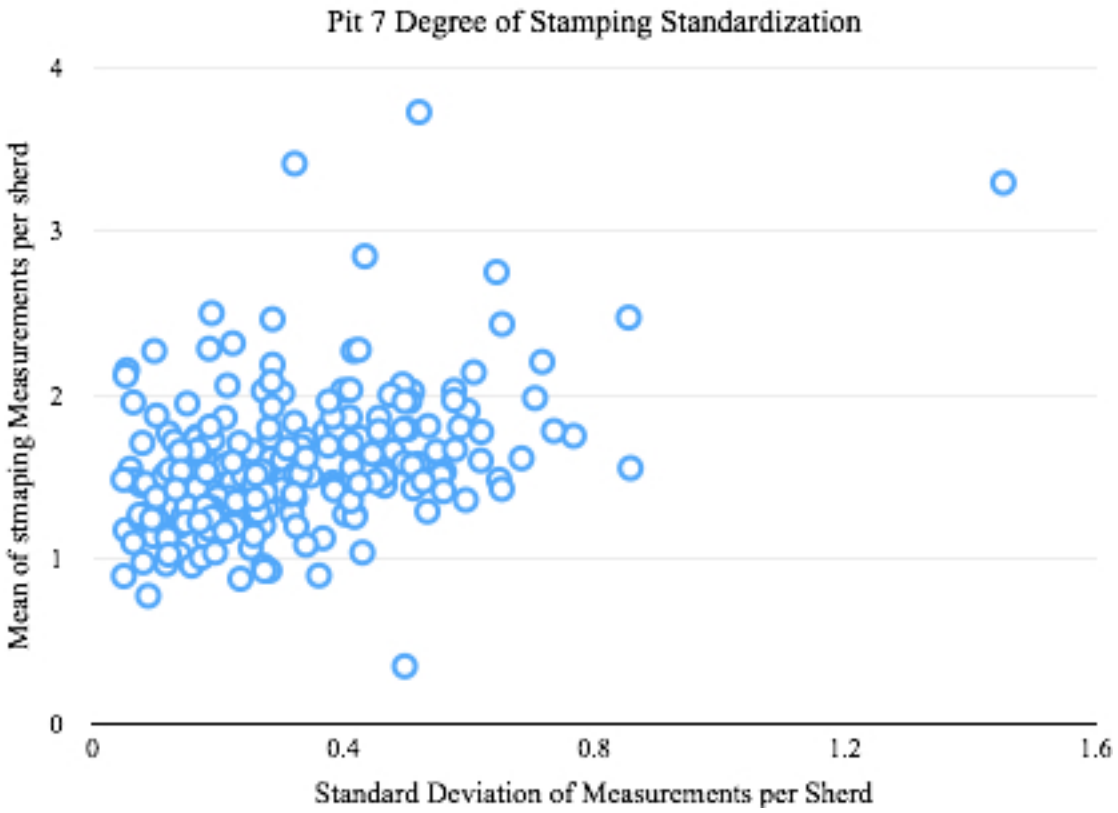

Figure 62 Pit 7 Degree of Stamping Standardization

5.6 Analysis of Shell Tempering

To establish whether different tempering agents represented different groups, I compared the data from my tempering observations to stamping decoration impressions and thickness. The results indicate that there is no difference between stamping variation, thickness, or shell tempering agents. The vessel forms and decorations do not appear to follow any sort of difference based on tempering agent. This illustrates that at the earliest levels of Pit 1 where quartz tempered Vining Simple Stamped and shell tempered Vining Simple Stamped ceramics co-occur, potters used tempering agents interchangeably.

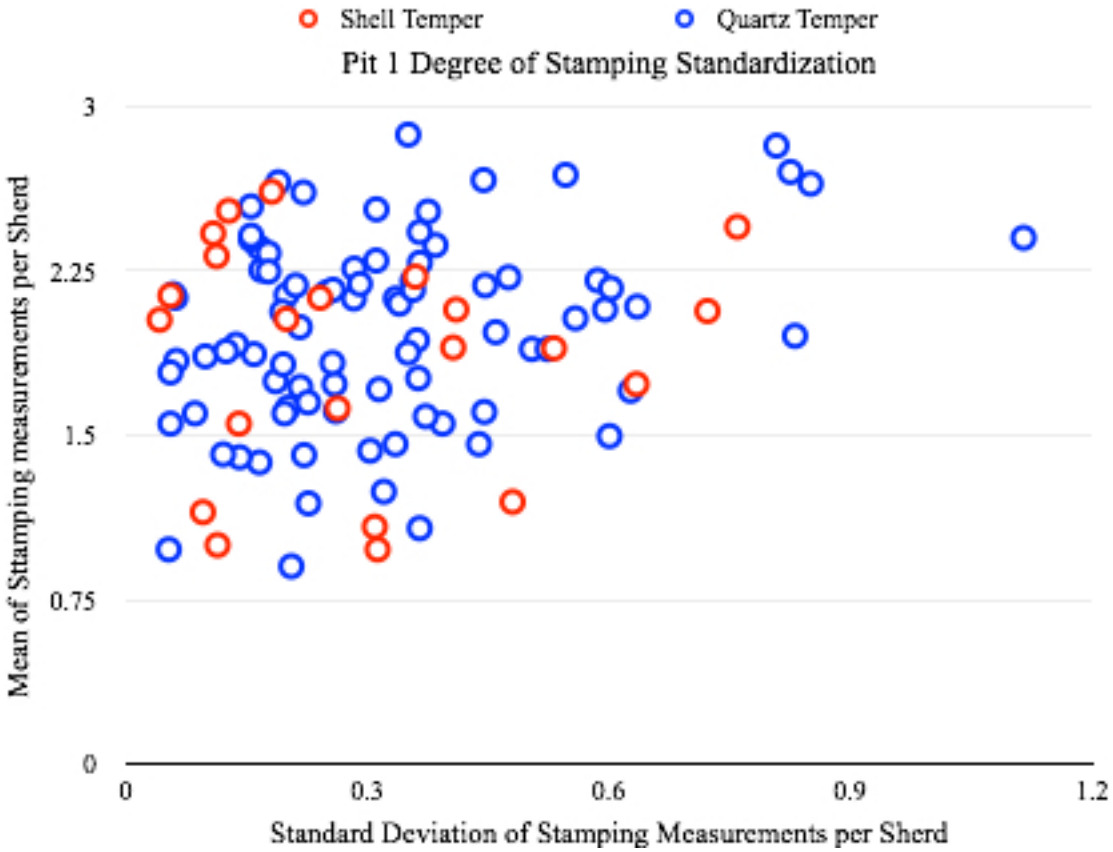

Figure 63 Pit 1 Stamping Standardization and Choice of Tempering Material

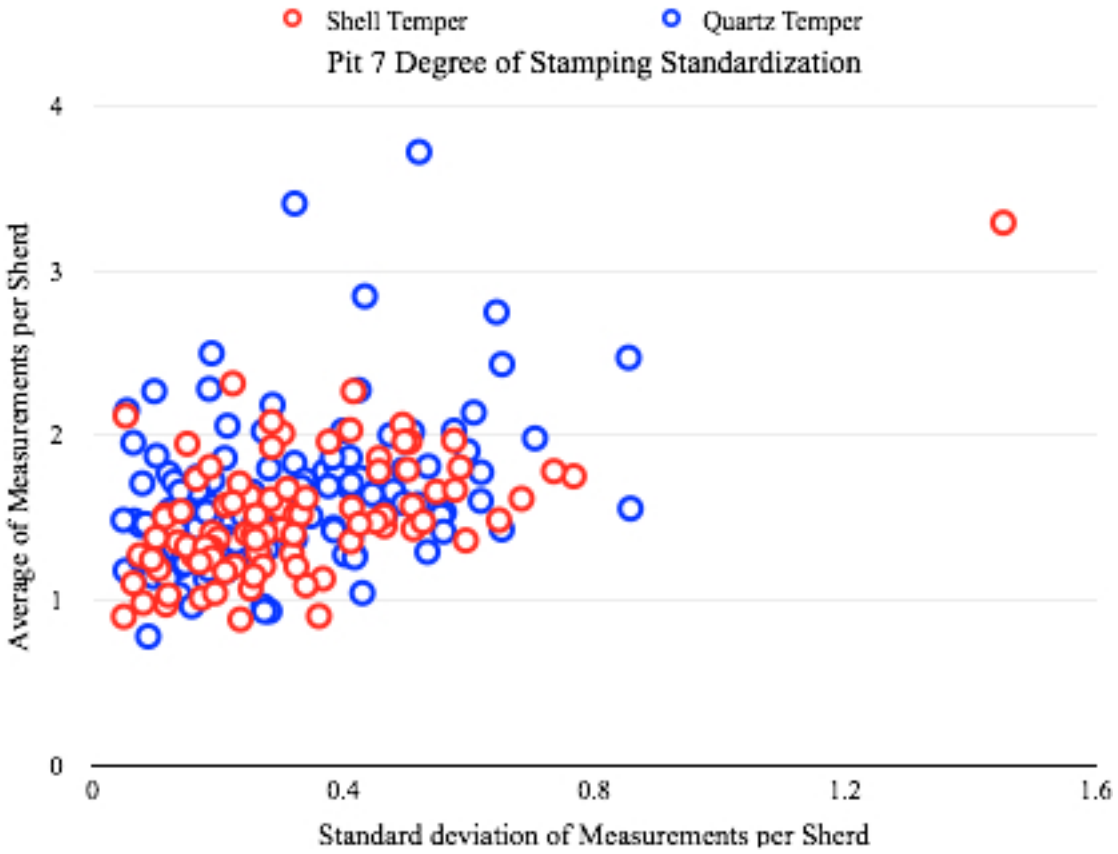

Figure 64 Pit 7 Stamping Standardization and Choice of Tempering Material

I performed another functionality analysis to investigate the thickness of each sherd compared to each sherd's weight and the difference between shell tempered sherds and quartz tempered sherds. My results were similar to the decoration and tempering test in that there appeared to be no relationship between vessel thickness and tempering agent.

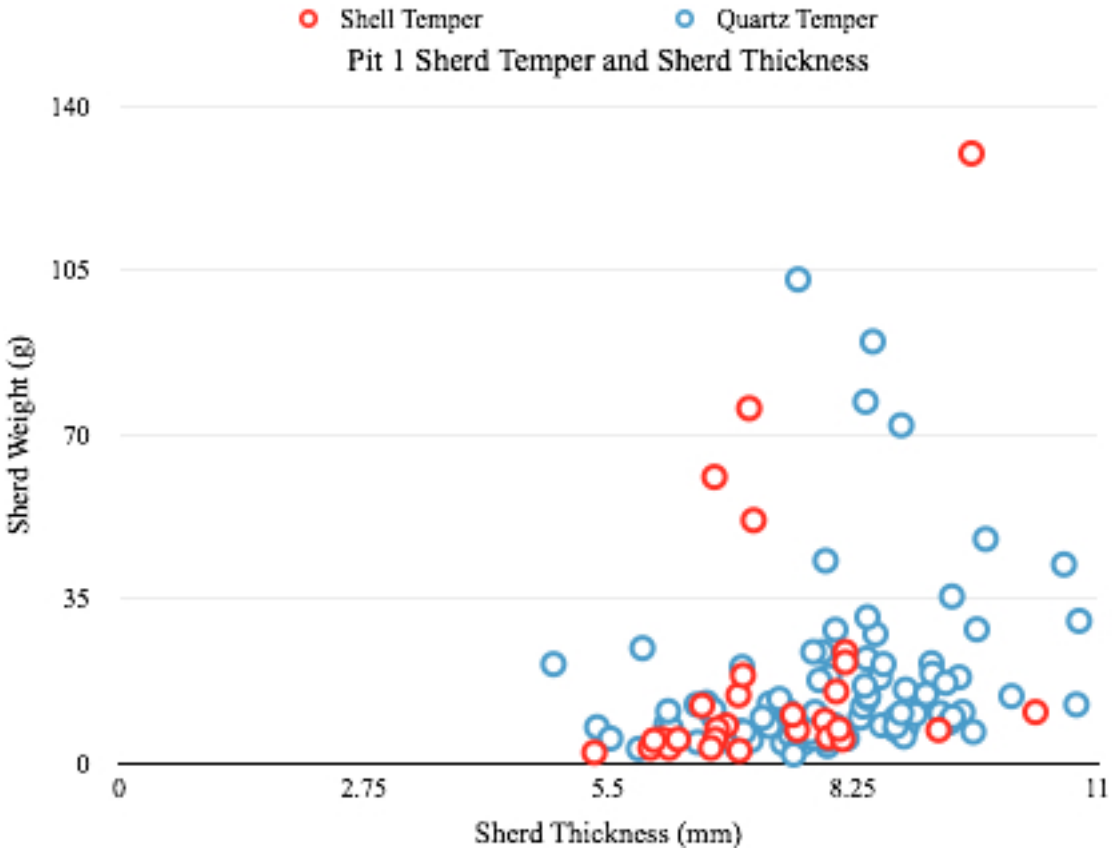

Figure 65 Pit 1 Sherd Thickness Based on Choice of Tempering Material

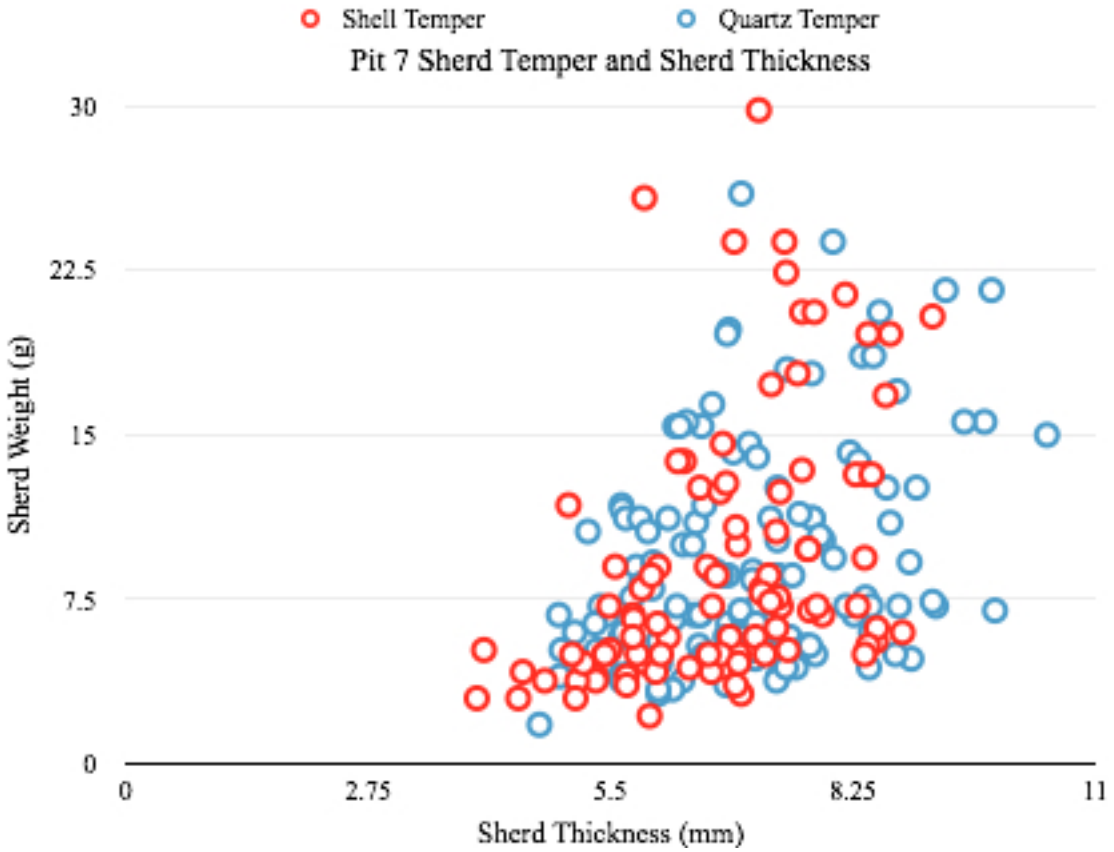

Figure 66 Pit 7 Sherd Thickness Based on Choice of Tempering material

6 DISCUSSION

This chapter revisits the hypotheses presented in the introduction and evaluates each based on the results of the tests I performed. I provide my interpretation of the data concerning each test and conclude with an overall discussion of the transition to the Early Mississippian at Mossy Oak.

6.1 What was the function of Mossy Oak?

6.1.1 Orifice Diameters Analysis

My interpretation of the data from my analysis of orifice diameters from Vining Simple Stamped rim sherds from Pit 1-8 supports the hypothesis that Mossy Oak was a permanent habitation site in Phase 1. Habitation continued to a much diminished degree during Phase 2, and Mossy Oak may have been either less populated or shifted in function to a temporary collecting or farming campsite, under the influence of Macon Plateau. In my introduction, I argued that if Mossy Oak was a permanent village or habitation site this would be reflected by a vessel variation, an inferred correlate of activity variation. Such permanence is a characteristic of the Early Mississippian period at Mossy Oak. Site-wide I identified a range in orifice diameter measurements from 5 cm to 23 cm. I also identified three distinct types of lip modes on rims, flattened, rounded, and pinched. Comparing measurements of lip modes across orifice diameters indicated a variety of Vining Simple Stamped ceramics present at Mossy Oak, presumably with a variety of functions, and potentially previously unknown Vining Simple Stamped form. Specimen 116 (see Appendix A) measured 5cm in orifice diameter. However, this sherd is particularly small and further investigation is warranted.

6.1.2 Sherd Thickness Analysis

Interestingly, sherd thickness for Vining Simple Stamped sherds from Pits 1 and 7 reflects a pattern of consistency rather than variability. Although overall there was a range of 7 mm in variation from 3.98 mm to 11.08 mm, the standard deviation of thickness measurements by level and phase remains consistent. This may indicate that there were a variety of Vining Simple Stamped vessel shapes, but that they were limited in function, or conversely the function of the vessel may have had a domestic component such as serving ware. Domestic plates and water bottles all contain food during consumption and would have relatively consistent thicknesses, but potentially different shapes. An interesting way to determine whether or not the assemblage consistence reflects this multifaceted functionality would be to smash a box of modern serving ware that included bowls, plates, and cups from a modern context and perform a thickness study to observe variability across serving wares of the same style but having different functions. The same style can persist across multiple forms. Alternatively, Vining Simple Stamped pottery may have served a more decorative function, indicating that the decorative style was meaningful to the residents of Mossy Oak and proliferated in a variety of different shapes.

6.1.3 Number of Ceramic Sherds and Weight (g)

The results from the total count and total weight of the ceramic assemblage from Pits 1-8 at Mossy Oak indicate that Mossy Oak was a small habitation site with a permanent population. There were two main phases of occupation. Phase 1 at Mossy Oak, corresponding to the lowest excavated levels by Willey, has strong evidence for domestic activity. Spatial analysis of sherd count of Phase 1 Vining Simple Stamped ceramics indicates that domestic activity took place at Pit 7. Willey noted that he observed post-holes as he excavated Pit 7 in levels 25”-43” which correspond to the Phase 1 component of Mossy Oak (Willey 1937:60). It is my interpretation

that spatial analysis of the total weight of the Vining Simple Stamped assemblage from Phase 1 further supports the idea that Pit 7 belonged to a domestic context.

6.1.4 Spatial Analysis

The spatial distribution of the Vining Simple Stamped ceramics by weight in Phase 1 showed that activity was distributed between Pit 7 and Pit 2. Willey observed charred corn and and charcoal in Pit 2 corresponding to Phase 1 levels (Willey 1937:47). Below 43", Willey's team excavated a burial. It is possible that Pit 2 may have represented a different type of activity area during Phase 1 Mossy Oak, one in which the total count of ceramics would be smaller because it was not used as intensely as the household at Pit 7. Rather, this indicates that it was a place of symbolic importance where the dead was interred, based on the low sherd count but high weight of the volume of Vining Simple Stamped ceramics there. The combination of low sherd count but higher weight of volume of Pit 2 also indicates a more discrete, less disturbed Phase 1 context. Material directly related to the burial was unavailable for the purposes of this study. Perhaps Pit 7 was where people lived and performed everyday activities, but Pit 2 was a place where non daily activities took place, including the internment of four individuals (Willey 1937:48).

The spatial analysis of Phase 2 shows a shift in activity areas. The IDW raster of Phase 2 Vining Simple Stamped ceramics based on count shows that the focus of activity shifts away from Pit 7 to Pit 1. Pit 7 remains an activity area, but the concentration of sherds is diminished from Phase 1. During Phase 2 sherd count activity is concentrated around Pit 1. Pit 1 is located closer to the river bank. This pattern of the shift away from Pit 7 to Pit 1 is also clearly present on the IDW interpolation of the total weight of the Vining Simple Stamped ceramics of Phase 2. Willey did not mention any observations of architectural features from Pit 1, so to say that

domestic activities shifted from Pit 7 to Pit 1 is impossible (Willey 1937:45). This test also indicates that activity at Pit 2 was almost nonexistent.

My interpretation of the spatial analysis of Vining Simple Stamped ceramics at Mossy Oak is that the Phase 1 occupation conforms to Willey's notion that the site was a village (Willey 1937:43). By village, I mean a small permanent habitation site where people lived year-round. Mossy Oak's location along the banks of the Ocmulgee River would make it a strategic location allowing Mossy Oak residents to exploit the river and the alluvial floodplain for cultivars and maize. The extent to which maize was produced is difficult to say, however maize is the only food mentioned in Willey's notes (Willey 1937: 47 and 60). Charred corn remains come from both contexts that spatial analysis indicates were concentrations of activity, Pit 7 and Pit 2, meaning that maize was probably an integral part of the diet and livelihood of the Phase 1 residents of Mossy Oak.

6.2 Evaluation

6.2.1 Was Mossy Oak a permanent habitation site?

Mossy Oak was likely originally settled by local people settling down, and Phase 1 represents this domestic activity. In Phase 2, overall volume and count of ceramics decreases and concentrations of activity shift away from Pit 2 and Pit 7 favoring Pit 1. It is my interpretation that this shift reflects some residents of Mossy Oak relocating to the mound center at Macon Plateau. The data from Mossy Oak reflects the settlement history of Macon Plateau. In my interpretation, Mossy Oak was settled either right before, or concurrently with Bigman's (2012) Stage 1. During Stage 1 at Macon Plateau, Vining Simple Stamped sherds are found in high frequency at different construction areas (Bigman 2012:250) reflecting the connection between Mossy Oak and Macon Plateau. In the subsequent Stage 2 the settlement at Macon

Plateau increases southward with high frequencies of shell tempered Bibb Plain ceramics (Bigman 2012:251). If Stage 2 at Macon Plateau corresponds with Phase 2, then it is plausible that residents of Mossy Oak were relocating to the southern area of Macon Plateau. The remnants of the original Mossy Oak population may have stayed behind and continued to farm the area or collect river mussels for shell. Maybe some parts of the founding families of Mossy Oak stubbornly stayed behind in preference to a life outside the growing mound center.

My first hypothesis concerning the function of Mossy Oak as a site was not eliminated by the data I collected. Rather, the combination of data from my orifice diameter study, spatial analysis, and analysis of total count and total weight of Pits 1-8 supplemented by Willey's observations indicates that Mossy Oak was a small, permanent settlement with two distinct Early Mississippian occupations, Phase 1 and Phase 2, made distinct by shifting site use and a decrease in population and activity.

6.2.2 Was Vining Simple Stamped sherd decoration standardized?

My second hypothesis addressed the nature of the distinct decoration of Vining Simple Stamped ceramics. No Vining Simple Stamped paddles are known from any excavated archaeological context, so to understand how standardized the decorations were I randomly chose three impressions on every Vining Simple Stamped sherd from Pit 1 and Pit 7 where they could be observed. For each sherd I calculated the standard deviation and mean from these measurements. My results indicated that there was no pattern of standardization from Pit 1 and there was more uniformity in Pit 7, but the cluster analysis still portrayed a large "cloud." Based on these results my interpretation, stamping impressions were relatively uniform, but by no means mass produced creating the exact same decoration on every Vining Simple Stamped pot.

No clear differences in groups appeared indicating Vining Simple Stamped pottery was most likely produced by local potters.

6.2.3 Was early Mississippian central Georgia founded by outsiders?

During my initial observations of the Vining Simple Stamped ceramics in the Mossy Oak collection I noticed that some sherds had shell tempering. My hypothesis that Mossy Oak was settled by local people, using local resources to make their pots was confirmed by my presence/absence analysis of shell tempered Vining Simple Stamped ceramics in Pits 1 and 7. I observed shell tempering at the earliest levels of Mossy Oak. Almost half of the Vining Simple Stamped ceramics from Phase 1 have shell tempering observable in the profile of the sherds. Shell tempering fades out of use in Phase 2. My interpretation is that as Bibb Plain shell tempered ceramics became a major ceramic type for Macon Plateau, the use of shell tempering in Vining Simple Stamped ceramics faded out at Mossy Oak. The population of Mossy Oak likely relocated to Macon Plateau between Phase 1 and Phase 2, and may have brought with them shell tempered Vining Simple Stamped ceramics.

To further test this hypothesis, I revisited my scatter plots from my test of the degree of stamping standardization. My results reflected that there was no difference between variation in stamping decoration and choice of tempering agent. The flow of decoration techniques and choice of tempering material is fluid with no distinct groups emerging. If Mossy Oak had been founded by outsiders, who brought with them shell-tempered ceramics, we would expect to see two groups emerge on the basis of choice of tempering agent. My interpretation of this data is that the residents of Mossy Oak knew of Vining Simple Stamped ceramics from other nearby sites they were in contact with, and utilized their proximity to the river to produce their own local variant of the type. It is difficult to reconstruct the thought process of a Mossy Oak potter in

choosing to use shell tempering. Was the use of shell tempering a simple decision based on availability of resources or a way to distinguish the site's ceramics from other ceramics decorated similarly in central Georgia? Further testing might hopefully shed light on this question.

I performed the same test based on my results from measuring sherd thickness. These results are interesting because thickness relates more to vessel function than decoration. To the potters of Vining Simple Stamped sherds, at least in the earliest levels where shell tempering was more prevalent, choice of tempering agent apparently did not have an effect on the function of the vessel. However, quartz tempering became a preferred choice, perhaps because it suited the functionality of the vessel better. This transition may have been the result of trial and error Performing similar tests on Vining Simple Stamped sherds from Macon Plateau to see if Vining Simple Stamped sherd tempered pottery followed a similar pattern could help support these new hypotheses.

6.3 New Questions

At this point of my interpretation we have an interesting new question. If shell tempering was a local variant and developed in central Georgia, did the center-dwellers at Macon Plateau influence the potters at Mossy Oak, or did the potters at Mossy Oak influence the decisions of potters at Macon Plateau? My interpretation is that the potters at Mossy Oak used quartz and shell tempering interchangeably during Phase 1. The river was close by and maybe through experiment or local expression of the type some people chose shell over quartz to make their Vining Simple Stamped pots. As these people interacted with the people at Macon Plateau, ideas about pottery manufacture were exchanged, and maybe the shell tempered experiment took place at Macon Plateau. The Macon Plateau potters determined that shell temper, readily

available from the Ocmulgee River, was better suited for utilitarian pots and began creating the pottery known to us as Bibb Plain. While more and more residents from Mossy Oak relocated closer to the center, the use of shell tempering in Vining Simple Stamped ceramics faded out, and people making Vining Simple Stamped pottery at Mossy Oak used quartz. Alternatively, if the people who remained at Mossy Oak after the majority of the population had relocated, were bringing shell to the center either as a food resource or for the purpose making Bibb Plain ceramics, then perhaps there was no shell left to make local decorated ceramics. It is my interpretation that shell tempering in Vining Simple Stamped ceramics at the earliest levels at Mossy Oak represents that this was a local tradition and not one brought in by outsiders.

One of the objectives I posed in my introduction was the value of legacy data. Without using any new excavated data, I have been able offer new interpretations of life at the very beginning of the Mississippian period in central Georgia. I have illustrated here that new archaeological interpretations from old collections are possible, and as a field perhaps it is our responsibility to revisit these collections for deeper analysis and a better understanding of North American prehistory.

7 CONLUSION

Mossy Oak was a small habitation site five miles south on the Ocmulgee River from the large earthen mounds of the Macon Plateau site. There were two Early Mississippian phases of occupation at Mossy Oak, followed centuries later by a Late Mississippian Lamar component. The data from the Early Mississippian Phase1 and Phase 2 reveal two separate phases of small scale activities, getting smaller over time. The results of my study reflect the interaction between people living at Mossy Oak and Macon Plateau. The connection between these two sites is obvious not only in geographic proximity but evidenced in the sharing of ideas about how to make pots. The use of shell as a tempering agent in the pottery at Mossy Oak may have influenced the proliferation of shell tempering in pottery at Macon Plateau, indicated by its early presence and then fading out over time at Mossy Oak.

7.1 Interpretation

The interpretation presented here is that Mossy Oak developed as a result of local processes and not the result of groups from beyond central Georgia. Vining Simple Stamped pottery is confined to central and north Georgia in regional distribution, so the presence of shell tempering used in Vining Simple Stamped pottery at the earliest levels indicates that this was a decision made by local people at Mossy Oak. If shell tempering had been the result of a foreign contingent of immigrants it should be reflected in the occurrence of a ceramic type not known from Georgia, or a ceramic type with a wider regional distribution. The current evidence suggests that at Mossy Oak, local people experimented with shell tempering during Phase 1 and gradually shifted to quartz tempering in Phase 2.

Further supporting the idea that changes in Mississippian period Georgia were local developments, there is no difference in the vessel form or vessel decoration based on tempering.

Had shell tempering been an outside intrusion, the expected result was that distinct groups could be seen based on the tempering of the pottery. However in comparing sherd thickness to chosen tempering agent there is no difference between shell and quartz tempered pottery. This conclusion is echoed in the results from the comparison of stamping decoration variability and tempering as well. There is almost a 1:1 relationship between quartz tempering and shell tempering for vessel thickness and vessel decoration. Some people made their Vining Simple Stamped pots with quartz, others chose shell, and over time quartz became the preferred material especially in Phase 2.

7.2 Site Function

Willey noted that there was some evidence of architecture in Pit 7 and burials came from Pits 2 and 4, however aside from using the term "village" he left no indication of what kind of site Mossy Oak might have been (Willey 1937:42). Studying the orifice diameters and forms of the Vining Simple Stamped sherds available indicates that Mossy Oak was probably a permanent habitation site. Three major rim forms were identified, all showing variability across the site Phase 1 and Phase 2. Generally, although this data comes from a small sample size, "more complex communities exhibit greater diversity" (Rice 2005:203), meaning diversity in orifice diameters may reflect a diversity of activities occurring at Mossy Oak. More specifically, Vining Simple Stamped pottery itself may have been used for a variety of different activities.

Although orifice diameters show a diversity of forms, the data from vessel thickness analysis shows a trend toward uniformity. Although a diversity of rim forms might indicate group diversity or a diversity of forms, this data coupled with the uniformity in sherd thickness may reflect production of Vining Simple Stamped vessels catered to individual tastes of the consumer rather than illustrating specific differences in vessel form (Rice 2005:270). In a sense,

having the Vining Simple Stamped decoration on your vessel may have been a constant, but the vessel shape may have been the indicator of someone's identity or personal taste. Perhaps everyone in the village was the proud owner of a Vining Simple Stamped vessel, but your neighbors was an open dish with a diameter of 22 cm while the one you have was closer to the average at only 12.5 cm in diameter with an entirely different shape. Determining the specific function of Vining Simple Stamped vessels is not possible with the data collected from this survey other than stating that these vessels showed variability between 5 cm and upwards to 23 cm with the average vessel having an orifice diameter of 12-14 cm. Similar studies on Vining Simple Stamped ceramics from other sites would be useful to better understand specific functionality and if the pattern at Mossy Oak is representative of Vining Simple Stamped regionally or is a local variant.

7.3 Relationship to Macon Plateau

The relationship between Mossy Oak and Macon Plateau is evident in the shared ceramic types that occur at both sites. Elite ceramics identified at Macon Plateau, such as Halstead Plain (Bigman 2012) are not present at Mossy Oak. Perhaps Halstead Plain was restricted, or simply never in vogue at Mossy Oak. Alternatively, it is possible that by the time that Halstead was in use at the Macon Plateau, Mossy Oak had been depopulated and the people who remained were laborers or farmers working for elites at Macon Plateau and did not have access or need for elite ceramic types.

Shell tempered Vining Simple Stamped ceramics are proportionally dominant during the Vining phase. Mossy Oak lays directly along the bluffs above the Ocmulgee River, and it is possible that the early Mississippian people at Mossy Oak collected shells from the river to form their pots. Mossy Oak residents were undoubtedly part of the same community that built the

mounds at Macon Plateau. It is possible that shell tempering at Mossy Oak may have inspired the use of shell tempering in Bibb Plain as a utilitarian type constricted to the macon Plateau area. Found in much greater proportions at Macon Plateau, Bibb Plain is known as an Early Mississippian type exclusive to central Georgia (Bigman 2012). Could Mossy Oak have been a place of extraction of ceramic materials? Were they exchanging shell for something else that has yet to be uncovered or even items that did not preserve over millennia? These are possibilities for future hypotheses.

7.4 Future Directions

When I began my analysis working at the visitor's center at Ocmulgee National Monument I realized that there thousands of unanalyzed artifacts from similar Works Progress Administration (WPA) excavations. I hope that this analysis will be the first of many revisits and re-evaluations of the material uncovered during the Great Depression. Many of the questions that remain from my analysis could be examined by revisiting sites such as Vining and Napier and other small Early Mississippian sites where Vining Simple Stamped ceramics occur.

To begin, a promising analysis would result from analyzing the temper of all Vining Simple Stamped sherds in all of the pits from Mossy Oak. I chose Pits 1 and 7 based on their high proportion of Vining Simple Stamped sherds. It would be useful to supplement that data to see if the same patterns emerged site-wide. It would also be useful to study the material from Pits 9-11, which came directly from the bluff rather than the surface to see if different patterns emerged. For example, because Pits 9-11 were situated closer to river than Pits 1-8, they may have higher proportions of shell tempered ceramics over time. Also, revisiting the rim data from Pits 1-8 to test for variability across rounded or straightened profiles would help further supplement our understanding of Vining Simple Stamped vessel function at Mossy Oak.

In the event that the proposed expansion of Ocmulgee National Monument to Ocmulgee National Park and Preserve passes, the site of Mossy Oak would be within the boundaries of that expansion. The site of Mossy Oak is currently owned by the Cherokee Brick Company, but falls within the boundaries of the proposed expansion. In the event that Mossy Oak is acquired by the National Park Service ,future excavations would expand our understanding of Mossy Oak and our understanding of political relationships in central Georgia during the Mississippian. Revisiting Mossy Oak with non-invasive archaeological survey methods such as ground penetrating radar could also help identify potential architectural features and broaden our current understanding of the site.

The National Park Service has cataloged a variety of sites from central Georgia housed at the visitor's center at Ocmulgee National Monument. Further study of Vining Simple Stamped sherds that come from those collections could help determine whether the patterns observed from this analysis were localized or present across the region. Revisiting the Vining Simple stamped component of the assemblage from Macon Plateau in a similar fashion would be of use to understand the relationship between Mossy Oak and other sites in the area.

This study accomplished the goal of refining the chronology of central Georgia in firmly placing Vining Simple Stamped ceramics at the beginning of the Early Mississippian period, confirming Elliot and Wynn (1991)'s contention that Vining Simple Stamped roughly dates from 950-1150 A. D. (Elliot and Wynn 1991: 12) and Pluckhahn's (1997) radiocarbon dates of 985 to 1070 A. D. (Pluckhahn 1997:30). Shell tempering was an important component of Vining Simple Stamped ceramics during Phase 1 and Phase 2 at Mossy Oak and faded out almost entirely over time. It is unlikely that shell tempering was brought in from elsewhere, and may have been adopted for Bibb Plain after its introduction in Vining Simple Stamped. Although

there is variation in tempering and orifice diameter measurements of Vining Simple Stamped ceramics the thickness of vessels and decoration technique remained similar which may challenge notions that decorations are the most informative aspect of a ceramic type.

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APPENDICES

Appendix A

Specimen 8

Decoration

Temper

1 cm

Specimen 9

Decoration

Temper

1 cm

Specimen 10

Decoration

Temper

1 cm

Specimen 12

Decoration

Temper

1 cm

Specimen 13

Decoration

Temper

1 cm

Specimen 17

Decoration

Temper

1 cm

Specimen 33

Decoration

Temper

1 cm

Specimen 43

Decoration

Temper

1 cm

Specimen 44

Decoration

Temper

1 cm

Specimen 46

Decoration

Temper

1 cm

Specimen 71

Decoration

Temper

1 cm

Specimen 72

Decoration

Temper

1 cm

Specimen 107

Decoration

Temper

1 cm

Specimen 109

Decoration

1 cm

Specimen 113

Decoration

Temper

1 cm

Specimen 115

Decoration

Temper

1 cm

Specimen 116

Decoration

Temper

1 cm

Specimen 146

Decoration

Temper

1 cm

Specimen 152

Decoration

Temper

1 cm

Specimen 183

Decoration

Temper

1 cm

Specimen 184

Decoration

Temper

1 cm

Specimen 196

Decoration

Temper

1 cm

Specimen 216

Decoration

Temper

1 cm

Specimen 226

Decoration

Temper

1 cm

Specimen 227

Decoration

Temper

1 cm

Specimen 228

Decoration

Temper

1 cm

Specimen 283

Decoration

Temper

1 cm

Specimen 284

Decoration

Temper

1 cm

Specimen 285

Decoration

Temper

1 cm

Specimen 286

Decoration

Temper

1 cm

Specimen 287

Decoration

Temper

1 cm

Specimen 288

Decoration

Temper

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Specimen 289

Decoration

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Specimen 290

Decoration

Temper

1 cm

Specimen 319

Decoration

Temper

1 cm

Specimen 406

Decoration

Temper

1 cm

Specimen 411

Decoration

Temper

1 cm

Specimen 416

Decoration

Temper

1 cm

Specimen 425

Decoration

Temper

1 cm

Specimen 426

Decoration

Temper

1 cm

Specimen 427

Decoration

Temper

1 cm

Specimen 428

Decoration

Temper

1 cm

Specimen 429

Decoration

Temper

1 cm

Specimen 431

Decoration

Temper

1 cm

Specimen 432

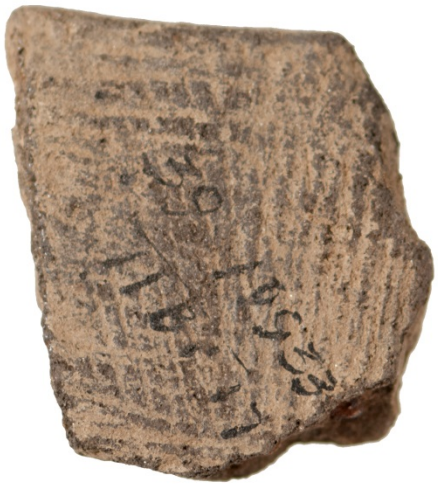
Decoration

Temper

1 cm

Specimen 433

Decoration



Temper

1 cm

Specimen 434

Decoration

Temper

1 cm

Specimen 435

Decoration

Temper

1 cm

Specimen 436

Decoration

Temper

1 cm

Specimen 437

Decoration

Temper

1 cm

Specimen 438

Decoration

Temper

1 cm

Specimen 439

Decoration

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1 cm

Specimen 440

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Specimen 442

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Specimen 450

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Specimen 451

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Specimen 452

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Specimen 453

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1 cm

Specimen 454

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Specimen 456

Decoration

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Temper

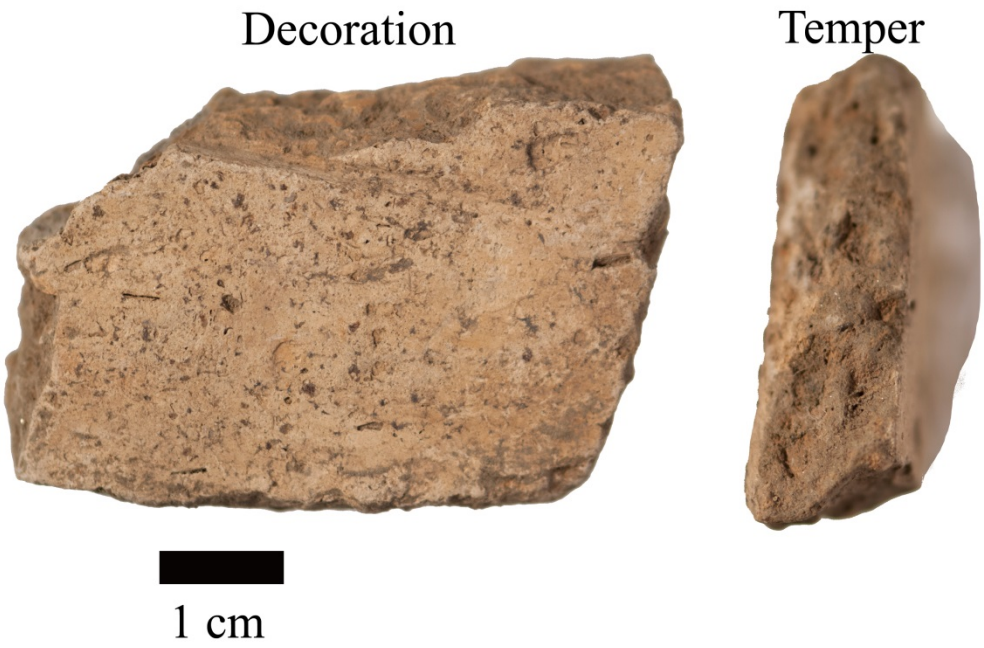
Specimen 457

Decoration

1 cm

Temper

Specimen 458



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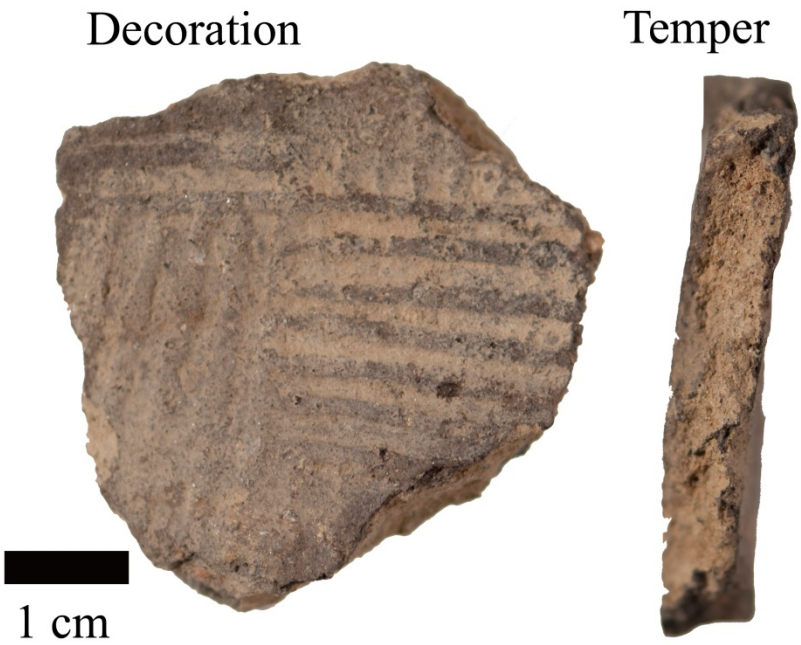
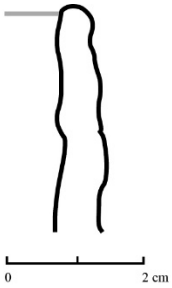


Appendix B

Specimen 427

Specimen 438



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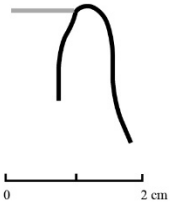

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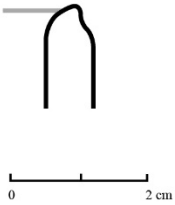

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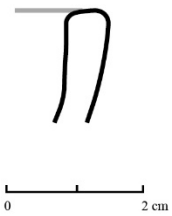

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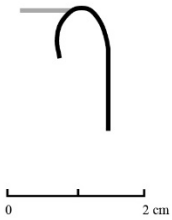

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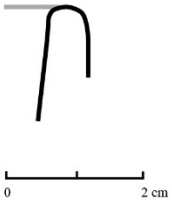

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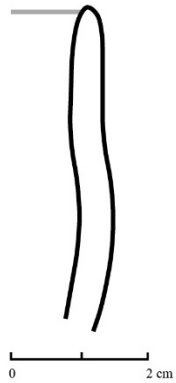

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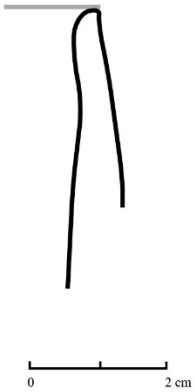

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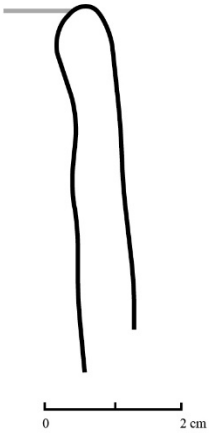

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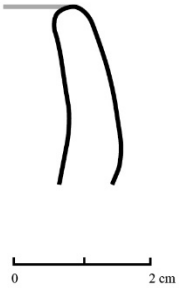

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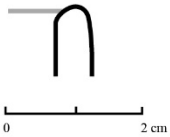

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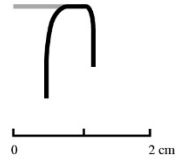

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Specimen 445

Specimen 183

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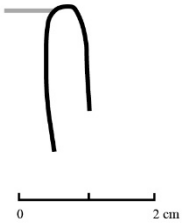

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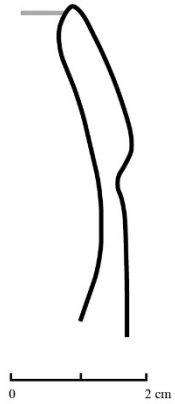

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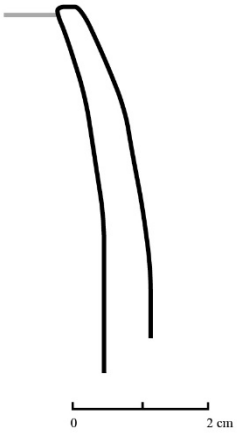

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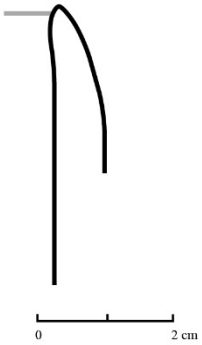

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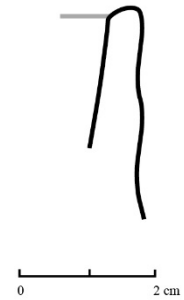

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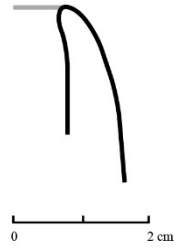

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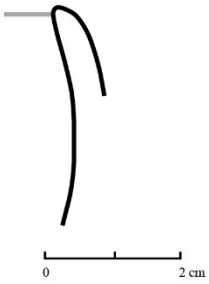

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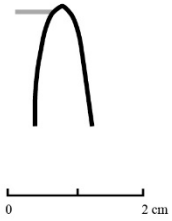

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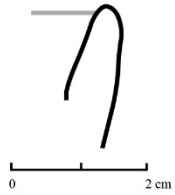

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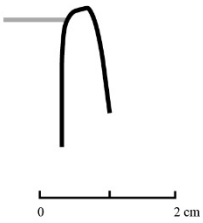

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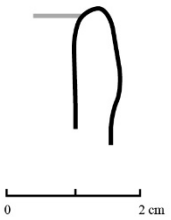

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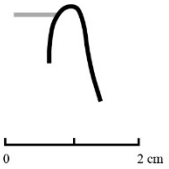

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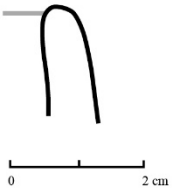

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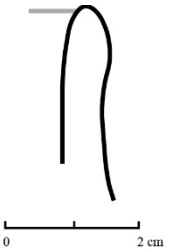

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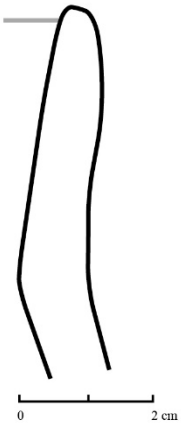

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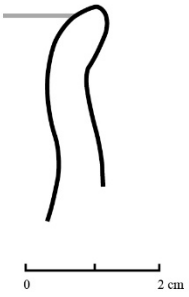

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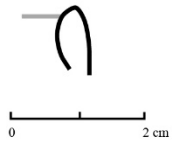

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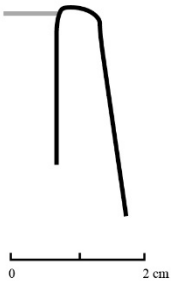

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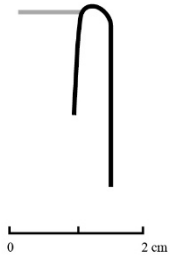

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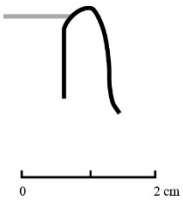

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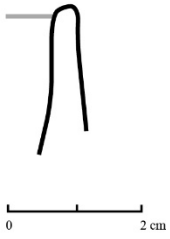

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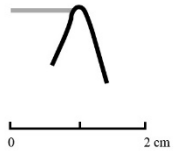

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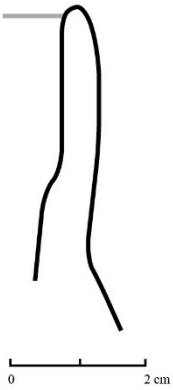

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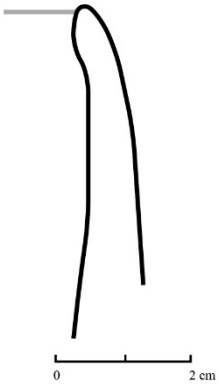

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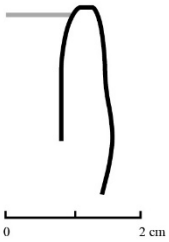

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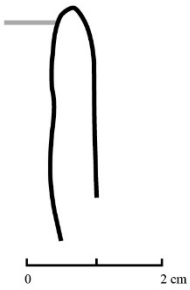

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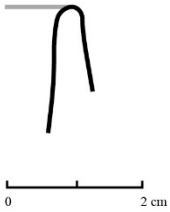

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