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COMPARING LITHIC ARTIFACTS AND NATIVE AMERICAN ACTIVITY AT STARK FARM, AN EARLY CONTACT PERIOD SITE IN NORTHEAST MISSISSIPPI

By Gillian Marie Steeno

A thesis submitted to the faculty of The University of Mississippi in partial fulfillment of the requirements of the Sally McDonnell Barksdale Honors College.

Oxford
April 2021

Approved by

_____
Advisor: Professor Tony Boudreaux

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ACKNOWLEDGEMENTS

First and foremost, thank you to Dr. Tony Boudreaux for imparting his guidance and wisdom upon me during this whole process. From feeding me readings to our Zoom chats once a week, this semester and this thesis experience would not have been the same without him. He has been my biggest supporter and my biggest critic, in a constructive way of course. As much as he wants to credit me for all of my hard work on this project, he played a huge part in its creation and completion.

I'd also like to thank my mom, dad, and grandma for continuously checking in on my progress and encouraging me no matter how stressed and frantic I seemed at the time. My research is out of most of their realms of knowledge, but their attention and support during my writing process and thesis defense meant the world to me. As always, they are my rock, and I would not be here without them.

Due thanks are also in order to the Sally McDonnell Barksdale Honors College for creating the thesis track to encourage eager and curious students like myself. My time at the university would not have been as challenging and worthwhile as it would have been without this experience.

Finally, I would like to thank my grandpa L.D. for showing me how important it is to get out and explore historically significant places. Our trips to Kansas to explore historic Native American sites sparked my interest in archaeology, which I can now continue to pursue in graduate school. Sadly, he was unable to see me graduate high school, and now college, but his curiosity and love for the outdoors can hopefully live on through me. I hope I am making him proud.

ABSTRACT

GILLIAN MARIE STEENO: Comparing Lithic Artifacts and Native American Activity at Stark Farm, An Early Contact Period Site in Northeast Mississippi (Under the direction of Dr. Tony Boudreaux)

Supposed ancestors of the modern-day Chickasaw, the occupants of Stark Farm inhabited the area known today as Starkville, Mississippi. These Native American peoples left behind archaeological evidence of their occupation, especially in the form of large midden-filled basins. In order to investigate these refuse pits, a lithic analysis was completed using stone typology in order to infer supposed activities. Each of the five contexts are compared to each other to determine which assemblages have similar elements and which ones prove to be unusual in comparison. Through this stone tool analysis, domestic and non-domestic activities and areas in the site can begin to be uncovered.

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INTRODUCTION

This thesis focuses on data collected at Stark Farm (22Ok778), a Late Mississippian (AD 1400-1540) and Early Contact (AD 1540-1650) period site located near Starkville, Mississippi. Several areas at the site have been investigated during fieldwork that took place over four different field seasons (Boudreaux et al. 2017, 2019, and 2020). Some of the most interesting deposits encountered at the site are four very large basin features located at the north end of the site. These basins have been interpreted as having been excavated then filled with domestic midden (Boudreaux et al. 2020:42; Johnson 2000:101; Johnson et al. 2008:9). Because of previous research conducted at Chickasaw sites in the Tupelo area, it is assumed that these midden-filled basins were dug to produce daub to plaster on to houses, then the basins were subsequently filled with household trash (Johnson 2000:101; Johnson et al. 2008:1; Legg et al. 2020:48). Since they were located near structures at these sites, these features likely relate to construction episodes and subsequent disposal of everyday materials from nearby domestic locations (Johnson et al 2000:2). At Stark Farm, the large basins are located downslope from what has been interpreted as a domestic area, located on the top of a north-south trending ridge (Figure 1) (Legg et al. 2020). The fill that was uncovered in these features at the northern area of the site contained pottery vessel fragments, animal bone, daub, burned plant remains, and pieces of hearths (Boudreaux et al. 2017; Legg et al. 2020; Smith 2017). These large basins at the site represent a wide range of activities providing insight to a moment in time where these objects were used and then discarded. Due to its spatial and temporal similarity to contemporaneous sites

Figure 1. Aerial view of Stark Farm excavation contexts discussed in this thesis. Image courtesy of Center for Archaeological Research.

in the area, Stark Farm is a quality candidate to use as a case study to test the idea that these basins were actually used as a vessel to dispose of household midden.

Because of the potential to gain insight into everyday activities, the basins at Stark Farm offer a way to explore what types of activities were occurring in different areas of the site. Part of what I want to do in this research is to distinguish between domestic and non-domestic assemblages. The large basins at Stark Farm and in northeast Mississippi more generally have been assumed to contain domestic or household refuse (Johnson 2000:101; Johnson et al. 2008:1; Legg et al. 2020:48), but I tested this idea in this thesis. In order to do this, I analyzed the types, materials, and functions of lithic artifacts found within these basins and compare them to lithic artifacts from other contexts at the site. After comparing quantities and types of lithics among contexts, typical assemblages can be distinguished from unusual or distinctive ones. To constitute an unusual assemblage, the artifact distributions or types must be different from the most common assemblages. For example, a context that includes mostly flakes might be considered common at a particular site, so a context that has a much smaller number of flakes would be considered unusual in that context. Distinctive assemblages have been determined so that each context can be compared to one another to posit which of these midden-filled basins and other contexts were more likely to have been used as a domestic receptacle or a non-domestic receptacle. After making this distinction, it has become apparent which contexts of the site should be investigated to further explore the distinction between domestic and non-domestic contexts at Stark Farm.

BACKGROUND

The background of this thesis presents information about Chickasaw life during the Late Mississippian and Contact periods both in the Black Prairie and in the Tupelo area. One important kind of feature at sites from these periods includes midden-filled basins, which is also described in this section. Additionally, I am discussing previously conducted surveys and fieldwork at Stark Farm.

Chickasaw Background

The Late Mississippian through Early Contact period in the Black Prairie was one characterized by a changing landscape for Native Americans. The Black Prairie is a distinctive region characterized by extensive grassland areas along upland ridges (Boudreaux et al 2020:35). Located in Mississippi's southern Black Prairie, Stark Farm is one of many sites in the area that has undergone archaeological excavation. Stark Farm also represents a component of the Starkville Archeological Complex, which includes around 300 sites in the Starkville area that were occupied during this time period (Legg et al. 2020:45). Around 1540, the Chicasa, the ancestors of the Chickasaw, resided in this area near Starkville, Mississippi as detailed in the accounts associated with the expedition of Hernando de Soto (Boudreaux et al 2020:11-12, 38-39; Ethridge 2010:31; Johnson 2000:88). The presence of a significant assemblage of Spanish metal at Stark Farm likely came from Soto's army or from another European group (Boudreaux et al. 2020:55; Legg et al. 2020:48). By the eighteenth century, the Chickasaw people had

migrated to the north and established their principal settlements in the modern-day Tupelo area, which is also within the Black Prairie (Johnson et al 2000:24). Accounts from these areas allow for similarities to be drawn between the descendants and their ancestors, and this thesis draws upon both areas to test the idea of domesticity at Stark Farm.

Especially in the case of the Chickasaw people, new external influences presented themselves when Hernando de Soto and his expedition traversed the southeastern United States into the present-day Starkville area (Boudreaux et al 2020; Johnson et al. 2008; Legg et al. 2020). Because of the extensive research done on Chickasaw occupations of the northeastern region of Mississippi during this era, the characteristics of these sites can be logically compared to earlier sites like Stark Farm (Johnson et al. 2008). This research has also shed light on the organization of the Chickasaw people and how their way of life was altered because of European contact. It is also understood that this posited region of Chicasa, where ancestors of the modern-day Chickasaw people lived, was traversed by de Soto and his men during the mid-sixteenth century (Johnson et al. 2000; Johnson et al. 2008; Legg et al. 2020). Chicasa was a resting point where Soto and his men spent the winter of 1540-1541 where their disruptive influence left a path of economic, political, and ecological alterations in their wake (Ethridge 2010:31). The remnants of their, or another European group's, time at Stark Farm is reflected in the significant number of metal objects uncovered in multiple contexts at the site (Boudreaux et al. 2020:44-45; Legg et al. 2020:48-62). It is unknown exactly whether these artifacts are truly left as a result of Soto and his entrada's occupation specifically, but it does indicate the presence of outside influences shaping, and being shaped by, the Chickasaw people (Boudreaux et al. 2020; Johnson et al. 2000, 2008).

Stark Farm is one of approximately 300 Mississippian-through-Contact-period sites in the Starkville area, and this cluster of sites is commonly referred to as the Starkville Archaeological Complex (Figure 2) (Boudreaux et al. 2020; Clark 2017). The large basins present at Stark Farm are similar to those found at Chickasaw sites near Tupelo that include the Meadowbrook site (22Le912), the Orchard site (22Le519), and many others (Johnson et al. 2008). All of these sites contained large, midden-filled features that closely resemble those present at earlier sites like Stark Farm, so the literature from those analyses can be used to help guide the analysis made at Stark Farm.

Characteristics of Large Midden-Filled Basins

One of these important features present at Late Mississippian/Early Contact Chickasaw sites are groupings of large midden-filled basins. These basins were likely dug at a moment in time where occupants of the site used the harvested clay to make daub to plaster onto walls of houses (Johnson et al. 2008). Subsequently, these basins were filled with trash, which have provided ample artifacts and remains for study of everyday Chickasaw life (Johnson et al. 2008). At these sites, the basins are most commonly found as a collection rather than the existence of only one midden-filled basin for the entire site (Boudreaux et al. 2020; Johnson et al. 2008). Often detected through remote-sensing techniques, these basins have been partially or completely excavated to inventory the range of artifacts they contained (Boudreaux et al. 2017; Johnson et al. 2008). Usually contained in these basins are partial pottery vessels, faunal remains, lithic material, daub, and other cultural materials. It has been assumed that the material culture preserved in these basins represents household debris produced from household cleaning (Boudreaux et al. 2020:42; Johnson 2000:101; Johnson et al. 2008).

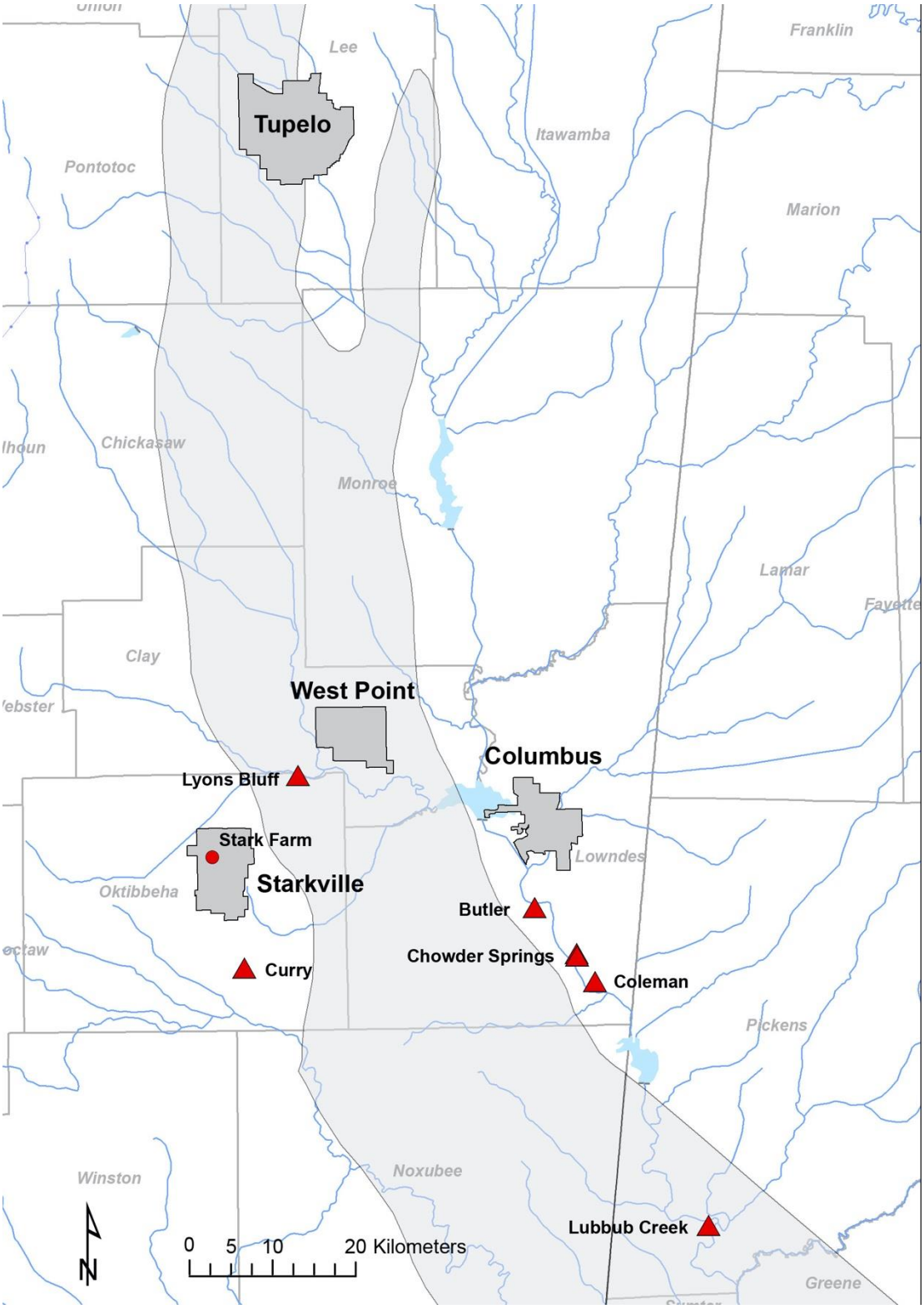

Figure 2. Map showing locations of sites and areas in northeast Mississippi including Stark Farm (circle) and the Black Prairie (shaded area). Image courtesy of Center for Archaeological Research.

Most importantly, these basins provide a snapshot of a moment in time due to the fact that they were filled over a relatively short period of time (Boudreaux et al. 2017; Johnson et al. 2008). In this way, a more accurate chronology of a site can be achieved because it represents a range of activities from a single occupation (Johnson et al. 2000, 2008). Along with this information, researchers are able to cross-reference the material remains excavated from the basins with ethnohistoric data during occupation to provide information about the activities being performed at the time (Ethridge 2010: 74-75; Johnson 2000; Swanton 1946). Moreover, these basins represent possible construction and organized building episodes reflected in the archaeological record due to their assumed role in household construction and maintenance (Johnson et al. 2008). Although there is evidence to support the presumed domestic nature of the midden deposits in the large basins at Stark Farm, this thesis tests this assumption based on the distribution and type of lithics found in the large basin contexts along with the other features at the site.

The midden-filled basins at Stark Farm were discovered through coring and remote sensing. In the magnetic gradiometer data, they manifest as dipoles with very strong positive and negative signatures. These anomalies contrast with the more homogenous background found across the rest of the site. What resulted from the magnetometer data provided substantial evidence to continue with excavations that would uncover the anomalies found, which included the midden features at the bottom of the ridge. Many other excavations of similar sites have used these techniques to mitigate the cost and time associated with investigating areas of this size and importance (Boudreaux et al. 2017; Kvamme and Ahler 2007:557). These basins are not exclusive to the Chickasaw archaeological sites; but, for the purposes of this thesis, their contents

can provide meaningful insights into activities and the organization of Chickasaw structures and culture.

Stark Farm Site

The Stark Farm site (22Ok778) is located in the Black Prairie near present-day Starkville, Mississippi in Oktibbeha County. Stark Farm provides a cultural landscape for study of the interactions between the Native peoples and some of the first contact with Europeans. The significance of the site lies in this potential to determine how European contact shaped Native communities in the Black Prairie. Based on previous investigation, there is evidence that Stark Farm might have been included in the western part of the area controlled by the Chicasa at the time of European contact (Boudreaux et al. 2017, 2019, 2020; Clark 2017). It is still uncertain, however, if Stark Farm is a definite site in the Chicasa polity.

Because of the site's significance in the arena of European contact, fieldwork was undertaken at Stark Farm in 2015, 2016, 2018, and 2019 to uncover features and artifacts to investigate the sixteenth-century occupation of the site (Boudreaux et al. 2017, 2019, 2020). These excavations were done as a collaborative effort among the Chickasaw Nation, the Florida Museum of Natural History at the University of Florida, the South Carolina Institute of Archaeology and Anthropology (SCIAA) at the University of South Carolina, and the Center for Archaeological Research at the University of Mississippi. Investigations at Stark Farm have yielded important artifacts and settlement information that has been and will continue to be investigated (Boudreaux et al. 2017, 2019, 2020). The totality of previous fieldwork is vital to this thesis regarding my ability to make comparisons among the large basins and other parts of the site.

The site is located on a north-south trending ridge that overlooks two conjoining streams that flow into Josey Creek (Legg et al. 2020). This location, atop a ridge near a creek, is consistent with contemporaneous sites during this period and with later eighteenth-century Chickasaw occupations near Tupelo (Cegielski and Lieb 2011; Johnson 2000:88-89). Stark Farm was first professionally surveyed in 2014 in anticipation of a proposed development project (Boudreaux et al. 2017, 2019). This was followed in 2015 with a metal-detector survey conducted by SCIAA that discovered an extraordinary amount of sixteenth-century Spanish metal objects (Cobb et al. 2016; Legg et al. 2020:47). Along with these surveys, the University of Mississippi conducted a magnetometer survey and partnered with the previously mentioned groups to work on excavations for three summer field sessions at five locations at Stark Farm (Boudreaux et al. 2017, 2019, 2020; Cobb et al. 2016; Legg et al. 2020; Smith and Legg 2017). These five locations include: the large, midden-filled basins that I am referring to as the Large Basin area; a number of units on the ridgetop at the north end of the site that is known as the Ridgetop area; Cannonball Field, where metal-detecting located a cannonball in 2018, in the southwestern part of the site; the Test Unit 1 area on a ridgetop near the north end of the site; and Waterscreen Hill, so named because it was located near a stock pond that was used for waterscreening. All of these areas are described in further detail later in this thesis.

The Large Basin area included four midden-filled basins, ranging from 2 to 7 meters in diameter. These features contained culturally significant materials that were used to help date the site to the Late Mississippian to Early Contact era (Figure 3) (Figure 4) (Legg et al. 2020). The 5-m diameter basin Feature 14 was uncovered during the 2015 excavation where a 50-cm-x-4 m trench was excavated into this feature (Boudreaux et al. 2017:12 and 25). Then, this area was part of a gradiometer survey in the Spring of 2016, which revealed anomalies that could indicate

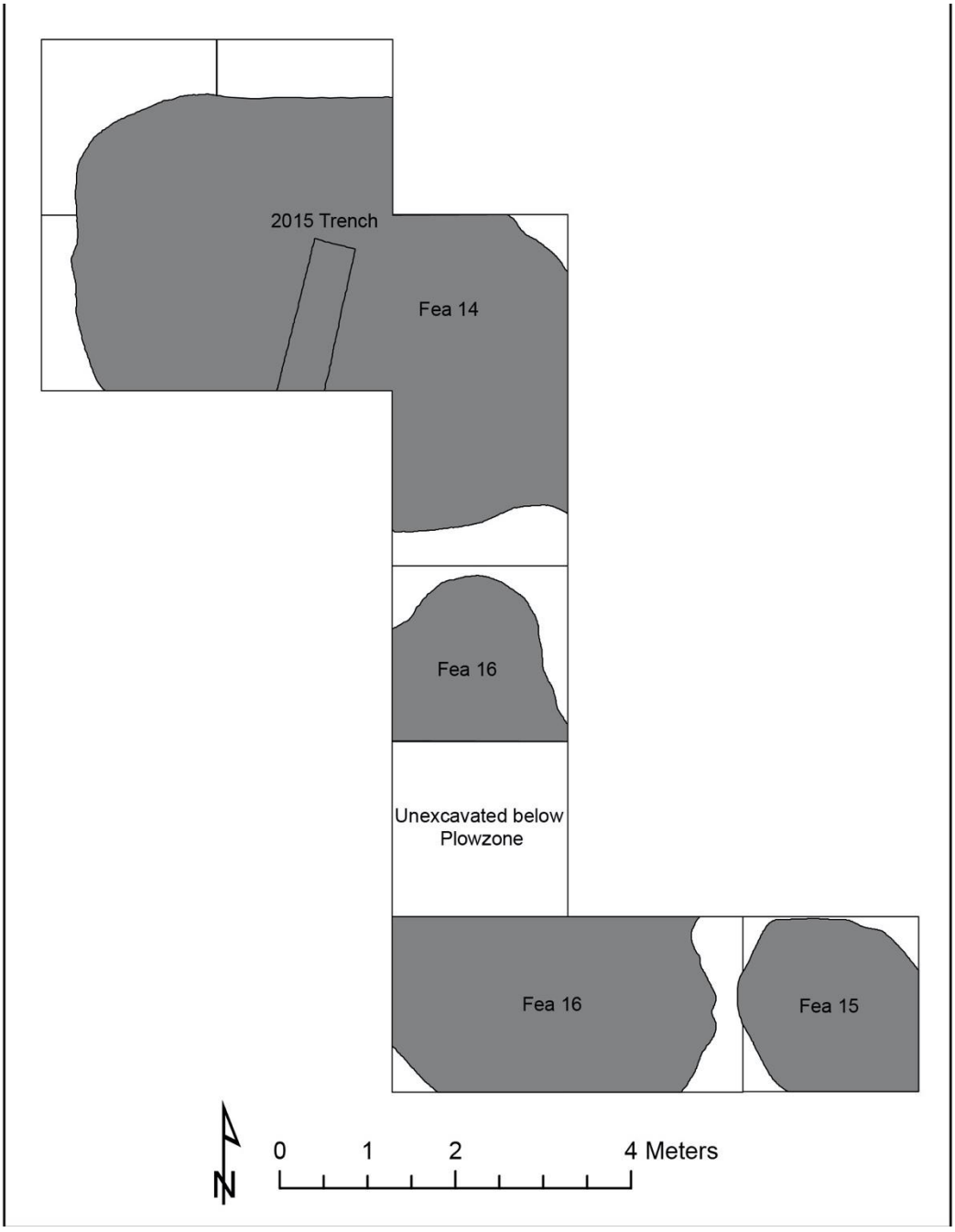

Figure 1. Features 14, 15, and 16 located in the northern area of the site, included in the Large Basin context. Image courtesy of Center for Archaeological Research.

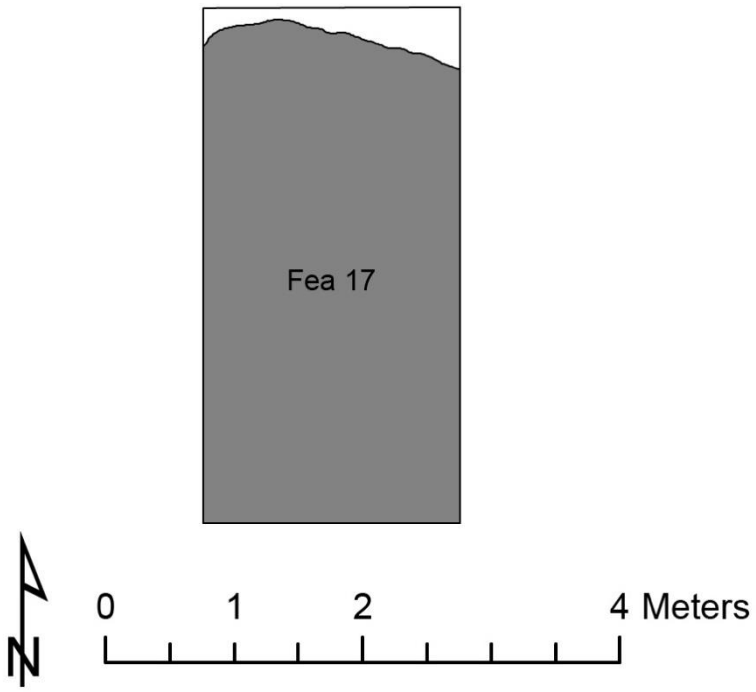

Figure 4. Feature 17, included in the Large Basin area, but located south of the cluster of basins 14-16. Image courtesy of Center for Archaeological Research.

the presence of other large features in the northern area of the site (Figure 5) (Boudreaux et al. 2017:17). Feature 15, 2 m in diameter, and Feature 16, 6-m long by 3-m wide, were excavated in two levels in 11 contiguous 2-x-2-m units (Boudreaux et al. 2017:25). In the Large Basin area, Feature 16 is situated south of Feature 14 and to the west of Feature 15, while Feature 15 is the easternmost feature in this area from the summer 2016 excavation (Boudreaux et al. 2017:27). Feature 17, another large basin, is also included in this context.

Despite the fact that no anomalies were detected in the Ridgetop area, a 2-x-2-m unit was excavated in 2016 to test for evidence of domestic structures (Boudreaux et al. 2017:31). At this time, postholes and small pits containing burned corn cobs were discovered, but there were no patterns indicating that there were structures present in this area (Boudreaux et al. 2017:31). This area was further explored during the summer of 2018 where postholes, cob-filled pits, and other features were found (Figure 6) (Boudreaux et al. 2019). The most notable of these new features, though, was the discovery of Feature 33, a cross-shaped hearth (Boudreaux et al. 2019:35). Apart from the Large Basins and the Ridgetop area in the northern part of the site, Cannonball Field, Test Unit 1, and Waterscreen Hill provide artifacts integral to understanding other areas at Stark Farm. Cannonball Field, located south of the Ridgetop area, was investigated in the summer of 2018 with four, 2-x-2-m units (Boudreaux et al. 2019:23). Chosen because of the results of a metal-detecting survey in 2018, the area was surveyed with the gradiometer but no anomalies were identified (Boudreaux et al. 2019:23). However, three excavated units in this area yielded a range of artifacts, while the partially excavated fourth unit yielded twentieth-century artifacts (Boudreaux et al. 2019:29). First excavated in 2015, four, 1-x-2-m units were opened in the Test Unit 1 area in 2018 (Boudreaux et al. 2019:29). Two units were excavated to ca. 10 cmbs, while the other two were dug to the base of the plowzone. Artifacts were covered in

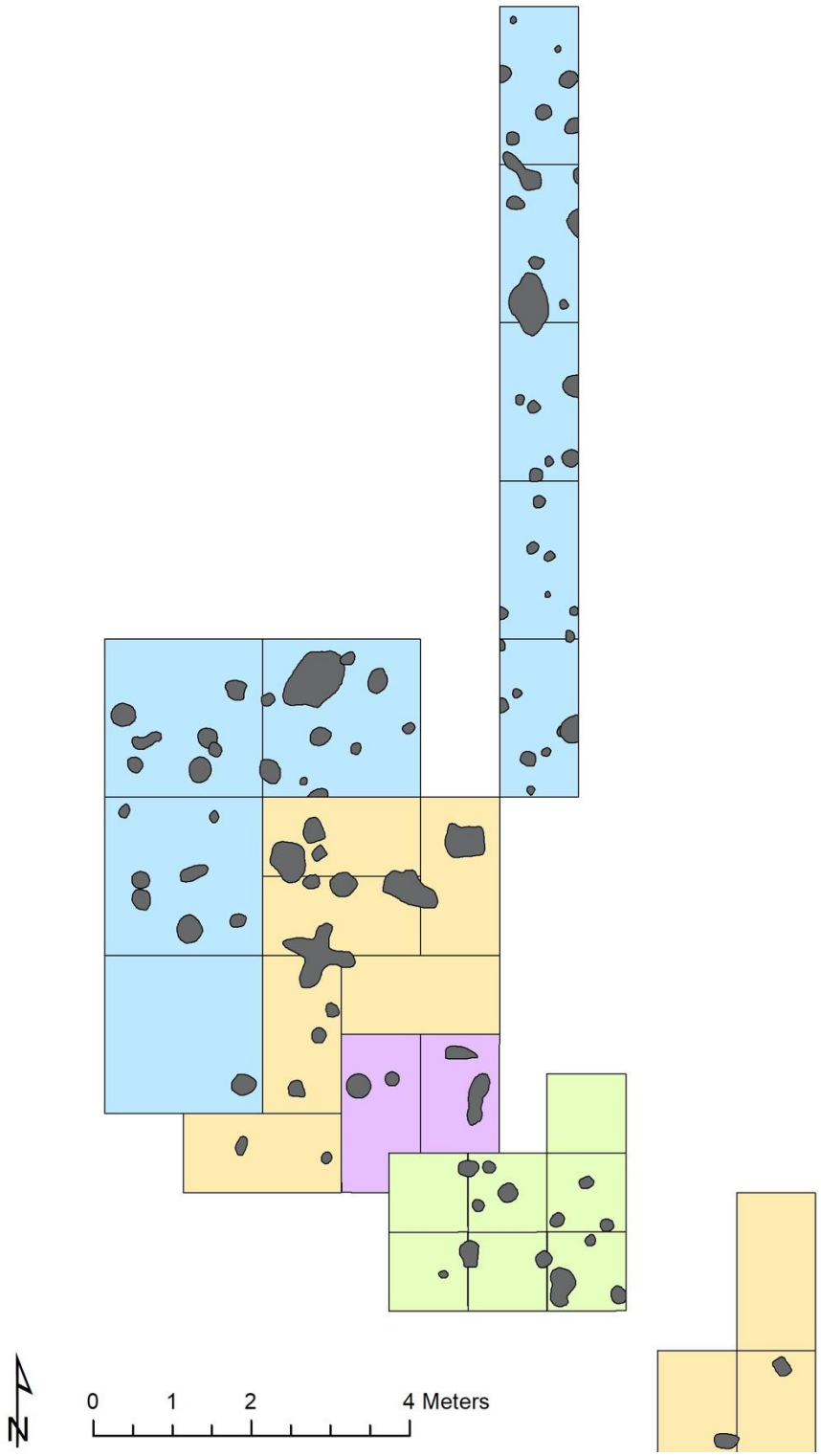

Figure 5. Features (grey) and excavation units at the north end of Stark Farm excavated in 2015 (green), 2016 (pink), 2018 (yellow), and 2019 (blue). Image courtesy of Center for Archaeological Research.

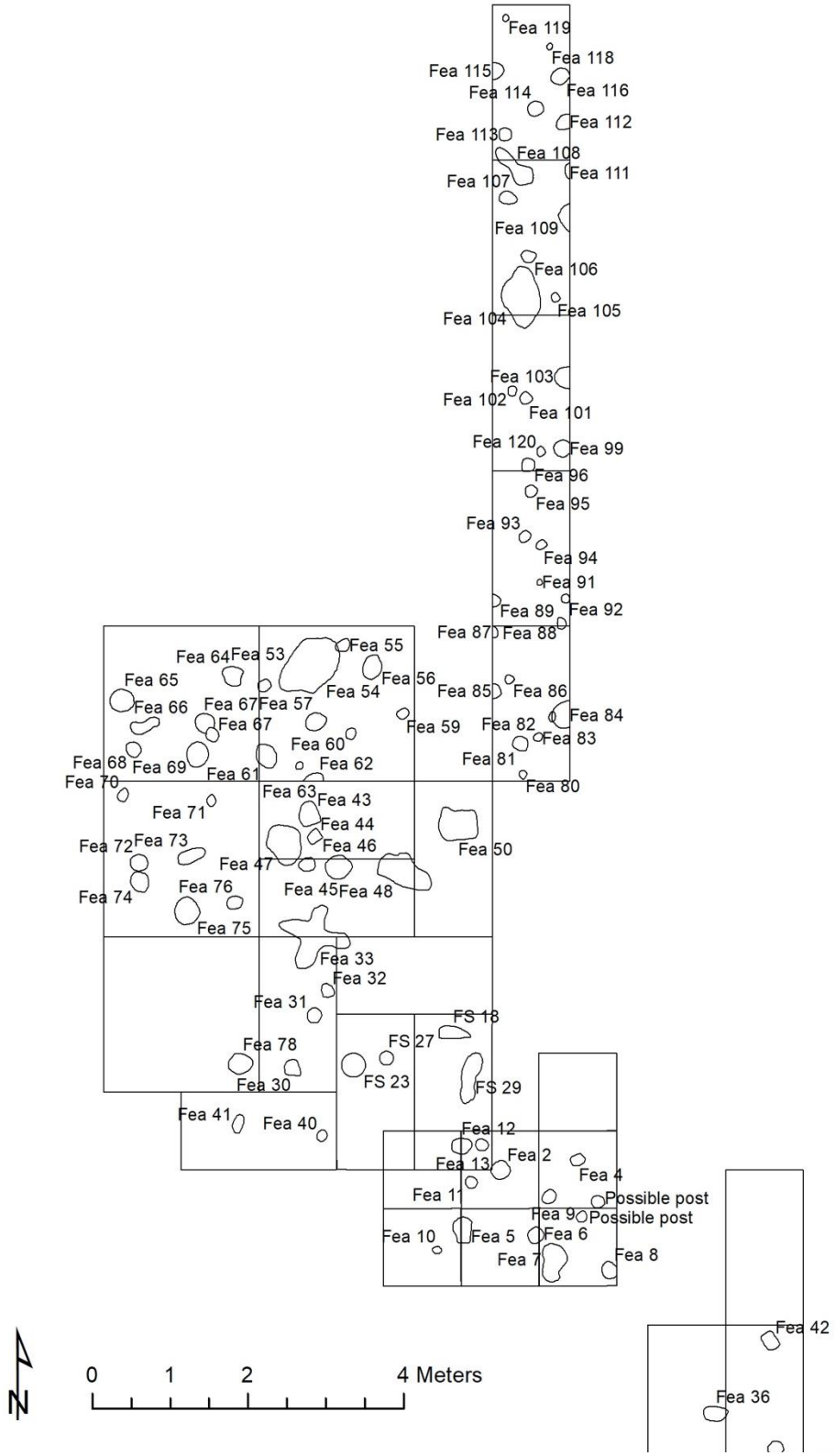

Figure 6. Units excavated in 2015, 2016, 2018, and 2019 with labeled features and possible postholes. Image courtesy of Center for Archaeological Research.

all of these units, but no features were present (Boudreaux et al. 2019:29). Waterscreen Hill is located near the top of a hill where pottery sherds had been previously recovered (Boudreaux et al. 2019:41). A 1-x-2-m unit was excavated at the hill where a mixture of artifacts from more than one time period was found in the plowzone (Boudreaux et al. 2019:35 and 41). No features were identified in this area.

Based on the fieldwork conducted, there have been more artifacts uncovered at Stark Farm than just lithics that might aid in future analyses of the site. Inventory of the metal artifacts at the site have provided meaningful information about the time of occupation along with how the occupants of Stark Farm utilized and modified these tools for use (Boudreaux et al. 2020; Legg et al. 2020:66-67). Although there is not a complete understanding of the typology and range of pottery from these periods, Jennings (1941) first researched ceramic data of the time in the Tupelo area which has provided valuable information about chronology, temper, and types that can be related to the types found at Stark Farm. Numerous analyses have attempted to piece together Jennings' data in conjunction with ceramic artifacts found in the midden-filled basins and other contexts at Stark Farm. This includes classification based on temper-ware group for four contexts at the site and how these ratios align with or differ from typical Late Mississippian and Early Contact assemblages (Boudreaux et al. 2020; Utley 2020). A faunal analysis was also conducted from the data collected during the 2015 and 2016 excavations. This investigation yielded mostly mammal remains, but there were few connections that could be made with other similar sites in the area (Boudreaux et al. 2020). The faunal data tell of the possible changes that was brought about in animal usage as a result of the movement into the Black Prairie from the Tombigbee River Valley (Boudreaux et al. 2020). Even though lithic information was inventoried by members the University of Mississippi, extensive interpretation has not been

made about usage and patterns associated with the data collected, which is one of the goals of this thesis.

Based on the background information presented along with previous research done on artifacts found at the site, there is still much analysis to be done on the artifacts and structures found at the site. Specifically, it has been assumed that the midden-filled basins were filled with domestic material; however, lithic artifacts along with spatial data from numerous contexts at the site can be used to test this assumption. Domestic assemblages are more widespread throughout a site because activities associated with them are occurring daily (Wilk and Netting 1984; Winter 1976). Because they are occurring at a higher rate, these domestic activities are more resistant to change over time (Wilk and Netting 1984; Winter 1976). In contrast to these domestic assemblages, unusual assemblages are easily distinguishable because they are a stark difference from the continuity of daily activities occurring at the site. The discovery at Stark Farm, of a cross-shaped hearth, a kind of feature with ties to public ceremonies and rituals (Boudreaux et al. 2020), challenged the assumption that all contexts at the site represented domestic spaces.

METHODS

This section discusses the methods used to investigate the lithics from the Stark Farm site. I begin with an overview of lithic analysis in archaeology. Then, I focus on the methods used to classify and interpret the lithics from Stark Farm specifically. The ultimate goal of the lithic analysis is to compare the lithic assemblages from the midden-filled basins with those from other contexts recovered from other parts of the site.

Lithic Analysis in Archaeology

It is important to remember that each researcher goes into lithic analysis with their own biases and questions that must be answered from the data in an assemblage. For these reasons, each assemblage is analyzed with specific goals in mind. Although variability is a large component of lithic analysis, each type of lithic group can be described and categorized in a more general way (Cobb 2003:2). This allows for researchers to avoid an overload of typology that can make the data confusing to digest and analyze. It is important to note the quantity of each type of lithic, the stone raw material that was used, and the spatial distribution of these artifacts at the site in question (Odell 2000:281).

Overall, the most important distinction to make in lithic analysis is between tool and non-tool artifacts. These artifacts have been intentionally placed into stone tool types based on the typology used in this thesis. On the other hand, those chipped stone elements that have not been further modified and reduced beyond percussion and removal from the surface of the original

stone are placed in the non-tool category (Grimaldi and Cura 2017:1; Odell 2000:281-282). Even in the non-tool category, the morphology of the object stone can be used to classify them into flakes—objects with a clear struck surface—and shatter —objects that lack a defined striking platform (Andrefsky 2005:725). These further distinctions are vital to understanding how stone is processed, and how raw material can be changed into usable tools for different purposes (Grimaldi and Cura 2017:2).

Criteria of Lithic Analysis at Stark Farm

The analysis of lithic artifacts is vital to understanding the function and distribution of these tools at different sites. Lithics tell the story of stone tool production, modification, use, activities being performed, and disposal after use (Andrefsky 2005; Grimaldi and Cura 2017; Johnson 1997; Odell 2000). Andrefsky (2005:728) emphasizes the importance of lithic analysis in the contexts of short-term and long-term cultural and societal changes. Stone tools reflect change after each use, so human intervention is inherently continuing to work through these artifacts throughout their use life (Johnson 1997; Odell 2000: 285). These changes during production and use also are manifested in different ways culturally and behaviorally. Changes in manufacturing and usage over time within a site or among different sites could offer insight into cultural and social differences within and between groups as a result of lithic production and use. To attempt to explore some of these relationships, Jay Johnson (1997) conducted a similar study using stone tool analysis at the Orchard site (22Le519) in northeast Mississippi. A comparison of his exploration of the distribution of lithic artifacts' distribution in time and space to the investigation done here allows him to infer information beyond that included in primary sources (1997). Johnson's research provides an important tool inventory which can be further analyzed to

answer questions beyond basic typology, moving towards spatial and temporal analyses. These spatial relationships are ones that I evaluate in the following sections.

In order to classify lithics to help distinguish domestic from non-domestic activity at Stark Farm, I chose a typology that would allow for inferences about activities taking places at different locations at the site. Rather than dividing lithics based on age or raw material exclusively, grouping them by function allows for comparison of activities represented in the archaeological record across contexts. For these analyses, the basic terminology guides artifact classification and determination of their function (Grimaldi and Cura 2017:1). The use of a typology to classify lithic artifacts is important to categorize artifacts into similar classes so that they can be more easily compared to one another. Artifacts that possess similar characteristics, although not identical, can be placed into categories based on their morphology that also indicate their probable function (e.g., projectile point, scraper, drill, etc.) (Grimaldi and Cura 2017:2; Johnson 1997:219). Generally, lithic artifacts encompass the realm of "humanly modified stone-tool materials" (Andrefsky 2005:718). Typologies of lithic artifacts should include categories for finished tools, but they also must accommodate objects such as flakes, cores, and unfinished tools that represent the residual materials left behind in the tool-making process (Odell 2000). The range of tools produced makes it all the more important to reduce the variability into categories or types that are based on function, age, or other criteria.

Based on morphological typologies, the lithics found at Stark Farm were investigated to determine artifact type, raw material, and probably function. The different tool types used in this typology is defined in more detail later in this section. Lithic materials were found at each of the five excavation areas that are being compared in this thesis: Large Basin Features, Ridgetop, Waterscreen Hill, Cannonball Field, and Test Unit 1 area. The Stark Farm materials were

analyzed in Lamar Hall on the University of Mississippi's campus where they have been curated since their excavation.

Dr. Tony Boudreaux and I conducted an analysis of the lithic artifacts during the Winter of 2020 into 2021. The lithics were already sorted into artifact bags based on context as a result of inventory and classification previously done by other students. I began by referencing a morphological flowchart, which operated under the criteria of large-scale differences moving into more specific criteria (Figure 7). From this flowchart, I was able to classify and describe the lithic artifacts based on function and activities associated with the specific typologies. Artifact record sheets were made and filled out during this process which included the catalog number and the context which would help us with locational analysis later. These sheets also specified chipped stone, ground stone, or unmodified stone, tool or debitage, descriptions, types, raw material, and counts.

The first distinction in the typology is between unmodified, ground, and chipped stone artifacts. Because of functional differences, it was appropriate to group lithics into these specific groups to better operationalize activities occurring with tool use based on type. Unmodified stone does not appear to have been shaped in any way. The manufacture of ground stone objects is not reliant on blunt force or striking the surface, as is the case with chipped stone objects (Odell 2000:308). Instead, it is clear based on the modifications of the stone that the pressure applied to the surface was constant and meant to either create a groove or a deep indention that would function as a sharpener or as a surface for grinding nuts. Ground stone tools often were used for food processing or tool maintenance rather than hunting or activities related to puncturing (Odell 2000:309). Ground stone tools include discoidals, grooved abraders, and nutting stones. Discoidals are small discs that may have been used for games (Odell 2000). Grooved abraders

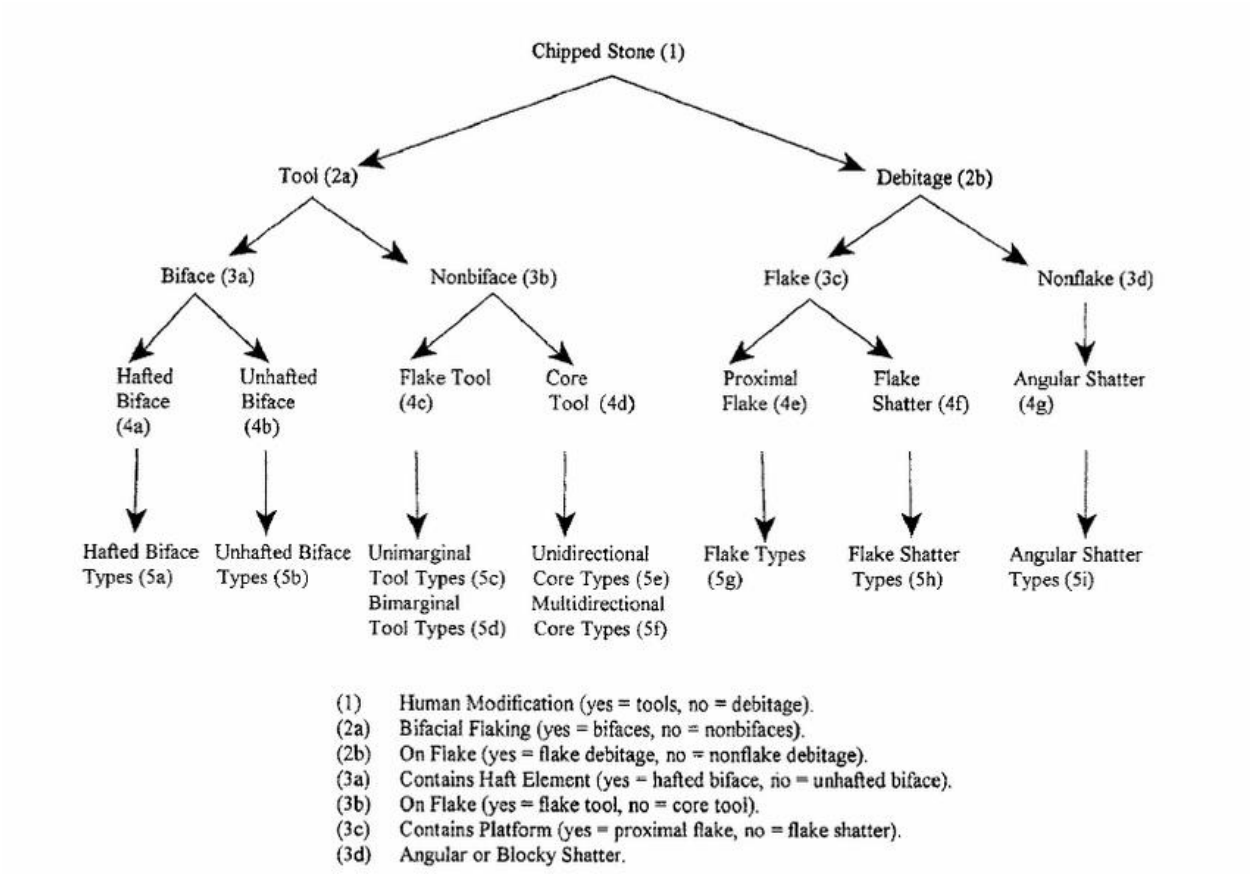

Figure 2. Lithic typology to classify stone tool and debitage types at Stark Farm, from William Andrefsky 2005; *Figure 4.7*; *Lithics: Macroscopic Approaches to Analysis*; Cambridge University Press.

include stones that have distinct, deep grooves worked into the surface of the stone to maintain and smooth out already made tools (Odell 2000:310). Nutting stones have smaller u-shaped indentations on one or more sides of an otherwise usually unaltered stone. These tools allowed for quicker and more efficient food processing (Odell 2000:309).

Chipped stone tools are described as pieces that have been detached from another piece of stone in the process of tool making or as pieces of stone that have been hit or modified in some way (Andrefsky 2005:718). Cores are the parent stone that are used to harvest flakes that could be further altered to produce smaller tools (Johnson 1997:219). This process can be brought about by percussing the source of the chipped stone with another stone, an antler, or another object that would be hit with enough force to cause breakage or a modification to the original stone (Andrefsky 2005:718). Sometimes, the striking of the object would not be necessary, so the tool maker could use pressure to break off smaller pieces to modify the object for a specific usage (Odell 2000:289). This is especially important in late-stage manufacture and finishing of tools.

Chipped stone objects that were not modified after being detached from the parent stone were classified as debitage. Debitage, which includes flakes and shatter, is direct evidence for the production of stone tools or core alteration. These flakes could also be altered further to create small tools, referred to as retouched flakes (Odell 2000: 289-290). The main goal for looking at debitage in stone tool analysis is to evaluate the process of stone tool production based on the debris created (Odell 2000:289). These pieces of debris can manifest in many different shapes and sizes depending on the size and raw material of the original stone and based on what kind of object was being made (Andrefsky 2005:719; Odell 2000:289). For example, the bulb of percussion is an important landmark feature in some flakes encountered. This bulb indicates

where the percussive tool being used to create the chipped stone tool struck the surface of the original stone being altered (Andrefsky 2005:721). The end of the flake opposite the bulb of percussion indicates where the force ended and the flake was separated from the parent stone.

Another common tool, or stone modified by human means, encountered at most sites are bifaces. These can be classified in many ways based on how they have been altered according to their shape and size. Bifaces are classified based on their triangular shape and excurvate sides that reflect retouching (Johnson 1997:219). The purposes of creating bifaces range from creating knives to attaching to a handle or long shaft to function as a lance, spearhead, or as projectile points for arrowheads (Andrefsky 2005:722). Their function as attachments to shafts as hafted bifaces necessitates two key features that indicates its correct usage: their attachment to the shaft itself along with its function with the shaft as a point to puncture or scrape (Andrefsky 2005:722). Large bifaces likely were used for general cutting purposes such as to remove flesh early on in animal processing (Johnson 1997:225). Again, the function of these bifaces and hafted bifaces are drastically different from flakes and cores due to the different function they occupied at a certain point in time.

Formal chipped stone tools at Stark Farm include scrapers, projectile pints, awls, and perforators. Scrapers in the Chickasaw toolkit were a staple because of their importance in processing hides (Johnson 1997:224-225; Odell 2000:307). The production of scrapers relies on working and retouching the parent stone to a sharp edge advantageous for scraping undesirable material from animal hides (Johnson 1997:222-223). Most scrapers encountered displayed a characteristic curve leading to the working end, which allows for this end to be retouched more easily to establish a better cutting edge (Johnson 1997:224; Johnson and Parish 2020:59). These

scrapers were also sometime retouched through grinding to more easily be hafted, presumably to a wooden handle (Johnson and Parish 2020:61).

Projectile points and fragments of these tools also were encountered at the site. These tools were distinguished from other bifacial tools because of their characteristic triangular point and retouching on both the proximal and distal ends (Odell 2000:287 and 297). Much like knives at the site, they could be used for a variety of functions such as hunting from long and short distances and puncturing (Odell 2020:298). Production of these tools take the most time and care since retouching focuses on producing a sharp point, sharp side edges, and, sometimes, barbs to aide in attachment to shafts or arrows (Odell 2000:287). Because of probable increased usage and subsequent breakage, these weapons are more likely found in fragments in these assemblages (Grimaldi and Cura 2017:2). It is unclear whether this damage is a result of impact damage or from over working the points, but frequent or blunt force usage is apparent through this damage nonetheless (Odell 2000:301). Different sizes of points were encountered at the site, which could indicate differences in usage (Odell 2000:299 and 301), but points used for arrows and points used as knives were not distinguished in this thesis.

Like projectile point function, awls and perforators both reflect function reliant on piercing and puncturing material. Based on the Stark Farm analysis, these tools were elongated bifaces sharpened to a point suitable for precise perforating (Johnson 1997:225). This variation of the stone tool point likely was aimed more at precise puncturing for sewing or piercing to alter hides so that they could be attached to a drying frame, for example (Johnson 1997:225).

Raw material also was recorded as a further point of lithic analysis apart from tool function. Raw material was documented based on broad categories of stone which included, but were not limited to Tuscaloosa gravel, Chickasaw grey, quartzite, and ferruginous sandstone.

Tuscaloosa gravel is a yellowish-brown chert type that was used by the Chickasaw until about 1730 when they switched to making more tools of the Chickasaw grey variety (Johnson and Parish 2020:64). 75 percent of the lithic assemblage at Stark Farm included tools made from Tuscaloosa gravel, a local variety of stone, the use of which reflects a source-area assemblage where few outside raw materials were used (Johnson 1997:218-219). The Chickasaw grey raw material only accounted for 5 percent of the overall assemblage at Stark Farm, but it represents the material used more commonly in later Chickasaw settlements in northeast Mississippi (Johnson and Parish 2020:64). Very few tools and unmodified stone of other raw materials were observed, but some quartzite flakes and shatter were found. Ferruginous sandstone was used to make some ground stone tools at Stark Farm.

RESULTS

In the results section of this thesis, I evaluate which assemblages are similar to one another, and I consider reasons for why this could be. Then, I interpret assemblages as being either domestic or not based on the activities represented in each of the contexts. Moreover, the main goal of this section is to determine which assemblages are distinctive, why they are distinctive, what activities are represented in them, and, finally, what that means in terms of domesticity within each of the contexts at Stark Farm.

Context Data for Analysis

Domestic contexts can be described as those that have artifacts that are most commonly found at a site. In contrast, non-domestic contexts are characterized by an unusual assemblage that contains unusual artifacts. This does not necessarily mean exclusively different artifact types, but there could be different distributions of artifacts between contexts. For example, a context that has a higher density of scrapers than all other contexts at a site could be considered unusual and possibly non-domestic. Household or domestic tasks that occur daily could be described as "concrete tasks of reproduction, survival… and sometimes economic production" (Sharma 1985:618). This emphasizes the principle that regularities associated with domestic activities are abundant in the archaeological record, so those artifacts that are unusual would represent a deviation from a domestic activity (Winter 1976:25). Because of their prominence in the assemblage, these daily activities are fairly resistant to change over time. Based on these

differences, at Stark Farm, I assume for there to be domestic activities associated with the most common lithic artifacts found. However, those artifacts that deviate from those most commonly found can be classified as non-domestic.

The raw counts presented in Table 1 indicate the number of each type of lithic artifact found in each context. The tool production category includes flakes, retouched flakes, shatter, hammerstones, and cores. Chipped stone tools include perforators, scrapers, projectile points, preforms, projectile point fragments, bifaces and biface fragments, awls, and knives (Figure 8). Ground stone tools include nutting stones, discoidals, grooved abraders, and unclassified ground stone (Figure 9). The entire assemblage contains just over 1200 lithic artifacts, and 1189 of these are from the north end of the site. 1180 objects in the overall lithic assemblage are from tool production, which is the highest subtotal from the three categories, indicating that stone tool production is the most commonly occurring activity at Stark Farm overall. Chipped stone tools are the second-most common kind of lithic overall, with 61 tools, and ground stone tools are the least-well represented across the entirety of the site at only nine artifacts. Flakes are the most abundant lithic artifact throughout the site, with 996 found, while perforators are the least commonly found lithic artifact with only one. The Ridgetop units contained the largest number of lithics, and Waterscreen Hill produced the least. It is important to note that the three contexts in the east, south, and north areas of the site—Cannonball Field, the Test Unit 1 area, and Waterscreen Hill, respectively— have the lowest number of artifacts when compared to the number of artifacts found in the Ridgetop and Large Basin areas.

Table 1. Raw counts of lithic artifacts organized by type and context from Stark Farm.

Tool Production	Feature 14	Above Feature 14	Feature 15	Above Feature 15	Feature 16	Above Feature 16	Feature 17	All Large Features	Ridgetop Units	Ridgetop Features	Cannonball Field	Test Unit 1 Area	Waterscreen Hill	Totals
Flakes	117	208	41	81	68	18	12	545	353	75	11	10	2	996
Retouched Flakes	1	3			2	0	1	7	2	0	0	0	0	9
Shatter	8	18	9	16	12	8	3	74	63	9	8	10	2	166
Hammerstones	1	0				0	1	2	0	0	0	0	1	3
Cores		2				0	0	2	1	1	0	1	1	6
Subtotal	*127*	*231*	*50*	*97*	*82*	*26*	*17*	*630*	*419*	*85*	*19*	*21*	*6*	*1180*
Chipped Stone Tools														
Perforator		0				0	0	0	0	0	1	0	0	1
Scraper	2	2	1			0	1	6	5	0	2	2	1	16
Projectile Point		0				0	0	0	5	1	1	1	0	8
Projectile Point Preform		0				0	0	0	0	0	3	0	1	4
Projectile Point Fragment		0	1		1	0	0	2	6	3	1	1	0	13
Biface	1	0				0	0	1	0	0	1	0	0	2
Biface Fragment	1	1			1	0	0	3	10	0	0	0	0	13
Awl	1	0				0	1	2	0	0	0	0	0	2
Knife	1	0				0	0	1	1	0	0	0	0	2
Subtotal	*6*	*3*	*2*	*0*	*2*	*0*	*2*	*15*	*27*	*4*	*9*	*4*	*2*	*61*
Ground Stone Tools														
Nutting Stone	2	0	1			0	0	3	1	0	0	0	0	4
Discoidal	1	0				0	0	1	1	0	0	0	0	2
Grooved Abrader	1	0			1	0	0	2	0	0	0	0	0	2
Unclassified	1	0				0	0	1	0	0	0	0	0	1
Subtotal	*5*	*0*	*1*	*0*	*1*	*0*	*0*	*7*	*2*	*0*	*0*	*0*	*0*	9
Totals	138	234	53	97	85	26	19	652	448	89	28	25	8	*1250*

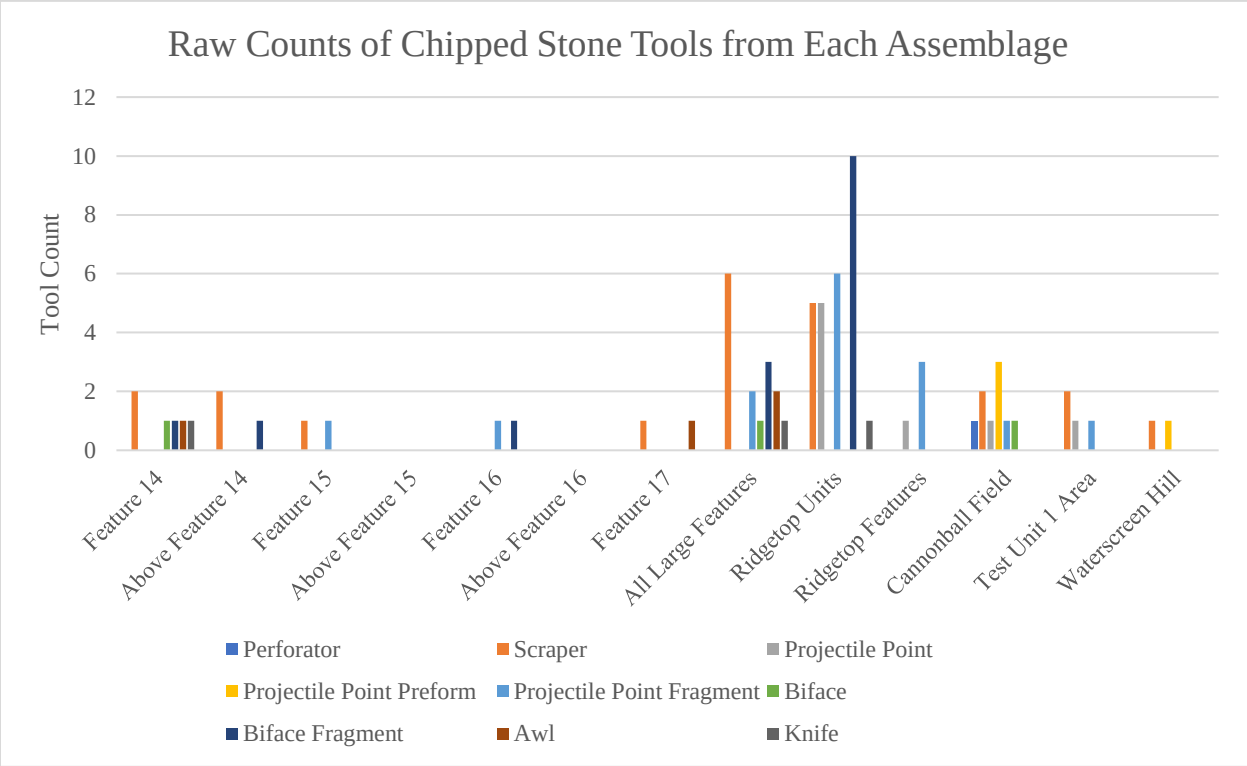

Figure 8. Bar chart showing raw counts of chipped stone tools from each assemblage.

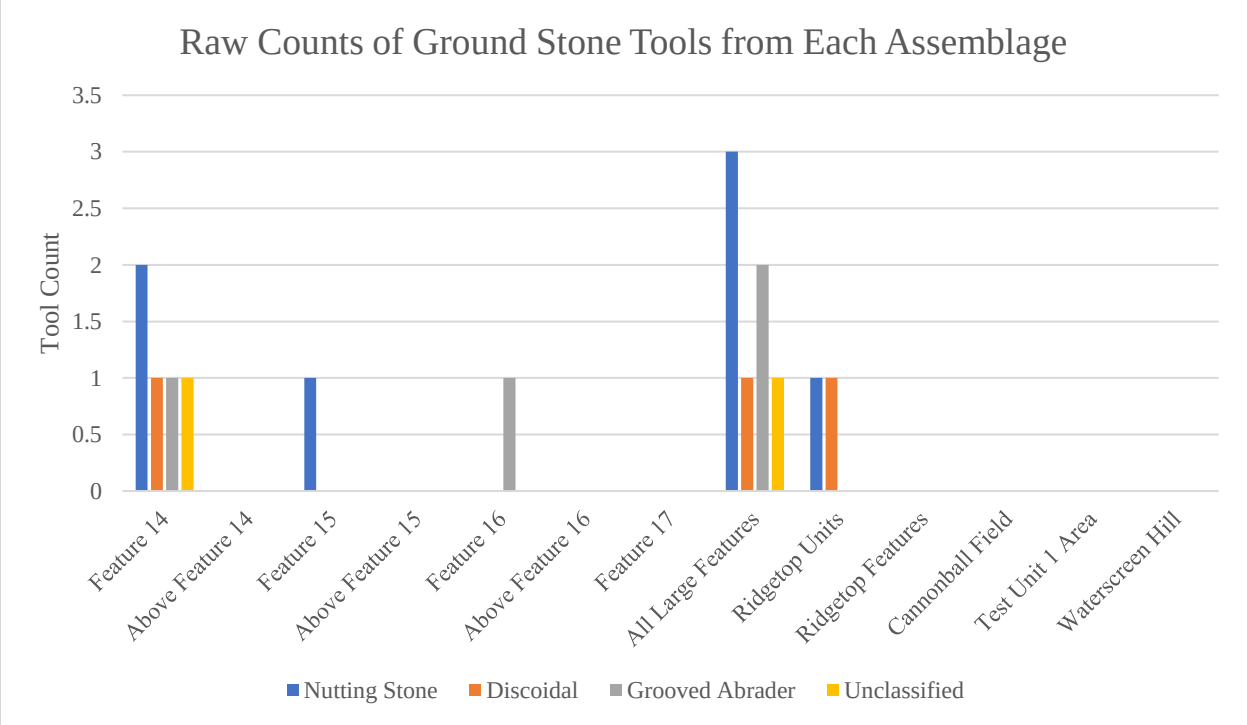

Figure 9. Raw counts of ground stone tools in each assemblage represented visually.

Transforming the artifact counts into percentages is important as a way to standardize the data because of the discrepancy between the different sample sizes among contexts, especially those from the northern part of the size when compared to those from the Cannonball Field, Test Unit 1, and Waterscreen Hill areas (Table 2). These percentages can be used to make comparisons among tool types and among classification groups that include stone tool production, chipped stone tools (Figure 10), and ground stone tools (Figure 11). The contexts above Features 15 and 16 have the highest proportion of their artifacts from the tool production category, with 100 percent of those assemblages coming from that category. The next highest percentage for this category is from the Large Basins themselves—Features 14, 15, and 16—and the Ridgetop features and units, none of which was under 92 percent. Cannonball Field, the Test Unit 1 area, and Waterscreen Hill all have higher percentages of artifacts classified in the chipped stone tool category. The lowest proportion of artifacts for all contexts is for the ground stone tool category. Only 0.72 percent of the entire assemblage was placed into the ground stone tool category. The Cannonball Field, Test Unit 1, and Waterscreen Hill contexts did not have any ground stone tools, but the Ridgetop and Large Basin contexts had between 1.89 and 0.45 percent of their assemblage coming from ground stone tools.

There are several noteworthy patterns in the spatial distributions of lithics by type and density among the areas of the site. There is striking evidence that the assemblages in the Large Basins and on the Ridgetop are dominated by stone tool production. At least 90 percent of the assemblages from contexts in these two areas are artifacts from the category of stone tool production, which includes flakes, shatter, hammerstones, retouched flakes, and cores. In contrast, assemblages in the Cannonball Field, Test Unit 1, and Waterscreen Hill areas all

Table 2. The percentage of tools based on overall number of lithics found at the site.

Tool Production	Feature 14	Above Feature 14	Feature 15	Above Feature 15	Feature 16	Above Feature 16	Feature 17	All Large Features	Ridgetop Units	Ridgetop Features	Cannonball Field	Test Unit 1 Area	Waterscreen Hill	Totals
Flakes	84.78	88.89	77.36	83.51	80.00	69.23	63.16	83.59	78.79	84.27	39.29	40.00	25.00	79.68
Retouched Flakes	0.72	1.28	0.00	0.00	2.35	0.00	5.26	1.07	0.45	0.00	0.00	0.00	0.00	0.72
Shatter	5.80	7.69	16.98	16.49	14.12	30.77	15.79	11.35	14.06	10.11	28.57	40.00	25.00	13.28
Hammerstones	0.72	0.00	0.00	0.00	0.00	0.00	5.26	0.31	0.00	0.00	0.00	0.00	12.50	0.24
Cores	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.31	0.22	1.12	0.00	4.00	12.50	0.48
Subtotal	*92.03*	*98.72*	*94.34*	*100.00*	*96.47*	*100.00*	*89.47*	*96.63*	*93.53*	*95.51*	*67.86*	*84.00*	*75.00*	*94.40*
Chipped Stone Tools														
Perforator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.57	0.00	0.00	0.08
Scraper	1.45	0.85	1.89	0.00	0.00	0.00	5.26	0.92	1.12	0.00	7.14	8.00	12.50	1.28
Projectile Point	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.12	3.57	4.00	0.00	0.64
Projectile Point Preform	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.71	0.00	12.50	0.32
Projectile Point Fragment	0.00	0.00	1.89	0.00	1.18	0.00	0.00	0.31	1.34	3.37	3.57	4.00	0.00	1.04
Biface	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	3.57	0.00	0.00	0.16
Biface Fragment	0.72	0.43	0.00	0.00	1.18	0.00	0.00	0.46	2.23	0.00	0.00	0.00	0.00	1.04
Awl	0.72	0.00	0.00	0.00	0.00	0.00	5.26	0.31	0.00	0.00	0.00	0.00	0.00	0.16
Knife	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.22	0.00	0.00	0.00	0.00	0.16
Subtotal	*4.35*	*1.28*	*3.77*	*0.00*	*2.35*	*0.00*	*10.53*	*2.30*	*6.03*	*4.49*	*32.14*	*16.00*	*25.00*	*4.88*
Ground Stone Tools														
Nutting Stone	1.45	0.00	1.89	0.00	0.00	0.00	0.00	0.46	0.22	0.00	0.00	0.00	0.00	0.32
Discoidal	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.22	0.00	0.00	0.00	0.00	0.16
Grooved Abrader	0.72	0.00	0.00	0.00	1.18	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.16
Unclassified	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.08
Subtotal	*3.62*	*0.00*	*1.89*	*0.00*	*1.18*	*0.00*	*0.00*	*1.07*	*0.45*	*0.00*	*0.00*	*0.00*	*0.00*	*0.72*
Totals	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

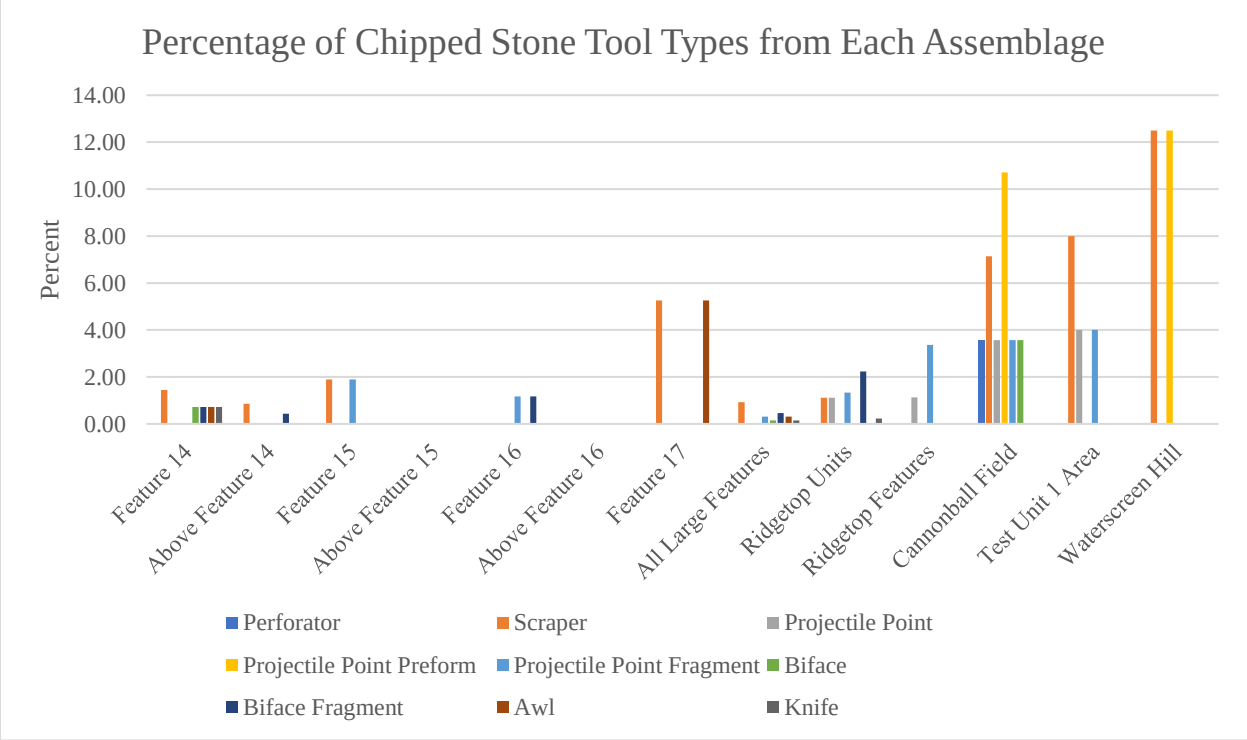

Figure 10. Bar chart showing visual representation of percentages of chipped stone tool types from each assemblage.

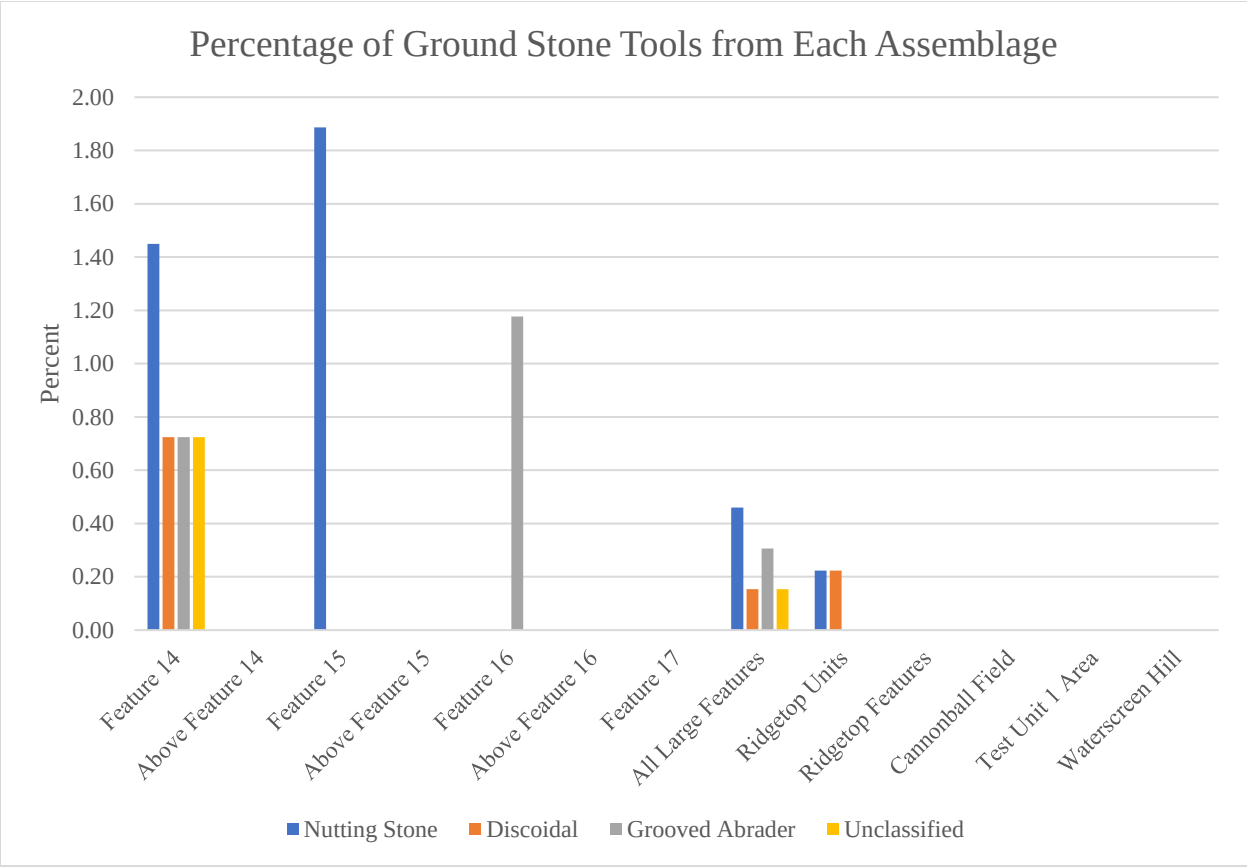

Figure 11. Bar chart showing the percentage of ground stone tools in each assemblage.

contained a noticeably smaller percentage of stone tool production artifacts that ranged from 68 to 84 percent. Since the large basin features are located in the same area of the site and were supposedly created for the same purposes, it follows that the artifacts found in these contexts would all reflect similar activities. Flakes all represent the highest percentage, about 84 percent, of artifacts found in each basin context overall as well. The next most common artifact is shatter, which also indicates stone tool production was important in all basin contexts.

The most similar context to the Large Basin features is the Ridgetop data. Around 95 percent of their respective assemblages contain stone tool production lithics. Thus, the Large Basin features and Ridgetop areas can be seen as being more similar to each other based on the types of lithics most commonly found. The similarity between these two areas is a drastic contrast to the Test Unit 1 and the Waterscreen Hill areas, even though they both still have stone tool production lithics, such as flakes, shatter, and cores. These areas outside of the Large Basin and Ridgetop areas have around 75 percent of their assemblages containing stone tool production artifacts. Although every context at Stark Farm indicates that stone tool production was the most common activity across the entire site, the varying percentages of this activity among in these contexts speaks to other activities being performed as well.

The percentage of chipped stone tools for Feature 17 is larger than that of the Ridgetop Features and Units, 11 percent compared to 6 and 4 percent respectively. This indicates that a higher proportion of the assemblage for Feature 17 consisted of formal chipped stone tools. The only chipped stone tools found in Feature 17 were awls, scrapers, and retouched flakes. Even though there is a smaller range of chipped stone tool types here than in other large basins, this could indicate different activities being performed. These activities could include piercing hides or other materials, scraping hides or food resources, and puncturing material to sew based on the

fact that there are more awls, scrapers, and retouched flakes in comparison to flakes and other tool production artifacts. Feature 17 has about 10 percent of its artifacts in the chipped stone tool category; however, the other Large Basin features and the Ridgetop areas only have about 6 percent of its artifacts in this category. Because of its higher percentage of chipped stone tools present, it can be said that Feature 17 is noticeably different from the other Large Basins and the Ridgetop features and units. This higher concentration of chipped stone tools in Feature 17, compared to the other Large Basins, could indicate a deviation from the idea of domestic midden being disposed of in this large basin specifically. The percentage of chipped stone tools from Feature 17 is more comparable to the 16 percent of formal tool artifacts found in Test Unit 1 from the southern part of the site.

Also, worth mentioning is the fact that the areas above three of the large basin features have a higher percentage of stone tool production artifacts than the fill in the basins themselves. These range from about 99 to 100 percent of the assemblages coming from the stone tool production category. Above the features also contained a higher raw artifact count than were uncovered in the features themselves, except for the area above Feature 16. These areas above the actual features are referred to as the plowzone data collected at the site, indicating that the artifacts found in this area of the excavation process could have been brought closer to the surface as a result of plowing in recent decades. The area above Feature 17 did not produce another context for analysis, so this claim only focuses on the areas above Features 14, 15, and 16. Additionally, Feature 14 was the only one to contain three chipped stone tool artifacts apart from those indicating stone tool production out of the three plowzone contexts.

Based on the higher percentages of stone tools in assemblages from the Cannonball Field, Test Unit 1, and Waterscreen Hill areas of the site, ranging from 16 percent to about 32 percent

of each assemblage, more stone tool usage rather than stone tool production is occurring there in comparison to the northern areas of the site. Although stone tool production is still occurring, it is at a lower frequency than in the Large Basin and Ridgetop areas. The highest percentage of an assemblage in the chipped stone tool category from the northern part of the site is about 11 percent in Feature 17. This indicates a difference between the area near the Ridgetop in the fact that stone tool usage might be less common in this area at Stark Farm. Processing in the way of grinding food (e.g., maize or nuts) and sharpening tools does not occur at all in areas outside of the northern part of the site based on the lack of ground stone tools in this area. These activities did happen near Feature 14, however, which is different from the other large basin contexts because it contains five ground stone artifacts, which is the most of all the Large Basins. Feature 14 could have been used to dispose a different type of midden or as different activities were being completed at the time this particular basin was being filled. The same could be said for Feature 17 since its concentration of chipped stone tools was higher than any other large basin feature. Feature 17 could have been filled during heightened meat or hide processing when scrapers and awls specifically were used and disposed of more often than in other contexts.

Compared to the other contexts at the site, the Large Basin area displays the broadest range of lithic tool types. Feature 14 contains the largest range of artifacts, but this could be explained mostly because of the 138 artifacts in its assemblage. This is the largest sample size out of the Large Basins. Among all four basins, there are only three lithic types from our overall classification that were not present in any of them. The only other context that reflected a similar range of lithic types found—from stone tool production, to puncturing hides, to scraping animal remains— is the Ridgetop area. This is another indication that these two contexts are more similar to each other than they are to those in other parts of the site. The large basin features

contain a large number of flakes, shatter, biface/biface fragments, retouched flakes, awls, and knives that are not found as often, if at all, in the Cannonball Field, Test Unit 1, or Waterscreen Hill assemblages. Some of these types, especially flakes, are found in these contexts, but not in as high of a percentage as in the Large Basins. Not only do the large features reflect stone tool production, but they contain elements of chipped and ground stone tool use and subsequent disposal. Based on the presence of all three categories of stone tools represented in the large basin features, it follows that these basins all would have been used to dispose of stone tools and reflects aspects of stone tool production.

It is worth mentioning that few chipped stone tools were present in the contexts above each of the Large Basins. Most of the lithics excavated from the areas above the Large Basins were placed into the tool production category. This is in contrast to the fill of the large features themselves where stone tools are more plentiful. This difference could be due to plowing that has happened in the modern era. This distinction is important to make apart from the lower levels of the large basin features since most contexts were excavated in multiple levels.

Ground stone tools are not present in the Cannonball Field, Test Unit 1, or Waterscreen Hill areas of the site. They are found only at the north end of the site. This absence of ground stone tools likely means that activities that are associated with their use, such as cracking nuts and sharpening tools, would not have been conducted in these areas. Thus, activities associated with food preparation, relating to nuts and other hard foods, tool sharpening, and grinding would have been done in other areas of the site. Worth noting is the fact that Cannonball Field has 32 percent of its assemblage classified as chipped stone tool artifacts, which is the highest out of all other contexts at the site.

To account for sample size discrepancies, a ratio table was constructed (Table 3). Ratio values are based on the number of artifacts from a particular chipped stone tool category in a single context divided by the number of flakes found in that same context then multiplied by 1000 (Figure 12). A higher ratio value indicates a higher density of tools in that context relative to contexts with lower ratio values. Calculating this stone tool density measure is another way to standardize the data to allow for comparisons among contexts with very different sample sizes. Flakes were used for the denominator in calculating ratios because they are the most commonly found lithic artifact, and they are present in all contexts. This is to highlight the chipped stone tools present and the activities they represent in each context while minimizing the effect that the flake numbers have on the raw count of artifacts. Since flakes are found in each context, I assume they provide a relatively constant baseline across contexts so that comparisons of tool densities can be made regardless of differences in sample sizes. Since there were very few ground stone tools (n=16) in this assemblage, they were not included in the tool density analysis because their inclusion would not add much meaningful information.

Feature 17 shows high ratio values for awls, retouched flakes, and scrapers. This is unusual in comparison to the other Large Basins, but the ratios for chipped stone tools and tool production lithics for Feature 17 is most like Test Unit 1. The contexts with the highest tool densities are Cannonball Field, the Test Unit 1, and Waterscreen Hill. Although the ratio values are somewhat redundant with the comparisons based on percentages, the ratios of 182, 200, and 500 respectively, are consistent with the argument that the Cannonball Field, the Test Unit 1, and Waterscreen Hill contexts differ from the northern contexts. Whereas stone tool production

Table 3. The density of tools based on number of flakes in each context.

	Feature 14	Above Feature 14	Feature 15	Above Feature 15	Feature 16	Above Feature 16	Feature 17	All Large Features	Ridgetop Units	Ridgetop Features	Cannonball Field	Test Unit 1 Area	Waterscreen Hill	Totals
Awl	8.55	-	-	-	-	-	83.33	3.67	-	-	-	-	-	2.60
Biface	8.55	-	-	-	-	-	0.00	1.83	-	-	90.91	-	-	1.95
Biface Fragment	8.55	4.81	-	-	14.71	-	-	5.50	28.33	-	-	-	-	10.38
Knife	8.55	-	-	-	-	-	-	1.83	2.83	-	-	-	-	1.95
Perforator	-	-	-	-	-	-	-	-	-	-	90.91	-	-	0.65
Projectile Point	-	-	-	-	-	-	-	0.00	14.16	13.33	90.91	100.00	-	5.19
Projectile Point Fragment	-	-	24.39	-	14.71	-	-	3.67	17.00	40.00	90.91	100.00	-	9.73
Projectile Point Preform	-	-	-	-	-	-	-	-	-	-	272.73	-	500.00	2.60
Retouched Flakes	8.55	14.42	-	-	29.41	-	83.33	12.84	5.67	-	-	-	-	10.38
Scraper	17.09	9.62	24.39	-	-	-	83.33	11.01	14.16	-	181.82	200.00	500.00	14.28

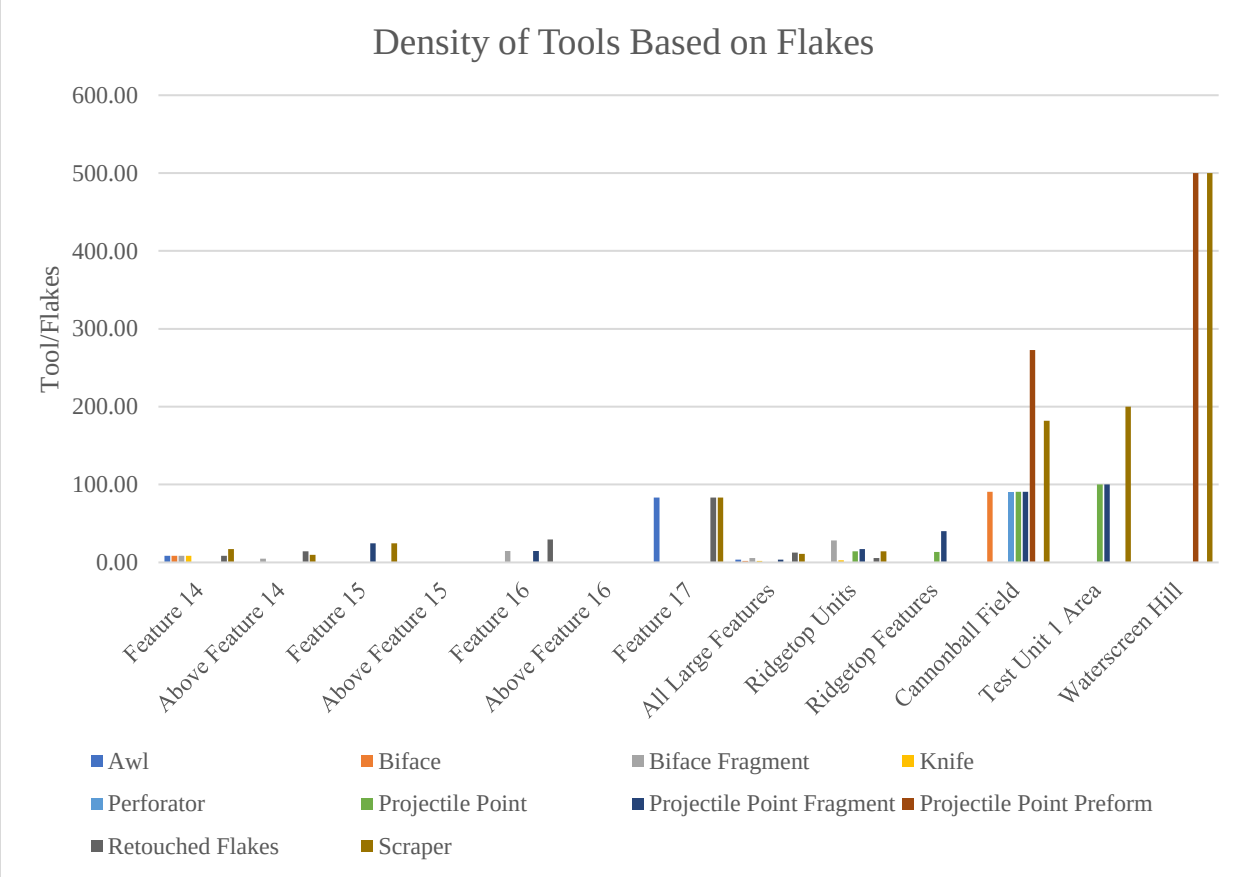

Figure 12. Density of chipped stone tools based on quantity of flakes in each context at the site.

appears to have been more important in the northern contexts, stone tool use may have been more important in the areas apart from the Ridgetop and the Large Basins at the site.

Feature 14 is unusual and worth mentioning because of its large and diverse lithic assemblage. The range of chipped stone tools in Feature 14 indicates a wide range of activities involving scraping, perforating, and cutting with the help of knives, bifaces, and awls. This wide range compares with the Ridgetop units, but the types of chipped stone tools are different between the two contexts. Although the range of activities occurring at both Feature 14 and the Ridgetop Unit are similar, the specific activities occurring are likely different as a result of the presence of projectile points in the Ridgetop Units and Ridgetop Features. So, it's not only the ratios and percentages themselves that can give insight into the number of activities occurring in a particular context, but the specific categories of artifacts present compared between contexts can indicate different activities being performed. Another noteworthy aspect of Feature 14 lies in the number of ground stone tools in comparison to other contexts at the site. It does contain the highest number of artifacts among the basins, but the Ridgetop units yielded more artifacts. Yet, the Ridgetop data did not contain as many ground stone tools. The activities associated with grinding and processing ground stone required different stone materials, such as ferruginous sandstone, to form the appropriate tool. Requiring different stone highlights the importance of these tools to complete specific tasks which could be associated with tasks that are of higher importance. These ground stones, again, are not found in the same quantity at other areas of the site or even in other large basin features in the same area.

Summary

Important patterns identified in this study include the importance of stone tool production in all areas of the site; the presence of chipped stone tools in high proportions in the Cannonball Field, Test Unit 1, and Waterscreen Hill areas; and the presence of ground stone tools only in the northern area of the site. For example, tool maintenance and tool production are more well represented in the Large Basin contexts as well as the in the Ridgetop Features and Units. Although tool maintenance and tool production were important in the Large Basins and Ridgetop area, some of these contexts are distinctive. Based on the range of activities reflected in the stone tools and production debris, the Large Basins are most similar to the Ridgetop Units and Ridgetop Features. Within the Large Basins, Feature 14 contained the largest range of lithic types, and it contained the most ground stone tools. Feature 14 also is unusual in the diversity of artifact types that are present in its assemblage. In comparison to the other Large Basins, Feature 17 seems to be the most unusual because it has a higher density of chipped stone tools than the other large features.

There are drastic differences among the assemblages found in the Cannonball Field, Test Unit 1, and Waterscreen Hill contexts and the Large Basin and Ridgetop contexts. Nevertheless, stone tool production is present in every context, and it makes up around 95 percent of the total lithic assemblage at Stark Farm. Because of its smaller percentage of tool-production artifacts, under 85 percent, it is likely that the Cannonball Field, Test Unit 1, and Waterscreen Hill contexts were used for different purposes than those reflected in the Ridgetop contexts. Furthermore, the most striking differences manifest between the Large Basin and Ridgetop areas of the site and the Cannonball Field, Test Unit 1, and Waterscreen Hill areas due to the lower chipped stone tool density in the northern areas relative to other parts of the site. Ground stone

tools are present along with chipped stone tools, so it compares with the Ridgetop features' presence of ground stone tools, and the variability could be merely due to the large number of total artifacts present.

Based on the stone tool typology discussed earlier, one can begin to understand and surmise what activities were occurring in each part of the site and what this says about domestic spaces at Stark Farm. The contexts at the north end of the site, the Large Basins and the Ridgetop area, represent a stone tool production hub with a high number of flakes, shatter, and other byproducts of stone tool production. Tool densities of projectile point preforms, projectile point fragments, and bifaces tend to be slightly higher in the Ridgetop areas than in the Large Basins. The high density of postholes and other features in the Ridgetop area at the north end of the site suggests that it may have been associated with domestic housing. The presence of a unique, cross-shaped hearth in this same area, however, indicates the possibility that a more public building or gathering space also could have existed here. The range of activities represented in the Large Basins includes scraping, perforating, puncturing, stabbing, and cutting. All of these activities are consistent with hunting or processing animals. Even though the Large Basins are grouped together in most of this thesis, each individual basin should also be compared to the Ridgetop features individually to evaluate differences between the basins themselves.

CONCLUSION

The midden-filled basins at Late Mississippian (AD 1400-1540) and Early Contact (AD 1540-1650) period sites have been interpreted as containing domestic fill. Representing the majority of daily activities at a site, domestic activities create repetitive assemblages that make up a large part of the archaeological record since they are fairly resistant to change and are occurring in the dwellings throughout the site (Wilk and Netting 1984; Winter 1976). On the other hand, a public space could be associated with unusual assemblages that are distinctive from the sameness of domestic artifacts. The discovery at Stark Farm of a cross-shaped hearth, a kind of feature with ties to public ceremonies and rituals (Boudreaux et al 2020), challenged the assumption that all contexts at the site represented domestic spaces.

Two of the distinctive assemblages from Stark Farm include Features 14 and 17. Feature 14 has a larger sample size than the other Large Basin features, and it contains the largest diversity in tool production, tool, and ground stone artifacts. It could represent a domestic assemblage based on the wide range of daily activities manifested in its archaeological record. These included scraping hides, producing stone tools, and using puncturing and perforating tools. Feature 14 is distinctive, however, based on the density of ground stone and other stone tool types, like bifaces and knives, relative to the other Large Basins and the Ridgetop. Feature 14 could contain elements of domestic and public activities, which could account for the high number of artifacts found in that context.

Based on the assumption that domestic assemblages are the most ubiquitous kind of assemblage at a site, it appears that the Ridgetop units and features along with Features 15 and 16 likely represent domestic assemblages. These assemblages are characterized by comparable densities of tools such as projectile points, retouched flakes, scrapers, and bifaces. Features 15 and 16 and the Ridgetop Units also contain large proportions of artifacts associated with stone tool production. Flakes, retouched flakes, shatter, hammerstones, and cores dominate the Ridgetop and Large Basin assemblages, indicating that stone tool production was relatively more important in these contexts than in others, although it is an activity that clearly occurred in all contexts at the site. Based on the differences between the types of stone tools present (e.g., scrapers, knives, and awls), Features 14 and 17 are distinctive from Features 15 and 16.

The other distinctive assemblage from the Large Basin area, Feature 17 is unusual based on its higher density of scrapers, retouched flakes, and awls. Based on the small sample size for this context, however, other artifact classes (e.g., ceramics, faunal remains, etc.) should be analyzed to further investigate this basin. Although Feature 17 does not boast the same number of artifacts as the other large basin features, the calculated tool density highlights the importance of those chipped stone tools in comparison to the number of flakes in that context. The activities emphasized here include hide processing and stone tool production based on the percentage of flakes, shatter, awls, and scrapers, but ground stone tools—representing tool maintenance and food processing—are absent in this assemblage. The lack of ground stone tools is distinctive relative to the other Large Basins where they make up 1 to 3.5 percent of the assemblages. Feature 17 is unusual in that the percentage of flakes and stone tool production artifacts overall is lower than the other basins which have over 95 percent of their assemblages in this category. Moreover, there is a higher percentage of scrapers and awls in this assemblage, which proves to

be unusual from the other basin contexts. Although Features 14 and 17 are unusual from the other basin contexts, there is a possibility that these differences are based on factors other than domesticity. Feature 17 had the smallest sample size, so this could be a factor influencing the differences in stone tool densities in this context. To account for these possible variables, more research should be done in the Large Basin features including more excavations along with artifact analyses outside of stone tool artifacts. Nevertheless, the findings from this investigation challenges the notion that all of the midden-filled basins from this time period were used as receptacles for household trash.

The Cannonball Field, Test Unit 1, and Waterscreen Hill areas all are similar to each other and distinctive from other contexts at the site. They proved to be different than the northern contexts at Stark Farm, but their sample sizes are small relative to the Large Basin and Ridgetop areas. The Cannonball Field, Test Unit 1, and Waterscreen Hill areas do not have any ground stone tools in their assemblages, and the density of chipped stone tools is higher than in the Ridgetop and Large Basin features. Stone tool assemblages in the Cannonball Field, Test Unit 1, and Waterscreen Hill areas of the site show higher densities of scrapers, projectile point preforms, and bifaces compared to the northern contexts. Although these non-northern contexts are distinctive relative to other contexts, their small sample sizes of the non-northern areas beg more investigation to further test whether these areas could be considered non-domestic. Despite the fact that these areas do fall under the category of unusual, more investigations need to be done including more excavations and analyzing more artifacts than stone tools.

Another difference worth mentioning is that the Large Basins and the Ridgetop contain a high density of stone tool production artifacts in comparison to the Cannonball Field, Test Unit 1, and Waterscreen Hill areas. These contexts differ considerably in their sample sizes, which

also reflects the usage of these contexts for intentionally disposing of trash or possible artifacts that were left while still in production or use. This highlights the importance of different lithics and tools at certain points and at different locations at the site. Not all stone tools are advantageous during all months of the year or for certain tasks that need to be done, so some variability among assemblages could be due to different seasonal activities being completed at each location. It is because of these differences in lithic densities, types, and distribution throughout the site that presumed domestic and public spaces can be inferred from the uncovered archaeological record. Those contexts with typical assemblages throughout the site can be considered domestic, while those assemblages that are unusual and stray from similar contexts can be considered non-domestic. However, the similarities are important to note as well because of their importance in establishing a baseline for how everyday life at Stark Farm occurred during the time of occupation.

Domestic activities are occurring throughout the site at every context, although it might be in varying amounts. Stone tool production artifacts, such as flakes, shatter, hammerstones, and cores are an indication of this. Additionally, because of the differing assemblages from Features 14 and 17, it can be assumed that public activities were being performed and their presence has manifested in the midden-filled basins at the north end of the site. So, it would not be reasonable to assume that these basins were only dug and filled with household midden since their contents do not exactly resemble the assemblages found from the domestic area on the Ridgetop. It is true that both of these features are also being used to deposit stone tool production lithics; however, the differing densities between the stone tool production lithics and chipped stone tools is distinctive enough from the rest of the contexts to be able to say something different about how these spaces were used.

Although it has been widely assumed that midden-filled basins at Late Mississippian and Contact period sites in northeast Mississippi were used as receptacles for household trash, the patterns discussed in this thesis indicate that there is variability in the fill of these basins based on their lithic assemblages. For the midden-filled basins at Stark Farm, no single basin looks the same as any other, and none of the basins look exactly the same as the Ridgetop area. For the other areas at Stark Farm (i.e., Cannonball Field, the Test Unit 1 area, and Waterscreen Hill), none of them resemble the Large Basins or the Ridgetop areas. This variability among assemblages leaves open the possibility that some of them are not domestic in nature. In particular, I have identified at least two distinctive Large Basin features and several other contexts at Stark Farm that may represent non-domestic assemblages. Thus, this case study has provided distinctive areas of the site that should undergo further investigation. The next avenues of research should include investigations into Feature 14 to compare the diverse lithic assemblage to other artifact types excavated from this context. Feature 17, Cannonball Field, Test Unit 1, and Waterscreen Hill should be further investigated to collect more data for analysis. The small sample sizes from these contexts could account for their distinctiveness, but further investigation is needed to answer this question more completely.

Because of previous investigation, the case study presented here was able to shed more light on the activities occurring at Stark Farm. Although there is merely a snapshot visible of the native people's occupation, further analysis and collaboration will be needed to further investigate this question. For now, the lithic analysis done here reflects variability in stone tool use and production, but much is left to be done to definitively answer whether contexts are domestic or non-domestic.

BIBLIOGRAPHY

Andrefsky, W.
2005 Lithics: Macroscopic Approaches to Analysis. *Cambridge, New York: Cambridge University Press*

Andrefsky, W.
2008 Lithic Technology: Measures of production, use, and curation. *Cambridge, New York: Cambridge University Press.*

Boudreaux, E.
2017 Archaeological Investigations in the Chickasaw Homeland: A Report on Fieldwork at Two Sites in Northeast Mississippi. Unpublished Draft Report, Center for Archaeological Research, University of Mississippi, Oxford.

Boudreaux, E.
2019 A Report on 2018 Fieldwork at the Stark Farm Site (22Ok778) in Northeast Mississippi. Unpublished Draft Report, Center for Archaeological Research, University of Mississippi, Oxford.

Boudreaux, E.
2020 A Report on 2019 Fieldwork at the Stark Farm Site (22Ok778). Unpublished Draft Report, Center for Archaeological Research, University of Mississippi, Oxford.

Boudreaux, E., M. Meyers, and Jay K. Johnson
2020 Contact, Colonialism, and Native Communities in the Southeastern United States. *Gainesville, Florida: University of Florida Press*.

Clark, E.
2017 The Analysis of Contact-Era Settlements in Clay, Lowndes, and Oktibbeha Counties in Northeast Mississippi, Master's thesis. Department of Sociology and Anthropology, University of Mississippi, Oxford.

Cobb, C.R.

2003 Stone tool traditions in the contact era. *Tuscaloosa: University of Alabama Press* Chapter 4 1-8.

Ethridge, R.
2010 From Chicaza to Chickasaw: The European Invasion and the Transformation of the Mississippian World, 1540-1715. *Chapel Hill: The University of North Carolina Press*.

Grimaldi, S., and S. Cura
2017 Introduction: Beyond the reduction sequence and new insights in lithic technology. *Journal of Lithic Studies*.

Johnson, J
1997 Stone Tools, Politics, and the Eighteenth-Century Chickasaw in Northeast Mississippi. *American Antiquity*:215–230.

Johnson, J.
2000 The Chickasaws. *Indians of the Greater Southeast: Historical Archaeology and Ethnohistory*:85-121.

Johnson, J., J. W. O'Hear, R. Ethridge, B. Lieb, S. Scott, and H.E. Jackson
2008 Measuring Chickasaw Adaptation on the Western Frontier of the Colonial South: A Correlation of Documentary and Archaeological Data. *Southeastern Archaeology* 27(1):1-30.

Johnson, J, and R.M. Parish
2020 Oliver and orchard thumbnail scrapers: A technological and source-area analysis. *University of Florida Press.* (1):57.

Kvamme, K.
2006 Integrating Multidimensional Geophysical Data. *Archaeological Prospection* 13(1):57-72

Kvamme, K. and S. Ahler
2007 Integrated Remote Sensing and Excavation at Double Ditch State Historic Site, North Dakota. *American Antiquity* 72(3):539-561.

Legg, J.
2020 The Stark Farm Enigma. In *Contact, Colonialism, and Native Communities in the Southeastern United States,* 44-67.

Odell, G.
2000 Stone Tool Research at the End of the Millennium: Procurement and Technology. *Journal of Archaeological Research* 8(4):269–331.

Smith, A.

2017 Sherds with Style: A Ceramic Analysis from a Protohistoric Site in Oktibbeha County, Mississippi. Master's thesis, Department of Sociology and Anthropology, Univeristy of Mississippi.

Swanton, J. R.
1946 The Indians of the Southeastern United States: Part 2. *Washington: Smithsonian Institution Bureau of American Ethnology*. Bulletin 137.

Utley, W.
2020 An Attribute Analysis of Pottery from the Stark Farm Site in Northeast Mississippi. Master's thesis, Department of Sociology and Anthropology, University of Mississippi, Oxford.

Wilk, R. and Netting, R
1984 Households: Comparative and Historical Studies of the Domestic Group. *Los Angeles, California*: *University of California Press*.

Winter, M.
1976 Winter, Marcus C. 1976 The Archeological Household Cluster in the Valley of Oaxaca. In The Early Mesoamerican Village, edited by Kent V. Flannery, 25-31. Academic Press, New York.