12-1-2018

A SURVEY AND USE-WEAR ANALYSIS OF WICKLIFFE THICK POTTERY IN THE SOUTHEASTERN UNITED STATES

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by

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B.A., University of Missouri- St. Louis, 2015

A Thesis
Submitted in Partial Fulfillment of the Requirements for the
Master of Arts Degree

Department of Anthropology
in the Graduate School
Southern Illinois University Carbondale

December 2018

THESIS APPROVAL

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September 12, 2018

AN ABSTRACT OF THE THESIS OF

ANTHONY P. FARACE, for the Master of Arts degree in Anthropology, presented on September 12, 2018, at Southern Illinois University Carbondale.

TITLE: A SURVEY AND USE-WEAR ANALYSIS OF WICKLIFFE THICK POTTERY IN THE SOUTHEASTERN UNITED STATES

MAJOR PROFESSOR: Dr. Paul Welch

The Wickliffe Thick pottery type, an unusual vessel with a globular body, thick wall, and funnel-like opening at the bottom, has been assumed to be related to salt production and/or juice pressing. The following project presents the results of a use-wear analysis in order to understand Wickliffe Thick's possible uses demonstrating that past conclusions likely need revision. A systematic, macroscopic analysis of ceramic sherds from more than 20 Mississippian sites throughout Kentucky, Missouri, and Illinois are included in the study. Use-wear on the samples occur in a low frequency. Although other factors such as a white efflorescence, and Wickliffe Thick's temporal and spatial layout may hint at its usage in the nixtamalization process. This paper lays out the evidence for these hypotheses while also recording the characteristics of Wickliffe Thick across the southeastern United States.

DEDICATION

To my parents, Barbara Russell and Thomas Farace

ACKNOWLEDGMENTS

Thanks to Dr. Paul Welch, Dr. Izumi Shimada, Dr. Mark Wagner, and Dr. Jonathan Remo for their guidance and input.

Thanks to Carla Hildebrand, Dr. Tamira Brennan, Jessica Boldt, Dr. Anthony Ortmann, and serval other faculty and staff members at the many institutions I visited throughout my survey. Lastly, I would like to thank all my friends and family who have supported me throughout my Master’s, especially Kaleigh Best who’s input. was paramount to my project.

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CHAPTER 1

INTRODUCTION

The Wickliffe Thick pottery type, an unusual vessel with a globular body, thick wall, and funnel-like opening at the bottom, has been assumed to be related to salt production and/or juice pressing (Wesler 2001: 66-67; Williams 1954: 214-219; Phillips 1970:171-172) (shown in Figure 1.1). This pottery type dates to the Mississippian period (about A.D. 900-1400) and is named after the Wickliffe Mounds archaeological site in Wickliffe, KY. It is most commonly found at archaeological sites near the Ohio-Mississippi River confluence. This includes archaeological sites within the Missouri "bootheel", southern Illinois, western Kentucky, and northern Arkansas (Figure 1.2). Wickliffe Thick has attracted attention from archaeologists because of its unique attributes but there has been no comprehensive, systematic analysis of its stylistic, formal, and technological features.

Uses of Wickliffe Thick pottery are not known currently and all the information we have is speculative. Information that is available allows for the formulation of four alternative working hypotheses for the function of Wickliffe funnels. The first postulates the vessel's use as a juice press; the second proposes its use for filtering ashes for salt production; the third proposes a multi-use character that combines the first two postulations; and the fourth opposes all the previous, proposing that Wickliffe carried out a different function than any of the proposed functions. Information pertaining to these hypotheses would improve archaeologist's knowledge of the use of the vessel. The vessel could add to our knowledge of food preparation or the procurement of natural resources used in the daily lives of Mississippian

None of these hypotheses have been tested, prior to this study. The aims of the project are to produce the first systematic documentation of Wickliffe Thick in the southeastern US by means of systematic visual inspection and measurements taken from a large multi-site sample. Data from the sample were assessed in light of the results of a small-scale experimental study and previous use-wear studies to help look at the use-wear attrition that may result from the salt and juice production process.

Research Design

The survey area encompasses the Ohio-Mississippi river confluence region of Kentucky, Missouri, and Illinois. This region encompasses the totality of the known distribution of Wickliffe Thick in the archaeological record. Sites within this region have between 1-2.6% of Wickliffe Thick sherds in their pottery assemblages (Lewis 1984:97; Wesler 2001:61; Mackin 1984:134). Sites with relatively large frequencies of Wickliffe Thick were prioritized for analysis and supported by several supplementary sites composed of small collections. Data produced from this survey were used to test the proposed hypotheses specifically by looking at the use-wear on Wickliffe Thick and comparing the observed patterns of wear to what the salt-production and juice-pressing processes would create. Other secondary hypotheses were tested and are outlined further in chapter IV.

The study has established a comparative dataset in which the variation of Wickliffe Thick can be measured. Secondarily, the study has also documented a new range of variation across multiple traits of the Wickliffe Thick type in the southeastern United States, which may hint at a common technique and technology used to create and design the pottery type.

Preliminary results are discussed through the lens of cultural identity. Technological choice and style give insight into the way people and cultures express themselves and form cultural traditions. The data are evaluated using descriptive statistics which are examined to see whether there is spatial patterning within this class of vessels. Specific attributes given attention include surface decoration, temper, vessel shape, and lip shape. The use-wear attributes focused on include attrition and fire contact. These attributes tell archeologists about the different techniques used to manufacture the pottery and how the pottery was used during its life.

A supplementary, small-scale experimental archaeology project was also implemented to determine the wear patterns that are created by salt production and juice processing. Replica vessels were constructed and used in the conjectured juice pressing and salt production tasks. It was expected that salt production will produce spalling of the ceramic wall because of the crystallization of salt within the ceramic wall (O'Brien 1990). Juice pressing has little to no mention within southeastern archaeology, but it is expected that juice pressing would result in abrasion of the interior surface because of the force of a pestle against the vessel wall. These expectations are supported by past research and were assessed in the experimental section of this thesis. The experimental design followed the guidelines outlined by Shimada (2005) and Skibo (1992). The experimental part of this thesis will be more qualitative than quantitative and will assess what kinds of use wear are created, not to develop quantitative data relating to the stages of development of use wear with frequency or intensity of use of the vessels. A quantitative approach to this experimental project would require knowledge that would be too time-consuming to examine in the time expected to finish this thesis such as knowledge of clay sources, the nature of pestles in juice pressing, and others. Such factors could be examined in future projects. I have attempted to make the experiments as realistic as possible, but the experiments are only intended to yield information about the kinds of use wear produced by the hypothesized functions.

Intellectual Merit and Broader Impacts

The intellectual merit and broader impacts of this study are its potential to fill the gap in knowledge of Wickliffe Thick in the inland southeast. No studies to date have looked at Wickliffe Thick at this large scale or the technological choice and style implied by the sherds archaeologists have recovered. Use-wear on the vessels can help infer the impact the vessels had on the daily lives of those living in the Mississippian period (A.D. 900-1400). The project also gives an updated insight into the uses of Wickliffe Thick, challenging current hypotheses assigned to Wickliffe Thick by past archaeologists. New hypotheses about the vessels' use can help us further our knowledge on food preparation techniques or how Mississippians interacted with and obtained resources from their own natural environment. The characteristics of the vessels can help establish a broader cultural tradition if similar styles and forms are found across the study area. The results of this study are also important to Native American tribes' history. Those who identify as descendants from the areas within this study are interested in learning about their ancestor's way of life. This study has a possibility of demonstrating a small aspect of that.

The project also highlights the caution that archaeologists should have when assigning function to vessels without proper evidence to support their claims. It is important for archaeologists to not forget how certain assumptions are made. We must be constantly aware of the research that has been conducted in our field and constantly adjust hypotheses and retest in response to the introduction of new methods and theories. The experimental approach looks to do what other projects fail to do— infer plausible functions of Wickliffe Thick vessels through a hands-on enactment of the salt production and juicing processes.

Thesis Organization

This chapter gives a brief preview of the thesis by describing the vessel type, its characteristics, the theoretical approach and the research design, and the overall intellectual merit of the work. The rest of the thesis will expand on these topics and end with the results and interpretation of the study.

Chapter II presents the theoretical background used to form the methodological and interpretive basis of the thesis. Topics such as experimental archaeology, use-wear analysis, and technological choice are summarized and reviewed in this section. This section also discusses the relevance of these topics to the project and how they influence the interpretation of the data.

Chapter III offers a review of the theoretical background of ceramic function, Wickliffe Thick as a ceramic type, and its inferred function. The chapter discusses the types of vessel use and what kind of information can be derived from artifacts. The chapter then reviews the literature on Wickliffe Thick's description and function, talks about the ethnographic and ethnohistoric evidence for plants' use, and possible plants used by Mississippians in the inland southeast.

Chapter IV presents the geographical and cultural context of the survey. The chapter starts with a brief introduction of the Mississippian culture in the southeastern United States. The chapter then outlines each region and site used in the study. Each site is described briefly by its characteristics (type of site, dates), work done at the site, and the sample of Wickliffe Thick sherds used in the survey.

Chapter V states the research hypotheses and test implications that are the basis of the project. The chapter first presents the main hypotheses having to do with the function of Wickliffe Thick and their respective test implications. This section also introduces auxiliary hypotheses and questions having to do with the vessel's orientation, Wickliffe Thick's spatial and temporal extent, and its stylistic, formal, and technological characteristics.

Chapter VI introduces the methods of the study. The methods are outlined for both parts of the project. Part one of the project reviews the methods for the experimental salt and juice production. Then the methods for part two of the project are introduced. This section focuses on the recording of ceramic traits (stylistic, formal, and technological) and use-wear. The section also gives a short introduction to the survey area and more information about the survey's assemblage.

Chapter VII discusses the results of the experimental project and the results of the survey through descriptive statistics and supporting figures and tables. The use-wear is assessed for commonality and frequency. The spatial and temporal aspects are examined through ArcGIS from data collected from the literature review process. Lastly, this chapter presents a statistical analysis to establish whether there are similarities in formal characteristics of Wickliffe Thick.

Chapter VIII presents a discussion of the results and a concise conclusion of the thesis. The descriptive statistics and other results are interpreted using the archaeological and anthropological theory presented in the previous chapters. New ideas are presented and supported by the statistical values and other scholarly works. Lastly, the chapter outlines the contributions of this work and evaluates opportunities for future exploration.

Figure 1.1. Typical Wickliffe Thick vessel

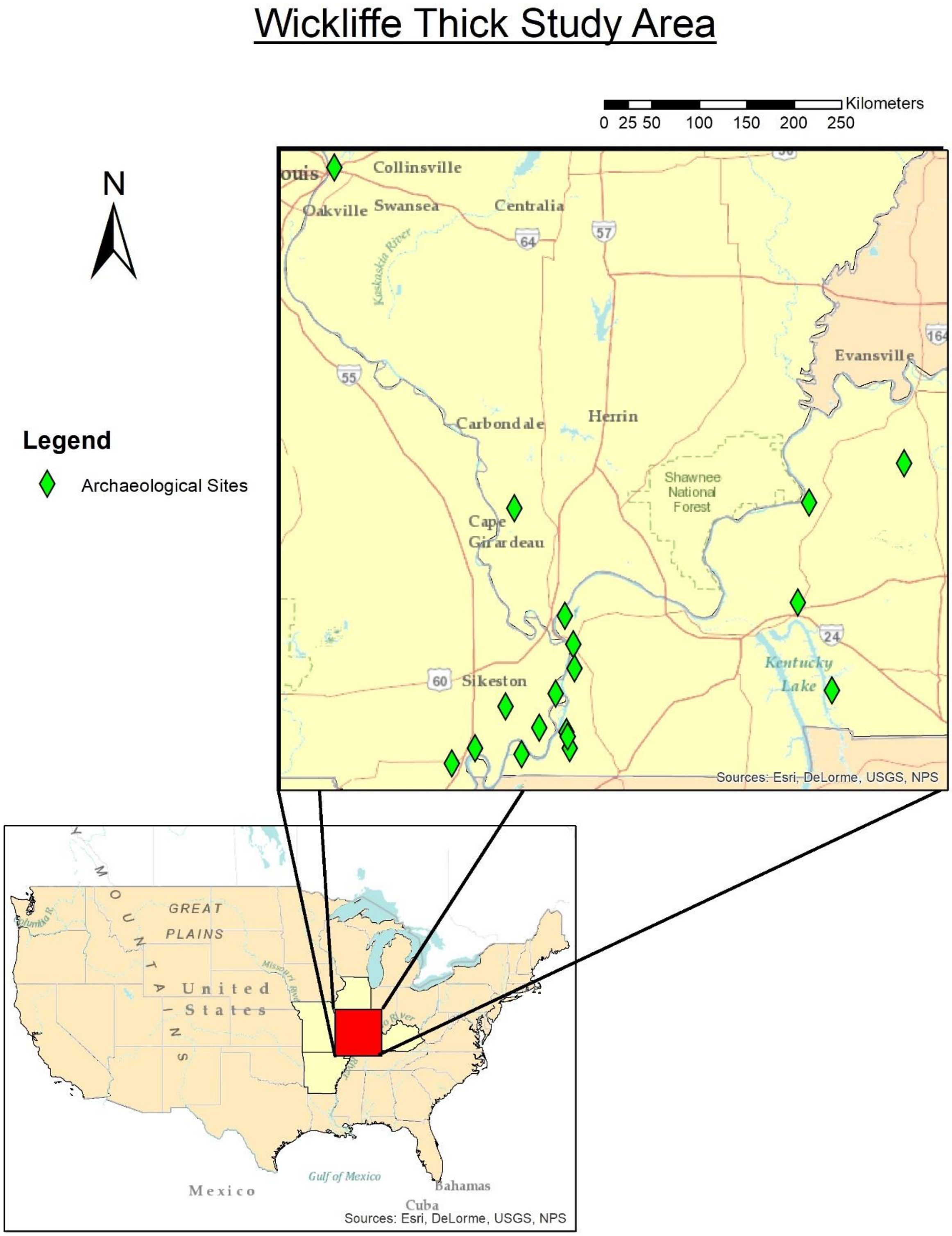

Figure 1.2. Map of the Study Area.

CHAPTER 2

THEORETICAL BACKGROUND

One of the aims of ceramic analysis within archaeology is to help understand past lifeways of ancient peoples. To help evaluate and understand the theoretical and methodological background of this study, this chapter outlines the anthropological and archaeological theory that serves as a baseline in forming this project and interpreting its results. The chapter explains three main concepts: experimental archaeology theory, use-wear analysis, and technology and style in archaeology. By defining experimental archaeology and its aims, this chapter gives the reader an understanding of what experimental archaeology can achieve and explains the theoretical basis and guidelines on which the project was formed. Additionally, reviewing the literature of use-wear analysis and technology and style demonstrates the framework in which inferences and determinations for Wickliffe Thick can be made.

Experimental Archaeology

Experimental archaeology is defined as “a method of testing our ideas about and discovering our past through experiments” (Shimada 2005:603). Experimental archaeology has been a component of archaeological approach for many years as exhibited in Binford’s middle range theory (1981:25). Experimental archaeology lets archaeologists conduct experiments, in which the archaeologist can experience the subject in the present. This process can lead to new analogies or inferences on many archaeological topics. Although the subject has been favored by many processual archaeologists, several criticisms developed. Many archaeologists argued that experimental archaeology lacked a theoretical background and ignored key aspects of the scientific process (Tringham 1978:171). In a response to these remarks Ascher (1961:809-810) produces the following guidelines to increase experimental archaeology’s rigor. As archaeologists, to create an experiment with any validity, we must follow these steps in order to replicate an activity as it would have been executed in the past. The first guideline states that the materials involved in the experiment must have been available to ancient natives in their setting. This guideline is important in order for the archaeologist to gain results that can serve as the basis for inference. If materials were used that were not available to natives, the experiment becomes invalid. The second guideline states that the technology or "effective material" that is used to change the "objective material" must have been available to that population in their own setting (Ascher 1961:809). It is also important to make sure we are using technologies that were available to past populations. If we use technologies that were not available, we gain results that do not form an analogy to past ways of life. The third states that the experimenter will need to work within the bounds of what is available in nature.

With the same spirit, a common three-step procedure based on the scientific method was outlined based on Bernard's 2002 work:

1. A lucid and specific statement on the experimental objectives that explains why a particular experiment is being conducted and the extent to which generalizations are to be made from the experimental results.
2. A description of the planned experiment that outlines such matters as experimental treatments, the nature, duration, scale, and size of the experiment and the experimental subjects and materials.
3. An outline of the methods to be employed in analyzing and assessing the results.

[quoted in Shimada 2005:616]

This three-step procedure helped develop a backbone for how quantitative projects should be carried out and improved the validity of the results and interpretation. The experimental portion of this project follows all the guidelines above in order to establish a project that can produce valid results.

Along with these new guidelines and experimental procedures, Shimada (2005) outlines many cautions. It is important to understand that the experiments conducted cannot tell the experimenter definite truths about the past. Instead the results from an experimental project can show what is possible. Shimada (2005:620) also states that to assess the believability of the results, they must be compared to the archaeological data.

Other important cautions include misconceptions that experimental archaeology is simple and that quick projects will yield relevant results. However, the scientific method stresses replication to assess the validity of results in order to eliminate chance and misleading results (Shimada 2005). Even with a “simple” project, the project must be replicated several times before the results are considered relevant. When examining the consistency of results, Shimada also warns about practice effects. When working at a task over time an individual achieves a proficiency in performing the task. Artisans become familiar with the tricks and tools of the trade and therefore may perform a task with a greater efficiency than someone replicating it. As an experimenter, it is unlikely that we are proficient at the task we are performing. Therefore, there is a learning curve when conducting experiments. Shimada suggests two ways to control for practice effects: 1) have someone who is proficient in the activity conduct it while you observe their actions or 2) only use data from later trials to assess your hypotheses (Shimada 2005). The first remedy removes all practice effects while the second dampens the effects and gives the experimenter the time to learn the basics of the activity. With these guidelines and cautions, an experimental archaeology project can lead to a better experimental design and higher-quality results.

Use-wear Analysis of Pottery

Use-wear analysis is traditionally defined as the analysis of wear on the edges and the surfaces of objects caused by the function or use of the object (Odell 2001, Skibo 1992). Most commonly used on lithic artifacts, use-wear analysis has also spread to other artifact types such as metal (Sáez and Lerma 2015) and pottery (Skibo 2015). To keep within the frame of mind of this thesis, only ceramic use-wear will be reviewed in this section.

Use-wear analysis of pottery covers a more focused range of conditions known as ceramic alteration. Ceramic alteration is defined as all changes in ceramic surface "resulting from physical and/or chemical processes that cause either the addition, deletion, or modification of material" (Skibo 1992: 42). Starting with the addition of material, the carbonization of material happens during cooking or when the vessel comes in contact with fire. Food can be carbonized on the surface of the ceramic where it can be useful in carbon dating or trace elemental analysis. Sooting can also occur when a vessel comes into contact with fire. Skibo (2015:190-191) lists three types of sooting: 1) sooting that is easily removable caused by rising smoke; 2) sooting that contains resin droplets that harden after cooling; and 3) a gray sooting replacing earlier episodes after the soot burns away at high temperatures. These markings can be used to infer how often the vessel comes in contact with fire (directly or indirectly). Other additions of material can occur through residue, which is macro or microscopic remains of a substance that had come in contact with the vessel. Residue in southeastern archaeology has been applied to these substances as the available analytical methods are most effective to locate lipids or fatty acids that can tell us more about the cultural context of said ceramics. The absorption of biomarkers, such as the alcoholic chain *n*-dotricontanol, has been used to identify maize in Late

Emergent Mississippian populations (Reber and Evershed 2004). Residue analyses are conducted through analytical chemistry using methods such as several varieties of chromatography.

Another type of use-wear that this thesis analyses is attrition. Attrition is defined by Skibo (2015:193) as “the removal or deletion of the ceramic that occurs throughout a vessel’s life history”. Attrition is further broken down into abrasive and non-abrasive processes. Abrasive actions form markings on the vessel such as scratches and nicks while non-abrasive actions come from spalling or crystallization (Skibo 2015). These abrasions can show points of contact while the non-abrasive processes can show different conditions the ceramic vessel was under.

Salt wasting, specifically from the expansion of salt crystals in the vessel wall, has been studied by archaeologists such as O’Brien (1990) while using experimental ceramic vessels. Dissolved salt is absorbed into the vessel wall and then crystallizes, causing erosion of the vessel wall. O’Brien found that technological choices such as temper and firing temperature combat attrition on vessels. Temper qualities such as size, shape, and chemistry can make the ceramic vessel more resistant to attrition (O’Brien 1990; Skibo 2015). Temper, such as shell, makes the vessel less resistant to abrasion because shell is heated before it is crushed and used as temper. This weakens the material. O’Brien (1990) also showed that the higher the firing temperature the more resistant the material is to abrasion.

In summary, this section gives a review of the types of use-wear analyses possible and what they can possibly allow us to infer about the vessel’s usage. It is important to remember that use-wear analyses may lead to inferences about use but do not yield definite answers. Like experimental archaeology, use-wear analysis is a tool that can inform us about what is probable and likely.

History, Identity and the Technological Choice

Out of the ashes of Culture-Historical archaeology, a view of archaeology emerged with the interpretation of cultural systems at the forefront. Sparked by earlier debates, such as the Ford-Spalding debate (Ford 1954a, 1954b; Spaulding 1953, 1954), and numerous critiques by archaeologists (Childe 1968; Taylor 1948; Hawkes 1954), the processual or so called "New Archaeology" focused on a systemic, functional view of culture. This premise focused on two points: 1) culture works as a functioning system with each part related to each other; and 2) these systems are akin to those found in nature (Johnson 2010).

With this shift, archaeologists studying types of artifacts started to focus on the root causes of variation (such as trade) instead of the specific aspects of variation (such as incised lines). Binford (1962:220) used ceramic traditions defined by stylistic variation to infer "ethnic origin, migration, and interaction". This processual way of thinking led to many different interpretations of culture as a group phenomenon, and in so doing, developed its own set of critiques. One such critique is a lack of focus on the individual, and archaeologists acting ignorant of multiple solutions (Johnson 2010). These critiques led to the birth of many kinds of specialized archaeological topics in the post-processual age. In the 1990s, post-processual studies of identity emerged. These studies encompassed many aspects of the human experience such as: ethnicity (Shennan 1989), sex and gender (Conkey and Spector 1984), and many others.

In 1977, Bourdieu coined the concept *habitus.* Habitus is defined as depositions that forms how each individual and how they respond to the social world. (Bourdieu 1977). These biases affect the choices that an individual would make stylistically. Wobst (1977,1999) stated that style is something that a person can use to convey group and individual identity. The concept of style has been debated and is difficult to define. It has been narrowed down into three different components: style as “practice, execution, and technique”; style as distinctive originality; and style as “cultural context” (Rice 2015:389). Practice, execution, and technology evolves from the concept that style is “a way of doing” (Hodder 1990:45). Style, as distinctive originality, is specific to an individual’s skills and their expression of art (Rice 2015). The third, cultural context is specific to the style’s visual elements reflecting components of certain times or places. Because of these different choices of practice and/or originality, different groups can be characterized into a culture by the common choices they make in their daily lives. As individuals become members of a society, they are indoctrinated into its cultural system and it becomes part of their identity. The learning the system of the culture teaches each individual aspects of the group’s ethnic identity. This is the basis of Situated Learning Theory, described by Lave (1993) and Minar and Crown (2001), in which communities of practice are formed. Lave shows that learning in communities are usually done in groups. An example of this is today’s schools and classrooms. In this community of practice, a learning individual learns beliefs and behaviors that are appropriate or popular in their own society. Then as they learn they move from a novice to an expert (Lave 1993). At this point, they are then indoctrinated into the society and they usually express those styles learned. Although this theory has many strengths such as easily engaging the individuals in a group, it also has many weaknesses. It is not easily feasible to implement it. Also, this concept does not explain differences within the group.

For this study it is important to consider how identity is expressed through technological style and choice. In Lemonnier's work, "Technological Choices: Transformation in Material Cultures since the Neolithic" (1993), he outlines the phenomena as "the process of selection of technological features invented locally or borrowed from outside". Technological style, introduced by Lechtman (1977), allows archaeologists to show how styles represented on artifacts reflect the materials and how humans manipulate them. While the technological style focuses on physical characteristics that go into the creation of an artifact, Lemonnier argues that the more important aspect is the “set of choices made” during the use of said technologies (Lemonnier 1993). Although these ideas are expressed by Lemonnier, they are not original. These ideas are derived from André Leroi-Gourhan, a French anthropologist, who studied lithic tool production in the Paleolithic. His works (Leroi-Gourhan 1943, 1945, 1965, 1993) outlined the framework for the concept of a *chaine operatoire* or chain of operation. The *chaine operatoire* is defined by the sequence of technical steps taken in the production line of manufacture (Rice 2015; Lemonnier 1993; Sillar and Tate 2000). As archaeologists, we recognize that each step of this sequence is a choice: "a possibility of choice between equally viable options" (Sackett 1977 quoted in Gosselain 1992:560). It is assumed that each artisan had options for every step of the *chaine operatoire* and, in turn, shows that they had the proper knowledge of these choices. Sillar and Tate (2000) identify five different areas of choice: 1) raw materials, 2) tools used to shape the materials, 3) energy source (including mechanical forces) used to transform the material, 4) techniques used to orchestrate the tools, energy, and raw material, and 5) the sequence in which these acts are linked together to transform raw materials into products. Each group will be influenced by the choices they make and the community of practice they create or participate in. Therefore, these choices can be identified in the archeological record and relationships can be inferred from them. This fact is one of the most important contributions of technological choice. It helps archaeologists identify the actors choices and then infer about the social contexts surrounding those choices.

Project Application

This section will discuss how the reviewed theory relates to each part of the thesis. The first part of the project relies heavily on the experimental archaeology guidelines established by Ascher (1961:809). All of the materials and techniques used during the experiments were available and used by Native Americans in antiquity. The use-wear techniques introduced by Skibo (2015) and O'Brien (1990) were used to interpret use-wear found in the field. Descriptions and pictures shown by both authors were used as a basis for analysis.

Lastly the theoretical concepts of technological choice, technological style, the *chaine operatoire*, and communities of practice are used to help interpret the patterns that appear within the archaeological record. Technological style helps archaeologists think about the materials that are used in the materials and styles produced. The concept of technological choice will help infer the social reasons of why different materials or styles are used. Using statistical analyses to see if there are differences in traits between regions may be able to show us different communities of practice in which other materials or styles are favored above others.

Summary

The important theoretical topics for the thesis have been reviewed in this chapter. The framework of experimental archaeology described above is laid out showing the frame of thought when carrying out the experimental design for part one of the thesis. It is important to take into considerations the time and materials put into an experimental project to be able to yield relevant results. The following methodology for the thesis uses this experimental method to make sure the results are valid and to make sure that practice effects are considered. The use-wear analysis section reviewed the framework for the thesis's analysis of macroscopic use-wear. It reviewed the different types of use-wear such as abrasions, carbonization, and residues and discussed what one might be able to infer from them. These inferred conditions help interpret the results of the use-wear study into order to give clues to the life history and conditions in which the vessel was used. Lastly, the review of technological choice and style gives a brief introduction to how archaeologists interpret the social identity of groups. This brief introduction into group identity is used to support the frequency of ceramic traits over space and time. These ceramic characteristics are relevant for interpreting regional variation in how the vessels were created.

CHAPTER 3

APPROACHES TO UNDERSTANDING FUNCTION

The following chapter discusses the concept of function, how functions are discerned in archaeology, and what kind of evidence we can gather from the archaeological record. The chapter also discusses archaeologists' previous proposals about the function of Wickliffe Thick. The chapter concludes with a review of ethnographic and ethnohistoric literature relevant to the proposed hypotheses and the possible plants available to Mississippian peoples.

Archaeologists use many different approaches to discern function(s) of ceramic vessels. Function can be distinguished into three fundamental, broad categories: storage, processing, and transfer (Rice 2015). In Rice's categories of vessel use, these types are narrowed down into further divisions such as: whether the vessel was used with or without heat, or whether it was used with liquids or used dry (Rice 2015). Ethnographic analogies were used to predict one-to-one relationships between pottery form and function. Although these assumptions came to construct a series of predicted forms that are related to function, archaeologists failed to assess another possibility: that one ceramic vessel could carry out multiple different tasks (Rice 2015). Archaeologists soon came to realize that the form and technology used to create a vessel can be seen as a compromise of different traits to create a vessel used for multiple purposes. Skibo (2015) agrees with the premise of one vessel being used for different tasks. It is important for archaeologists to separate the intended function from the actual function. As Skibo describes, everyday cooking pots can also be used as "ritual containers" and it is important for archaeologists to establish secondary functions (Skibo 2015:190).

Two types of information are derived from artifacts: indirect and direct evidence. Methods such as the use of morphological traits, technological traits, and ethnographic analogies are considered indirect evidence. Indirect evidence contributes to "inferred use" (Rice 2015). Another example of indirect evidence are the results of experimental testing. On the other hand, direct evidence can give us information about the context in which the pottery vessel was used. Examples of direct evidence include: residues, sooting, and surface attrition. With both types of evidence, you can build the life history and environment in which the vessel was created and used. Both indirect and direct evidence are used in this study in order to gain as much information as possible about Wickliffe Thick.

The function of Wickliffe Thick described by past archaeologists is reviewed below. As described, the function of Wickliffe Thick has been mostly inferred through morphological traits. Other indirect evidence for the use of plants in salt production is also reviewed in this section. This leads to a consideration of halophytes, salt accumulating plants, which have ethnographic and ethnohistoric evidence about their use in antiquity and throughout the Americas. Finally, this section explores the plants possibly used for producing salt in the southeastern U.S., setting the stage for experimental methods.

Function of Wickliffe Thick

Stephen Williams's (1954) dissertation on the prehistoric cultures of southeastern Missouri introduced a typology of pottery, including the Wickliffe Thick type. Basic attributes of the type include: a coarse, thick paste; a flat or slightly curved lip; a radius too small to be a pan; an unusually large vessel wall thickness averaging around 10 mm; and most strikingly, an opening on the bottom (Williams 1954:214; Cole 1951:140-141; Phillips 1970:17; Wesler 2001:67). These vessels resemble small bowls, and because of this similarity, the small-diameter orifice is usually referred to as the "bottom". Since this has never been proven as fact, this thesis looks to establish which orifice, the small-diameter or large-diameter, represents the top and bottom of the vessel by looking at the use-wear left behind. As well as vessel orientation this thesis will look at possible functions of Wickliffe Thick by examining use-wear left on all other surfaces. Through the morphological and ethnographic approaches, two hypotheses have been offered for the function of Wickliffe vessels: a juice-press, and a brine filter (discussed below).

Description of Function

Most of the speculation on the function of Wickliffe Thick comes from the vessel's shape, specifically the dual orifices, the spherical melon-like form of the vessel, incised exterior markings, and the thick walls. One of the first archaeologists to hypothesize a use for Wickliffe Thick was Fain King, best known as the owner of Wickliffe Mounds. King (1939 cited in Wesler 1998:313) proposed that the vessels were juice presses and the idea has persisted in later works described below. For example, the Cole et al. (1951) book on Kincaid Mounds calls this vessel shape a "juice press". It also raises the possibility of it being a water drum and describes its shape as a fruit (pear) (Cole 1951:140-141). In Stephen Williams's dissertation (1954: 214), it seems he is hesitant to make any inferences about the vessel from the form. He talks about how it was assigned the "juice press" title by King but Williams always uses quotation marks, showing his hesitancy to assign a function to this type of vessel. In Phillips's (1970:171-172) Yazoo Basin typology, there is a shift away from uncertainty. He states that Wickliffe Thick is well-known as "juice press" and "funnel". He also states that the function is much more important than the shape and surface decoration when it comes to naming the type, but we do not know what function that is (Phillips 1970:172). Archaeologists today are still not sure what these vessels are used for and continue to cite these unevaluated sources. In Wesler's *Excavations of Wickliffe Mounds*, he states that these vessels are known as "Wickliffe funnels" and "juice presses" (2001: 67) and quotes Fain King as a source.

Ian Brown started a shift in thinking in the 1980s assessing these hypotheses in the literature (1980:38). Brown proposed a salt filtration hypothesis giving analogies from Europe and United States, discussing other containers filled with straw and perforated bases. In this analogy, a salt-sand mixture was poured through these containers to filter out the sand (Nenquin cited in Brown 1980: 38). Another example was the "thorn house" used to filter the brine before boiling in southern Illinois in the 19th century (Brown 1980:39). Brown supports the salt production hypothesis by noting that Wickliffe Thick has a distribution similar to the distribution of Mississippian "salt" pans. He also notes that Wickliffe vessels are in some instances found geographically far from salines (Brown 1980: 39-40). Although Brown comes to a tentative conclusion that the so-called salt pans had more functions than just salt production, he is hesitant to say for sure that the funnels were being used for salt production. He also points out that in some cases salt sources were more than "100 kilometers away" from settlements, but also brings up the possibility of cultural boundaries and trade relations that archaeologists need to take into consideration (Brown 1980: 40).

Although others have entertained the possibility of Wickliffe Thick as a type of briquetage (Reagan 1977; Wesler 1998), a type of support pillar used during salt production, Eubanks and Brown (2015) deny its usage in salt production as it occurs infrequently at salt production sites. However, for the Zebree site in Arkansas, Morse and Morse (2007: 56-57; 1990) give their own speculation saying that "[Wickliffe Thick vessels] were probably used in salt production" on the basis of the discovery of a perforated disc that could have been used a filter. Although multiple functional hypotheses have been proposed, nobody has yet offered a systematic assessment of the function of the vessels.

Ethnographic and Ethnohistoric Evidence for Plant Use

The next approach relies on information in ethnographic sources. Keslin (1961: 22) states that a diet consisting of plants grown by Native Americans in the southeast would not have had a sufficient salt content, meaning people would have to find another way to produce or obtain salt for dietary needs.

Keslin (1961) talks about four different ways that Native Americans could have achieved this, citing evidence from examples given in the DeSoto expedition. One such hypothesis that Keslin proposes, is the creation of a saline lye that can be made from plant ashes which could "be equivalent to our table salt" (Keslin 1961: 30). Adair states that they make salt out of a "saltish grass, which grows on rocks... by burning it to ashes [and] make a strong lye from it" (Adair 2005: 157).

Other ethnographic analogies that highlight salt production in indigenous societies include the work of Harold Schultz, a Brazilian ethnographer, describing the Suyá tribe in South America. The Suyá make salt, *katuyani*, through a process of creating a brine from water hyacinths (Schultz 1962: 126). These plants have yet to be evaluated in a scientific study as salt accumulators, but have been shown to have traits such as a resistance to brackish waters, and a high amount of salts found in the plant's tissues (Muramoto and Oki 1988). The *chaîn opératoire* of the Suyá starts with gathering the plants, letting them dry in the sun, and then burning them (Schultz 1962: 126). Next, the Suyá create a funnel out of flexible sticks, line the funnel with banana leaves, and fill the inside with plant fibers that act as a filter. They mix the ashes with water to create an alkaline solution that is poured through the filter. They then boil the liquid till the water evaporates (Schultz 1962: 126). Schultz also notes how the salts created are not what he considers "common salt" but most likely a combination of potassium chloride and potash

(Schlutz 1962: 126). Archaeologists in the southeastern United States have wondered if similar plants in their research area have similar properties (Morse and Morse 1980: 326-327). In one study, Morse and Brown (Morse and Million 1980) carried out an experimental project using the American lotus (*Nelumbo lutea*) as a replacement for the water hyacinth, finding that the American lotus has a significant concentration of sodium and potassium salts.

Botanical Review

If Mississippians were using plants to create a saline solution, the following section presents a few possibilities as to what plants might have been utilized. The plant would have to have a high enough salt content to make it worth the effort of the extraction process. Halophytes are plants that are salt tolerant and can grow in saline environments (Khan and Weber 2008: vvi). Most plants die in these environments because the sodium and chlorine levels are toxic to the plant and prevent growth, reproduction, and ultimately cause death. Yensen and Biel (2008: 313) examine three different types of salt management in halophytes. These three types of salt management are excluders, accumulators, and conductors. Excluders are able to stop salts from entering their tissues starting at the roots, where eventually the accumulated salts in the soils around the plant create a toxic environment for the plant (Yensen and Biel 2008: 317-318). The conductors are another type of halophyte in which the plant absorbs salt from the soil then transports it to the leaf where wind disperses the salt (Yensen and Biel 2008: 318). These types of plants are also called excreter plants because they excrete salts through glands that help them maintain a low level of salt (Yensen 2008: 379). Some salt accumulators also have these salt glands that help them survive by releasing salt into the environment over its lifetime (Yensen 2008: 384-385). This salt conducting system has not been fully studied or talked about in literature so what Yensen and Biel state is “speculative” (2008: 318).

The third type, and most pertinent to the study, are called accumulators. They take in salt from the soil and store it in the vacuoles of their cells (Yensen and Biel 2008: 318). These plants take in large quantities of salts until they are saturated. These plants in the wild, uncultivated can become too salty for foragers or livestock that would be grazing on them, but natives could have taken advantage of this (Yensen and Biel 2008: 318). Since these plants eventually reach a peak of salt absorption, it would be ideal for Native Americans to collect those accumulators that are found in large groups in a single area. With increasing salinity, salt accumulators die off when they hit their peak (Yensen and Biel 2008: 320). Therefore, accumulators would thrive more in semi-saline environments versus heavily saline environments where their peak absorption of salt would be reached quickly causing the plant to die. Yensen and Biel also state that some accumulators can store up to 50% of their dry weight in salt "with insignificant release to the surface" (2008:320). Other plants such as black mangrove (*Avicennia spp.*) are thought to accumulate large amounts of salt but they are actually salt conductors and maintain low salt levels compared to accumulators making their leaves and other parts edible to animals (Yensen and Biel 2008: 321). After rains would be the best time to forage these plants because of the increasing salt content.

According to the USDA, there are several plants which are salt accumulators or excretors and are native to the location of the upper southeast. One such accumulator is the saltbush (*Atriplex*). The saltbush accumulates salt in balloon-like vacuolated hairs on the leaf. Salt builds up until the vacuoles burst leaving salt on the leaves (Mozafar and Goodin 1970: 62-65). One plant known as a salt hyper-accumulator is little hogweed (*Portulaca oleracea*) and other accumulators include members of the *Chenopodium* genus (USDA Plants; Figure 3.1). Other accumulator plants are widespread in the survey area, but botanists are uncertain whether they were introduced early in the time of European contact or if they were originally native. Another possible accumulator, described in the ethnographic section, is the American lotus (*Nelumbo lutea*) (Figure 3.2). The plant has been shown to contain a significant amount of salts (sodium and potassium) and is native to the study area (USDA Plants, Morse and Morse 1980).

Most of the glands where salt is located in these plants are in the shoots (Mozafar and Goodin 1970: 62-65; Yensen 2008: 384-385). If Native Americans were harvesting these plants for salt production, they would want to extract the salt from the leaves and shoots. Although some of these plants are accumulators, most are excreters, meaning they use a salt bladder to get rid of salt when it builds up. There are two points to note in that statement: 1) you would have to gather the plants at a certain time of the year and 2) you might not get as much salt from the plant. The fragmented information on Wickliffe Thick and the possibility of such methods for salt production support further research into Wickliffe Thick's variability and usage. The proposed project looks to fill both of these gaps found in the literature and also consider other possibilities of variation and usage of Wickliffe Thick.

Summary

Throughout the southeast Wickliffe Thick has been presented as a "juice press" and "funnel" (Williams 1954:214; Cole 1951:140-141; Phillips 1970:17; Wesler 2001:67), even though we have very little evidence of how it was used. Ethnographic and ethnohistorical literature describes a *chaîn opératoire* of salt making that presents a need for a funnel-like object to filter out unneeded plant material or ashes. This evidence leaves a need for further investigations, combining both indirect and direct methods. Methods used by past archaeologists focus solely on indirect methods (e.g. vessel traits, ethnographic analogies, ethnohistoric texts, and experimental archaeology) to advance their inferences. These inferences have formed two hypotheses being tested in this study. The following thesis work used a combination of indirect (experimental archaeology) and direct methods (use-wear analysis) to help gain a clearer picture of Wickliffe Thick's role in antiquity.

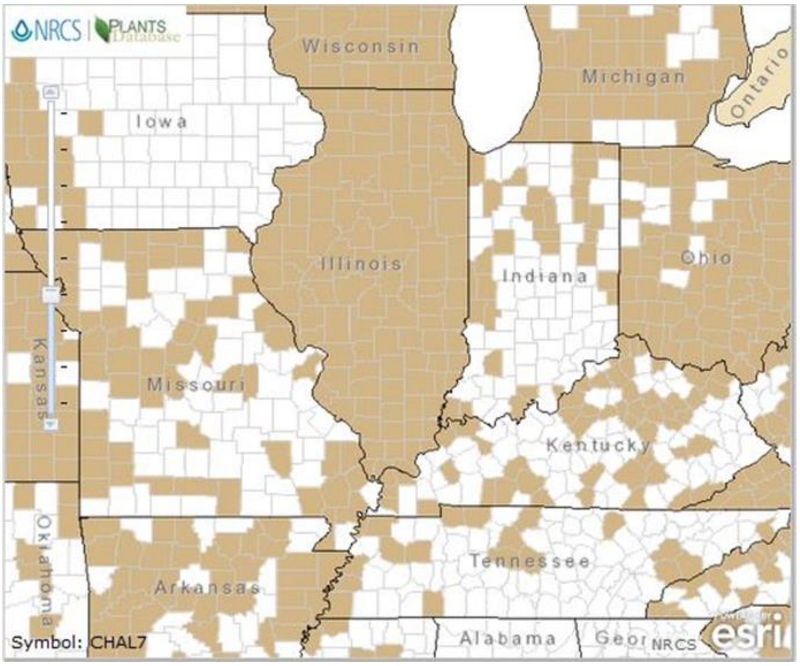

Figure 3.1. Chenopodium genus native locations via the USDA National Resource Conservation Resource Plants Database.

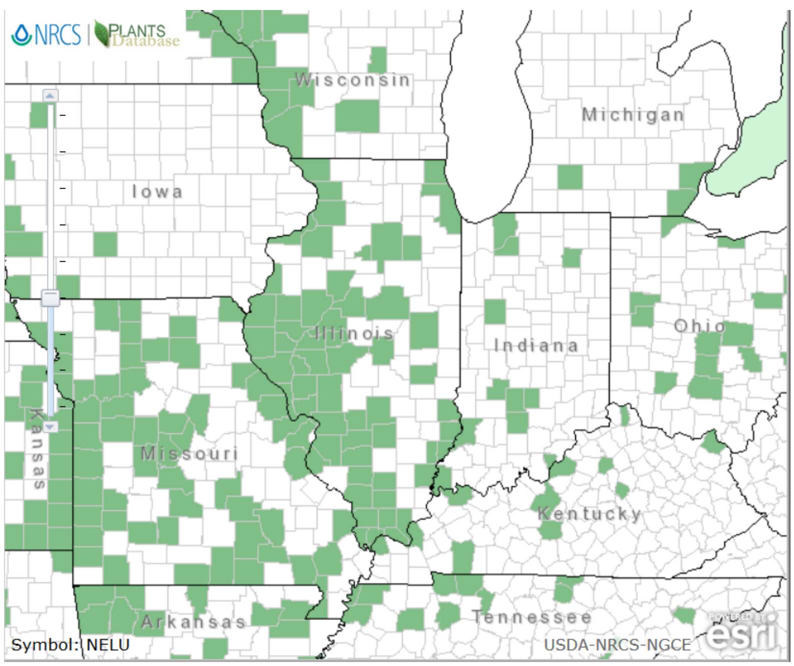

Figure 3.2. Nelumbo lutea *Willd. native locations via the USDA National Resource Conservation Resource Plants Database.*

CHAPTER 4

GEOGRAPHICAL AND CULTURAL CONTEXT OF THE SURVEY

The following chapter provides a comprehensive background to the different regions in which the sites from this study are located. Each region is described geographically and chronologically according to the cultural context of the sites that fall into each region. Then the background of each site is reviewed including information from previous archaeological surveys and excavations. Lastly, more pertinent information to the study, such as number of specimens and condition of collections, is examined.

Examination of Geography and Cultural Chronology

Eighteen sites are included in this study. A majority of the surveyed sites are in close proximity to the confluence of the Mississippi and Ohio Rivers. The confluence region encompasses parts of three different states; Missouri, Illinois, and Kentucky. This section will briefly introduce the Mississippian culture of the southeastern U.S., and after, examine each region and site individually.

Mississippian Culture

The word Mississippian refers to a time period and culture that thrived in the southeastern United States from AD 900 to 1500. The emergence of these peoples, and their way of life, has been thought to have happened in two ways. The first was through migration, in which, their way of life was spread across the landscape (Smith 1984). The second, through synchronous adoption of the same traits in different regions caused by interaction and emulation (Anderson and Sassamann 2012). These traits and this newly created way of life formed a Mississippian identity manifested archaeologically by: moundbuilding, intensive maize agriculture, shell tempered pottery, and wall trench agriculture. Large platform mounds were constructed, and common artistic styles and themes were identified. These common styles and themes are now known as the Southeastern Ceremonial Complex (SECC). Examples of these styles include common iconography of the long-nosed god, bi-lobed arrows, and a cross in circle design. Although this set of ideas is widely accepted, the concept has received backlash as to the areas where it has been applied. Themes and Motifs from the SECC are known to occur outside the southeastern United States and as Knight (2006) points out the art is not only ceremonial and local.

Although these common traits happen to form a common identity across the region, these traits developed across the landscape at different times. The Central Mississippi Valley is considered by many to be the region where Mississippian culture began as the population rose in the terminal Late Woodland (Morse and Morse 1998:202; Anderson and Sassamann 2012). Afterwards large polities in the American Bottom and in southeastern Missouri were formed as the result of people resettling in the American Bottom and the Cairo Lowland. Sites included in this study come from as far north as the American Bottom to as far south as northern Arkansas, but most are within 100 kilometers of the Mississippi-Ohio confluence. The majority of the sites are in close proximity to riverine resources and fertile land used for intensive agriculture. The following sections will look at each research region and the sites within each region.

Southeastern Missouri

Sites in Missouri that have Wickliffe Thick pottery cluster in the Cairo Lowland and the Missouri “bootheel”, close to the Mississippi River. Wickliffe Thick is found in various sites within southeastern Missouri during the early (AD 900-1200) and middle (AD 1200-1450) Mississippian periods. Chapman (1980) defines the project’s study region as the Southeast Riverine Region that encompasses Cape Girardeau, Scott, Stoddard, Mississippi, and New Madrid counties. Several sets of phase designations for southeastern Missouri have been proposed (see review by Fox 1998: 56-57). The phases defined by Williams (1954) are used in this study (see Figure 4.1). The majority of the assemblages used in this section are from projects conducted by Williams (1954) and Williams (1972). The sites found in this region are displayed in Figure 4.2.

The Beckwith Collection (Towosahgy, 23MI2)

The Beckwith Collection, housed at the Crisp Museum at Southeastern Missouri State University in Cape Girardeau, Missouri, consists of artifacts collected by Thomas Beckwith. Beckwith is believed to have collected items from what is now the Towosahgy site (also called Beckwith's Fort). The site consists of seven mounds and a fortified village. Artifacts recovered by Beckwith were analyzed for William's (1954) archaeological study of southeastern Missouri. After the site was acquired by the state of Missouri, excavations began in 1967 by the University of Missouri- Columbia (Cottier and Southard 1977). From the Beckwith collection, whole and partial Wickliffe Thick vessels were recovered. Four of these vessels were used in this project and twelve sherds were used from this collection. Although the provenience is missing, the vessels represent some of the only whole Wickliffe Thick vessels from the southeastern United States.

The Crosno Site (23MI1)

The Crosno site is located in Mississippi County, Missouri. Excavations took place at the site during 1948, after previous surface collections were taken by collectors and amateur archaeologists. Chapman (1980) from the University of Missouri- Columbia, excavated a burned structure and later burials that had been uncovered by flooding. In 1950-51, Stephen Williams excavated at Crosno and added information about the burial area and plaza, to what was known about the mounds and village (Williams 1954). Excavations at the Crosno site revealed two new types of Wickliffe that Williams designated Wickliffe Cord Marked and Wickliffe Punctuated. As talked about in the discussion section, these types are only found at the Crosno site. Eight hundred seventy-nine Wickliffe Thick sherds were recovered from the Crosno excavations. This makes up 6.82% of the sherds excavated by Williams (1954:99). One hundred twenty-five samples were taken from the Crosno site for use in this thesis. The assemblage is housed at the University of Missouri Columbia's Museum of Anthropology.

The Hoecake Site (23MI8)

The Hoecake site sits southeast of East Prairie, Missouri in the Cairo Lowlands (Williams 1974). The site consists of a multi-mound complex with an accompanying village. The site was excavated twice in its history. The first excavations were conducted by Marshall and Hopgood in 1963. These excavations (Marshall and Hopgood 1964) consisted of one excavation unit each, in two mounds at the site. Later large-scale excavations by Williams (1967) uncovered many houses, refuse pits, burials, and other remains. The excavations produced forty sherds of Wickliffe Thick varieties, including a red filmed sherd (Williams 1972). Eleven samples were analyzed for this study. The assemblage is housed at the University of Missouri Columbia's Museum of Anthropology.

The Lilbourn Site (23NM49)

The Lilbourn site, named for the town in which it is located, consists of a fortified village and seven mounds. The range of dates, produced from several radiocarbon dates, runs from 940 to 1450 A.D with various occupations inferred from surface collections and excavations at the site. The 1970-71 excavation by Carl Chapman (reported by Regan 1977) uncovered various house structures and refuse pits. This part of the site is estimated to fall into the Late Baytown period with attributes of both the Hoecake and Wolf Island phases (500 A.D -1000 A.D). From this collection comes a partial Wickliffe Thick vessel that is included in this study. The vessel contains the full small orifice, the shoulder, and body of the vessel, while lacking the large diameter rim. This vessel accounts for one of the very few partially complete vessels taken in my survey. It is housed at the University of Missouri's Museum of Anthropology's Museum Support Center. Other sherds from the site were not available to be examined for this study.

The McCulloch Site (23NM251)

No report for this site was available. The collections are housed at the University of Missouri- Columbia's Museum of Anthropology. The curation center had several boxes from the site and some notes from the excavation. The site produced a large frequency of Wickliffe Thick sherds. Eighteen sherds and three partial vessels were recorded from the site.

Western Kentucky

Western Kentucky represents the known eastern extent of Wickliffe Thick in the archaeological record. Sites such as Adams and Wickliffe have a large percentage of Wickliffe in their assemblages: Wickliffe: 1.31%, (Wesler 2001:61) and Adams: 2.60% (Lewis 1984:97). Most of the sites documented below are taken from Barry Lewis's Western Kentucky Survey or the Survey of Kentucky conducted by Webb and Funkhouser (Pollack 2008). Wickliffe Thick is most commonly found in James Bayou (AD 900-1100) and Dorena (AD 1100-1300) phase assemblages alongside Kimmswick Fabric Impressed, Old Town Red, and other pottery types (Pollack 2008: 614-619). Although it is more frequent during these phases, this study has also shown it is found in Medley phase (AD 1300-1500) assemblages. Locations of the sites, mostly focused near the Mississippi and Ohio rivers, are shown on Figures 4.3 and 4.4.

The Adams Site (15FU4)

The Adams site, located on a terrace at the mouth of the Mississippi River floodplain, consists of seven mounds with an accompanying village (Stout 1984: 9). Excavations at the site took place during 1983 with three goals in mind: 1) updating Loughridge's 1888 map, 2) taking soil samples to get an overall picture of the archaeological deposits, and 3) acquiring absolute dates from the site (Stout 1984:14). According to the various carbon dates assigned to the site, the site was occupied from calAD 588-1168 (Lewis 1984: 20-30). Four hundred and thirty Wickliffe Thick sherds were recovered from the site. The majority of sherds are found outside of features. Of those within features 70.6% are in or near hearths while the others are found in refuse pits (29.4%). One funnel was excavated from the floor of a house structure. The carbonized wood from the hearth was dated to calAD 1220 ± 73 (Lewis 1984: 24). Thirty-six Wickliffe Thick sherds were included in the study. The collection examined at the William Webb Museum of Anthropology in Lexington, Kentucky and Murray State's curation facility and Archaeology Lab.

Andalex Village (15HK22)

Andalex Village was excavated in 1989 due to coal mining in the area, with the goal of gaining information on the mound and associate village (Niquette et al. 1991). Each mound stage revealed several structures. Several other structures were also excavated in the village area. A total of 17 Wickliffe Thick sherds were recovered from the village and mound stages, amounting to 1.00% of the total ceramic assemblage collected (Niquette et al. 1991:73). Three radiocarbon dates were determined for samples from three of the mound structures. Wickliffe Thick sherds recovered from structure 2 comprised 64.70% (11) of the site total (17). Structure 2 was dated to calAD 1277±50 (Niquette et al 1991:202). Fifteen sherds were recorded for the study. These sherds are housed at the William Webb Museum of Anthropology in Lexington, Kentucky.

The Burcham Site (15Hi15)

Located on a bluff above the Mississippi River, the Burcham site is composed of habitations with no mound construction (Kreisa 1988; Pollack 2008). Two test units were excavated at the site which uncovered several wall trenches and middens. From the site eight Wickliffe Thick sherds were recovered, one from a midden and two in the fill of wall trenches (Kreisa 1988:116-117). Three radiocarbon dates were taken from the site. One of the dates came from charred wood from wall trench 1; the same provenience as one Wickliffe sherd. The burned material dates to A.D. 1420 ± 70 (Kreisa 1988:108). The radiocarbon dates and ceramic types at Burcham suggest that the structures belong to the late Mississippi period (Kreisa 1988:130-131). Only one sherd was located from the assemblage. This assemblage is housed at the William Webb Museum of Anthropology in Lexington, Kentucky.

The Canton Site (15TR1)

The Canton site, located in the Barkley Basin of the Cumberland River in Trigg County, Kentucky, is a multi-mound site with habitations. The site was first mapped and discussed by Constantine Rafinesque in 1833 (Stout and Lewis 1995). Later mapping and limited excavations were conducted by Stout et al. in 1996. The ceramics recovered, in comparison, are more related to the Chambers site, so Pollack and Scharb (2008 cited in Pollack 2008) give a suggested occupation between AD 1150 to 1300. Only one sherd was taken from this site to be included in the study. The collection is housed at the William Webb Museum of Anthropology in Lexington, Kentucky.

The McLeod Bluff Site (15Hi1)

The McLeod Bluff site is located in Hickman County southwest of Clinton, KY. The site is located on a bluff overlooking the Mississippi River floodplain. The site consists of a large platform mound, a village, and a cemetery. Excavations in all three areas are outlined in Webb and Funkhouser (1933) in varying detail. The authors outline sherds that are "crudely made" and "having a single incised line that radiate downward from the mouth" (Webb and Funkhouser 1933:22). These details, and the corresponding Figure 9 found in their report (Webb and Funkhouser 1933:22), confirm the sherds described are Wickliffe Thick sherds. The report illustrates sherds all recovered from the village area (Webb and Funkhouser 1933:22-23). Twenty-two sherds were used from this assemblage. The sherds are housed at the William Webb Museum of Anthropology in Lexington, Kentucky.

The Sassafras Ridge Site (15FU3)

Located on the Mississippi floodplain in Fulton County, the Sassafras Ridge site had three mounds in the past (Loughridge 1888:177-178 cited in Stout 1984: 131) but only one mound is still present. Only surface collections were taken from the University of Illinois's survey in the early 1980s. Fifty-one sherds of Wickliffe Thick were recovered. Due to the preliminary nature of the survey, Lewis concludes that the site was occupied during the Medley (AD 1300-1500) and Jackson Phases (AD 1500-1600) and that the assemblage was more similar to the Adams site than the Wickliffe site (Lewis 1983: 151). Only two Wickliffe Thick sherds could be located for this project. The collections were taken from the William Webb Museum of Anthropology in Lexington, Kentucky and Murray State University's curation facility and Archaeology Lab.

The Tinsley Hill Site (15LY18)

The Tinsley Hill site is located in Lyons County on the Cumberland River floodplain. The site consists of a village, cemetery, and platform mound investigated through several years of excavations taken on by Clay (1961), Sloan (Sloan and Schwartz 1958), and Schwartz (1961). Although Tinsley Hill phase sites (AD 1300-1500) do not normally include Wickliffe Thick as a pottery type (Pollack 2008), I identified two sherds when at the collections center (The William Webb Museum of Anthropology, Lexington, Kentucky).

The Tolu Site (15CN1)

The Tolu site is located in Crittenden County, Kentucky, and consisted of a few mounds (ceremonial and burial) and a village (Webb and Funkhouser 1931). The excavations by Webb and Funkhouser do not mention any thick or strange vessels that might indicate Wickliffe Thick in the assemblage and not much other work has been conducted at this site. However, six sherds of Wickliffe Thick were included in the study that are provenienced to this site. This assemblage is stored at the William Webb Museum of Anthropology in Lexington, Kentucky.

The Turk Mounds Site (15CE6)

The Turk site is located in Carlisle County in close proximity to the Mississippi floodplain. The site consists of a mound center with a plaza that dates to the Dorena Phase (AD 1100-1300) (Pollack 2008). Little excavation has been conducted at the site. Most of the work conducted at the site was done during the Western Kentucky Project (Edging 1985). The assemblage contained several Wickliffe Thick sherds including two small orifice sherds and one large orifice sherd (Lewis 1985). Fifteen sherds from this site were examined. The sherds are held at the William Webb Museum of Anthropology in Lexington, Kentucky.

Twin Mounds (15BA1)

Twin Mounds is located on the Ohio River floodplain near the confluence of the Ohio and Mississippi Rivers. The site contains two mounds with a plaza and dates to AD 1200-1450 (Kreisa 1995). The ceramic assemblage yielded a large amount of Wickliffe Thick sherds. Out of the assemblage four sherds were located and used in the collection stored at Murray State's curation facility and Archaeology Lab.

Wickliffe Mounds (15BA4)

On top of the bluffs near the confluence of the Ohio and Mississippi Rivers, lies Wickliffe Mounds. The site, occupied between 1100-1350 AD, consists of at least eight mounds and an accompanying village (Wesler 2001). The archaeological site has gone through several years of excavations first by Fain King and the University of Alabama in the 1930s, to the most recent excavations by Murray State's Wickliffe Mounds Research Center directed by Dr. Kit Wesler. The years of 1984-1996 consisted of excavations in and around mounds A-H. Major contributions from the excavations have given a chronological and spatial view of where Wickliffe Thick occurs. Approximate dates for three phases at the site are defined by Wesler (2001) as: Early Wickliffe, 1100-1200 AD; Middle Wickliffe, 1200-1250 AD; and Late Wickliffe, 1250-1350 AD Wickliffe Thick is found in all three phases and increases in the Late Wickliffe phase. At the site, 2,260 sherds of Wickliffe Thick make up 1.3% of the ceramic assemblage (overall n =172,087). Out of the sherds that are provenienced (1,036), 558 sherds (53.9%) are associated with Late Wickliffe components, 366 sherds (35.3%) are associated with Middle Wickliffe components, and 112 sherds (10.8%) are associated with Early Wickliffe components (Wesler 2001:79-96). Spatially within the site, Wickliffe Thick is shown as occurring most frequently between mounds B, C, and E in household contexts.

Out of the artifacts analyzed in this study, 220 sherds came from all three Wickliffe phases. Further divided, the sample consists of 162 body sherds and 59 rim sherds. The sample was collected from Murray State's 1984-1996 excavations. All samples, including Wickliffe, were compared to Mississippian Plain sherds within the collection to establish the overall wear caused by deposition. The collection had very little wear due to in-ground deposition, making it easier to distinguish actual use-wear from the wear created from years of erosion in-ground. Also guiding the sample was Kit Wesler's database on ceramic types in the collection. Wesler had a list of which excavations had sherds of Wickliffe Thick making them easier to find. The collections are separated by each excavation year. Sampling started out with the years that contained the most Wickliffe Thick sherds present and ended with those excavations that produced a small amount of Wickliffe Thick sherds. The large amount of Wickliffe Thick sherds at the site can be explained by a collection formed by several years of excavations taken on by different institutions. The collections are stored at the Wickliffe Mounds Curation Center and the University of Kentucky's William S. Webb Museum of Anthropology.

Southern Illinois

Large sites that contain Wickliffe Thick in their assemblages are few and far between in southern Illinois. This is likely due to the types of surveys taken place in southern Illinois. Only major mound sites such as Cahokia, Kincaid, and the East St. Louis Mound Center have a large sample of ceramics that include Wickliffe Thick (Kelly 1980, Paul Welch, personal communication 2017, Tamira Brennan, personal communication 2017). In American Bottom assemblages, Wickliffe Thick appears in Lohmann Phase (AD 1050-1100) assemblages and is found up to the Sand Prairie phase (AD 1300-1400) assemblages. Other major archaeological sites in southern Illinois are in the uplands, possibly further away and less accessible for trade and cultural influence. These sites such as Millstone Bluff, Hayes Creek, Dillow's Ridge and the Great Salt Spring are the only sites that have had seasons of excavations. Many smaller sites are known only from Phase I surveys. Sites included in this survey are the new East St. Louis Site excavations and the Perrine site (11U796). Both of these sites have a large sample of Wickliffe Thick sherds and the collections are well organized and accessible. A map of the sites is found in Figure 4.5. Datasets were provided for both sites by the Illinois Archaeological Survey. These datasets have not been published currently but are due in late 2018- early 2019 (Tamira Brennan, personal communication 2017). These datasets are not the same information recorded for this project. The datasheets were used as a guideline in order to have consistence in how data was recorded. These datasets are available through the Illinois Archaeological Survey's American Bottom Research Station.

East St. Louis Mound Center (11S706)

During the planned construction of Interstate 55/70 in East St. Louis, large scale excavations took place in order to mitigate destruction of the East St. Louis Mound Center. Excavations from this project took place in 1991-1992 (Northside) and in 1999-2000 (Southside) and helped uncover more information of the large mound center (Pauketaut 2005; Fortier 2007). More recently, excavations took place during the New Mississippi River Bridge project (now called the Stan Musial Veterans Memorial Bridge) in East St. Louis. In 2009-2012, excavations took place in a previously unknown portion of the East St. Louis Mound group. Several funnels were uncovered at the site. Overall, 298 Wickliffe Thick sherds were recovered and 152 sherds with rim portions were uncovered (Tamira Brennan, personal communication 2017). Out of these 152 funnel rim fragments, 95 were analyzed for this study. The collections are stored at the American Bottom Field Station (Illinois State Archaeological Survey) in Fairview Heights, IL.

Because of the close ceramic chronology of the American Bottom region formed by refined and well-dated time periods, radiocarbon dating is rarely conducted. The date of these ceramics are given by component from information given by Tamira Brennan, Director of the American Bottom Field Station (Illinois State Archaeological Survey). Out of the ceramics analyzed, the majority of the ceramics fall into the Stirling Phase (1100-1200 AD). However, there are sherds that are dated to the Early Lohman Phase (1050-1075 AD) and as late as the Moorehead phase (1200 to 1275 AD) from this site.

The Perrine site (11U796)

The Perrine site was excavated in 2017 by the Illinois Archaeological Survey's American Bottom Field Station with a report to be completed in 2018. AMS dating of the site places it in the Tinsley Hill phase (1300-1450 AD) which matches the recovered ceramics (Tamira Brennan, personal communication 2017). The site has a large number of funnels (estimated 15 vessels). Out of the site's assemblage, thirty sherds were analyzed. This collection is stored at the American Bottom Field Station (Illinois State Archaeological Survey) in Fairview Heights, IL.

<table>
<tr><th></th><th>Time Periods</th><th>Western Kentucky</th><th>Southeast Missouri</th><th>American Bottom</th><th>Southern Illinois</th></tr>
<tr><td>1600-</td><td rowspan="9">Mississippian</td><td>Jackson</td><td rowspan="2">Nodena</td><td rowspan="3">Bold Counselor Complex</td><td rowspan="2">Caborn-Welborn</td></tr>
<tr><td>1500-</td><td rowspan="3">Medley</td></tr>
<tr><td></td><td rowspan="3">Cairo Lowland</td><td rowspan="2">Tinsley Hill</td></tr>
<tr><td>1400-</td><td>Sand Prairie</td></tr>
<tr><td>1300-</td><td rowspan="2">Dorena</td><td>Moorehead</td><td>Angelly</td></tr>
<tr><td>1200-</td><td rowspan="5">Malden Plain</td><td>Stirling</td><td>Jonathan Creek</td></tr>
<tr><td>1100-</td><td rowspan="3">James Bayou</td><td>Lohmann</td><td rowspan="2">Douglas</td></tr>
<tr><td></td><td>Edelhardt</td></tr>
<tr><td>1000-</td><td rowspan="3">?</td><td rowspan="3">?</td></tr>
<tr><td>900-</td><td rowspan="2">Late Woodland</td><td rowspan="2">Hoecake</td></tr>
<tr><td>800-</td><td>Black Bayou</td></tr>
</table>

Figure 4.1. Phase Designations and Period Timeline adapted from Pollack 2008, Williams 1954, Fortier 2007, Butler 1991, and Clay 1997.

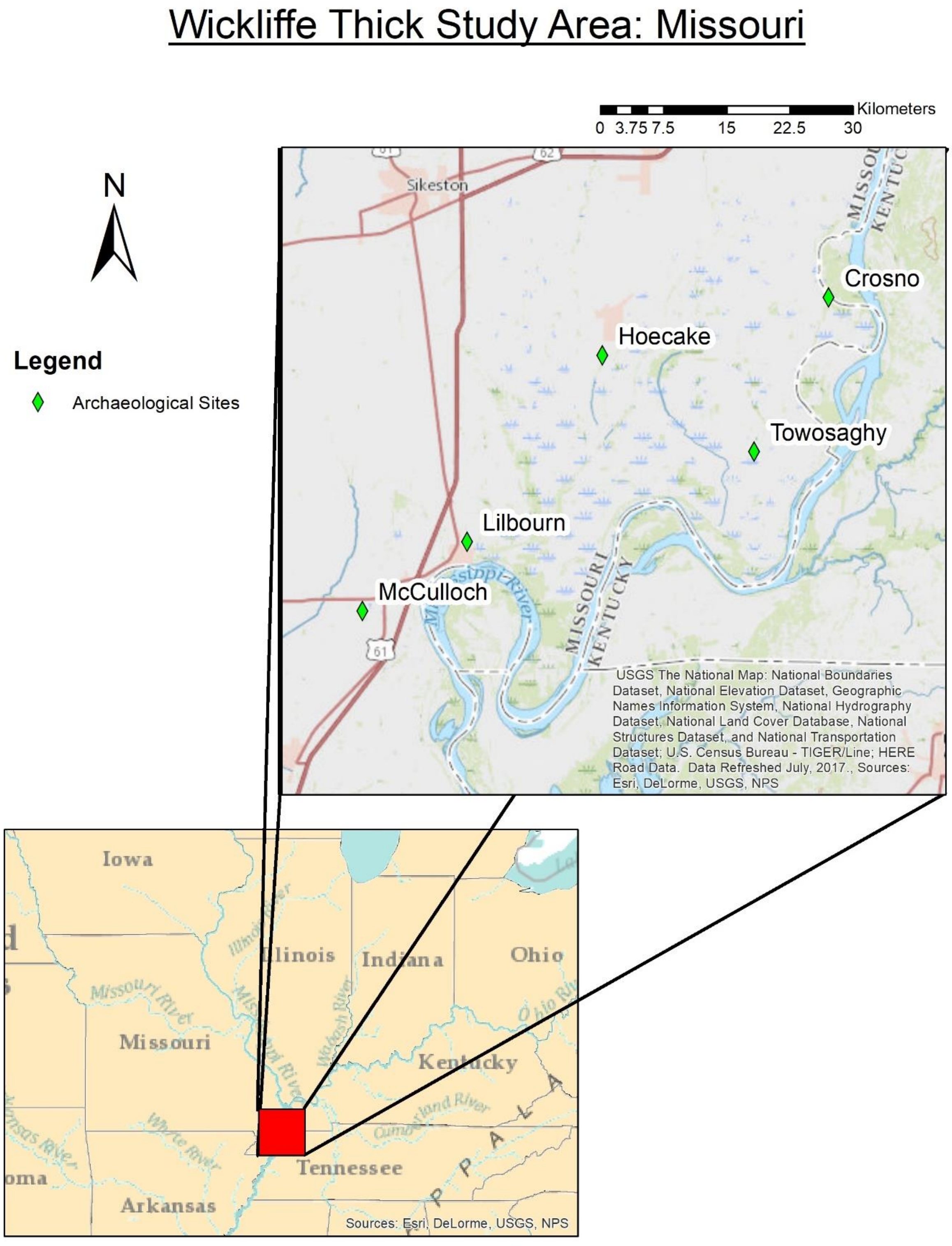

Figure 4.2. Survey Sites in Southeast Missouri

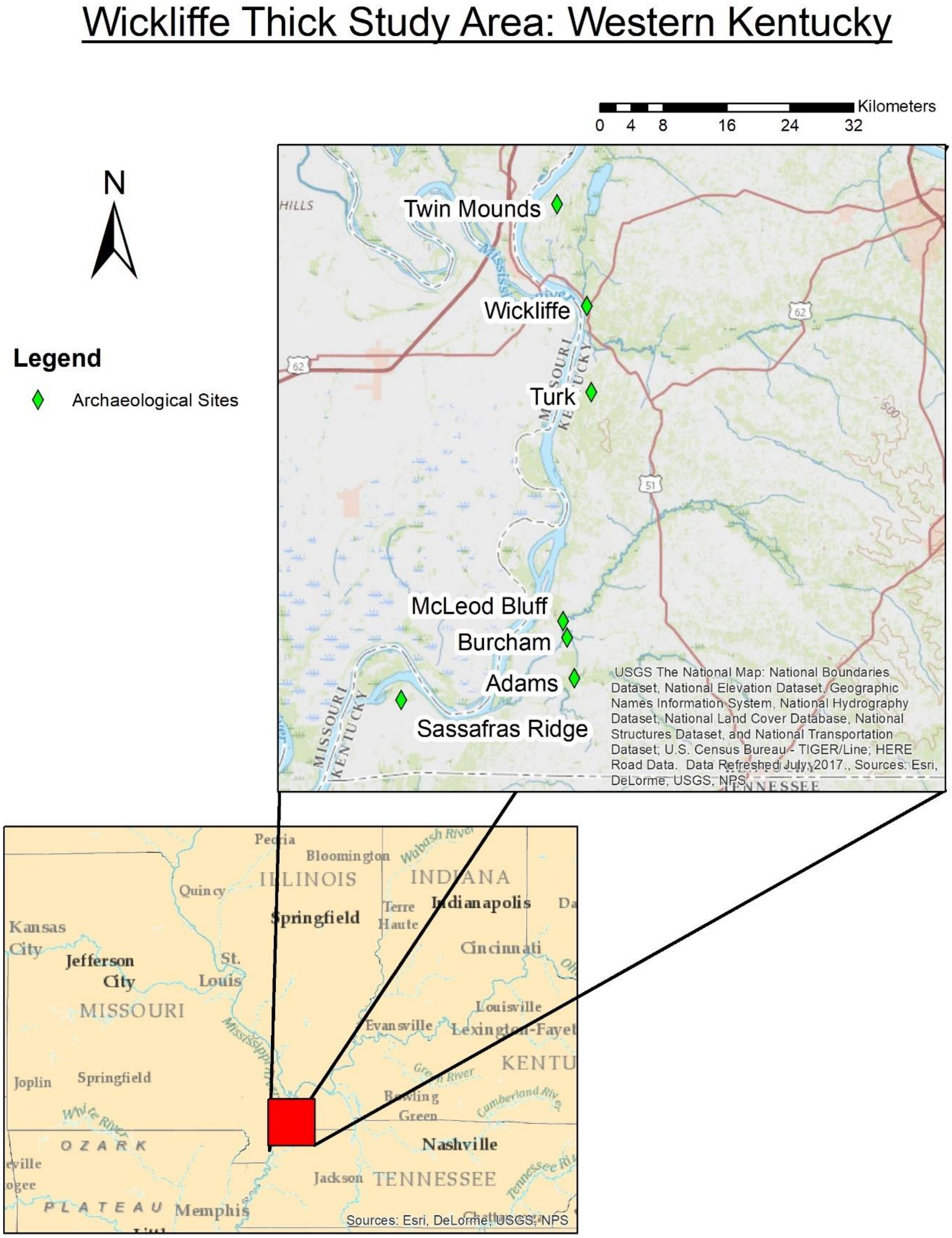

Figure 4.3. Survey Sites in Western Kentucky

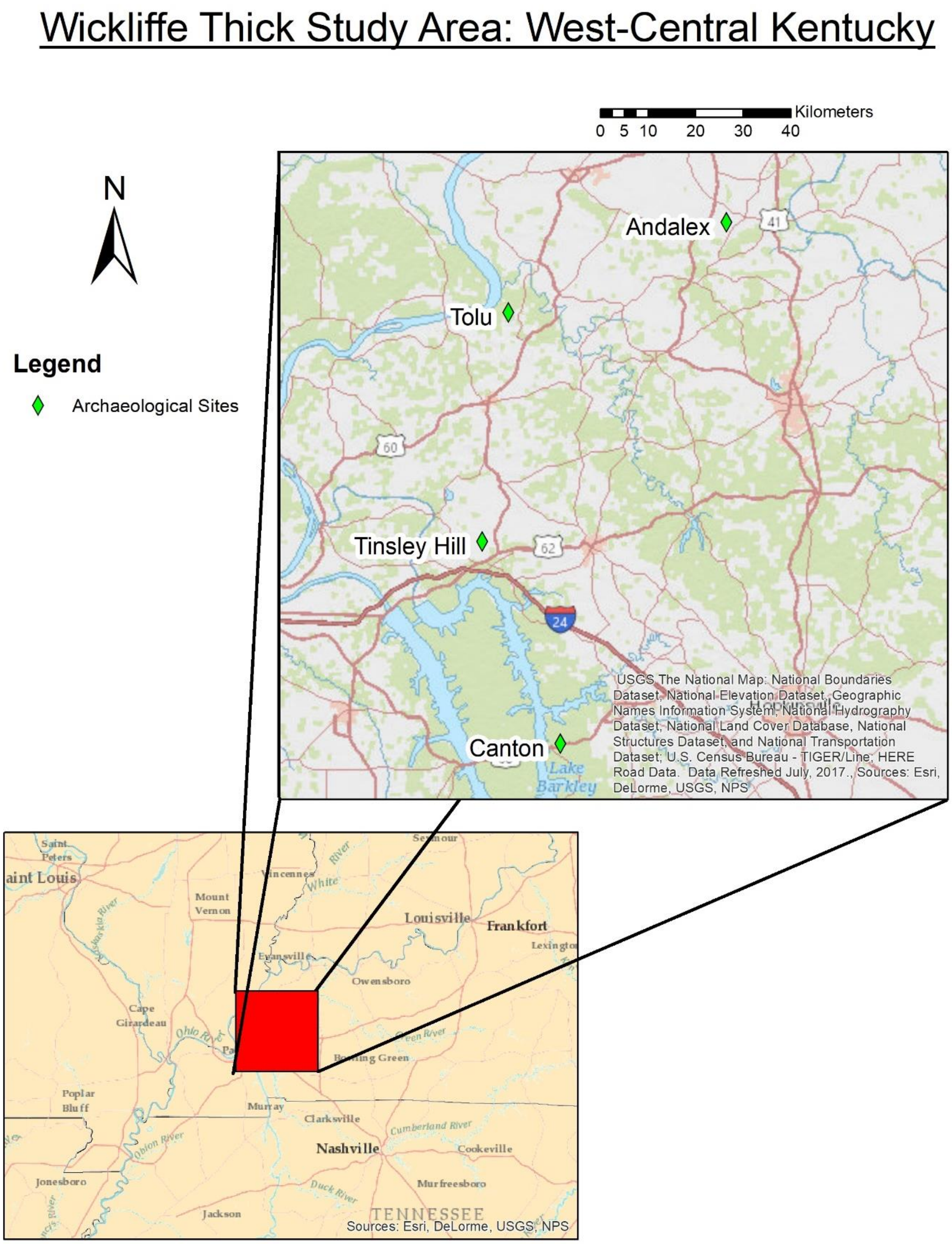

Figure 4.4. Survey Sites in West-Central Kentucky

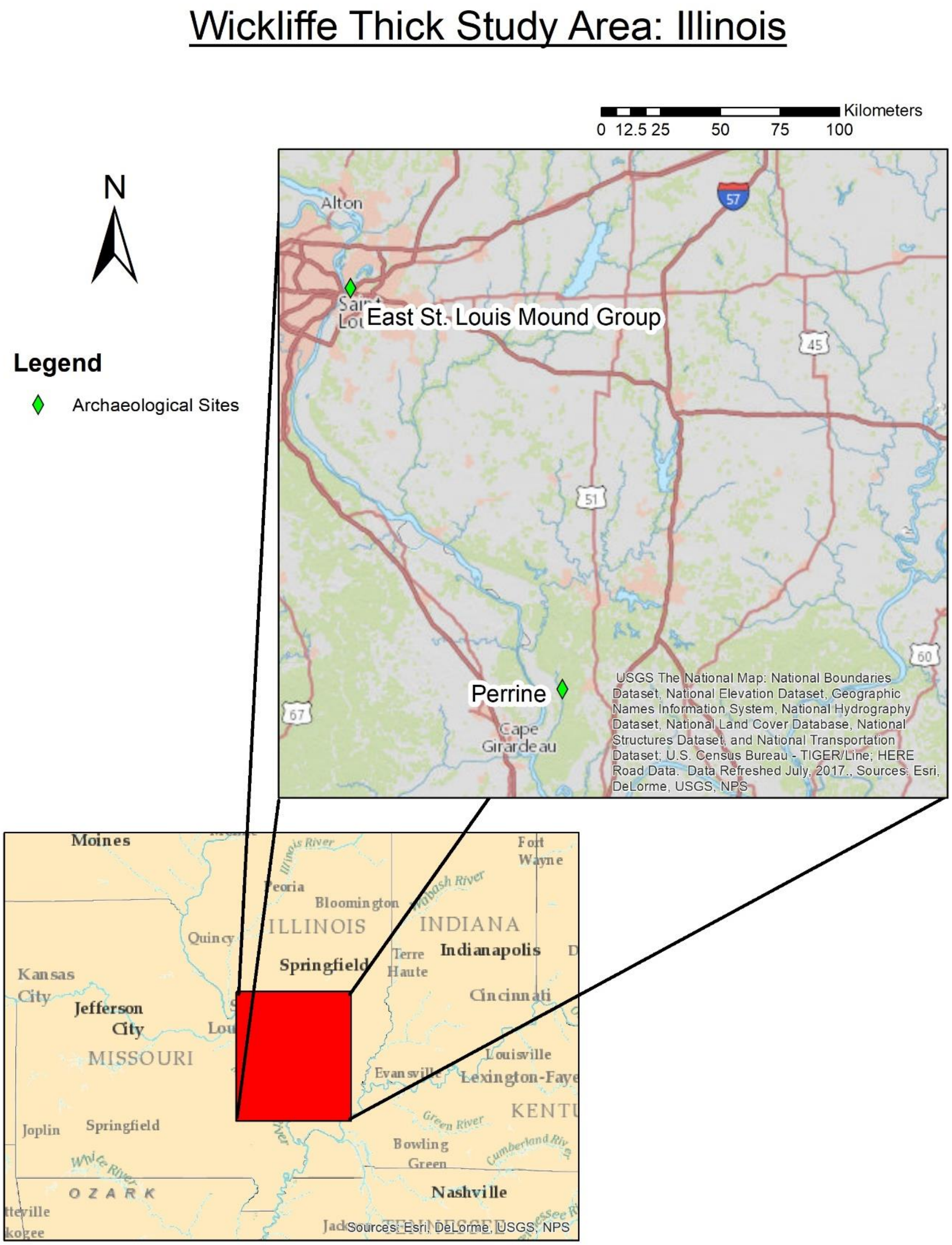

Figure 4.5 Survey Sites in Southern Illinois

CHAPTER 5

RESEARCH HYPOTHESES AND TEST IMPLICATIONS

This project examines the stylistic, functional, technological, and use-wear features of Wickliffe Thick vessels in order to determine their similarities and possible function. This project looks to provide a greater understanding of Wickliffe Thick vessels and their usage within Mississippian lifeways in the southeastern United States. The project will examine the following competing hypotheses using the framework of the theory and background sections presented in earlier chapters:

H_1: Wickliffe vessels functioned as a funnel in salt production.

H_2: Wickliffe vessels functioned as a juice press.

H_3: Wickliffe vessels do function as a salt production vessel and juice press.

If the first hypothesis is correct, then it is expected to find most, if not all of the following conditions:

- When salt is absorbed into the vessel wall, the resulting salt crystallization would create a rough deterioration of the vessel wall over time. The salt would expand in the porous paste creating deformation of the ceramic wall. As O'Brien (1990) documented, the repetition of salt being absorbed into the vessel wall causes microscopic and macroscopic damage.
- When the solution is absorbed into the vessel wall, the researcher would expect the inside of the sherd to contain an abnormal amount of sodium or potassium. Because this project is focused on macroscopic features, this will not be directly examined. However, with this buildup of salts within the vessel wall, you would expect some type of residue to express itself. This could manifest itself as some

type of crystallization on the vessel wall or could be expressed in a discoloration of the sherd surface.

- Other possible use-wear features including cracking of the vessel walls.

If the second hypothesis is correct, we would expect the following:

- First and foremost, through the use of a pestle, whether wooden or ceramic, the force created coming in contact with the vessel wall would cause deterioration. After an extended time of usage, you would expect some type of subtraction of the vessel wall to occur. This could manifest itself in concentric markings, polish, nicks in the side of the vessel, or cracking of the vessel wall as seen by Banducci (2014).
- As shown through part one of the project, the fruit juice is absorbed showing a discoloration of the vessel wall. It is possible that, when repeated a number of times, the juice will stain the inside of the vessel wall resulting in a noticeable color change.

If the third competing hypothesis is true, then it is likely we would see a mix of the traits discussed in both of the previous hypotheses. Use-wear would likely occur on a large percentage of the sample population. With a vessel that can be used for multiple functions, you would expect more wear to occur on the vessel because of its increased usage.

Three other questions will also be assessed by the analysis:

1) What is the orientation of the vessel?

Many archaeologists have assumed that the vessel works as a funnel with the wide opening being the top and the small hole as the bottom, but this is all speculation. This project will also look into the use-wear found specifically on the edges of the rims. This question leads to the following predictions:

- If there is a large amount of use-wear on the large rim (wide opening), then it is likely that the vessel carried out its function with the large rim on a hard surface.
- If there is a large amount of use-wear on the small rim, then it is likely that the vessel carried out its function with the small rim on a hard surface.
- If there is no substantial amount of use-wear on either rim then we would suspect that the vessel was not oriented with either rim coming on contact with a hard surface.

2) What is the temporal and spatial extent of Wickliffe Thick vessels?

This question will be explored through using ESRI's Arc Geographical Information Systems (ArcGIS) software to spatially display the sites in which the study took place. This portion will be strictly looking at the distribution of sites. Secondarily, the project looks to explore the type's temporal extent. This will be accomplished by assembling all the radiocarbon dates from previous excavations with Wickliffe Thick in the same depositional contexts. These dates will give archaeologists a better idea of when Wickliffe Thick was created and where across the study area it occurred first. This part of the study will be complemented by a temporal map using the time slider tool in ArcGIS.

3) Are Wickliffe Thick's stylistic, formal, and technological features similar across regions?

From various archaeological reports, we can see the variability of Wickliffe Thick in areas such as western Kentucky and southeast Missouri, but no study has defined their variability across regions. This study looks to bring in a large sample of Wickliffe Thick to record its variability and to be able to compare descriptive statistics across each region to look at the overall picture of Wickliffe Thick in the southeastern United States.

CHAPTER 6

METHODS

This chapter details the methods followed for the experimental and use-wear portions of the thesis. The first section outlines the methods used in experimental archaeology project. The information covered in this part outlines: documentation and manufacture of pottery vessels, sampling of plant specimens, and the experimental procedure. The second part outlines the methods used during the survey. The information covered in this part outlines: the basic ceramic analyses used, the procedure and documentation, and the sampling strategy.

Project: Part 1

The first part of the project consisted of experiments to determine the effectiveness of Wickliffe Thick vessels at producing salt and/or fruit juices and the use-wear created by these processes during repeated use of the vessels. This project consisted of three phases: Replica Vessel Creation; Salt Production; and Juice Production.

Replica Creation

When creating replica vessels, an archaeologist must look at the ceramic performance characteristics of the finished vessels, the technological processes, and raw materials used in making them (Shimada 2005). Clay vessels, from many sites such as Kincaid in southern Illinois, are assumed to be made from alluvial clays (Welch, personal communication 2017). Alluvial clays would be easier to harvest and would make for quick construction of crude vessels. Higher quality clays would have most likely been saved for vessels that had a more decorative nature with smooth walls and intricate designs, making it easier to decorate and achieve uniformly thick walls. Replica vessels, therefore, were formed using local southern Illinois alluvial clays. Sizes and shapes replicate vessel measurements (length, width, thickness, and orifice diameter) taken from examples of the Beckwith collection at Southeastern Missouri State. The ratio of clay to temper was determined roughly from the cross section of sherds in the Beckwith collection. Because of time and money restraints, thin section petrography was not used, but will be considered for future research to determine clay sources and inclusions within the paste as shown to be useful in past studies by Stoltman (1989, 1991). The vessels were formed using the traditional coiling method shown from a majority of broken sherds in the Beckwith collection. From the measurements taken by Williams (1954), the vessels measure on average 15 centimeters in height, 8 millimeters in thickness, and the large opening diameter measuring 10 centimeters. The replica vessels also follow these measurements. After the vessels were formed, they were set out to dry slowly and evenly as to avoid cracking, deformation, or spalling. Next, the pottery was open-fired for several hours mimicking the style of how most crude prehistoric pottery would have been made in the southeastern U.S. as shown at mound sites such as Angel (Shepard 1980). Different archaeometric analyses could help reveal the firing process details such as firing process, condition, and temperature (Tite 1969, Gosselain 1991). However because of time restraints, these archaeometric analyses were not conducted and instead the project relied on what has been inferred to be the typical firing process. This process would have involved open-firing the pottery which consists of firing the pottery in close proximity of a large fire as shown in Figure 6.1. The pottery is moved closer to the fire until the pottery is left to finish as the fire burns out onto the vessels (Figure 6.2). Although open-firing seems to be the preferred method, Shepard states that it is hard to locate open-fire kilns because they could have easily functioned as cooking fires and their content and composition would not be very different from them (Rye 1981; Shepard 1980).

Four vessels have been formed from the guidelines above, with supervision by Chris Dunn. Dunn has a Master of Fine Arts in Ceramics, years of experience in ancient southeastern pottery making, and agreed to help the P.I. with the learning curve to bypass any concerns of practice effect (Shimada 2005). The vessels chosen for use in the projects consisted of three vessels created by Dunn and I, one created by Dr. Paul Welch, and one created by PhD student, Carlos Batres. While being guided by Dunn, Dunn provided traditional materials and demonstrated techniques used by prehistoric peoples. The guidelines set by the participants were created by strict attention to detail of two whole vessels recovered from Towosaghy (Beckwith's Fort) and which are now housed in the Beckwith collection at Southeast Missouri State's Crisp Museum. Dunn takes an experimental archaeology approach in which he uses methods and tools akin to those in antiquity. Four vessels were chosen out of the six fired. These four vessels were chosen because they were the best exemplar of the Beckwith collection. Three were used for the experiment and one was kept as a backup vessel. Two vessels were used for salt production and one vessel was used for juice pressing.

Salt Production

The goal of the filtration process during salt production is a highly concentrated saline solution. For the creation of the saline solution, the P.I. tested full size plants from the *Chenopodium* family (for plant location maps refer back to Figure 3.1 and 3.2). These plants are low salt accumulators and common weeds in the US (therefore will easily be located). The specimens used for this study were collected from Cahokia Mounds State Historic Site's native garden and were easily identified by the shape of the leaves and seeds. Ten of these plants were collected from this area ranging from four to six feet in height.

The native water lily (*Nelumbo lutea*) was also used as a separate independent variable in the experiment. The American water lily has been found at the Zebree site in northeastern Arkansas and experiments showed large amounts of salt (sodium & potassium) in its shoots (Morse and Morse 1998; Million 1980). The lily specimens collected for this experiment were found at Winter's Pond, near the southwest edge of the Shawnee National Forest on the floodplain of the Mississippi River. These specimens were collected during the month of August. Because the previous experiment showed large amounts of salts stored in the shoots, twenty large lily pads and shoots were collected for analysis ranging from 10 to 16 inches in height.

The experiment will use two Wickliffe funnels, each representing the size documented from the Beckwith Collection at Southeastern Missouri State University. Each plant was prepared for the experiment by being dried and then burned to ash. Plants were dried in a Fisher Scientific Isotemp Oven in order to speed up the process. Native Americans would not have had access to such equipment, but specimens left to dry in the sun would have presumably produced the same product. The ashing of the plants was done using a fire pit and incinerating the plants by introducing fire through the holes in the bottom of the pit. It is important that the fuel used to create the fire (such as wood) does not contaminate the plant ashes. The potash created from the wood would have a large content of potassium salts. In this experiment we are looking for the salts created by the designated salt accumulators without the introduction of potash.

The creation of ash to be used to form saline solutions is documented by the DeSoto expedition (Clayton et al. 1993; Adair 2005: 175-176). This process in the *chaîne opératoire* is vital for destroying tough structures of the plant that hold salt. The plants were burned separately in order to assess each specimen's salt content. After the plants were converted to ash, the plants were measured, and separated into different trials for the experiment. For each plant species, 32 grams of ashes was divided into four 8-gram replicates. One funnel was used for the *Chenopodium album*, and one was used for the water lily. To start the procedure, the measured amount of ashes was combined with 300 milliliters of room-temperature distilled water. The mixture was stirred for one minute and left to sit for thirty minutes to help dissolve the salts. Both funnels were lined with two sheets of cloth and the solution was poured into the funnel. Historically cloth is known to be used in many areas of the southeast as a filter in the salt production process (Brown 1980; Eubanks and Brown 2015). The mixture was then left to drip for ten minutes and then three-fourths of a liter of room temperature distilled water was poured into the funnel to wash out any of the remaining solution. The amounts of time and liquid used were determined from a test trial showing how much liquid could be used in the funnel and how long it would take to fully drip with the cloth strainer. At this point, this process is expected to create a saline solution. The solution was then placed into a glass beaker and evaporated to measure the salts precipitated. Meanwhile, the ceramic funnel was left to dry for twenty-four hours. After this period, the vessels were inspected for use-wear created in process of salt production (spalling, destruction of the vessel wall, etc.). Any use-wear produced would progressively worsen throughout the process. Attrition would increase with use. The vessels were then photographed and documented on a data sheet. The following information was recorded: date (numerical), attrition observed (largely textual description), times vessel has been used (numerical), grams of dried salts (numerical). This process was then repeated on each vessel until the supply of ash was exhausted. This totaled to four filtration events for each funnel. Data was interpreted taking into light Shimada's (2005) concept of "practice effects". Therefore, the data collected by these experiments only comes from the last two experiments. This procedure hopes to make up for any inexperience by having the P.I. get used to the salt production process and lets the P.I. adjust for any concerns during the first trial.

Efficiency was measured by the measured weight of salt collected in the beaker vs. the weight of plant ashes used to produce that salt. The P.I. was conscious that, depending on the importance of salt to the people producing them, the amount of plant needed vs. the salt created, and the work put into it, might not matter to people in antiquity. Therefore, the "efficiency", defined in these terms, was taken in consideration but will not prove or disprove the hypotheses because the efficiency produced was taken into account minimally. This is because of the P.I.'s lack of experience in the salt production process. The comparison of use-wear created and then observed in part 2 will give a clearer picture if it is possible for these funnels to have been used in salt production.

Juice Pressing

The juice production hypothesis proposes that fruit was pressed on the vessels walls to express juice and then the juice was drained through the bottom orifice into a separate vessel. For this project, the P.I. used blackberries because of the ability to find them naturally in southern Illinois. Blackberry seeds have also been recovered from many sites within the such as the Cahokia site (Lopinot 1991). One vessel was used for this experiment. The experiment consisted of crushing fruits within a vessel using a wooden pestle. Wooden pestles would be more logical than stone or ceramic pestles because they would prevent quick destruction of the vessel wall, as the others would likely cause. The vessels were lined with cloth and filled halfway to preserve enough room to crush the fruit. Following the crushing of the fruits, the remaining pulp was rinsed with fifty milliliters of room temperature distilled water. The amount of juice produced was measured as the difference between the total amounts of liquid solution minus the amount of distilled water added. The amount of work used to produce the juice amounted from three to five minutes of pestle contact to make sure all the juice is pressed. This process was repeated daily for two weeks, due to time and material restraints, yielding ten trials of the experiment. Data were collected in similar fashion to the previous experiment. The efficiency was considered secondary to the use-wear as it was in the first experiment. Shimada's (2015) concept of "practice effects" also applies to this experiment. The amount of work needed to press the fruits decreased as the P.I. gained more experience. Because of this factor, only the last portion of the experiments was recorded.

Project: Part 2

The project consisted of an exploratory identification of the stylistic, formal, and technological characteristics of Wickliffe Thick vessels. Standard stylistic characteristics recorded consisted of surface treatment, surface decoration, and rim decoration and detail. Standard formal characteristics recorded included sherd type (e.g. rim, body, shoulder), shape and size of vessel, and thickness. Focus was given to size variation and the orifice diameters of the large opening and the small opening. Standard technological characteristics documented include temper, and ceramic formation techniques (such as coil seams) if applicable.

A use-wear analysis approach was applied to the sample. Use-wear analysis methodologies have been developed in many different parts of the world for ceramics. This project focused on use-wear (attrition) and residues from fire contact (Banducci 2014, Skibo 1992, 2013). Quantitative methods have been developed to use Skibo's qualitative analysis, which characterizes use-wear produced from attrition (abrasion) and fire contact (Banducci 2014). These quantitative methods were applied to those Wickliffe Thick sherds examined in the study. For attrition, Banducci records the location of the abrasion, the orientation (if linear abrasion), and lastly includes a detailed section for descriptions of length, depth, and other important characteristics (Banducci 2014:6). The orientation of linear abrasions was put into four categories: concentric, radial, chordal, and patched. Concentric abrasions run horizontally. Radial abrasions run vertically. Chordal abrasions are those abrasions that are diagonal. Lastly, patched abrasions are those abrasions that are concentrated in a certain area having no clear orientation (Banducci 2014:6). While the types of abrasions are documented, the depth and extent of abrasions were documented through the "Other Attrition Information" descriptive section of the database. The abrasion orientation category will also be adjusted depending on the type of abrasion that appears on the Wickliffe Thick sherds.

Contact with fire was scored in two different ways. The first identifies the location and the second scores the opacity of vessel discoloring. The scoring system for location is attached as Figure 7 in the appendix. The scoring system for opacity is as follows: 1= Barely discernible darkening; 2= Obviously darkened, but vessel color still visible; 3= Vessel color is barely discernible; 4= Surface is totally obscured (opaque black), but no excess material; 5= Black material is thick, flaky/powdery, removable (Banducci 2014:15). To be more representative of the ceramics in the southeastern region, the last score was edited to "having a visible thickness and a consolidated texture".

The stylistic, formal, and technological features were entered into an electronic form (Microsoft Access) which was then populated into a spreadsheet, making for easy access to the data. The form is available in the Appendix as figure 8 and a codebook for the database can be found at the end of the Appendix.

Lastly spatial and temporal data will be evaluated using ESRI's Geographical Information Systems program ArcMap. Sites will be mapped to look at spatial patterning on sites. The mapped sites will then be used to look at temporal patterns using the Time Slider tool. The Time Slider tool will allow the sites to store temporal information. This will create a live progression of sites in ArcMap in order to view the temporal progression of sites over the landscape. The model will use radiocarbon dates for the sites that have produced them. All radiocarbon dates will be calibrated using the OxCal 4.3 program and the IntCal13 calibration curve (Northern Hemisphere). This model hope to give light to any patterns that might exist with spatial and temporal aspects.

Study Area and Sample

The project area is in the southeastern United States, primarily within the states of Kentucky, Missouri, Arkansas, and Illinois. This encompasses the known distribution of Wickliffe Thick in the archaeological record. At the heart of the project is the assemblage at Wickliffe mounds, after which Wickliffe Thick is named, where it is curated at the onsite museum (Carla Hildebrand, personal communication 2016). At the southeastern edge of the study area, lies the Webb Museum which holds the collections from several sites pertinent to my study; such as the Andalex Village site, which represents the furthest eastern site in which Wickliffe Thick is recorded (Niquette et al. 1991). The southwestern boundary is represented by the Zebree site in northeastern Arkansas (Robert Scott, personal communication 2016). Zebree and other Arkansas sites are stored at the Jonesboro research station located at the University of Arkansas campus. In the Missouri "bootheel", sites such as Crosno, Hoecake, and others are curated at the University of Missouri- Columbia Museum of Anthropology (Alex Barker, personal communication 2016). To the north, Cahokia and the East St. Louis Site represent two sites with large collections of funnels (Tamira Brennan, personal communication; Cahokia Cataloging and Rehousing Project). Because ceramics at these two sites were not classified with the type-variety system, both collections will be scanned for Wickliffe Thick and ignore other funnel ceramics such as stumpware. The larger samples come from sites such as Crosno site in southeast Missouri (n=1,302 sherds), Wickliffe Mounds in Kentucky (n=2,260 sherds), and the East St. Louis site in Illinois (n=207 vessels). These larger sites were supplemented with other sites with smaller collections throughout each region. Refer to Chapter IV for more details on each site. Overall, the total number of sites used in this study is eighteen, which lead to a total of 624 samples being analyzed. The 624 samples are broken down into 363 body sherds, 113 small rim portions, 132 large rim portions, 1 indeterminate rim portion, and 10 partial or full vessels containing both rims. Table 6.1 shows every site with the breakdown of where the samples came from and what kind of sherd or vessel they are.

Figure 6.1. Experimental vessels are slowly introduced to the open-fire kiln

Figure 6.2. Vessels are set up in the open-fire kiln. Next the fire will be left to burn out on top of the vessels.

Table 6.1. Sample Type and Location

Region	Sherds				Partial or Whole Vessels	Total from site
	Body	Rim				
		Small	Large	Indeterminate		
Southeast Missouri						
Crosno	69	12	44	0	0	125
Hoecake	9	0	1	0	1	11
Lilbourn	0	0	0	0	2	2
McCulloch	15	1	3	1	1	21
Towosahgy	9	1	3	0	3	16
Western Kentucky						
Adams	17	13	5	0	1	36
Andalex	14	0	1	0	0	15
Burcham	0	0	1	0	0	1
Canton	1	0	0	0	0	1
McLeod Bluff	19	1	2	0	0	22
Sassafras Ridge	1	0	1	0	0	2
Tinsley Hill	2	0	0	0	0	2
Tolu	6	0	0	0	0	6
Turk Mounds	10	3	2	0	0	15
Twin Mounds	4	0	0	0	0	4
Wickliffe	161	53	6	0	0	220
Southern Illinois						
East St. Louis Mound Group	29	21	43	0	2	95
Perrine	2	8	20	0	0	30
Total Sherd Type	368	113	132	1	10	624

CHAPTER 7

RESULTS

This following chapter discusses the results from both parts of the thesis starting with the experimental project and ending with the use- wear survey of Wickliffe Thick. The experimental project gave two sets of results: a demonstration of the work that goes into each proposed use and the documented use-wear found after repeating the salt and juice making processes. The second part of the thesis consisted of a survey of Wickliffe Thick using its currently known boundaries in the southeastern United States. The results below focus on the use-wear analysis, then shift to defining Wickliffe Thick's other characteristics to establish if there are any common functional characteristics that can contribute to the project's goal of determination of function. These baseline statistics are then supported by other lines of evidence determining Wickliffe Thick's temporal and spatial aspects. The use-wear characteristics are then compared by region to determine if the use-wear is different across the study area.

Experimental Results

This part of the thesis outlines the results from the experimental project recreating the salt production and juice pressing processes. The section is broken up into two parts outlining what was observed during the experimental project: the amount of attrition, if any, that occurred, and the amount of product created from the experiment. The data sheets from the experimental project can be found in Appendix B.

Salt Production

The experiments with the lily and chenopodium ended up not having enough resources to run the full experiment. Ten one-gallon bags of lily burned down to only 24 grams of ash and ten six-foot Chenopodium plants burned down to only 30 grams of ash. To have enough ash to replicate the experiments and still have a potent solution, three trials were conducted with each plant (Figure 7.1). The lily produced a small amount of salts which were barely discernable from the surrounding carbonized plant remains. No use-wear was produced from the three trials. The Chenopodium produced no visible salts. The three trials of Chenopodium also produced no macroscopic use-wear. The process of the experiment gave information to where we would expect to see use-wear from this type of salt production. The solution is funneled to the bottom portion of the vessel towards the small orifice because of the use of cloth. The solution also drips down the side of the vessel and around the outside rim. This makes the bottom portion of the vessel and the outer rim the most likely places to find use-wear of this kind.

Juice Pressing

The juice pressing experiments gave little information about the types of long-term use-wear created on the vessels. The projects produced very light use-wear consisting of the removal of tempering agents in the vessel wall and the smoothing of sharp edges. These sharp edges are left by this removal of temper and from the dragging of temper while smoothing the inside of the vessel before firing. At the end of each trial, a staining of the vessel wall occurred from the blackberries (Figure 7.2). This staining seems resistant to washing and it is possible that it would absorb into the vessel wall. The staining occurs at the bottom third of the inside vessel wall including the outside surface of the small orifice (Figure 7.3).

Summary

Overall very few signs of use-wear were recorded from the experimental project. No use-wear was recorded from the salt production process. From the juice pressing experiment, very minor use-wear started to appear consisting of the removal of temper and attrition on gaps in the vessel wall. The staining of the vessel wall is another important indicator of use specific to blackberries.

Survey Results

This part of the thesis outlines the results from the survey of Wickliffe conducted from sites in the southeastern U.S. The section is broken up into four sections outlining what was observed during the survey: the use-wear (attrition and residue looked at separately); stylistic characteristics (surface treatment and decoration); formal characteristics (vessel shape, rim mode, orifice diameter, length, width, thickness); and technical characteristics (temper). These observations are used to gain a baseline knowledge of the characteristics of Wickliffe Thick in each region. Next, the section compares the spatial and temporal aspects of Wickliffe Thick. This portion looks to establish a baseline of when and where Wickliffe Thick emerges in the southeastern U.S and looks to evaluate any patterns the analysis produces. Lastly, the section compares the formal characteristics (large orifice size, small orifice size, thickness, and temper choices) in order to establish similarities or differences between the regions. The ordinal data is assessed using Welch's ANOVA with Bonferroni and Games-Howell comparisons. Each dataset was then converted into ranks and assessed with a Kruskal-Wallis test because of their bimodal histograms. The temper by region data was assessed using an adjusted Chi-Squared test to establish the significance of individual residual values.

Use-wear Analysis

Attrition. Wickliffe Thick sherds and vessels with attrition make up a small portion of the overall sample. Overall, 127 out of 624 sherds (20.35%) exhibit use-wear. An overwhelming majority of the documented use-wear consists of wasting or erosion of the vessel wall, while cracking and abrasions make up a small minority. Descriptive statistics for the attrition results are presented below and are found in Table 7.1.

Regionally, there were differences in the amount of erosion observed on Wickliffe Thick vessels. Out of the sample taken from southern Illinois region sites, fifteen out of 125 samples (12.00%) exhibited wasting/erosion (Figure 7.4). Cracking and linear attritions were documented infrequently, with cracking occurring in only one sherd (0.80%), linear abrasions occurring in only two sherds (1.60%), and both conditions occurring in one sherd (0.80%). Within southeastern Missouri sites, twenty-eight out of 175 samples (16.00%) exhibited wasting/erosion. Displaying a similar trend across regions, cracking and linear abrasions in southeastern Missouri sites were few and far between. Cracking occurred on two sherds (1.14%) while linear abrasions were absent. In the western Kentucky region, the highest amount of attrition was recorded at 22.53% of the sample (73 out of 324). While linear abrasions were again absent from this sample, five sherds exhibited cracking (1.54%).

Use-wear on the rims of Wickliffe Thick is nearly absent (Table 7.2). Out of the 142 large orifice rim samples, three (2.11%) exhibited wasting/erosion while two (1.41%) samples exhibited cracking. Out of the 86 small orifice samples, wasting/erosion, cracking, and chipping/pitting examples were recorded on nine sherds. Wasting/erosion occurred in four (3.25%) samples (Figure 7.5). Cracking occurred in two (1.63%) samples. Lastly, chipping and/or pitting occurred in three (2.44%) samples (Figure 7.6 and 7.7).

In summary, the use-wear recorded on Wickliffe Thick occurred less frequently than expected. Different ceramic types in each assemblage were compared in order to see if depositional erosion has occurred on the sherds. The assemblages chosen were those of low depositional erosion. It is possible, however, that a small portion of the use-wear documented was created during deposition or when they were processed in a lab. So when interpreting these figures, a small range of error is considered. The most common type of attrition was wasting/erosion which amounted to 91.34% of the attrition recorded (116 out of 127). A low amount of use-wear occurred on the vessel's rims.

Residue. Residue found on Wickliffe Thick pottery manifests itself in two ways: organic residue and an unidentified white powder. The white powder, first noted by the Illinois Archaeological Survey's American Bottom Field Station, is strongly represented in all regions except western Kentucky. Overall, 143 out of 624 samples (22.9%) exhibited some type of residue. Descriptive statistics for the residue results are described below and are found in Table 7.3.

From samples within the southern Illinois region, 37.60% of the sherds were documented as having white residue. Next, organic residue was recorded on 6.40% of the samples. The organic residue was black and crusty in texture. In southeastern Missouri, 29.71% of the samples were documented as having a white powder residue, while only one sample contained organic residue (0.57%). The amount of white powder residue observed at the western Kentucky site collections was less frequent than the aforementioned regions. The white powder residue appeared on 9.57% of samples (31 out of 324) while organic residue appeared on three samples (0.92%). Both types of attrition were found on one sample (0.31%).

In summary, the residue recorded on Wickliffe Thick occurred with a moderate frequency. The white powder residue (Figure 7.8) discovered across the regions is an important new clue into other possible functions. White powder amounted to 91.61% of the residue recorded in the survey.

Fire-clouding. The commonality of fire-contact on Wickliffe Thick was measured on both the inside and outside surfaces of each sample. Out of the total samples included in the study, 30.45% of the inside surfaces exhibited fire-clouding while 12.82% (Figure 7.9 and 7.10) of the outside surface exhibited fire-clouding. The results for fire-clouding are found on Table 7.4.

By region, southern Illinois had the largest amount of fire-clouding on the inside of vessels (44.80%), followed by western Kentucky with 29.62%, and southeastern Missouri at 21.71%. Fire-clouding on the outside of the vessels followed in similar fashion with the samples from southern Illinois exhibiting 24.80%. Samples from southeast Missouri and western Kentucky exhibited similar amounts of fire-clouding on the outside at 10.29% and 9.57%, respectively. The opacity of fire clouding was also recorded and the information is displayed in Tables 7.5 and 7.6. This information is not evaluated in depth because the evidence of fire-clouding leads to information about the *chaîne opératoire* and points to reduced atmosphere during firing. During firing an anerobic environment allows the carbon from the fire to be deposited on the pottery giving it a dark finish. Although this is important information, it does not impact the study of function or use-wear. The fire-clouding on the vessels are assumed to be fire-clouding on the basis of color and shape. It is possible that with further study into how this discoloration was formed, it can confirm that this dark discoloration is fire-clouding.

Sooting. The amount of sooting recorded on Wickliffe Thick was low shown on Table 7.7. The outside surface of the sample recorded 7.95% frequency of sooting while the inside recorded 2.63%. Each region exhibited a varying amount of sooting on the inside of the vessels. Southern Illinois had eight samples exhibiting sooting (6.40%) while western Kentucky had three samples (0.93%), and southeastern Missouri had one sample (0.57%). On the outside surface of the ceramics, southern Illinois exhibited 9.60% of sooting. Secondly, western Kentucky had 7.41% of sooting and southeastern Missouri had 6.86% of sooting.

The frequency of the opacity of sooting on the outside surface (Table 7.8) was skewed towards lower rankings in the overall statistics for the survey. The majority of the samples (36.25%), fell into “Obviously darkened, but color still visible” or rank 2. The second highest percentage of the samples (33.75%), fell into the “Barely discernible darkening” category or rank 1. Rank 3 “vessel color is barely discernible” was recorded in 17.50% of the samples. Both rank 4 or “surface is totally obscured (opaque), but no excess material” and rank 5 or “black material is thick, flaky/powdery, removable” were recorded at a much lower frequency; 12.5% and 0.00% respectively. Rank 4 was observed in only ten samples while rank 5 was not observed in the sample.

The opacity of sooting on the inside surfaces of the vessels (Table 7.9) falls into three rankings. The majority of the sooting on the inside surfaces that was observed, falls into rank 2 (37.3%). Second was Rank 3 “vessel color is barely discernible” occurring at 34.74%. Rank 1 was observed at 15.79% with thirty samples. Rank 4 was composed of eighteen samples (9.47%) and Rank 5 was composed of five samples (2.63%).

In summary, sooting primarily appears on the inside surface of the sample rather than the outside surface. The opacity observed on the outside surfaces occurring in all rankings with the majority skewed to rank 1 and 2. The opacity observed on the inside surfaces ranked slightly higher with the most common values being rank 2 and 3. Rank 2 was the highest, occurring in 71 samples while rank 5 was the lowest occurring in only five samples.

<u>Functional Characteristics</u>

Vessel shape. As documented in several past archaeological works, there is one basic shape for Wickliffe Thick (refer back to Figure 1.1). This shape was documented by full or partial vessels across all regions. Besides this basic form, other interesting variations appear in the archaeological record. One of the strangest examples comes from the East St. Louis site (shown in Figure 7.11 and 7.12). The vessel has features that are representative of stumpware, and Wickliffe Thick. Stumpware is a type of vessel primarily found in the American Bottom region, a part of the Mississippi River floodplain that stretches from Alton, IL to the southern Illinois region. This vessel's function is unknown. Stumpware is described as "footed cones" with thick cordmarked walls and holes at the end of the feet (shown in figure). The vessel documented is thick walled, with a flat base, and has an orifice at the bottom similar to Wickliffe Thick. Other variations and anomalies in shape exist like the vessel in Figure 7.13. This vessel has a small orifice that is shifted to the right of the vessel. While the vessel's shape doesn't have much variation, the variation in rim mode is compared in the next section.

Rim mode. The most common rim type across the survey was the direct rim. Direct rims were documented at 75.00% in the total sample. The rim modes by region are documented on Table 7.10. The rim modes are also pictured in Figure 7.14 and 7.15 for the large orifice and Figure 7.16 for the small orifice.

In southern Illinois, direct rims amounted to 68.18% (n=45) of the sample, interior thickness rims amounted to 9.09% (n=6) of the sample, exterior thickness rims amounted to 9.09% (n=6) of the sample, tapering thickness amounted to 3.03% (n=2) of the sample, and everted rims amounted to 10.61% (n=7) of the sample. In southeastern Missouri, 81.13% (n= 43) of the sample was recorded as direct rims, 11.32% (n=6) were recorded as interior thickness rims, 1.89% (n=1) were recorded as exterior thickness rims, 3.77% (n=2) were recorded as tapering thickness rims, and 1.89% (n=1) were classified as an everted rim. In western Kentucky, 77.19% (n= 44) were classified as direct rims, 8.77% (n=5) were classified as interior thickness rims, 3.51% (n=2) were classified as exterior thickness rims, 7.02% (n=2) were classified as tapering thickness rims, and 3.51% of rims were classified as everted rims.

In summary, the most common type of rim mode is the direct rim. Other rim types appear less frequently throughout the regions.

Orifice diameter. The results displaying the descriptive statistics for the small and large orifice are found on Tables 7.11 and 7.17. Across all samples, the mean for the small orifice rim was 3.9 cm (n=71). For the large orifice, 15.2 cm (n=154) was the mean rim diameter. The maximum diameter found for the small orifice is 9.0 cm while the minimum was 2 cm. For the large orifice, 8 cm in diameter was the minimum size found and 26.0 cm was the largest diameter. A boxplot graph can be found on Figure 7.17 showing the distribution of large and small orifices across the three regions.

The mean for the small rim diameter in the southern Illinois region was 3.7 cm. The most common diameter was 5.0 cm. The smallest rim diameter was 2.0 cm while the largest was 8.0 cm. In the southeastern Missouri region, the mean for the small orifice was 4.1 cm. The most common diameter was 3.0 cm. The smallest rim diameter was 2.0 cm while the largest was 9.0 cm. In the western Kentucky region, the mean for the small orifice was 3.9 cm. The most common diameter was 3.0 cm. The smallest rim diameter was 2.0 cm and the largest was 9.0 cm.

The small rim diameter was assessed across the regions using Welch’s ANOVA, post hoc comparisons, and the Kruskall-Wallis test. At a 95% confidence interval, the results of Welch’s

ANOVA showed that there was not a significant difference between regions (Table 7.13). Bonferroni and Games-Howell Comparisons (Table 7.14) also show no significant difference between any specific regions. The small orifice diameters show bimodality of the histograms, and so the small orifice measurements (cm) were converted into ranks (Table 7.15). Again, the test shows no significant difference between the small orifice diameters with a chi-squared value of 0.783 (Table 7.16).

The mean for the large rim diameter in the southern Illinois region was 13.8 cm. The most common diameter was 12.0 cm. The smallest rim diameter was 9.0 cm while the largest was 24.0 cm. In the southeastern Missouri region, the mean for the large rim diameter was 17.5 cm. The most common diameter was 25.0 cm. The smallest rim diameter was 8.0 cm while the largest was 26.0 cm. In the western Kentucky region, the mean for the small orifice was 14.3 cm. The most common diameter was 14.0 cm. The smallest rim diameter was 9.0 cm and the largest was 24.0 cm.

Large orifice diameter was assessed across the regions using Welch's ANOVA, post hoc comparisons, and the Kruskall-Wallis test. At a 95% confidence interval, the results of Welch's ANOVA showed a significant value (p=0.006; Welch statistic=5.488)(Table 7.18 and 7.19). The test revealed a significant difference when comparing the large orifice diameter of each region. Bonferroni and Games-Howell Comparisons (Table 7.20) show identical results for region vs. region comparisons. Several significant values emerge in the Bonferroni comparison showing that there is a significant difference between the large orifice diameters in Kentucky and Illinois (p=0.027) and Kentucky and Missouri (p=0.002). This is also validated by the significant values produced by the Games-Howell comparisons (Kentucky and Illinois, p=0.047; Kentucky and Missouri, p=0.004). Because of the bimodality of the histograms, the orifice measurements (cm) were converted into ranks. The mean ranks show that the Kentucky region has a much greater large orifice size (Table 7.21). A Kruskal-Wallis test was performed and revealed a significant result (p=0.014;df=2) showing that there is a difference in large orifice diameters across regions (Table 7.22).

Thickness. Thickness across regions averaged to 1.2 cm. In southern Illinois, the average thickness was 1.2 cm. The minimum thickness was .5 cm and the maximum thickness was 1.9 cm. In western Kentucky, the mean thickness was 1.2 cm. The minimum thickness was 0.1 cm and the maximum thickness was 2.9 cm. In southeastern Missouri, the mean thickness was 1.3 cm. The minimum thickness was 0.8 cm and the maximum thickness was 2.8 cm. The thickness statistics are presented in Table 7.23 and a boxplot graph can be found on Figure 7.18 showing the distribution of sherd thickness across the three regions.

Thickness was assessed across the regions using Welch's ANOVA, post hoc comparisons, and the Kruskall-Wallis test. At a 95% confidence interval, the results of Welch's ANOVA showed a significant value (p=0.000; F=15.818)(Table 7.24 and 7.25). The test revealed a significant difference when comparing the sherd thickness of each region. Bonferroni and Games-Howell Comparisons (Table 7.26) show identical results for region vs. region comparisons. The thickness of sherds recovered from the Missouri region show a statistically significant difference from those in Illinois and Kentucky (p=0.000). Because of the bimodality of the histograms, the thickness measurements (cm) were converted into ranks. Again, the mean rankings demonstrate that the Missouri region has an overall larger sherd thickness (rank mean=253.83) than those in Illinois (rank mean=353.44) and Kentucky (rank mean=328.39) (Table 7.27). A Kruskal-Wallis test was performed and revealed a significant result (p=0.000;df=2) showing that there is a difference in sherd thickness across regions (Table 7.28).

Stylistic Characteristics

Surface Treatment and Decoration. Overall in the survey, incised and plain surface treatment was the most common. Incised samples made up 40.26% of the samples while plain samples made up of 50.80%. In the western Kentucky region, incised samples (35.19%; Figure 7.19 and 7.20) were less common than plain samples (56.17%). Other types of surface treatment and decoration were recorded. Six samples were cordmarked (1.85%) and impressed (1.85%). One sherd was decorated with a red/orange slip (0.31%). Fifteen sherds (4.63%) from this region were too eroded to be able to tell if there was any surface treatment or decoration present. In southern Illinois, plain samples (52.80%) were more common than incised samples (33.60%). Two samples (1.60%) were cordmarked and eight samples (6.40%) had an red/orange slip. Seven sherds (5.60%) were too eroded to be able to tell if there was any surface treatment or decoration. In southeastern Missouri, Incised sherds were most common at 52.00% and Plain sherds fell after at 43.43%. Only one sherd (0.57%) was cordmarked and none exhibited a slip. Seven samples were too eroded to be able to tell if there was any surface treatment or decoration.

Technical Characteristics

Temper. Temper across the survey area is represented in many different combinations of shell, grog, and other materials. The temper percentages can be found in Table 7.29. In almost every sample, the temper that is documented has a coarse and chunky quality. The most common temper in the survey area is shell at 35.10%. The second most common is grog and shell which makes up 27.89% of the sample. Grog is the third most common type at 25.32%. The other types that are represented include grit and grog (1.76%), grit and shell (1.12%), grog and limestone (1.12%), limestone and shell (0.96%), limestone (0.48%), grit, grog and shell (0.48%), and grit (0.16%).

By region, temper is shown to have commonalities. In southern Illinois, the most common temper type is grog with 40.00% (n=50) of the samples consisting of this type. The second most common type is grog and shell with 29.60% (n=37) samples recorded of this type. Close to the number of grog and shell tempered samples, are those that are tempered with shell. Shell temper consists of 27.20% (n=34) of the sample. Other infrequent classifications of temper include grog and limestone (2.40%, n=3), and indeterminate (0.80%, n=1) categories.

Southeastern Missouri sites show a very different pattern. The most common temper type in this region is shell (44.00%, n=77). The second most common type is grog and shell (18.29%, n=32). The third most common type is grog (16.57%, n=29). Other temper types occur more infrequently such as shell and limestone (3.43%, n=6), grit and grog (3.43%, n=6), grit and shell (2.84%, n=5), grog and limestone (1.71%, n=3), limestone (1.14%, n=2), grit (0.57%, n=1), grit, grog, shell (0.57%, n=1), and indeterminate sherds (7.43%, n=13).

Tempering practices in the sample from western Kentucky were more similar to that of southeastern Missouri. The most common temper type recorded was shell (33.02%, n=107) with grog and shell tempering as a close second (32.41%, n=105). Grog was also a common temper type with 78 of the samples (24.07%) exhibiting grog tempering. Other less common temper types include: grit and grog temper (1.54%, n=5), grit and shell temper (0.62%, n=2)

Temper was also compared across each region through a Chi-squared test of association performed at the 95% confidence level (Table 7.30). A statistically significant difference of temper types used across the regions was discovered (x2=67.591; df=18; p=.000). Cramer's V also found that there was a statistically significant at p=.000 and with a strong value of .240. A Post hoc comparison, in order to assess individual values, showed several statistically significant values. With adjusted critical p value of .001667 the following conclusions were made. Grog was used more commonly in the Illinois region than in Missouri and Kentucky. The use of grog and shell used in the Missouri region was different than in Illinois and Kentucky. Lastly, Shell was used more in Missouri, to a significant degree, than in Illinois and Kentucky.

Spatial/Temporal Aspects

Twelve sites produced radiocarbon dates that were recovered from the same provenience as Wickliffe Thick. These radiocarbon dates are displayed in Table 7.31. All dates were calibrated using the same calibration curve (IntCal 13; Reimer et al. 2013) to produce comparable answers. Each calibration curve graph can be found in Appendix B. The Bruce Catt site (3CY91), which dates to the Early Mississippian, has radiocarbon dates ranging from 1016 (95.4%) 1155 calAD (Morrow and Scott 2013). The site is believed to be a melting pot in which several new pottery types emerge.

The three maps created shows the progression of Wickliffe Thick over time and space using the radiocarbon dates (absolute dating) and the dates from the East St. Louis Mound Group (relative dating). Although the East St. Louis Mound Group dates are not an absolute dating method, the phase designations from the American Bottom have little time between phases and have been fine-tuned by years of excavations and dating. These phases often have a time span shorter than the standard deviation of a radiocarbon date which makes them as precise as radiocarbon dates. The first map (1000-1040 calAD) shows the earliest dates that are produced from the radiocarbon samples (Figure 7.21). These sites include Bruce Catt (3CY91), Adams (15FU4), and Andalex (15Hk22). The East St. Louis Mound Group's Early Lohman phase starts at 1050 AD. This is shown in the second map (Figure 7.22) Lastly many other sites within the study area appear after 1100 calAD. These sites are Wickliffe (15BA4), Twin Mounds (15BA1), Turk (15CE6), and Burcham (15HI15). The final map is shown in Figure 7.23.

Summary

Almost all use-wear types are infrequent in the assemblage. The white efflorescence creates new questions that are further discussed in the next chapter. The characteristics of Wickliffe Thick described in this section have similarities to each region showing that possibly there is a uniform way to create Wickliffe Thick and similar styles, across regions. Lastly, the temporal and spatial aspects are focused around the Ohio-Mississippi confluence region and, temporally, during the early to middle Mississippian. These ideas will be explored as to what they mean to anthropology below.

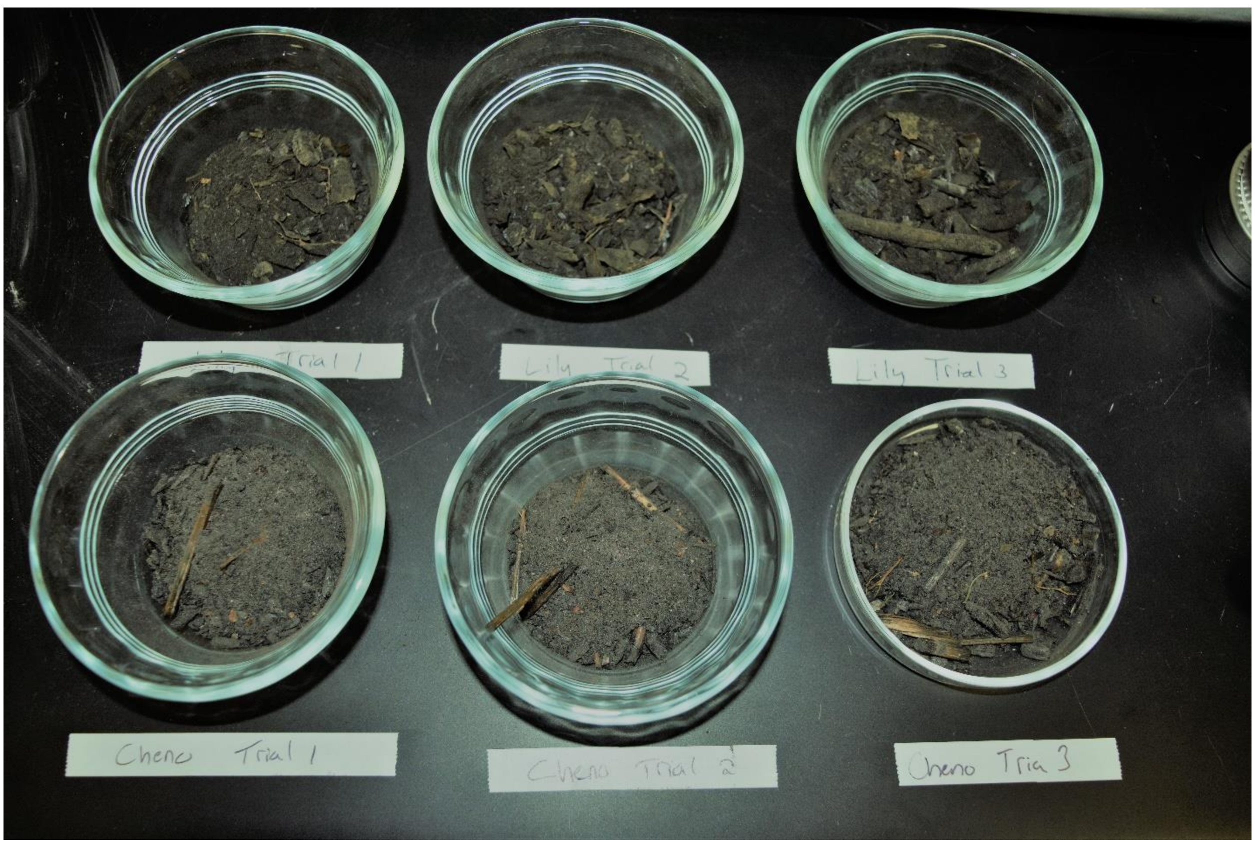

Figure 7.1. Ashed plants used for experimental project.

Figure 7.2. Staining after pressing blackberries for juice

Figure 7.3. Staining on the outside of the small orifice

Figure 7.4. Sherd with extensive use-wear created erosion.

Figure 7.5. Chip and erosion at small orifice.

Figure 7.6. Small orifice sherds with chipping on edge. (refer to 7.5 for close-up)

Figure 7.7. Chipping on edge of rim sherd (Close-up of 7.4.)

Figure 7.8. Example of white efflorescence on sherds.

Figure 7.9. Example of fire-clouding (with scale)

Figure 7.10. Example of fire-clouding (top, outside; bottom, inside)

Figure 7.11. Wickliffe-Stumpware Hybrid (from side)

Figure 7.12. Wickliffe-Stumpware Hybrid (from bottom)

Figure 7.13. Wickliffe Thick with smaller orifice on vessel side

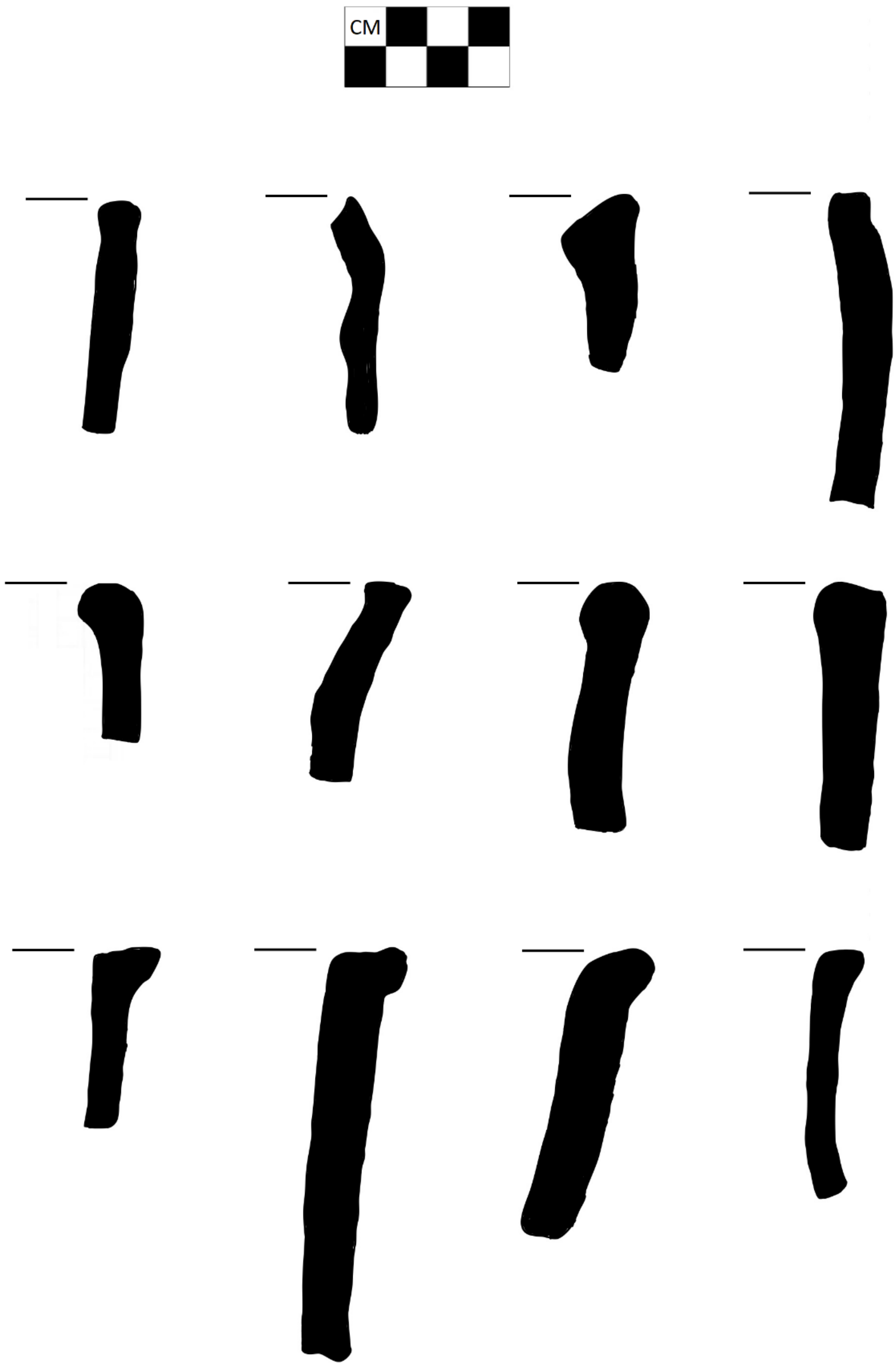

Figure 7.14. Rim modes of Wickliffe Thick large orifices: direct rim (first row), interior thickness (second row), and exterior thickness (third row).

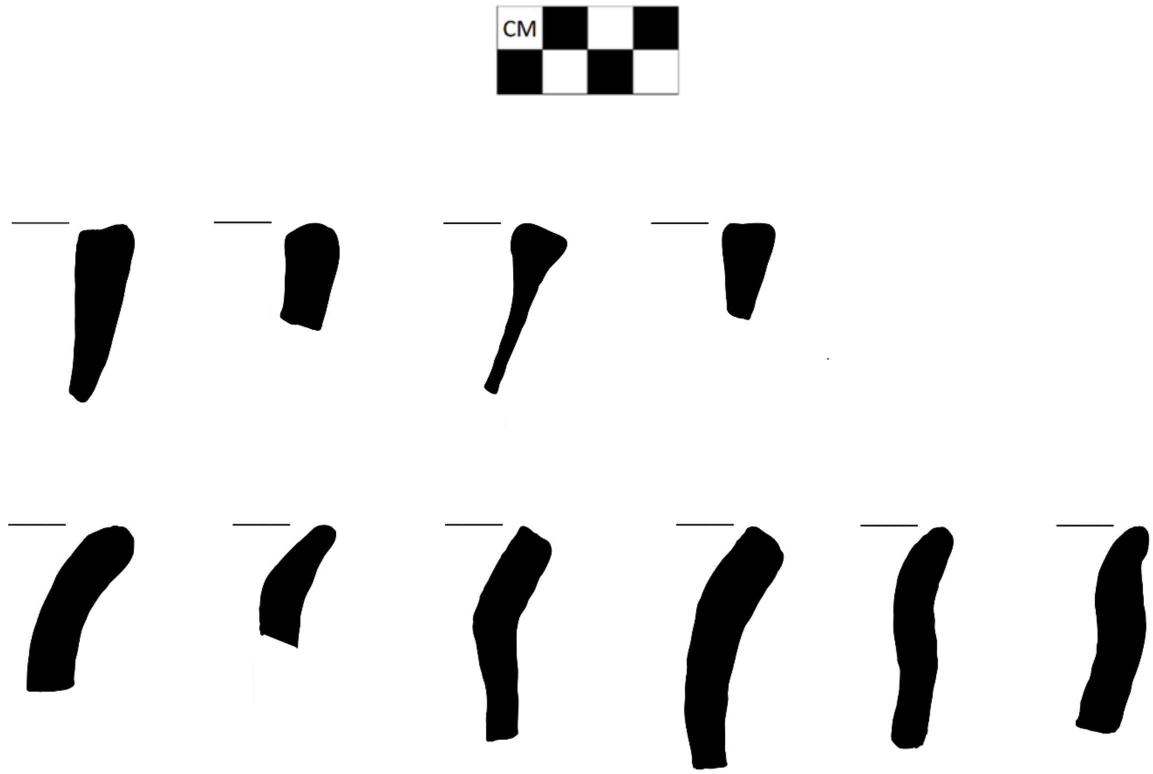

Figure 7.15. Rim Modes of Wickliffe Thick Large Orifices: Tapering Thickness (first row) and Exverted Rim (second row).

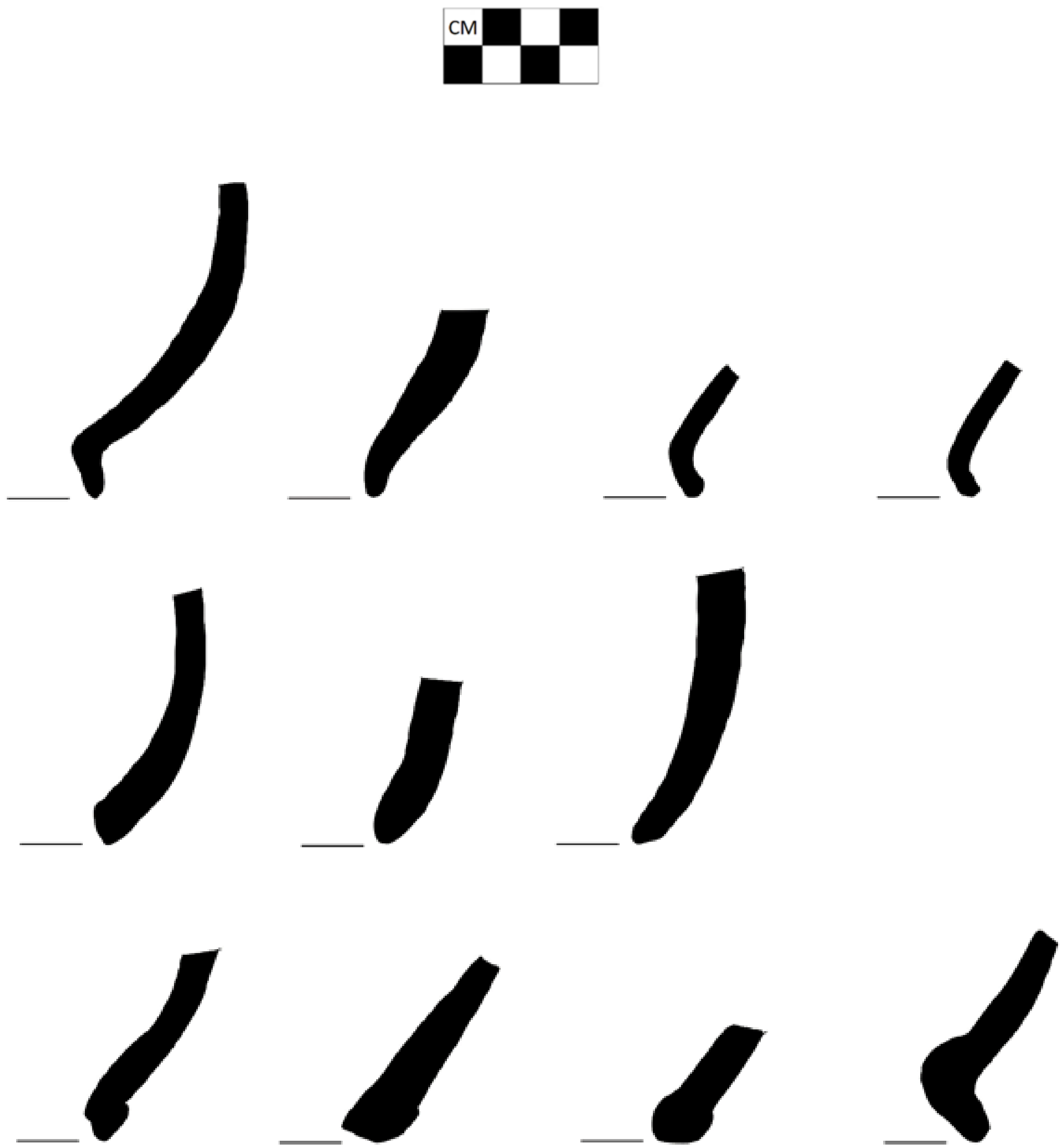

Figure 7.16. Rim Modes of Wickliffe Thick Small Orifices: Interior Thickness (first row), Direct Rim (second row) and Exterior Thickness (third row)

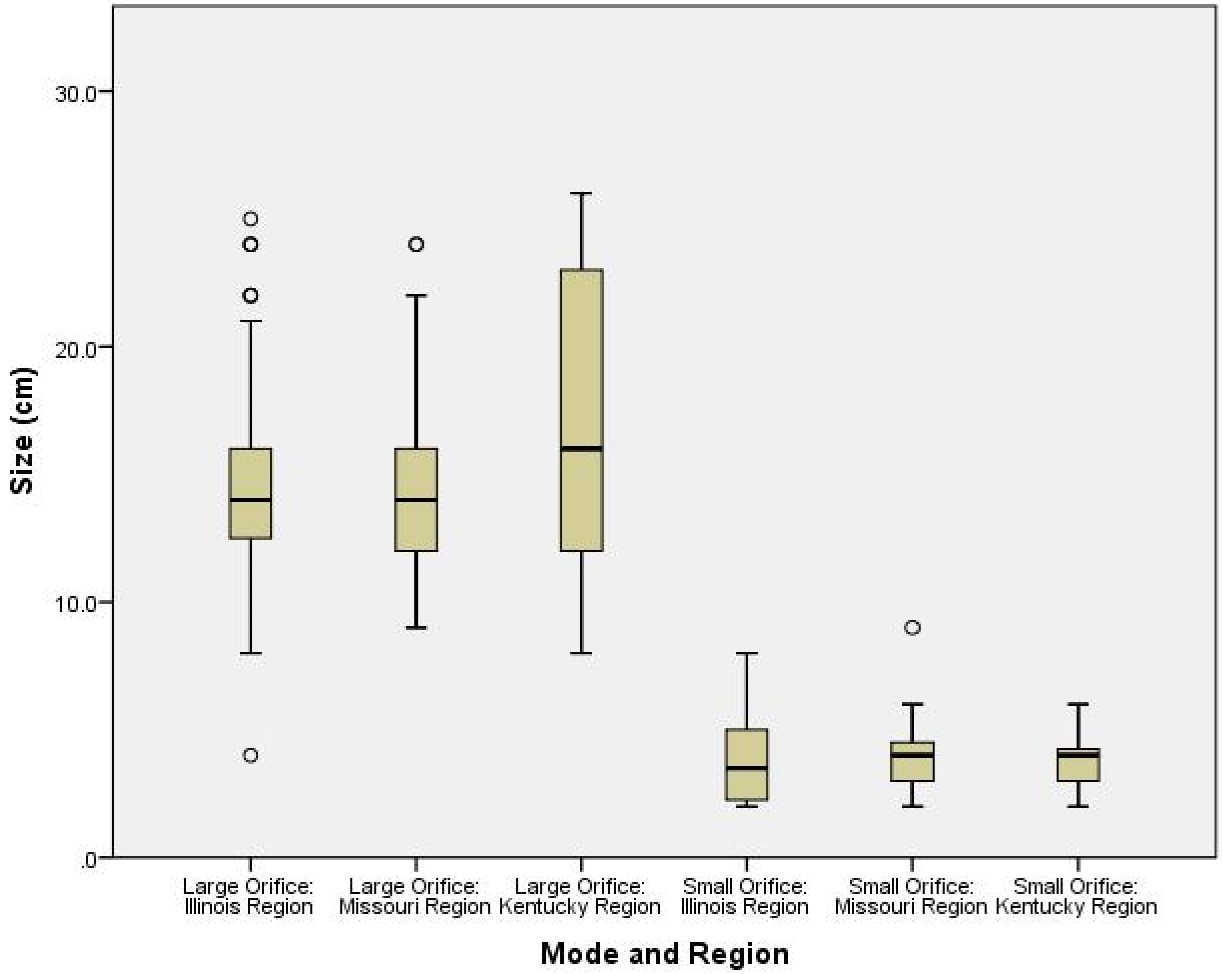

Figure 7.17. Boxplots of different orifice modes at each region.

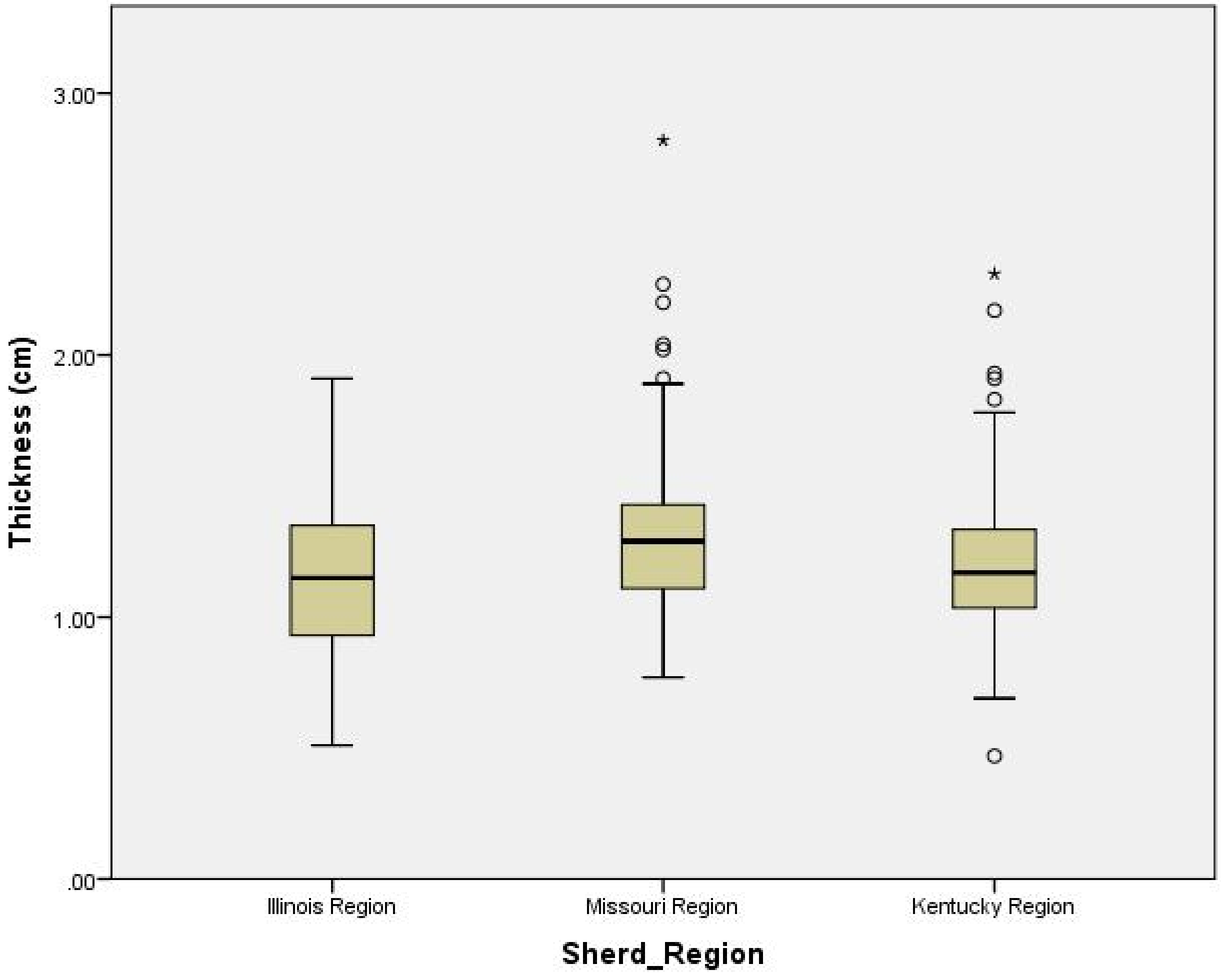

Figure 7.18. Boxplots of sherd thickness (cm) in each region.

Figure 7.19. Wickliffe vessel with vertical incising

Figure 7.20. Various types of incising on Wickliffe Thick

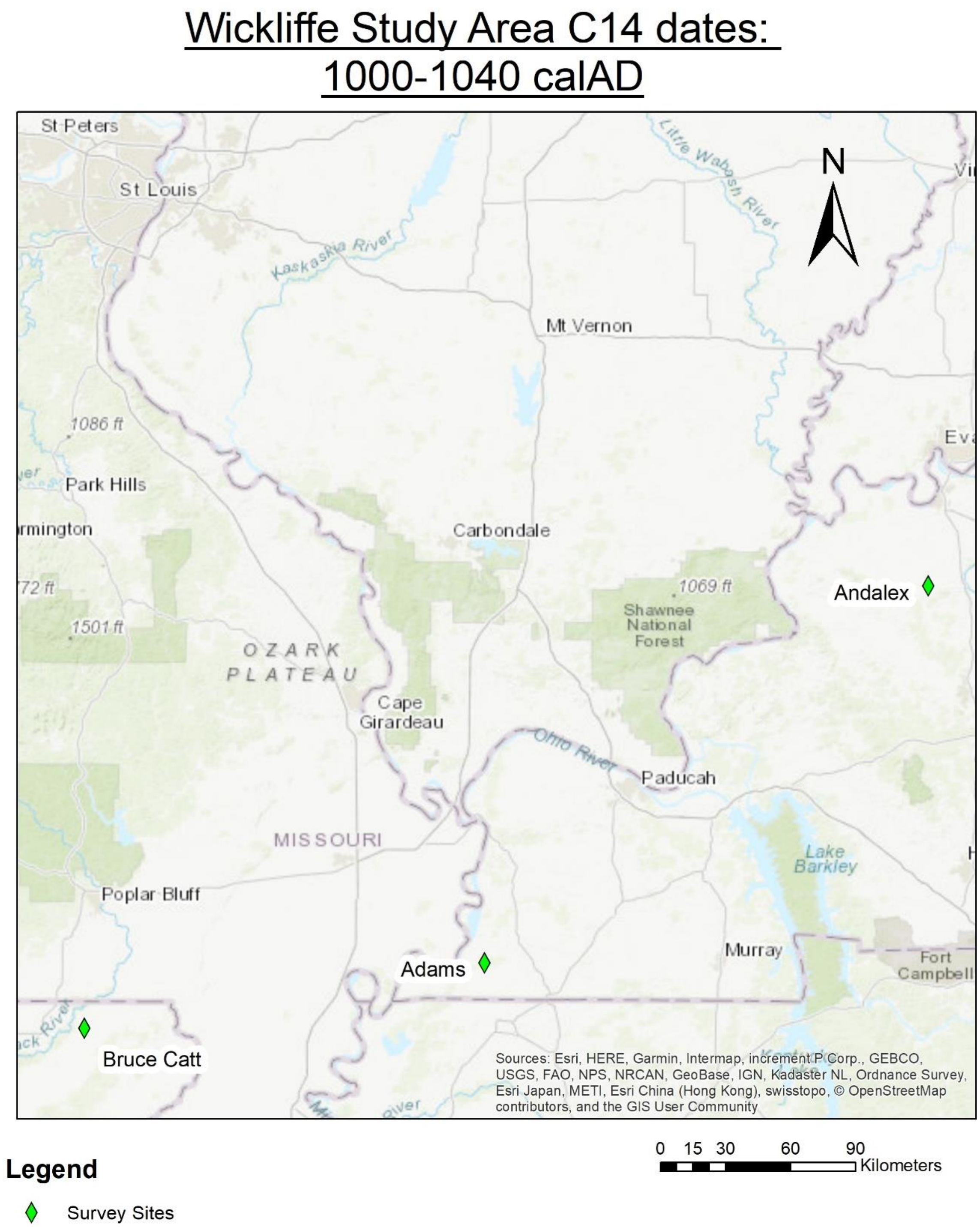

Figure 7.21. Map of Wickliffe Thick sites from 1000-1040 calAD

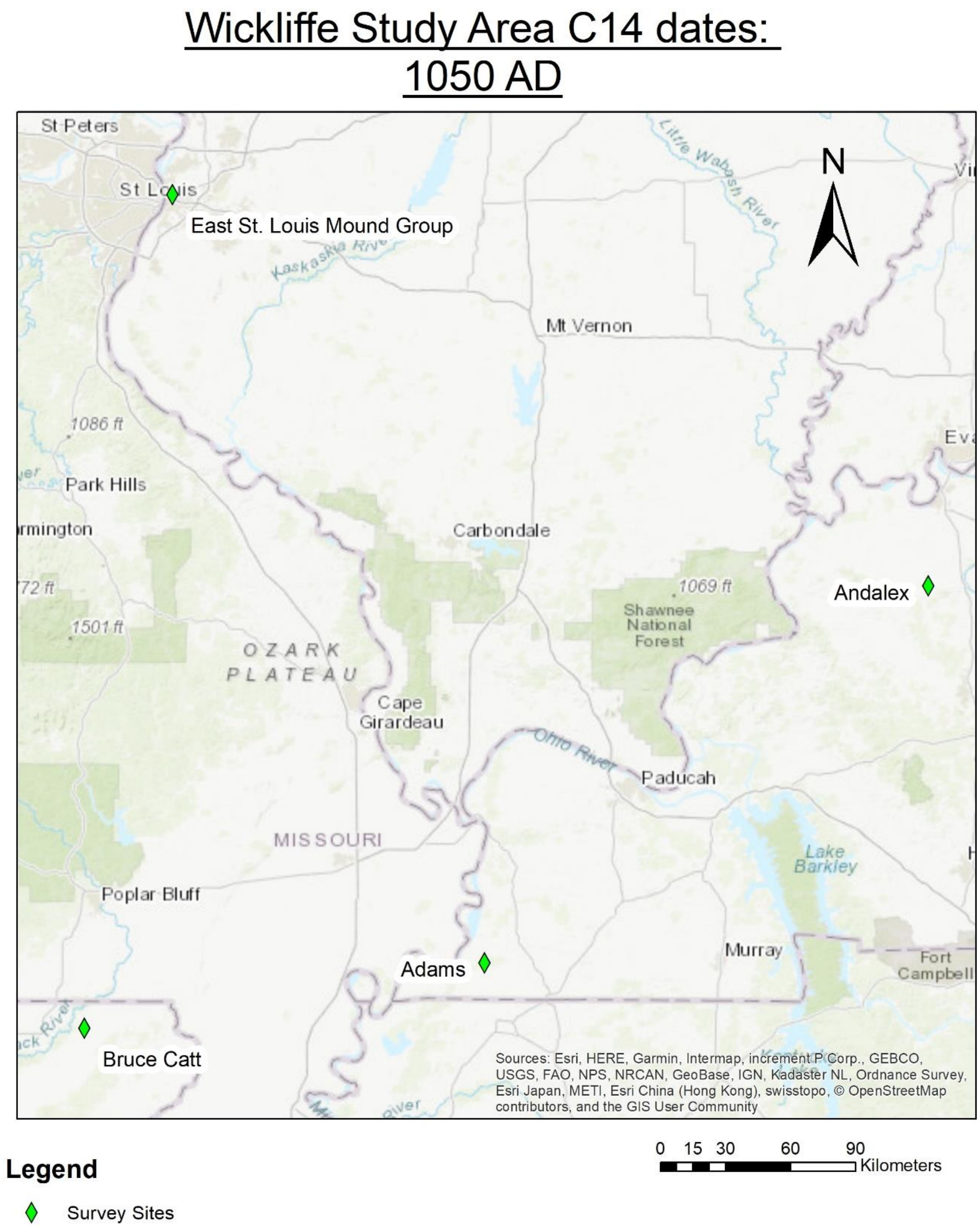

Figure 7.22. Map of Wickliffe Thick sites at 1050 AD

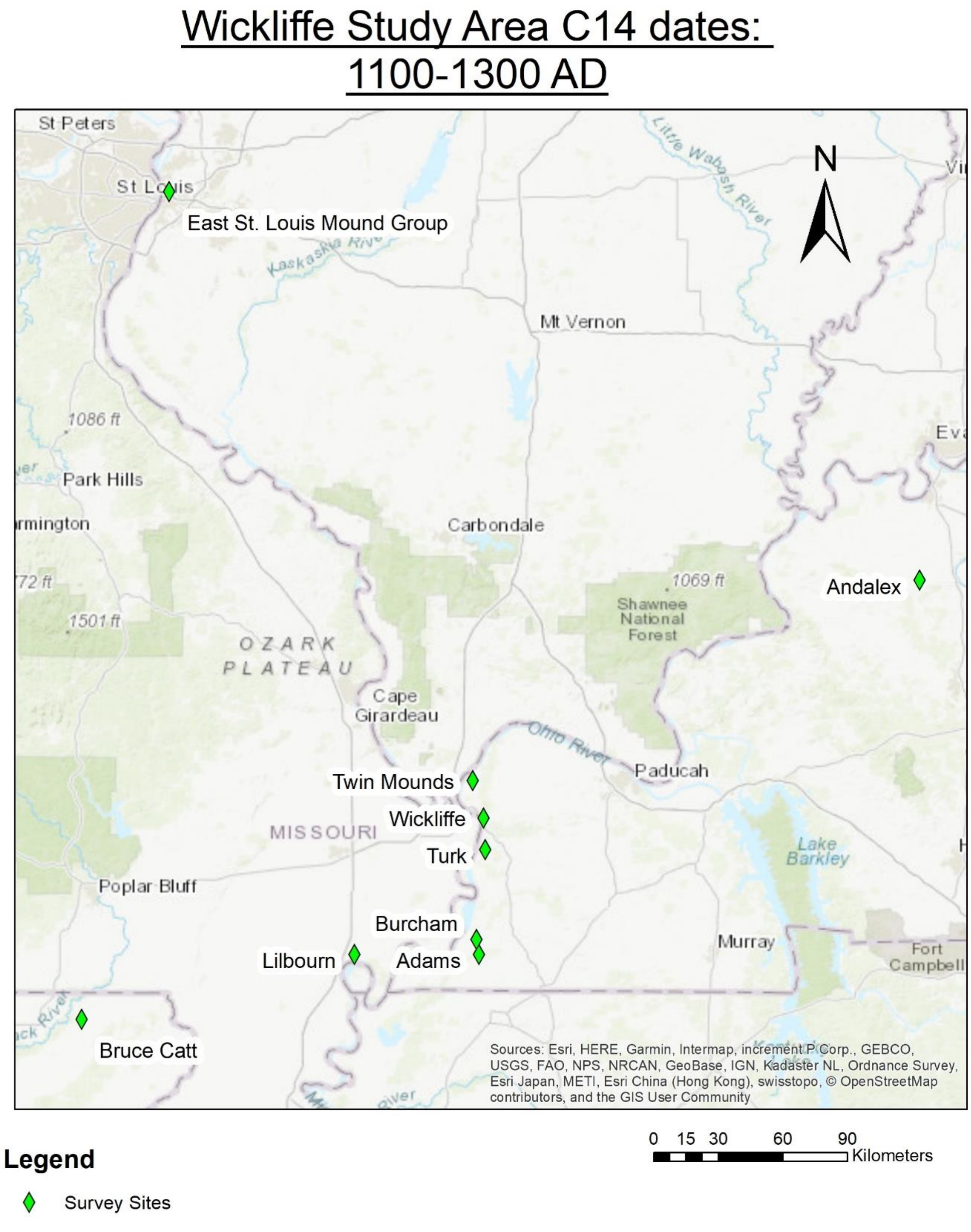

Figure 7.23. Map of Wickliffe Thick sites from 1100-1300 calAD

Table 7.1**.** Type of Attrition Observed.

Region	Wasting/Erosion		Cracking		Linear		Linear w/ Cracking		Absent		Total by Site	
	n	%	n	%	n	%	n	%	n	%	n	%
Southern Illinois	15	12.00	1	0.80	2	1.60	1	0.80	106	84.80	125	100.00
Southeastern Missouri	28	16.00	2	1.14	0	0.00	0	0.00	145	82.86	175	100.00
Western Kentucky	73	22.53	5	1.54	0	0.00	0	0.00	246	75.93	324	100.00
Total by Attrition Type	116	18.59	8	1.28	2	0.32	1	0.16	497	79.65	624	100.00

Table 7.2. Rim Attrition

Orifice	Wasting/Erosion		Cracking		Chipping/Pitting		Absent		Total by orifice	
	N	%	n	%	n	%	n	%	n	%
Large orifice	3	2.11	2	1.41	0	0.00	137	96.48	142	100.00
Small orifice	4	3.25	2	1.63	3	2.44	114	92.68	123	100.00
Total by attrition type	7	2.64	4	1.51	3	1.13	251	94.72	265	100.00

Table 7.3. Type of Residue Observed

Region	White Powder		Organic		Both		Absent		Total by Site	
	n	%	n	%	n	%	n	%	n	%
Southern Illinois	47	37.60	8	6.40	0	0.00	70	56.00	125	100.00
Southeastern Missouri	52	29.71	1	0.57	0	0.00	122	69.71	175	100.00
Western Kentucky	31	9.57	3	0.92	1	0.31	289	89.20	324	100.00
Total by Residue Type	130	20.83	12	1.92	1	0.16	481	77.08	624	100.00

Table 7.4. Surface of Fire-clouding Observed

Region	Fire-clouding (inside)		Absent		Fire-clouding (outside)		Absent		Total by Site	
	n	%	n	%	n	%	n	%	n	%
Southern Illinois	56	44.80	69	55.20	31	24.80	94	75.20	125	100.00
Southeastern Missouri	38	21.71	137	78.29	18	10.29	157	89.71	175	100.00
Western Kentucky	96	29.62	228	70.37	31	9.57	293	90.43	324	100.00
Total by Fire-clouding	190	30.45	434	69.55	80	12.82	544	87.18	624	100.00

Table 7.5. Opacity of Fire-clouding (outside)

Region	1		2		3		4		5		Total by Site	
	n	%	n	%	n	%	n	%	n	%	n	%
Southern Illinois	10	32.26	8	25.81	9	29.03	4	12.90	0	0.00	31	100.00
Southeastern Missouri	10	55.56	7	38.89	0	0.00	1	5.56	0	0.00	18	100.00
Western Kentucky	7	22.58	14	45.16	5	16.13	5	16.13	0	0.00	31	100.00
Total by Fire-clouding	27	33.75	29	36.25	14	17.50	10	12.50	0	0.00	80	100.00

Table 7.6. Opacity of Fire-clouding (inside)

Region	1		2		3		4		5		Total by Site	
	n	%	n	%	n	%	n	%	n	%	n	%
Southern Illinois	14	25.00	20	35.71	17	30.36	5	8.93	0	0.00	56	100.00
Southeastern Missouri	9	23.68	16	42.11	9	23.68	4	10.53	0	0.00	38	100.00
Western Kentucky	7	7.29	35	36.46	40	41.67	9	9.38	5	5.21	96	100.00
Total by Fire-clouding	30	15.79	71	37.37	66	34.74	18	9.47	5	2.63	190	100.00

Table 7.7. Type of Sooting Observed

Region	Sooting (inside)		Absent		Sooting (outside)		Absent		Total by Site	
	n	%	n	%	n	%	n	%	n	%
Southern Illinois	8	6.40	117	93.60	12	9.60	113	90.40	125	100.00
Southeastern Missouri	1	0.57	174	99.43	12	6.86	163	93.14	175	100.00
Western Kentucky	3	0.93	321	99.07	24	7.41	300	92.59	324	100.00
Total by Sooting	15	2.63	612	97.37	48	7.95	576	92.05	624	100.00

Table 7.8. Opacity of Sooting (outside)

Region	1		2		3		4		5		Total by Site	
	n	%	n	%	n	%	n	%	n	%	n	%
Southern Illinois	3	25.00	3	25.00	2	16.67	3	25.00	1	8.33	12	100.00
Southeastern Missouri	6	50.00	4	33.33	1	8.33	1	8.33	0	0.00	12	100.00
Western Kentucky	9	37.50	6	25.00	7	29.17	2	8.33	0	0.00	24	100.00
Total by Sooting	18	37.50	13	27.78	10	18.06	5	13.89	1	2.78	45	100.00

Table 7.9. Opacity of Sooting (inside)

Region	1		2		3		4		5		Total by Site	
	n	%	n	%	n	%	n	%	n	%	n	%
Southern Illinois	3	37.50	5	62.50	0	0.00	0	0.00	0	0.00	8	100.00
Southeastern Missouri	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	1	100.00
Western Kentucky	0	0.00	2	66.67	1	33.33	0	0.00	0	0.00	3	100.00
Total by Sooting	3	12.50	8	76.39	1	11.11	0	0.00	0	0.00	15	100.00

Table 7.10. Rim Mode by Region

	Southern Illinois		Southeastern Missouri		Western Kentucky		Total across types	
	n	%	n	%	n	%	n	%
Direct Rim	45	68.18	43	81.13	44	77.19	132	75.50
Interior Thickness	6	9.09	6	11.32	5	8.77	17	29.18
Exterior Thickness	6	9.09	1	1.89	2	3.51	9	4.83
Tapering Thickness	2	3.03	2	3.77	4	7.02	8	4.6
Everted Rim	7	10.61	1	1.89	2	3.51	10	5.33
Total across region	66	100.00	53	100.00	57	100.00	176	100.00

Table 7.11. Small Orifice Diameter (cm)

	Southern Illinois	Southeastern Missouri	Western Kentucky
	n=29	n=18	n=24
Mean	3.71	4.11	3.90
Median	3.50	4.00	4.00
Mode	5.00	3.00	3.00
Minimum	2.00	2.00	2.00
Maximum	8.00	9.00	6.00

Table 7.12. One-Way ANOVA of Small Orifice Diameter Variation between Regions

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.729	2	.865	.439	0.649
Within Groups	133.232	67	1.989		
Total	134.961	69			

Table 7.13. Welch's ANOVA of Small Orifice Diameter Variation Between Regions

	Statistic[a]	df1	df2	Sig.
Welch	.343	2	39.348	0.712

a. Asymptotically F distributed.

Table 7.14. Bonferroni and Games-Howell Comparisons of Small Orifice Diameter Variation Between Regions

			Mean Difference	Std. Error	Sig.
Bonferroni	Illinois Region	Missouri Region	-0.397	0.426	1.000
		Kentucky Region	-0.140	0.392	1.000
	Missouri Region	Illinois Region	0.397	0.426	1.000
		Kentucky Region	0.257	0.440	1.000
	Kentucky Region	Illinois Region	0.140	0.392	1.000
		Missouri Region	-0.257	0.440	1.000
Games-Howell	Illinois Region	Missouri Region	-0.397	0.475	0.684
		Kentucky Region	-0.140	0.362	0.921
	Missouri Region	Illinois Region	0.397	0.475	0.684
		Kentucky Region	0.257	0.442	0.831
	Kentucky Region	Illinois Region	0.140	0.362	0.921
		Missouri Region	-0.257	0.442	0.831

Table 7.15. Mean Ranks of Small Orifice Diameter in Each Region

	Ranks
Chi-Square	0.783
Df	2
Asymp. Sig.	0.676

Table 7.16. Kruskal-Wallis Test of Ranked Small Orifice Diameters in Each Region

	N	Mean Rank
Illinois Region	28	38.00
Missouri Region	18	33.03
Kentucky Region	24	34.44
Total	70	

Table. 7.17. Large Orifice Diameter (cm)

	Southern Illinois	Southeastern Missouri	Western Kentucky
	n=59	n=46	n=50
Mean	15.15	14.27	17.38
Median	14.00	14.00	14.00
Mode	14.00	14.00	16.00
Minimum	8.00	9.00	8.00
Maximum	25.00	24.00	26.00

*The mean difference is significant at the 0.05 level

Table 7.18. One-Way ANOVA of Large Orifice Diameter Variation between Regions

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	251.375	2	125.688	6.529	0.002*
Within Groups	2926.260	152	19.252		
Total	3177.635	154			

Table 7.19. Welch's ANOVA of Large Orifice Diameter Variation Between Regions

	Statistic[a]	df1	df2	Sig.
Welch	5.488	2	96.876	0.006*

a. Asymptotically F distributed.
*The mean difference is significant at the 0.05 level

Table 7.20. Bonferroni and Games-Howell Comparisons of Large Orifice Diameter Variation Between Regions

			Mean Difference	Std. Error	Sig.
Bonferroni	Illinois Region	Missouri Region	0.8808	0.8630	0.927
		Kentucky Region	-2.2275	0.8434	0.027*
	Missouri Region	Illinois Region	-0.8808	0.8630	0.927
		Kentucky Region	-3.1083	0.8964	0.002*
	Kentucky Region	Illinois Region	2.2275	0.8434	0.027*
		Missouri Region	3.1083	0.8964	0.002*
Games-Howell	Illinois Region	Missouri Region	0.8808	0.7371	0.459
		Kentucky Region	-2.2275	0.9227	0.047*
	Missouri Region	Illinois Region	-0.8808	0.7371	0.459
		Kentucky Region	-3.1083	0.9365	0.004*
	Kentucky Region	Illinois Region	2.2275	0.9227	0.047*
		Missouri Region	3.1083	0.9365	0.004*

*The mean difference is significant at the 0.05 level

Table 7.21. Mean Ranks of Large Orifice Diameter in Each Region

	N	Mean Rank
Illinois Region	59	80.35
Missouri Region	46	90.18
Kentucky Region	50	64.02
Total	155	

Table 7.22. Kruskal-Wallis Test of Ranked Large Orifice Diameters in Each Region

	Ranks
Chi-Square	8.484
Df	2
Asymp. Sig.	0.014*

*The mean difference is significant at the 0.05 level

Table 7.23. Sherd Thickness by Region

	Southern Illinois	Southeastern Missouri*	Western Kentucky*
	n= 125	n=175	n=322
Mean	1.16	1.32	1.19
Median	1.15	1.29	1.29
Minimum	0.51	0.77	0.1
Maximum	1.92	2.82	2.9

* One sample from Southeastern Missouri and Western Kentucky were determined to be too small to measure

Table 7.24. One-Way ANOVA Sherd Thickness between Regions

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.264	2	1.132	15.818	0.000*
Within Groups	44.363	620	.072		
Total	46.627	622			

*The mean difference is significant at the 0.05 level

Table 7.25. Welch's ANOVA of Sherd Thickness Between Regions

	Statistic[a]	df1	df2	Sig.
Welch	13.718	2	277.481	0.000*

a. Asymptotically F distributed.
*The mean difference is significant at the 0.05 level

Table 7.26. Bonferroni and Games-Howell Comparisons of Sherd Thickness Between Regions

			Mean Difference	Std. Error	Sig.
Bonferroni	Illinois Region	Missouri Region	-.158*	0.031	0.000*
		Kentucky Region	-0.039	0.028	0.500
	Missouri Region	Illinois Region	.158*	0.031	0.000*
		Kentucky Region	.119*	0.025	0.000*
	Kentucky Region	Illinois Region	0.039	0.028	0.500
		Missouri Region	-.119*	0.025	0.000*
Games-Howell	Illinois Region	Missouri Region	-.158*	0.034	0.000*
		Kentucky Region	-0.039	0.030	0.391
	Missouri Region	Illinois Region	.158*	0.034	0.000*
		Kentucky Region	.119*	0.026	0.000*
	Kentucky Region	Illinois Region	0.039	0.030	0.391
		Missouri Region	-.119*	0.026	0.000*

*The mean difference is significant at the 0.05 level

Table 7.27. Mean Ranks of Sherd Thickness
in Each Region

	N	Mean Rank
Illinois Region	125	353.44
Missouri Region	175	253.83
Kentucky Region	324	328.39
Total	624	

Table 7.28. Kruskal-Wallis Test of Ranked Sherd Thickness
in Each Region

	Ranks
Chi-Square	27.502
Df	2
Asymp. Sig.	0.000*

*The mean difference is significant at the 0.05 level

Table 7.29. Temper Type by Region

	Southern Illinois		Southeastern Missouri		Western Kentucky		Total for Temper	
	n	%	n	%	n	%	n	%
Grit	0	0.00	1	0.57	0	0.00	1	0.16
Grit, Grog	0	0.00	6	3.43	5	1.54	11	1.76
Grit, Shell	0	0.00	5	2.84	2	0.62	7	1.12
Grit, Grog, Shell	0	0.00	1	0.57	2	0.62	3	0.48
Grog	50	40.00	29	16.57	78	24.07	157	25.16
Grog, Shell	37	29.60	32	18.29	105	32.41	174	27.88
Grog, Limestone	3	2.40	3	1.71	1	0.31	7	1.12
Shell	34	27.20	77	44.00	107	33.02	218	34.94
Indeterminate	1	0.80	13	7.43	23	7.10	37	5.93
Limestone	0	0.00	2	1.14	1	0.31	3	0.48
Limestone, Shell	0	0.00	6	3.43	0	0.00	6	0.96
Total for Regions	125	100.00	175	100.00	324	100.00	624	100.00

Table 7.30. Post-hoc Adjusted Chi-Squared Test of Temper by Region

Region	Temper	N	Standardized Residual	Cell χ^2	Cell Sig.[a]
Illinois	Grit	0	-0.52	0.270	0.603064
	Grit, Grog	0	-1.73	2.993	0.08363
	Grit, Shell	0	-1.38	1.904	0.167587
	Grit, Grog, Shell	0	-0.9	0.810	0.36812
	Grog	50	3.85	14.823	0.000118*
	Grog, Shell	37	0.05	0.003	0.960122
	Grog, Limestone	3	1.42	2.016	0.155608
	Shell	34	-2.52	6.350	0.011735
	Limestone	0	-0.9	0.810	0.36812
	Limestone, Shell	0	-1.27	1.613	0.204085
	Total	124			
Missouri	Grit	1	1.62	2.624	0.105232
	Grit, Grog	6	2.02	4.080	0.043383
	Grit, Shell	5	2.61	6.812	0.009054
	Grit, Grog, Shell	1	0.22	0.048	0.825871
	Grog	29	-2.99	8.940	0.00279
	Grog, Shell	32	-3.24	10.498	0.001195*
	Grog, Limestone	3	0.91	0.828	0.362823
	Shell	77	3.22	10.368	0.001282*
	Limestone	2	1.52	2.310	0.128511
	Limestone, Shell	6	3.99	15.920	0.000066*
	Total	162			
Kentucky	Grit	0	-1.03	1.061	0.30301
	Grit, Grog	5	-0.39	0.152	0.696537
	Grit, Shell	2	-1.21	1.464	0.226279
	Grit, Grog, Shell	2	0.53	0.281	0.596112
	Grog	78	-0.47	0.221	0.638355
	Grog, Shell	105	2.85	8.123	0.004372
	Grog, Limestone	1	-1.97	3.881	0.048838
	Shell	107	-0.82	0.672	0.412216
	Limestone	1	-0.62	0.384	0.535258
	Limestone, Shell	0	-2.53	6.401	0.011406
	Total	301			

[a]The adjusted significance for this test is 0.001667.
*The result is significant at the adjusted level of 0.001667.

Table 7.31. Radiocarbon Dates Associated with Wickliffe Thick

Lab No.	Site	Provenience	Material	Radiocarbon Dates (rcybp)	Calibrated Dates	Source
ISGS-1150	Adams	Structure 1	Burned post	820±76	1036 (95.4%) 1287 calAD	Lewis 1984:24
BETA-39879	Andalex	Structure 2	Burned post	710±50	1024 (95.4%) 1218 calAD	Niquette et al. 1991: 196
BETA-332115	Bruce Catt	Same layer as Wickliffe Thick	Charred wood	930±30	1025 (95.4%) 1165 calAD	Morrow et al 2013: 9
BETA-322697	Bruce Catt	Same layer as Wickliffe Thick	Charred wood	970±30	1016 (95.4%) 1155 calAD	Morrow et al 2013: 9
ISGS - 1647	Burcham	Wall Trench 1	Carbonized wood on house floor	530±70	1285 (95.4%) 1480 calAD	Kreisa 1988:108
DIC-171	Lilbourn	Structure 1-73	Charred wood	690±120	1119 (91.1%) 1443 calAD 1045 (4.3%) 1097 calAD	Cottier 1977: 308, 311; Rope 1977: 187
DIC-178	Lilbourn	Structure 1-73	Charred wood	580±100	1222 (94.6%) 1495 calAD 1601 (0.8%) 1616 calAD	Cottier 1977: 308, 311 Rope 1977: 187

Table 7.31 (continued). Radiocarbon Dates Associated with Wickliffe Thick

Lab No.	Site	Provenience	Material	Radiocarbon Dates (rcybp)	Calibrated Dates	Source
ISGS-1706	Twin	Unit 1	Post Mold 1	630±70	1266 (95.4%) 1426 calAD	Kriesa 1988: 49
ISGS-1708	Twin	Unit 1	Carbonized wood, midden deposits	770±70	1147 (84.1%) 1317 calAD	Kriesa 1988: 49
					1353 (5.1%) 1390 calAD	
					1046 (4.7%) 1092 calAD	
					1121 (1.5%) 1140 calAD	
ISGS-1288M16:U18	Turk	Unit 1	Wall Trench	710±90	1154 (94.3%) 1421 calAD 1058 (1.1%) 1075 calAD	Edging 1985:11-15
ISGS-1156	Wickliffe	Unit 1	Charred wood from same level as Wickliffe Thick	765±76	1147 (80.5%) 1323 calAD 1347 (7.5%) 1393 calAD 1045 (5.4%) 1094 calAD 1120 (1.9%) 1141 calAD	Edging and Stout 1984: 105-109

CHAPTER 8

DISCUSSION AND CONCLUSION

The following chapter discussed the results of both the experimental and regional survey of Wickliffe Thick. This section further discusses the results in the framework of its greater significance to the field of southeastern anthropological archaeology. This section looks at the insights that are derived from the data and reviews the context of the results for each of the hypotheses. The chapter starts by evaluating the experimental archaeology section of the thesis, then focuses on the use-wear analyses and possible functions of Wickliffe Thick. The chapter wraps up by discussing future research that needs to be conducted on Wickliffe Thick.

Archaeological Context

While most Wickliffe Thick sherds from this sample appear in mixed middens, some sherds and partial vessels have spatial context that can be used as further evidence of Wickliffe Thick's function. In Western Kentucky, there are many lines of evidence that point to a more domestic usage. Initial excavations at the Adams site (15FU4) found a partial Wickliffe vessel lying on a house floor near several deer bones. As for sherds of Wickliffe Thick, Charles Stout spatially mapped the rims of "funnels" (presumed to be Wickliffe Thick) throughout the archaeological site. The result showed a heavier concentration of funnel rims in the east village than in the west village (Stout 1987) avoiding mound structures and the plaza. Stout (1987:15) notes this stating that "the density of funnels (in the east village is disproportionately higher than those of other rim forms". Stout was inconclusive as to why this difference occurred. The east and west village showed heavy evidence of domestic activities such as food preparation and storage. At the Wickliffe Site (15BA4), Wickliffe Thick sherds were found at both domestic and non-domestic areas. The majority of the sherds were recovered from the North Central and North

West villages while also appearing in middens around the burial mound (Mound C) (Wesler 2001).

In the Missouri region, the Towosahgy site boasts a large number of Wickliffe Thick sherds and is the assumed location where many whole vessels from the Beckwith Collection (Southeastern Missouri State) were collected by Thomas Beckwith. Excavations found the majority of Wickliffe Thick sherds appearing in the "temple dump" and Mound 2. These artifacts recovered from Mound 2 and the corresponding "temple dump" are assumed by the authors to be ritualistic in nature or having to do with ritualistic preparation of food/drink (Price and Fox 1990). Price and Fox (1990:35) hypothesize that the vessels were used as "hominy leachers, salt extraction implements, or drums". At the Lilbourn and Crosno sites, the Wickliffe Thick sherds recovered are mainly from the accompanying villages. Very little contextual information is recorded for this singular artifact type.

In the Illinois region, very little contextual information was available for the Perrine site and the East St. Louis Mound group because no reports have been published for the sites.

Overall, of the small amount of contextual information we have, most of the partial vessels and sherds from non-midden contexts were found in a domestic setting. Near these artifacts were animal bones and other ceramics presumably used for food preparation and cooking. The possibility of ritual usage shown by the contexts of sherds found at the Towosaghy site show that ritual functions may not be out of the question. Perhaps Wickliffe Thick was used to prepare a food, drink, or substance with a ritual nature or as the body for a drum.

Experimental Archaeology

Vessel Creation. Through the creation of the vessels, Wickliffe Thick has a distinct fire-clouding on the inside of the vessel. This fire-clouding develops as a dark interior that is easily distinguishable from the outside of the vessel. It is assumed that experienced potters would position the vessels on their side to avoid a fire-clouding on the inside surface. As shown in the experimental firing of these vessels, even when the experimental vessels were placed on their side, they still produced a fire clouding that was ranked as 3 out of 5 ("vessel color is barely discernible"). However, this doesn't account for the notable amount of fire-clouding on the outside of the vessels and the darker fire-clouding and sooting on the inside of the vessels. The implications of these use-wear types and their possible contexts are further discussed in the proposed function section.

Evidence for Salt Production or Juice Pressing

The experimental project was inconclusive at providing use-wear markings on the vessels. This could be due to the choices made when conducting the experiment. In the salt production experiment, more trials were needed in order to create macroscopic use-wear. In the juice pressing experiment, the staining produced by the blackberry residue is the only evidence for use-wear created. The wooden pestle created no abrasions on the vessel walls. The cloth used for both experimental projects padded the vessel walls slightly. Over time you would still expect the vessel walls to gain use-wear markings. It is unclear whether the staining of the vessel would withstand the conditions of deposition and more specifically burial. The introduction of moisture and other elements might cause the staining to be drawn out of the sherd.

New Approach

Even though the trials ended up creating no use-wear on the vessels, it is important to consider that more trials need to take place to gain stronger conclusions. Ten large chenopodium plants yielded enough ash for only three trials. In similar fashion, the water lily was taken in three five-gallon bags. This material only lasted for four trials. For future experiments a test run will have to be conducted for all steps of the process, including the preparation of material. The experimental project needs to be recognized as a multi-stage experiment that is improved with each additional run. As materials were limited in the salt production experiment, the halophytes were found to not produce many salts and no use-wear was recorded on the vessels. Experiments need to be completed with a controlled saline solution to see how the vessel walls react to the absorption of salt after months of trials. Using a controlled saline solution would give you a known salinization level and would be easy to produce for repeated trails. Other vessel traits call for an extended period of trials. The vessel's thickness and durability will affect how quickly the vessel accumulates use-wear. The durability of these vessels calls for a longer range of experiments for juice pressing. Experiments lasting for a month or more would be required to see how the vessel reacts to the constant pressure of the pestle.

Use-wear Analysis

Evidence for Salt Production

Overall, there was very little use-wear discovered on the regional sample of Wickliffe Thick. Salt wasting, that has been observed in O'Brien (1990)'s experiments, appeared on a small portion of the artifacts (18.59%). This low frequency of salt wasting makes it unlikely that these vessels were used solely for salt production on a regular basis. However, this analysis could not rule out the possibility of the vessel's use in the salt production process.

During the use-wear analysis, a white efflorescence was discovered on 20.83% of the sherds and vessels. Although this does not seem to be important at first glance, it is a very abnormal phenomenon which requires extra attention. Also, of importance, the efflorescence occurs in 37.60% of the samples in southern Illinois and at 29.71% in southeast Missouri. Although only 9.57% of sherds in western Kentucky exhibited this efflorescence, the author attributes this to the condition of the collections. The collections overall in western Kentucky had more eroded sherds than the other regions. Although only sherds that were able to be analyzed for use-wear analysis were included in this study, it is possible that deposition has leached out the efflorescence from the sherds. Wickliffe Thick's thick and durable nature would have made it more resistant to erosion than other pottery types.

This white efflorescence could be related to salt production. When a saline solution is poured into the vessel some of the solution would be absorbed into the paste. The salt absorbed would then create spalling, as we would expect. Over time, the sherd would accumulate salt in the paste of the sherd until it became no longer able to be used. Thus, it is possible for this salt to be effloresced as a reaction to the sherds being washed and drying thoroughly in an archaeology lab. A similar efflorescence is found after O'Brien's (1990) experimental analysis of salt wasting. The sherds are releasing a substance that was absorbed into the paste. The substance does not appear to be a result of deposition because the efflorescence does not occur uniformly on the sherd surface. You would expect if something was deposited on the sherd or absorbed before excavation the levels of the substance in the soil would affect the whole sherd. The sherds that display this phenomenon, are not uniformly covered in this efflorescence nor is the whole assemblage effected (20.83%). Additionally, the efflorescence is likely not calcium carbonate ($CaCo^3$), a biproduct of the breakdown of shell temper during deposition. The survey produced results that showed the efflorescence was most common in Southern Illinois and least common in Western Kentucky. The opposite is true for the use of shell temper in these regions with shell being used (in combination with other temper) most commonly in Western Kentucky and least common in Southern Illinois. Future work using a X-ray diffraction or scanning electron microscope is required in able to discern the elemental composition of the white efflorescence. This is further discussed in the future research

Evidence for Juice Pressing

As for the juice pressing hypothesis, the vessels contain low frequencies of pitting or concentric/linear wear (0.32%) that you would expect from a wooden or ceramic pestle against the vessel wall as seen by Banducci (2014). In fact, pitting inside the vessels was documented on none of the samples. As the experimental analysis demonstrated, Wickliffe Thick vessels tend to exhibit a strong fire-clouding on the inside of the vessels from a reduced oxygen environment during firing likely due to the vessel shape. The fire-clouding obscures the walls and makes it hard to observe possible staining of the vessel wall or paste by repeated introduction of fruit juice. Due to the extremely low frequency of concentric and linear wear, and pitting, it is likely that the vessels were not used for juice pressing.

The orientation of the vessel can be defined in two different ways: through functional and storage uses. The vessel exhibits low levels of use-wear directly on the rims. Both orifices have no obvious indication, such as pitting, chipping, or other attrition, that they were used in contact with the ground or another vessel. During the experimental process, it became apparent that the vessels could not be placed on the small orifice because the majority of the vessels have a rounded lip and the crude vessel shape make it hard to balance without falling over. This lip inhibits the vessel from being placed directly on this end without support. The larger orifice could be used to balance the vessel in storage, but if the vessel was used with a liquid, this would restrict the airflow of the vessel after use. Most of the hypotheses involve liquid or organic residue that might create mold if not washed and dried. Most of the larger rim orifices are rounded and the repeated stress on these ends would result in chipping or another form of wear to occur. From the possibilities of function, it is unclear which way the vessel is positioned during use.

Out of the wear that is shown on the bottom orifice, six out of the nine instances of use-wear are found on the smaller orifices that range from 5-6 cm in diameter. Calculated from the full vessels (containing both rims), the ratios of the large to small orifices is 7:2. If the smaller orifices follow the same ratio, this would put the estimated size of the larger orifice anywhere from 17.5-21 cm. This might suggest that the vessels were too large to be held when used. The use-wear recorded on the vessel might suggest that the person needed to set it down in order to use it or required help in the task. The smaller vessels would not need this type of help to operate because they can easily be handled in other ways. When the vessel is set down continuously use-wear is created only if the vessel is constantly moved and in contact with an abrasive surface. The lack of accumulated use-wear on many of the vessel rims possibly suggests that it is unlikely that they were constantly used or stored on these edges. Alternatively, the low use wear could instead suggest that the vessel was not used often and may not have a common function that would not create use wear because of its infrequent use or contact with a non-abrasive surface.

While we can infer the vessel's orientation from its operational characteristics, what about wear that is created by storage? There is very little literature on the wear that is created outside the realm of its use mainly because it would be hard to distinguish the difference (Skibo 2015). Normal wear, such as pitting or chipping, created from storage is found on Wickliffe Thick. The most likely place for the vessel to rest would be on the side of the large orifice. The larger orifice supports the vessel's ability to stand without falling or rolling. Placement on the side without vegetation or cloth would cause the vessel to roll. Any pitting or chipping on the rim of the vessel could lead to cracking. Cracking of the vessel wall could then lead to destruction and, ultimately, an inoperable vessel. The crude vessel is made with durability in mind and placing it on its side would be the best way to prevent breaks that can lead to quick disposal. This hypothesis assumes that the vessels were not placed on a soft surface such as a hide or a plant bedding in between uses. Because of the lack of care put into the creation of the pottery and the sturdiness of the vessel wall, the cushioning of the vessel would likely not be needed or wanted. Although not quantified due to the main objective of the project, light use-wear on the outside of the vessel was observed on several samples. With the high-resolution pictures taken from this study, future research could quantify the pitting and chipping on the outside of the vessel, possibly correlating to the wear created from storage.

Statistical Differences and Similarities Between Regions

Wickliffe Thick's characteristics have been shown to vary over different regions. Some archaeologists have looked to define the type according to their own region of study (Wesler 2001, Regan 1977, Williams 1954). However, this separation is unnecessary as many of these studies show similarities between the pottery type. These similarities are tracked throughout all three regions in this thesis.

Temper types in all three regions show a common choice. Grog and shell are the primary temper types used in Wickliffe Thick. All regions boast the highest percentages of these temper types. However, there are also recorded differences in the preference of these two types. Southeastern Missouri favors shell over grog while southern Illinois and western Kentucky have similar percentages of each. It is likely that shell and grog are used because of their ability to improve firing behavior. This reduces the likelihood of the vessel to break or spall during firing. It is also possible that temper represents a slow cultural adoption of Mississippian ideals. In western Kentucky, specifically at Wickliffe Mounds, Wesler (2001) documented that there was a large amount of grog still appearing in Mississippian assemblages. Wesler inferred that perhaps grog was a sign of a resistance to Mississippian lifestyles within the site and that because of this the transition from grog to shell took much longer than in other regions. It is likely that this is the case for Wickliffe Thick in Kentucky. The pottery type falls into this trend where it is found with grog and shell temper at most archaeological sites during the Mississippian period.

The rim modes across the regions favor the direct rim form. It is a simple type of rim fitting of such a utilitarian vessel. In that same vein, the surface decoration (incised and plain), and vessel size are found in similar frequencies across the regions. These similarities yield more questions as to if there is a uniform way in which Mississippians are creating Wickliffe Thick vessels. The technological and stylistic choices between regions happen in similar frequencies. While there are some abnormalities and outliers in each region, there appears to be one defined way to create a Wickliffe Thick funnel. Statistical tests will need to be run in order to see if there is a significant difference between the frequencies of different traits. It is likely, shown from the descriptive statistics, that there is a uniform way to create this vessel shape and a certain design that is specific to this vessel form.

Other statistical tests run on the formal characteristics show that there is a variety of similarities and differences in the ceramic type. As shown earlier, a difference between the small orifice diameters in each region could not be proven through the Welch's ANOVA and the Kruskal-Wallis tests. On the other hand, Welch's ANOVA and the Kruskal-Wallis test showed that there was a significant difference between the large orifice diameter in the Kentucky region when compared to Illinois ($p=0.027$) and Missouri ($p=0.002$). This shows that the large orifice diameter is larger than the other regions, possibly hinting at a larger mean vessel size found in Kentucky. The Missouri region showed that it has the thickest vessels, shown by the post-hoc comparisons and Welch's ANOVA. When compared to Illinois and Kentucky, Missouri produced a highly significant score ($p=0.000$). The mean rankings for each region's sherd thickness also showed that Missouri had a higher ranking (mean rank = 253.83 out of 624) than Illinois (mean rank = 353.44 out of 624) and Kentucky (mean rank = 328.39 out of 624). Lastly, there were several differences in temper across the region. For example, Illinois used more grog than the other regions. Missouri used more shell and Kentucky used similar amounts and had no significant differences. The similarities and differences uncovered by these statistical analyses show that in fact there is a possible difference between how Wickliffe Thick vessels were made during the Mississippian period.

Proposed Functions

As discussed above, Wickliffe funnels' size is consistent with mainly individual or family use. The larger vessels may be used for more communal use, but they are not as common as the smaller vessels.

In Chapter IV, I introduced the sample used for this study while documenting the sherds' provenience, when available. Most of the Wickliffe Thick samples come from middens or from domestic contexts. As discussed by Rice (2010), most pottery vessels have to do with food preparation or cooking. It is not a great leap, to infer that these vessels had to do with one of those tasks. If the vessel was used for cooking, we might see more instances of fire-clouding and sooting on the outside of the vessels. However, these use-wear categories are found in very low frequencies. Fire-clouding occurred on 12.82% of the outside of vessels while sooting only occurred on 7.95% of the outside of vessels. It is still possible that the vessel was used in food preparation. Specifically, the next section will discuss nixtamalization and the preparation of hominy. The white residue left on the vessels could indicate the vessel's usage with salt production or nixtamalization.

Relation to Stumpware

Stumpware is a class of pottery found in the American Bottom and Illinois River Valley that consists of a funnel shape with two feet, sometimes with draining holes at the bottom. The vessel has been compared to Wickliffe Thick due to their thick vessel walls, similarity of shape, and the coarse temper particles used for both classes of pottery. This section presents recent research on stumpware and proposes their possible connections.

Recently a paper presented at the 2017 Southeastern Archaeological Conference investigated the use of stumpware, another large crude type of pottery found along archaeological sites down the Mississippi River (Betzenhouser et al. 2017). Looking at stumpware vessels from the American Bottom region, Betzenhouser et al. (2017) observed a similar efflorescence occurring on the outside of the vessels. The efflorescence was determined to be a lime residue by examination using a portable x-ray florescence analyzer (or using x-ray florescence spectrometry), thus suggesting the vessels were used during nixtamalization. Nixtamalization is the process of treating maize in a lime solution in order to dissolve the hardouter shell to prepare the food for consumption (Martinez-Bustos et al. 2001). This way of preparing corn is traditional to many Native peoples. For instance, anthropologist M. R. Harrington (1908) conducted a detailed ethnographic study of nixtamalization used by the Seneca in their reservations in New York. Harrington (1908) recorded the following steps: 1) a large kettle is used to boil the maize using hardwood ashes as an alkaline, 2) the maize is then poured into the hulling basket where the solution is drained and the hulls are separated from the endosperm, 3) the endosperm is then boiled again to release any leftover lye and to soften the maize for consumption. Stumpware vessels could fit into this process in different ways. First, the vessel could have been used as a way to soak the kernels in the alkaline solution. The alkaline solution would soak into the paste and possibly create the efflorescence that has been observed. Secondly, it is possible that the vessel’s thickness, temper, and shape (namely the feet) might hint that the vessel was made to withstand heat. The feet suggest that the vessel was meant to stand on its own. The vessels would have to be examined for sooting and other indications of fire-contact.

Stumpware precedes Wickliffe Thick vessels and is represented in assemblages from many different Emergent Mississippian phases in the American Bottom ranging from the Loyd phase (AD 900-950) to the Edelhardt phase (AD 1000-1050) (Kelly 1980). Wickliffe Thick funnels appear alongside stumpware in the Lohmann phase (AD 1050-1100) and Stirling phase (AD 1100-1200) (Milner 1986). Then stumpware is discontinued at the end of Stirling phase occupations. Wickliffe Thick continues through the Moorehead phase (AD 1200-1275) and decreases into the Sand Praire phase (AD 1275-1350). Because of the similar vessel morphology and efflorescence, it is possible that stumpware and Wickliffe funnels are used for the same purpose and Wickliffe Thick technologically replaces stumpware. Wickliffe Thick presents several advantages such as a larger vessel that can be used for many different functions. Stumpware's vessel shape is very restrictive with only a few vessels containing drain holes. It is possible that several vessel shapes, including Stumpware were discontinued because of Wickliffe Thick's versatility. This would be supported by the stumpware-Wickliffe Thick hybrid that was recorded in the East St. Louis Mound Group collections. This single hybrid funnel dates to the Lohmann phase (AD 1050-1100). Further elemental analysis testing the white efflorescence on Wickliffe Thick needs to occur in order for this theory to be evaluated.

<u>Possible Ritual Uses and Other Functions</u>

There are a few analogies that point to a possible ritualistic function of Wickliffe Thick but most of these analogs come from South America. The most notable of these are the *challadores* of Pariti. These vessels have a narrow body that tapers down in a base that is perforated (Korpisaari and Parssinen 2011). The vessel's shape is similar to Wickliffe Thick with rims ranging from 18.8–24.5 cm in diameter with 1-2 cm perforations in the bottom (Korpisaari and Parssinen 2011:77-79). These vessels are highly decorated and found in ritual contexts but no function for the ceramic has been inferred. They are painted with a variety of colors and iconography (Korpisaari and Parssinen 2011:77-79) and tend to be found with *keros*, which ethnographically, have been shown to be tied to Inca “elite practices” (Korpisaari and Parssinen 2011:89). Wickliffe Thick is much cruder with simple incising as the most common decoration. While the possibility cannot be eliminated, it seems unlikely that Wickliffe vessels had any ritual function as they are not found in similar archaeologically ritualistic settings. As reviewed in Chapter IV, most of the vessels are found in middens or domestic structures, and thus suggest a more everyday use.

The fire clouding occurs on Wickliffe Thick with a notable rate (30.45%). The fire-clouding on the vessels, previously discussed in this thesis, were assumed to be related to the creation of the vessels but it is likely that they are formed from the desired use of the vessels. Fire clouding is used in reference to pottery production when carbon from the fuel is deposited during the firing process. Further research would need to be conducted in order to determine if the black discoloration on the inside of the vessels is indeed fire clouding or instead something created through the repeated use of the vessel during a certain function. Functions such as burning incense inside the vessel and using the small opening as a funnel for smoke would explain the use-wear found. Through the process of burning incense, the fuel used would come into contact with the vessel wall creating a deposit of ash. Over time and through several uses, it is possible the ash would absorb into the vessel wall creating a dark stain on the inside of the vessel. It is possible that this stain would appear differently in the cross section of the sherd and would then be able to be distinguished from a fire clouding effect. It is also possible that this would cause a carbon deposit on the inside of the vessel, but sooting is scarcely found on the inside of Wickliffe Thick vessels (2.63%). The function of burning incense also brings to light another assumption of Wickliffe Thick; its orientation. With this function, Wickliffe Thick would operate with the small orifice at the top and the large orifice at the bottom; contrary to popular belief. Further research on the inside of the vessel might also help provide evidence for this function. One would assume that the concentration of the flames would occur toward the larger orifice and, in turn, you would expect a darker discoloration towards the large orifice. As the smoke rises in the vessel, it is possible that it would produce a lighter discoloration towards the small orifice. This hypothesis would also support the utilitarian qualities of the vessel. The vessel was made thick and used coarse temper in order to resist breaking when heated. This functionality of Wickliffe Thick could also point to ritualistic uses if the vessel was burning tobacco.

Wickliffe Thick's funnel-like shape also holds a wide variability to the tasks it would have performed if it indeed functioned as a funnel. Using grains to ferment alcoholic beverages has been documented around the world in ancient societies. Funnels have been shown to be an important vessel type for creating alcoholic beverages (Wang et al. 2016; McGovern 1997). In China, funnel like vessels were used to mash and filter starchy plants in order to create alcoholic beverages (Wang et al. 2016). The funnels display a yellowish powder residue created from the mashed plants that were used in the production line. The researchers were able to narrow down the phytoliths to millet and barley in conjunction with tubers to produce a sweeter flavor. Although the residue produced is a different color, it is possible that Wickliffe Thick could have been used in the same way these funnels have been used in the fermentation process. Further examination of the residue could confirm or reject this hypothesis. The contributions that Wickliffe Thick could have when used as a funnel can extend to other uses in food preparation (melting of fats, or other foods) and craft production (used to crush pigments and make them ready for combination with a binder).

Wickliffe Thick and Maize Intensification

From the few radiocarbon dates that we have from Wickliffe Thick contexts, the pottery type appears first within the Missouri Bootheel and the American Bottom regions. Next, sites within the Cairo Lowland of southeastern Missouri, and western Kentucky start to appear. The following interpretation is inferred from the eleven radiocarbon dates taken from various sites across the study area. Each publication is listed in on table 7.12 along with each date and other pertinent information.

As a review, this sample is small, and the following suggestions are preliminary. The earliest dates that archaeologists have for Wickliffe Thick are in northern Arkansas and the Missouri Bootheel followed by the East St. Louis Mound Group. After it is introduced at these sites, Wickliffe Thick branches out further into the Cairo Lowland and western Kentucky. This pattern of transmission is similar to that described by Anderson and Sassaman (2012; Anderson 1999) when describing Mississippian origins. Figure 8.1 is adapted from Anderson 1999 and shows the timeline over the study area. This timeline alongside the dates of Wickliffe Thick suggests that this progression not only shows the spread of Mississippian organizational forms but also shows the way ideas were spread across the landscape through interactions.

The dates for the sites also lead to its inferred relation to maize agriculture. Maize was introduced in the southeast after AD 900 (Fritz 1992) and intensified in different regions at different times. New information documented and synthesized by Vanderwarker et al. (2017) documents the introduction and intensification of maize agriculture across the southeastern

United States. In the Central Mississippi Valley, maize intensification occurs around AD 1000 (Martin and Parks 1994). The radiocarbon dates assembled for this section present the earliest dates from Wickliffe Thick in the Central Mississippi Valley to around that same time. In the American Bottom, maize is seen as a less important staple crop but is introduced into the Starchy Seed Complex around AD 1050 (Simon and Parker 2006). This would mean that we would start to see maize being incorporated into the diet around the beginning of the early Lohman phase around the same time as Wickliffe Thick is found in assemblages. However, this does lead to an important question. If stumpware was used in the nixtamalization process, then why was it introduced so early (e.g., the Loyd phase (AD 900-950) (Kelly 1980)? Perhaps the vessel was used for something else or maize was introduced at an earlier time. The answer to that question awaits further research into the occurrence of stumpware over space and time. Lastly, the intensification of maize within the Lower Illinois River Valley also occurs around AD 1050 (Vanderwarker et al. 2017), identical to when Wickliffe Thick appears in the area. So, in summary, Wickliffe Thick exhibits a similar pattern to where and when maize was introduced and is also found during similar dates as those proposed for maize intensification.

Of course, more research will need to be done to make strong inferences about the connections between Wickliffe Thick and maize agriculture. As discussed above, maize followed a trend of appearing first in the Central Mississippi Valley, followed by the American Bottom, and lastly appearing along the Lower Illinois River Valley and Western Kentucky. It is also possible that maize and Wickliffe Thick followed this same pathway of introduction or it is possible this pathway is nothing but a coincidence. However, the similar dates of introduction entertain the idea of their association. Several of these radiocarbon dates have a large range of time because of limitations in technology during the 1980s. When more absolute dates with associations to Wickliffe Thick funnels are obtained from the study area, this hypothesis can be tested with a larger sample and with more certainty created by a smaller range of dates.

Summary

Even though the results for both the experimental and use-wear analysis were inconclusive, the project yielded other questions about the newly documented efflorescence, fire clouding/sooting, and other possible functions. The salt production process proposed by Keslin (1961) and others (Morse and Morse 1980) appears to be ineffective based on preliminary experimental testing. The plants and processes used in the experimental portion of the thesis were shown to produce very little salt crystals. Wickliffe Thick does function well as a juice press with the help of a cloth filter but no attrition, that you would expect to form, was produced. The experimental portion needed to be carried out for several months in order to yield conclusive results. However, the use-wear predicted for both the juice press and salt filtration hypotheses was infrequent in the archaeological sample, suggesting that neither hypothesis is correct. This chapter also introduced other possible functions for Wickliffe Thick as a funnel and as an incense burner.

The survey of Wickliffe Thick across southeast Missouri, southern Illinois, and western Kentucky, produced another view of Wickliffe Thick's characteristics across the region which could show common choices in which Mississippians created Wickliffe vessels. Different functions were assessed in this chapter and Wickliffe Thick's temporal and spatial qualities were shown to appear similar to that of maize in the southeastern United States. It is suggested that Wickliffe Thick was created around the same time as maize intensification in the southeastern U.S. This new evidence bolsters the possibility that Wickliffe Thick was used during the nixtamalization process or that it had to do with the preparation of maize in some other fashion. It also begs the possibility of other functions such as tobacco burning, and alcohol production.

Future Research

This thesis, as most research projects do, yielded more questions than answers. Future research should be focused on conducting an elemental composition analysis on the white efflorescence that appears on Wickliffe Thick. Because potassium, sodium, and chlorine, do not show up well when using X-ray Florescence (Hunt and Speakman 2015:2), other methods such as X-ray diffraction or a scanning electron microscope (SEM) must be utilized. While using a SEM, it would be beneficial to explore the content of the ceramic. The elements absorbed within the paste of the sherd would be able to be analyzed. This would help distinguish what anomalies are present within the sherd and present in the white efflorescence. The efflorescence should also be tested for traces of plant material in efforts to identify any species used in the function of the vessel. The fire clouding and sooting on the vessels needs to be examined in order to determine how they formed and to what extent they are displayed on the vessel. It would be beneficial to see how deep the carbon deposits appear in the paste of the sherd and to determine if what was established is truly fire clouding or a form of sooting from prolonged use. Archaeometry may also help us rule out the juice press hypothesis completely by using liquid chromatography- mass spectrometry to identify a biomarker for a fruit that would have been pressed in Wickliffe Thick. This has been shown to work on porous artifacts such as pottery when identifying Black Drink consumption (Crown et al. 2012). Just as the salt would be absorbed into the paste, we would expect the fruit juice to be absorbed. This project would be time consuming as you would have to first identify a biomarker for each possible fruit being pressed, then see if you can match those biomarkers with what is extracted from the funnel paste. While the other methods described above are non-destructive or minimally destructive, this process would be highly destructive of the archaeological sample.

Other experimental projects should be conducted similar to O'Brien (1990) except that, these projects should look for the beginning of macroscopic wear instead of microscopic wear. The project should also be conducted for several months utilizing a constant supply of a known saline solution. Knowing the characteristics of attrition and the range of time needed to create such attrition would be beneficial to archaeologists. Lastly, as more absolute dates associated with Wickliffe Thick become available perhaps the pattern seen in this thesis should be reevaluated.

Conclusion

This project has given us a greater understanding of the variability of Wickliffe Thick and exposed many facets for future research. Wickliffe Thick is a globular funnel shaped vessel, with a large opening at one end and a smaller opening at the other, with an average thickness of 1 cm, and most commonly found with plain or incised decoration. There is no definite answer to what the function of Wickliffe Thick is. The white residue located on a portion of the samples hints at its usage in either salt production or nixtamalization, both of which have been shown to create such an efflorescence (O'Brien 1990, Betzenhouser et al. 2017). Without further work we will not know for sure whether either of these hypotheses are correct, but the nixtamalization hypothesis is supported by the temporal and spatial characteristics of Wickliffe Thick. Wickliffe Thick emerges when maize intensification begins across the American Bottom, Lower Illinois River Valley, and the Central Mississippi River Valley. Future research and improved identification of Wickliffe Thick will help us learn more about its purpose in Mississippian lifeways and procurement practices.

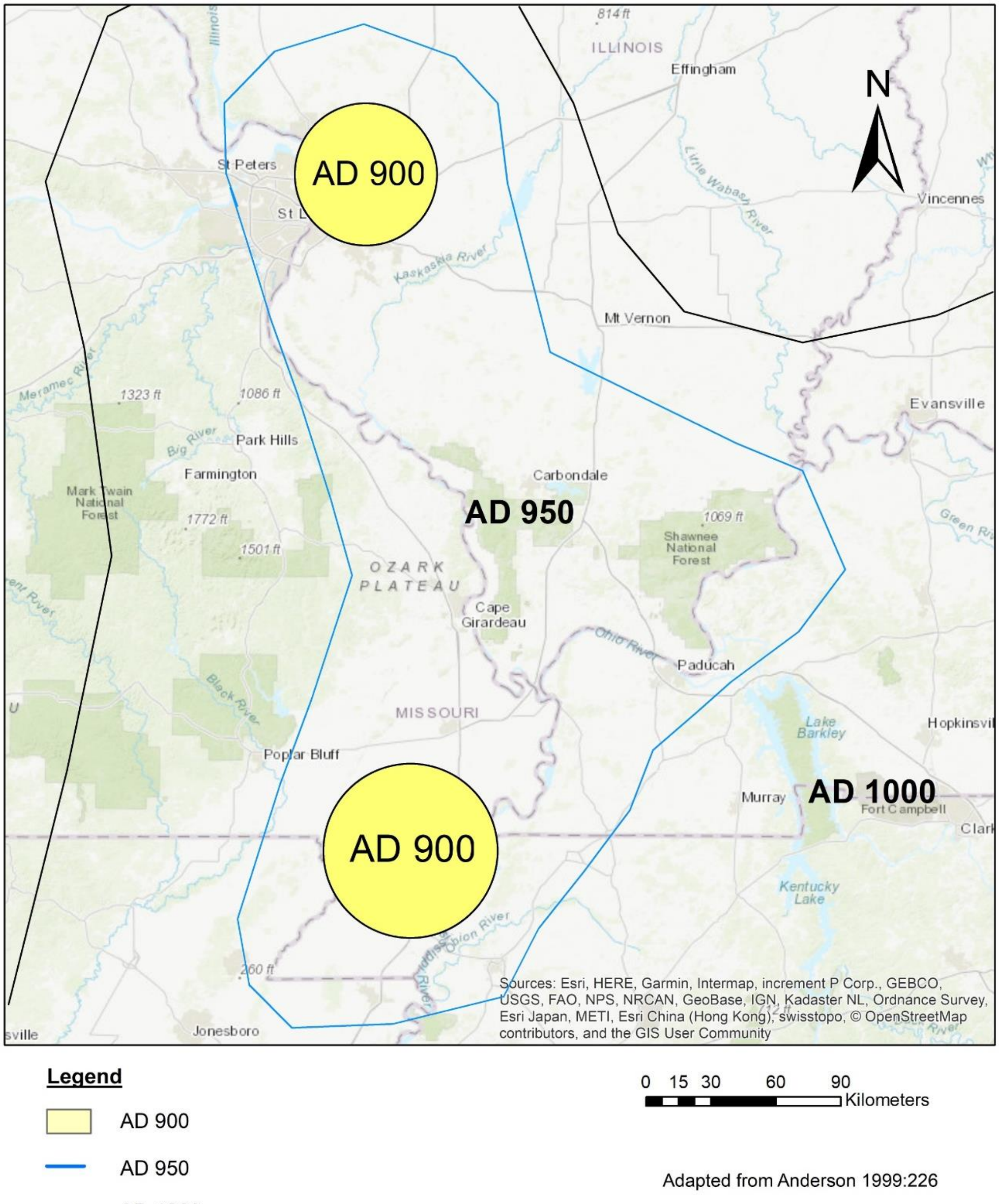

Figure 8.1. Spread of Mississippian "Chiefdom" Societies

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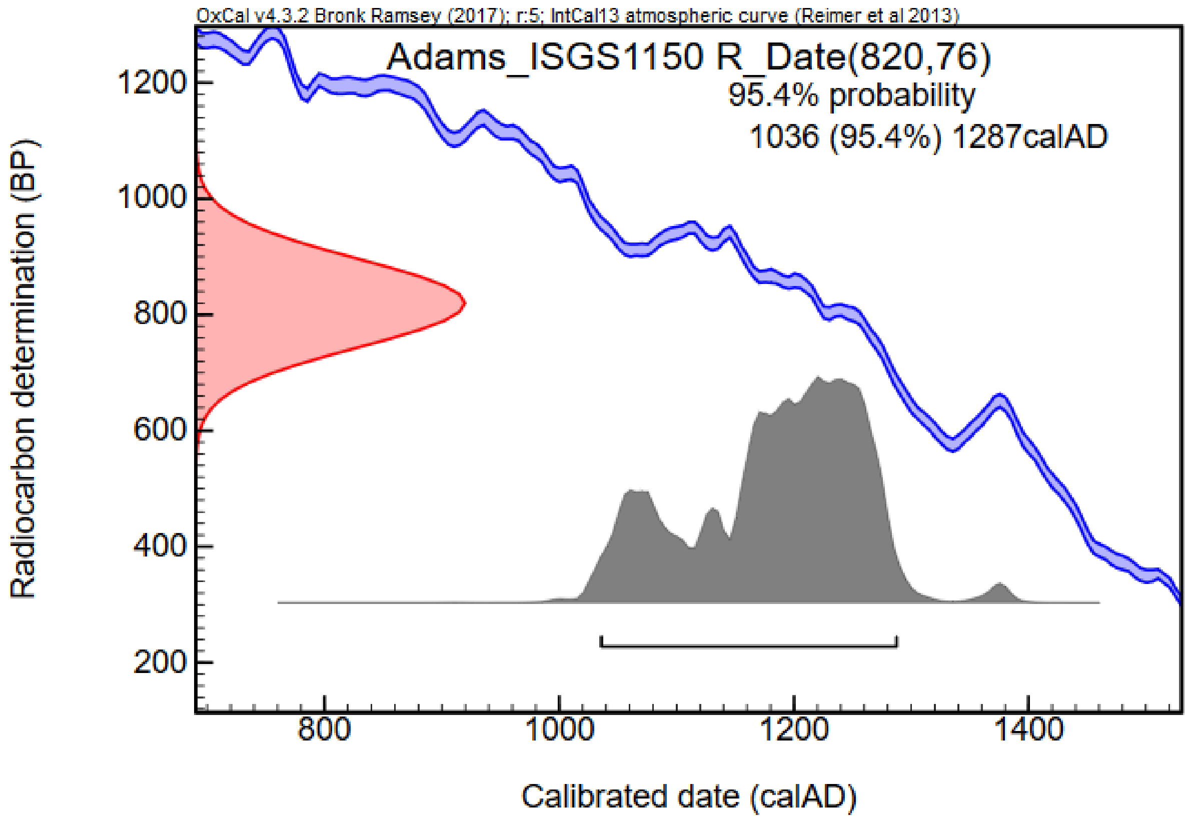
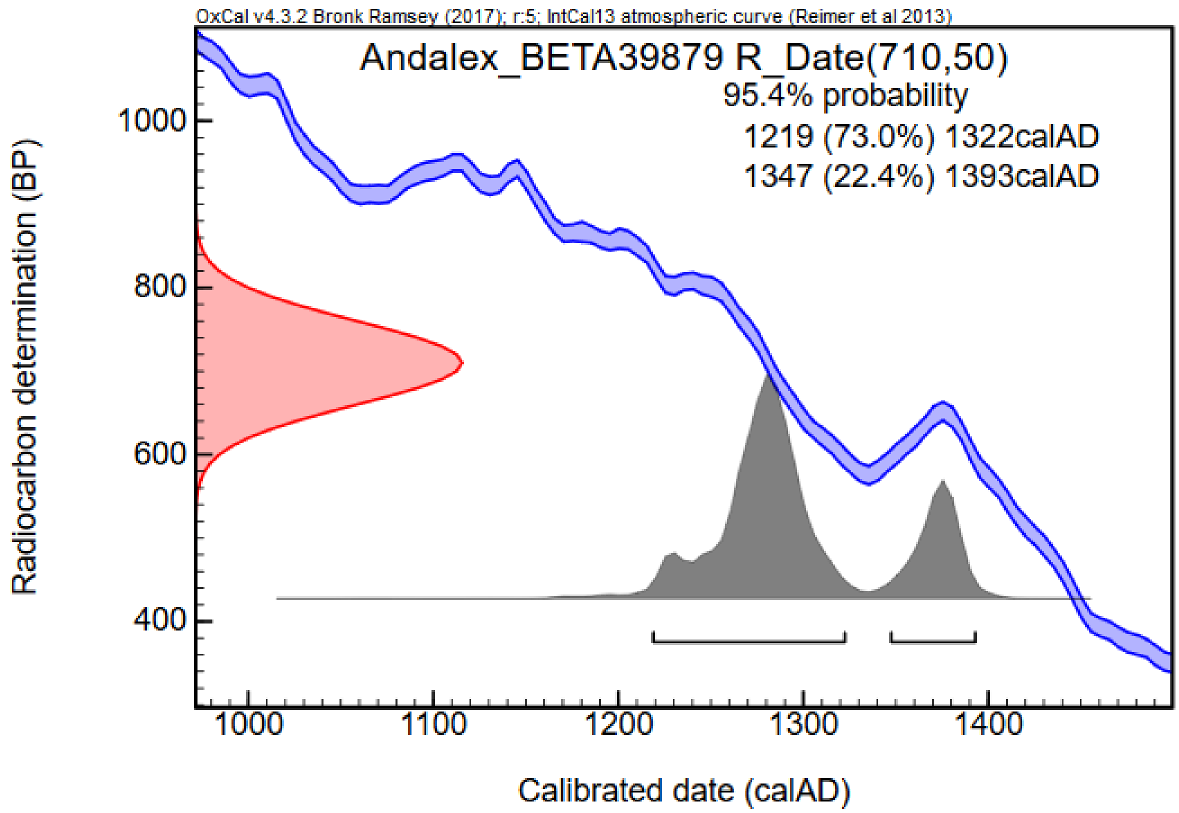
APPENDICES

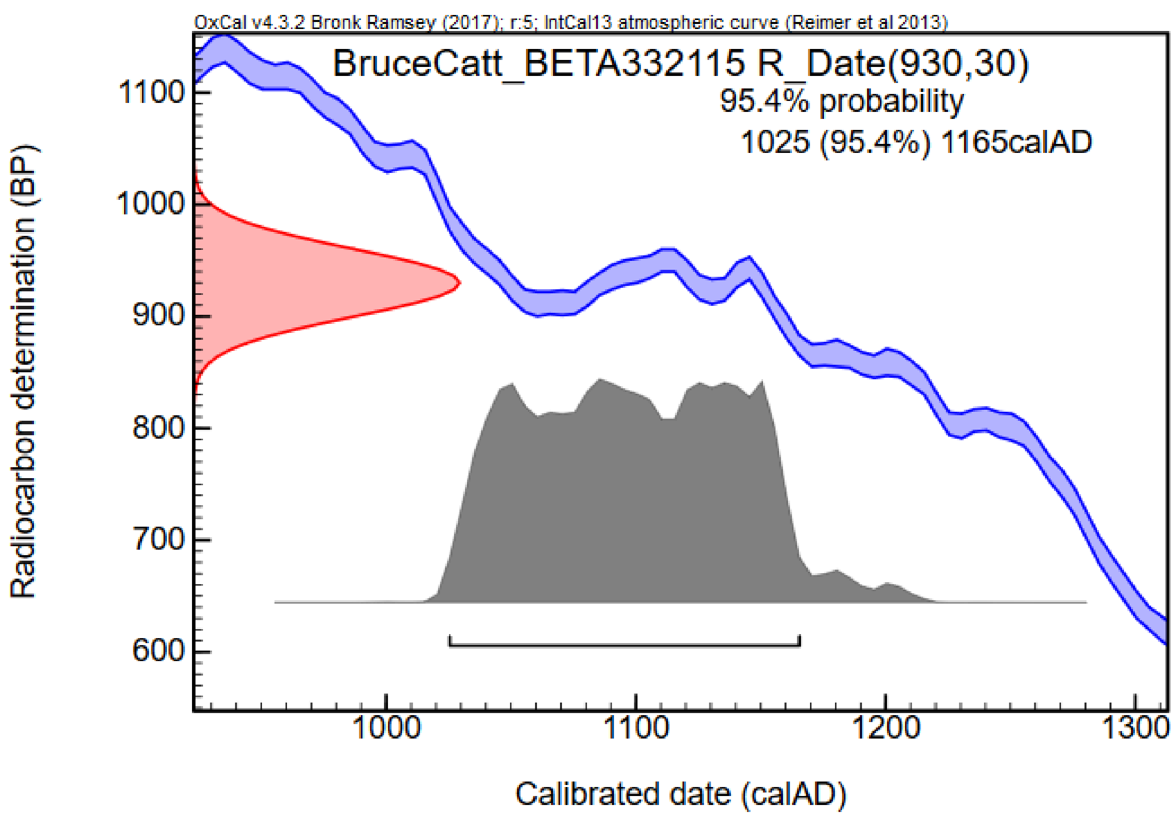
APPENDIX A

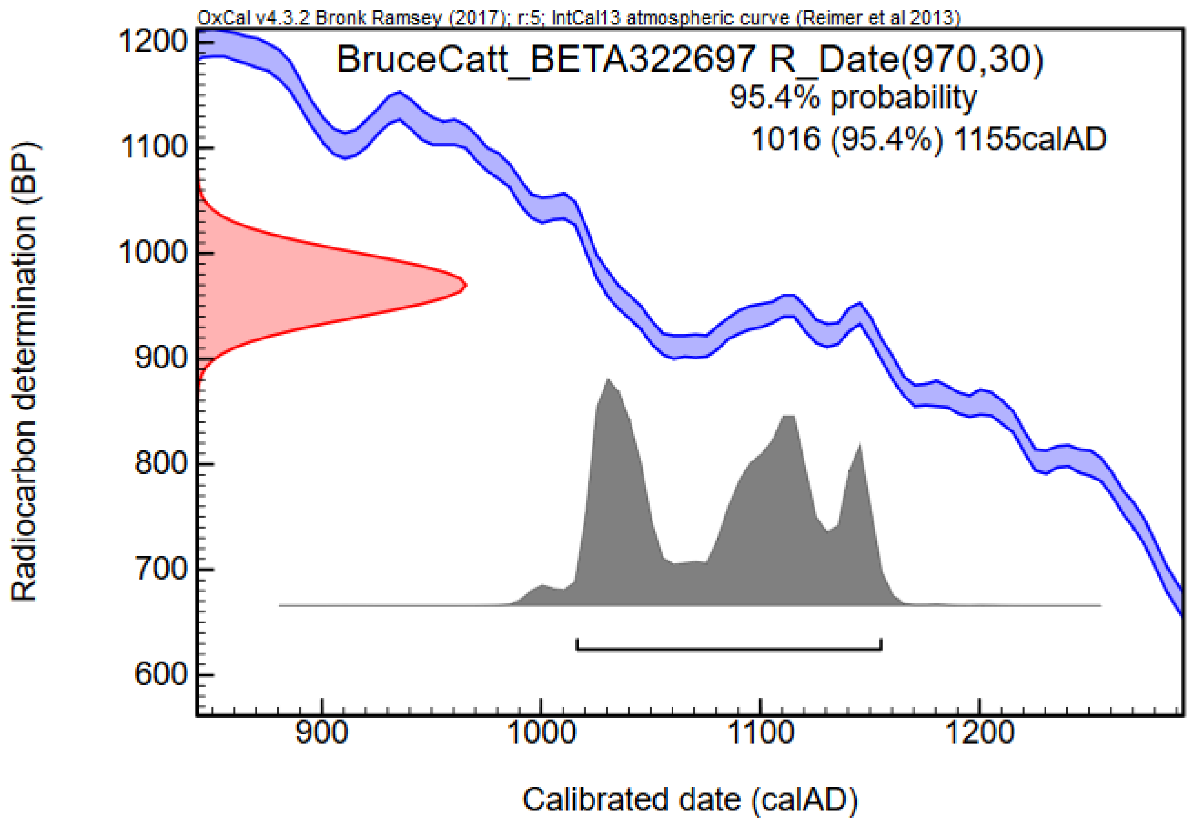
Radiocarbon calibration curves

All Calibration curves are created using OxCal 4.3 (https://c14.arch.ox.ac.uk/oxcal/OxCal.html; Bronk Ramsey 2009a) and the IntCal13 calibration curve (Reimer et al. 2013).




OxCal v4.3.2 Bronk Ramsey (2017); r:5; IntCal13 atmospheric curve (Reimer et al 2013)
Andalex_BETA39879 R_Date(710,50)
95.4% probability
1219 (73.0%) 1322calAD
1347 (22.4%) 1393calAD
Radiocarbon determination (BP)
1000
800
600
400
1000
1100
1200
1300
1400
Calibrated date (calAD)


OxCal v4.3.2 Bronk Ramsey (2017); r:5; IntCal13 atmospheric curve (Reimer et al 2013)
BruceCatt_BETA332115 R_Date(930,30)
95.4% probability
1025 (95.4%) 1165calAD
Radiocarbon determination (BP)
1100
1000
900
800
700
600
1000
1100
1200
1300
Calibrated date (calAD)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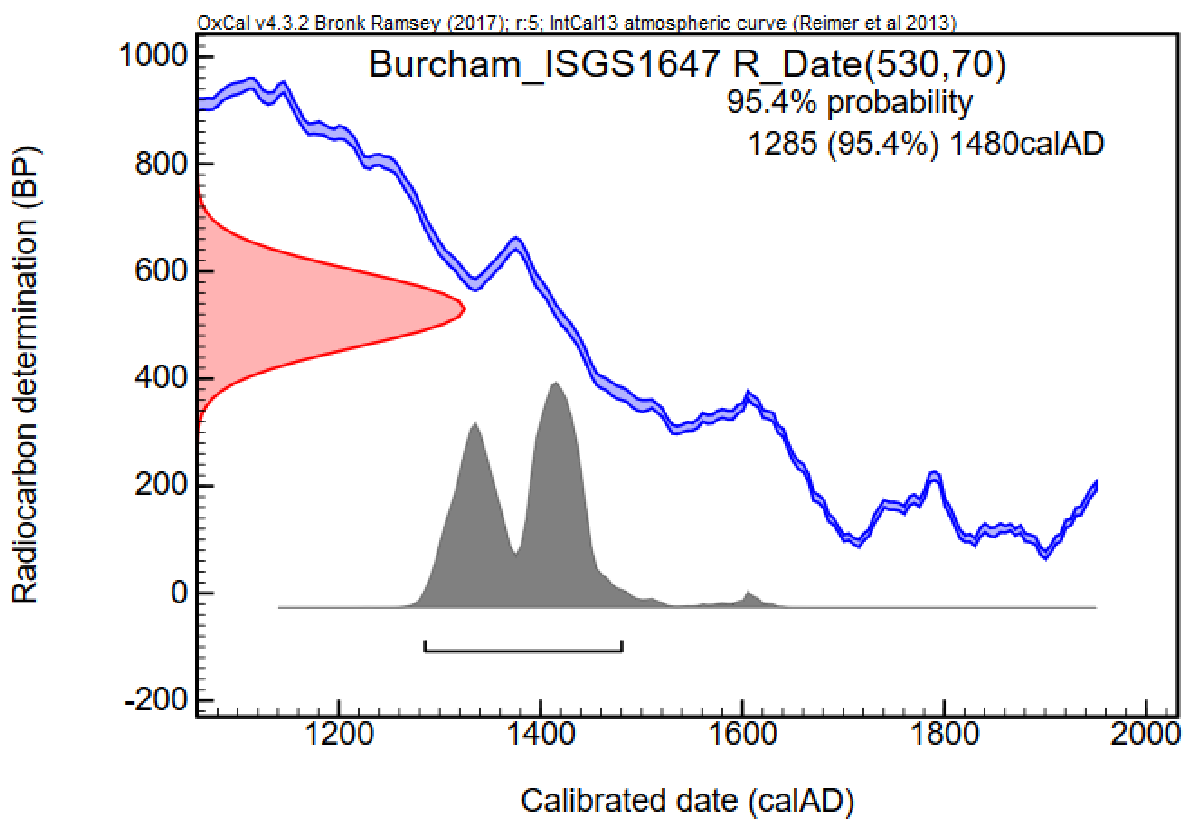
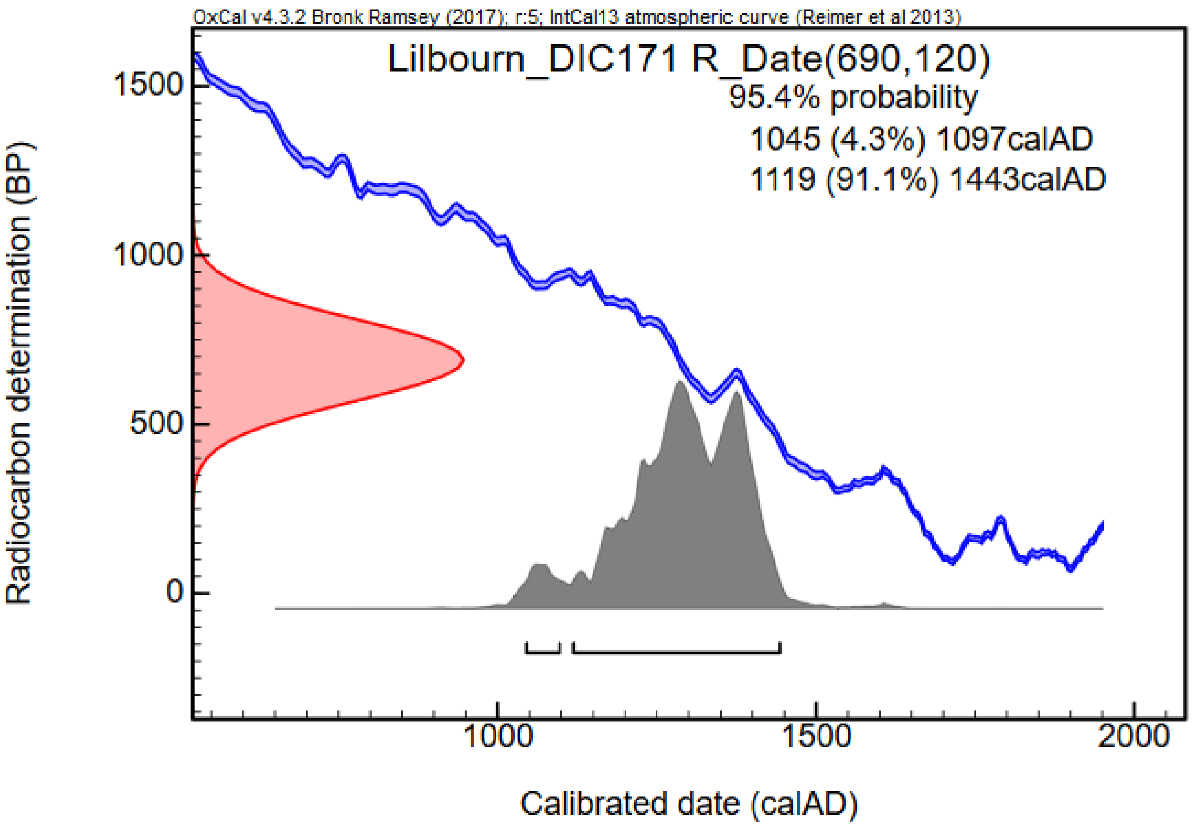
BruceCatt_BETA322697 R_Date(970,30)
95.4% probability
1016 (95.4%) 1155calAD
Radiocarbon determination (BP)
1200
1100
1000
900
800
700
600
900
1000
1100
1200
Calibrated date (calAD)


OxCal v4.3.2 Bronk Ramsey (2017); r:5; IntCal13 atmospheric curve (Reimer et al 2013)
Burcham_ISGS1647 R_Date(530,70)
95.4% probability
1285 (95.4%) 1480calAD
Radiocarbon determination (BP)
1000
800
600
400
200
0
-200
1200
1400
1600
1800
2000
Calibrated date (calAD)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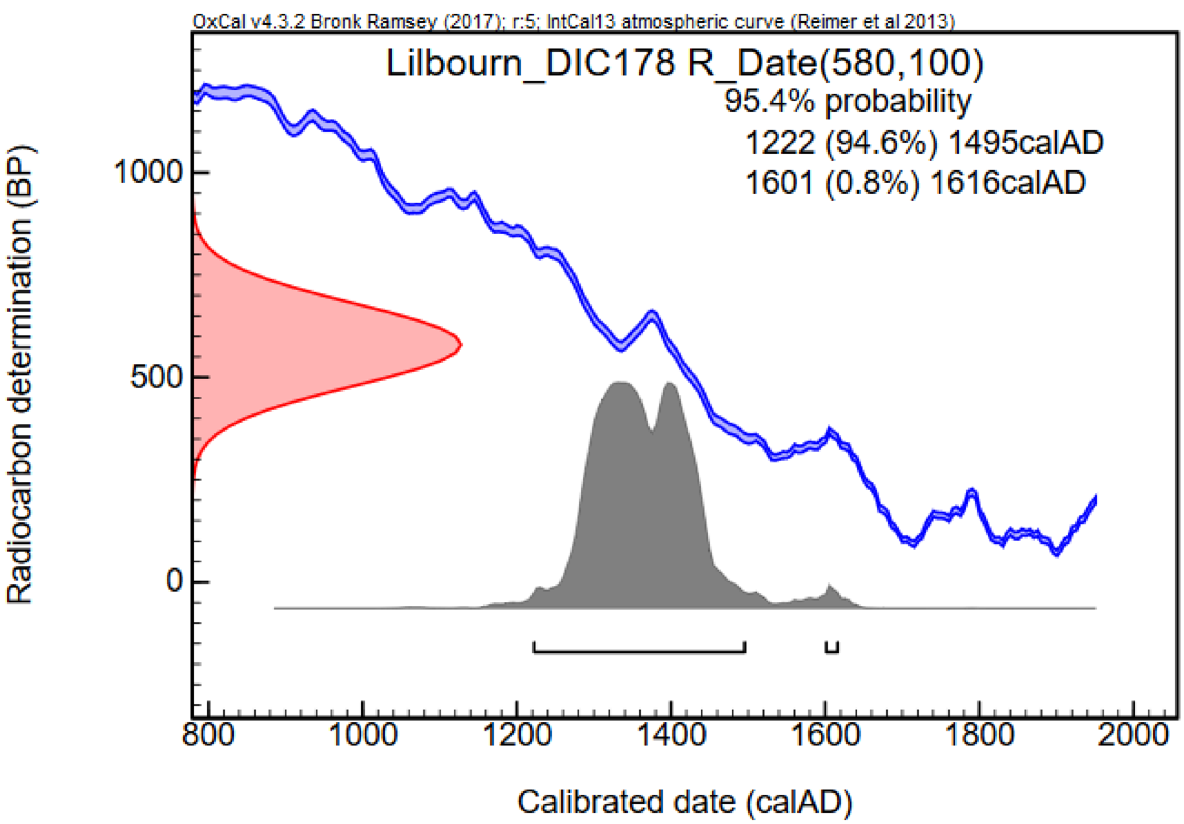
Lilbourn_DIC171 R_Date(690,120)
95.4% probability
1045 (4.3%) 1097calAD
1119 (91.1%) 1443calAD
Radiocarbon determination (BP)
1500
1000
500
0
1000
1500
2000
Calibrated date (calAD)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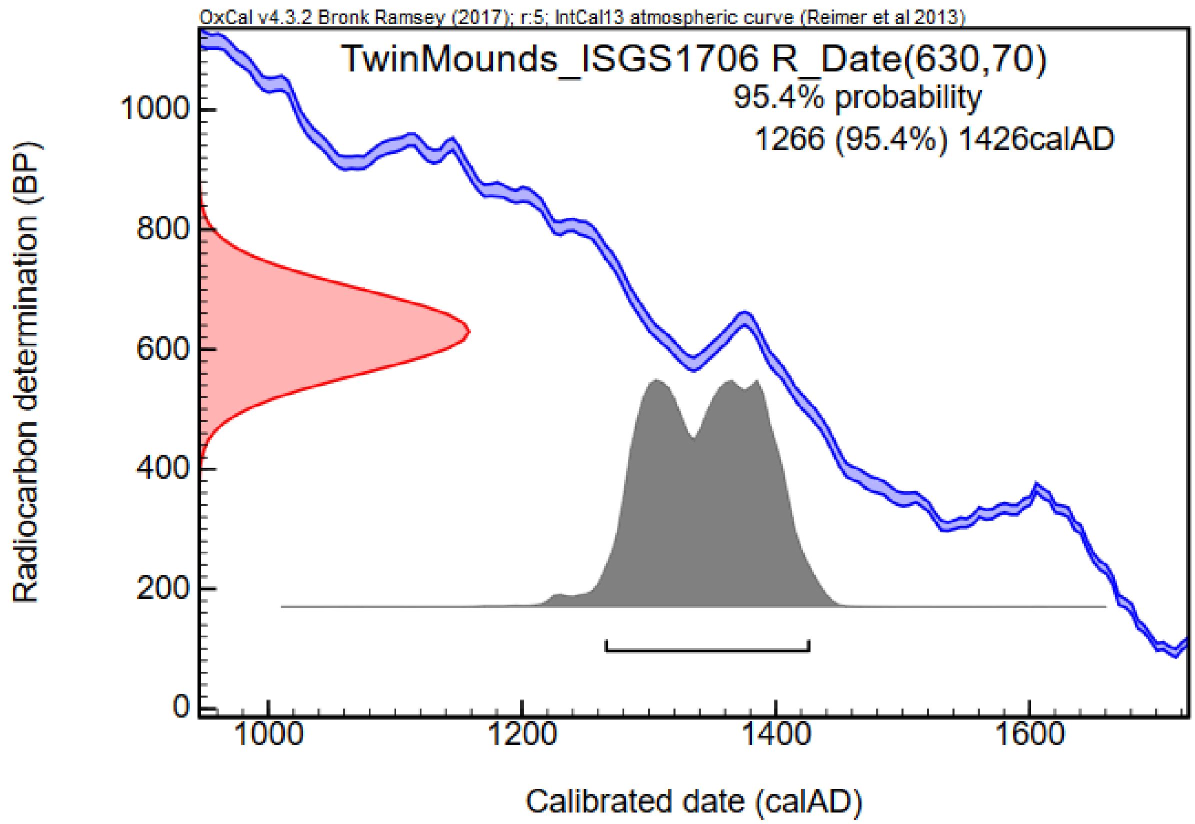
Lilbourn_DIC178 R_Date(580,100)
95.4% probability
1222 (94.6%) 1495calAD
1601 (0.8%) 1616calAD
Radiocarbon determination (BP)
1000
500
0
800
1000
1200
1400
1600
1800
2000
Calibrated date (calAD)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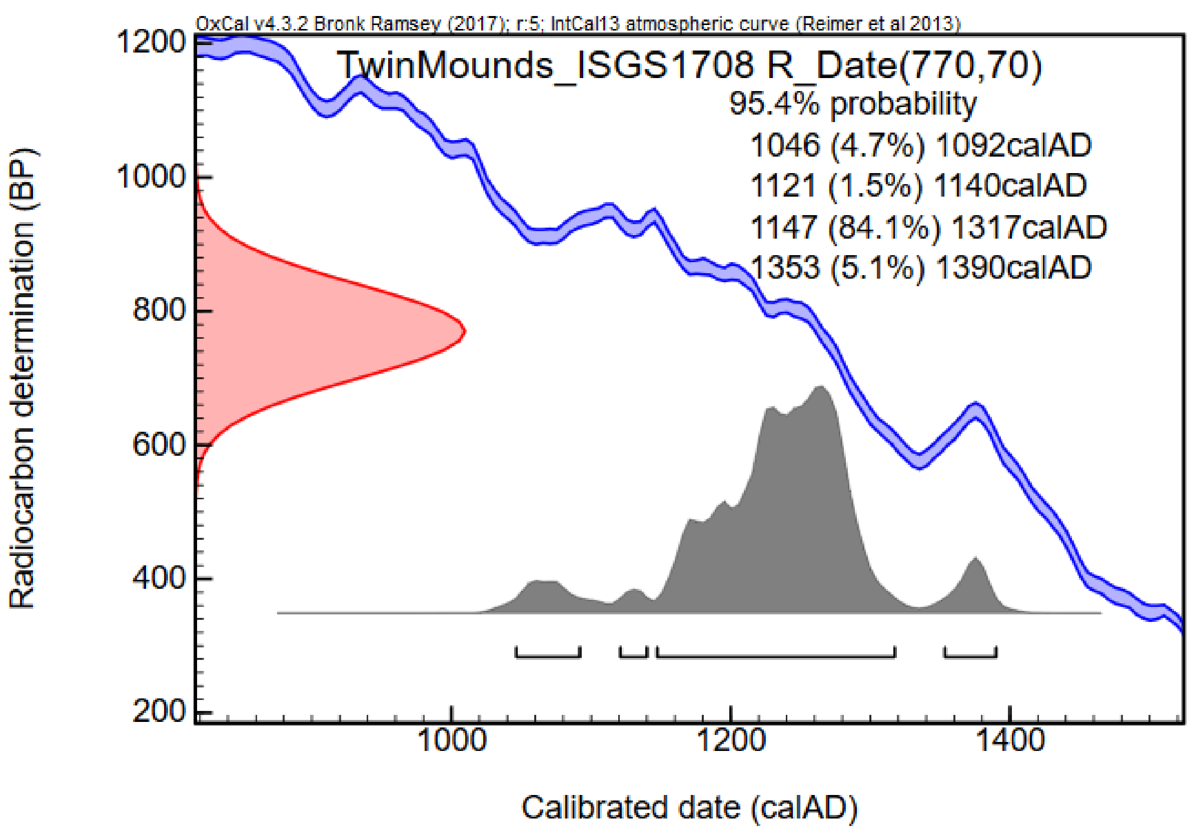
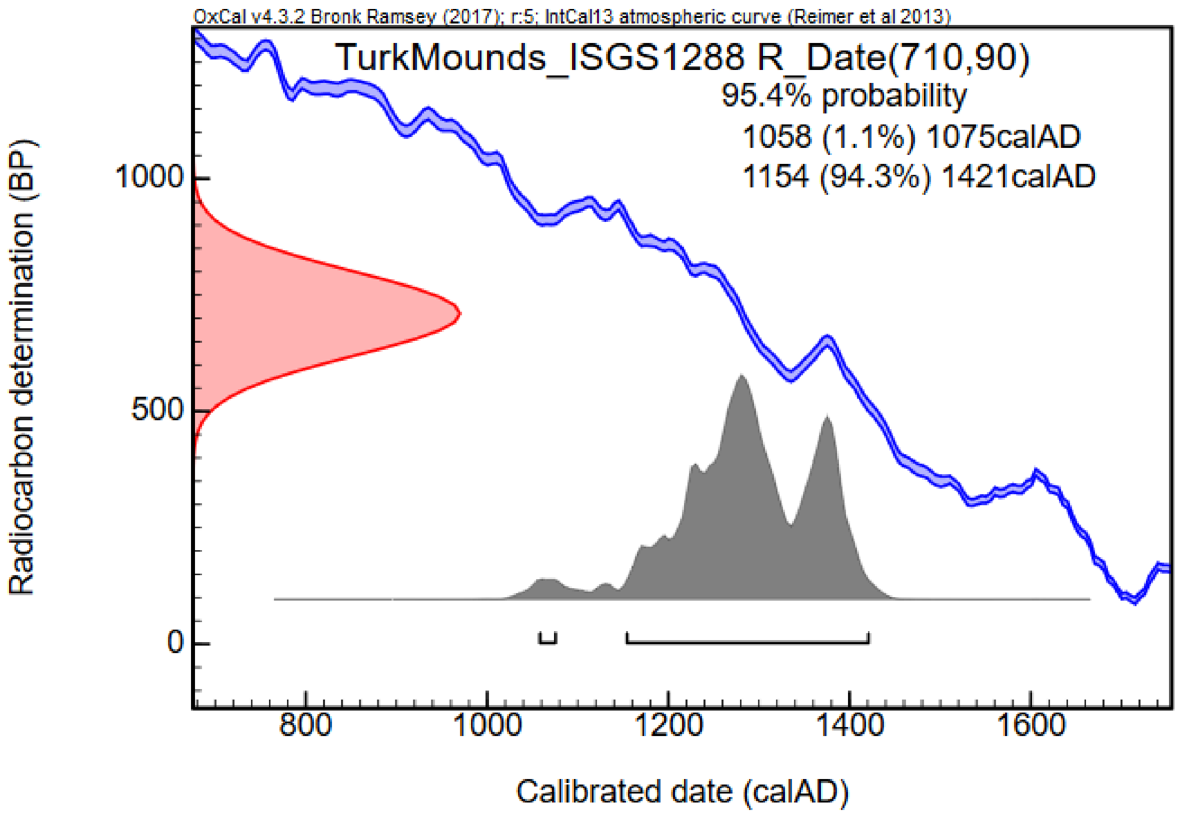
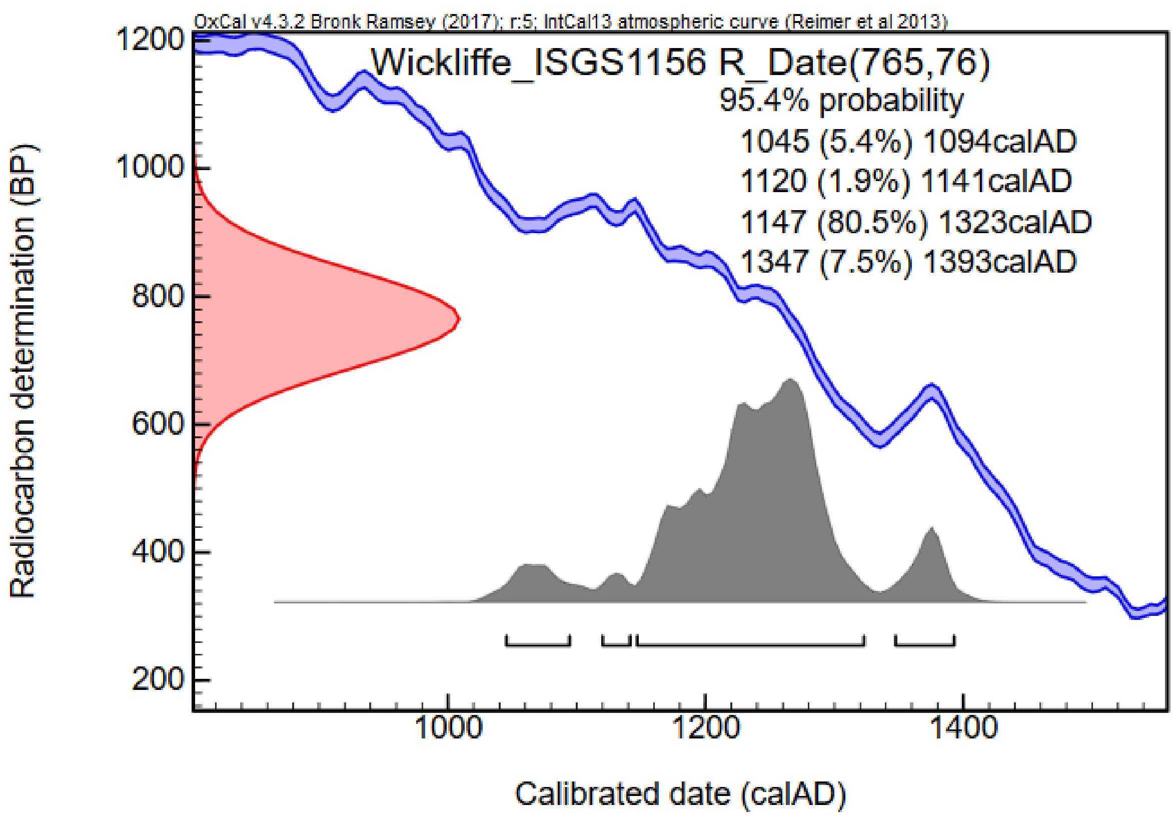
TwinMounds_ISGS1706 R_Date(630,70)
95.4% probability
1266 (95.4%) 1426calAD
Radiocarbon determination (BP)
Calibrated date (calAD)
0
200
400
600
800
1000
1000
1200
1400
1600


OxCal v4.3.2 Bronk Ramsey (2017); r:5; IntCal13 atmospheric curve (Reimer et al 2013)
TwinMounds_ISGS1708 R_Date(770,70)
95.4% probability
1046 (4.7%) 1092calAD
1121 (1.5%) 1140calAD
1147 (84.1%) 1317calAD
1353 (5.1%) 1390calAD
Radiocarbon determination (BP)
Calibrated date (calAD)
200
400
600
800
1000
1200
1000
1200
1400


OxCal v4.3.2 Bronk Ramsey (2017); r:5; IntCal13 atmospheric curve (Reimer et al 2013)
TurkMounds_ISGS1288 R_Date(710,90)
95.4% probability
1058 (1.1%) 1075calAD
1154 (94.3%) 1421calAD
Radiocarbon determination (BP)
1000
500
0
800
1000
1200
1400
1600
Calibrated date (calAD)


OxCal v4.3.2 Bronk Ramsey (2017); r:5; IntCal13 atmospheric curve (Reimer et al 2013)
Wickliffe_ISGS1156 R_Date(765,76)
95.4% probability
1045 (5.4%) 1094calAD
1120 (1.9%) 1141calAD
1147 (80.5%) 1323calAD
1347 (7.5%) 1393calAD
Radiocarbon determination (BP)
1200
1000
800
600
400
200
1000
1200
1400
Calibrated date (calAD)

APPENDIX B

Experimental Data Sheets

A. Salt Production Trial Information

Salt Production

Date	Trial #	Times used	Weight of Plant	Weight of Salts
4/11/2017	1 - Lily	0	8 grams	0 grams
4/12/2017	2- Lily	1	8 grams	1 gram
4/13/2017	3- Lily	2	8 grams	1 gram
4/14/2017	1- Chenopodium	3	10 grams	0 grams
4/17/2017	2- Chenopodium	4	10 grams	0 grams
4/18/2017	3- Chenopodium	5	10 grams	0 grams

B. Salt Production Notes for Chenopodium

Salt Production Notes- Chenopodium

Trial #	Use-wear Notes
1	It appears that, when the liquid is poured through a cloth, the weight of the liquid focuses the liquid to be poured directly down the center of the vessel. So, it is likely that if this method was used then the attrition would occur near the smaller orifice. The solution seems to need to be filtered 2-3 times and then sit for a small amount of time in order to filter out the small sediments that accumulate at the bottom. Vessels were positioned with the large orifice touching the surface. This is for utilitarian/practical reasons. The vessels are easier to rest in that position without them falling over. Ashes were left to saturate over a day period. 300 ml of distilled water was added to each 8-gram sample. 3 samples of each were created. No attrition observed after. No salt was observed in the evaporated sample.
2	No attrition observed after. It is possible that if the funnel emptied into a pan attrition would be found on the lip of the vessel. This trial exposed the full lip to the caustic solution accidentally by submerging when too much water was added to the beaker.
3	No attrition observed after. It seems that there is a slight residue appearing on the surface. A few salt crystals appeared at the bottom of this trial as it did on Trial 2.

C. Salt Production Notes for Lily

Salt Production Notes- Lily

Trial #	Use-wear Notes
1	No attrition was observed. No salt was produced from the mixture. A residue weighing less than a gram was stuck to the bottom of the beaker. This is most likely carbonized plant material. No salt grains at the bottom as observed with the lily.
2	No attrition was observed. No salt was produced from this mixture. Similar results to Trial 1.
3	No attrition was observed, and no salt was produced. It seems that the chenopodium does not produce salt, as many specimens were used to obtain the sample amounts.

D. Juice Pressing Trial Information

Juice Pressing				
Date	Trial #	Times used	Weight of Fruit	Amount of juice produced
4/19/2017	1	0	170 grams	125 ml - 50 ml (water)= 75 ml
4/20/2017	2	1	170 grams	110 ml - 50 ml (water)= 60 ml
4/21/2017	3	2	170 grams	130 ml - 50 ml (water)= 80 ml
4/24/2017	4	3	170 grams	120 ml - 50 ml (water)= 70 ml
4/25/2017	5	4	170 grams	130 ml - 50 ml (water)= 80 ml
4/26/2017	6	5	170 grams	125 ml - 50 ml (water)= 75 ml
4/27/2017	7	6	170 grams	100 ml - 50 ml (water)= 50 ml
4/28/2017	8	7	170 grams	125 ml - 50 ml (water)= 75 ml
5/1/2017	9	8	170 grams	110 ml - 50 ml (water)= 60 ml
5/2/2017	10	9	170 grams	110 ml - 50 ml (water)= 60 ml

E. Juice Pressing Notes

Juice Pressing Notes	
Trial #	Use-wear Notes
1	No attrition was observed. More juice was produced than I thought would be the case. Like the salt production project, the juice is mainly focused into the bottom third of the vessel. There is some staining that has occurred.
2	The staining has persisted through the rinse of the vessel. No use-wear was observed. The juice is permanently staining the side of the vessel, even after rinsing. It seems that two motions are most effective at pressing the berries: a straight up and down motion. This focuses as pushing juice through the smaller orifice. A circular motion creates a more efficient press as the sides of the vessel are utilized as a surface.
3	The staining has gained a darker color with more uses. Parts of the vessel seem to build up patches of small pulp and juice that makes it through the cloth. I have started to squeeze the berries after the use of the pestle. It seems like the best way to make sure all the juice has drained.
4	The staining continues. The circular motion that I have been using with the pestle has created some instances of use-wear. Some of the large chunks of temper are breaking apart from the vessel wall creating gaps in the paste. Any void/holes in the vessel wall are losing the sharp edges due to the abrasion.

Juice Pressing Notes	
Trial #	Use-wear Notes
5	The use-wear still remains almost unnoticeable with the same indications of attrition as above. Staining is still occuring in the wall. I am curious as to if it has penetrated deep into the paste.
6	Very light attrition is noted with increased staining.
7	Very light attrition is noted with increased staining.
8	The staining has because very dark compared to the light pottery. The staining extends to around the small orifice as the juice drains out.
9	The pottery still retains very light use-wear from the loss of temper particles and the smoothing of edges. The staining continues.

Juice Pressing Notes

Trial #	Use-wear Notes
10	No substantial use-wear was created expect for a very noticeable staining.

APPENDIX C

Survey Data Tables

Sample #	ID	Date	Archaeological Site	Site Number	State	County
1	2	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
2	4	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
3	5	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
4	6	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
5	7	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
6	8	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
7	9	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
8	10	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
9	11	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
10	12	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
11	13	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
12	14	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
13	15	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
14	16	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
15	17	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
16	18	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
17	19	13-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
18	20	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
19	21	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
20	22	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
21	23	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
22	24	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
23	25	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
24	26	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
25	27	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
26	28	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
1	90-1.139	Rim	5.30	4.91
2	90-1.139	Rim	5.34	4.36
3	90-1.43	Body	7.62	5.14
4	90-1.43	Body	6.86	4.84
5	90-1.80	Rim	6.57	5.57
6	90-1.80	Rim	2.66	3.31
7	90-1.80	Rim	4.16	3.69
8	90-1.120	Rim	5.97	8.13
9	90-1.39	Body	5.71	3.71
10	90-1.39	Body	4.60	3.49
11	90-1.115	Body, Shoulder	4.89	4.67
12	90-1.115	Body	less than 2	less than 2
13	90-1.115	Body	less than 2	less than 2
14	90-1.54	Body	3.84	2.67
15	90-1.45	Rim	6.68	6.00
16	90-1.45	Body	6.32	4.37
17	90-1.45	Rim	3.60	2.72
18	90-1.6	Body	4.85	3.08
19	90-1.6	Rim	2.90	3.51
20	90-1.111	Body	3.69	2.92
21	90-1.111	Body	less than 2	less than 2
22	90-1.2	Rim	3.27	2.48
23	90-1.114	Body	5.35	3.42
24	90-1.114	Rim	2.64	3.05
25	90-1.114	Body	3.99	2.38
26	90-1.4	Rim	5.66	3.98

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
1	0.89	.996	.760
2	0.84	.936	.748
3	1.09	1.010	1.166
4	0.94	1.068	.837
5	1.07	1.042	1.226
6	0.90	.851	.927
7	1.06	.959	1.229
8	1.04	1.203	.890
9	1.00	.869	1.172
10	1.20	1.117	1.312
11	1.39	1.306	1.453
12	1.21		
13	1.04		
14	0.86	.908	.842
15	1.10	.960	1.008
16	0.90	.927	.826
17	1.35	1.818	1.065
18	1.33	1.165	1.392
19	1.23	1.176	1.267
20	0.91	.993	.744
21	0.91		
22	1.24	1.154	1.427
23	1.38	1.377	1.405
24	1.20	1.720	1.037
25	1.00	1.325	.8510
26	1.21	1.516	.9390

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
1	.907	.908	Grog	Plain
2	.864	.818	Shell	Plain
3	1.092	1.093	Grog, Shell	Slip
4	.999	.866	Grog, Shell	Plain
5	1.030	.987	Shell	Plain
6	.926	.902	Shell	Plain
7	1.034	1.011	Shell	Plain
8	1.023	1.061	Shell	Plain
9	1.259	.686	Shell	Plain, Unknown (Worn)
10	1.118	1.265	Indeterminate	Plain, Unknown (Worn)
11	1.399	1.398	Shell	Plain
12			Indeterminate	Cord-Marked
13			Indeterminate	Plain
14	.825	.854	Shell	Fabric Impressed
15	1.192	1.244	Grog	Plain
16	.900	.927	None	Slip
17	1.385	1.137	Shell	Unknown (Worn)
18	1.422	1.322	Grog, Shell	Plain, Unknown (Worn)
19	1.255	1.238	Grit, Grog	Plain
20	.948	.962	Grog, Shell	Plain
21			Grog, Shell	Plain
22	1.159	1.234	Grog, Shell	Plain
23	1.374	1.367	Grog	Plain
24	.927	1.114	Shell	Plain
25	1.130	.6840	Shell	Plain
26	1.218	1.165	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
1	Incised	Pinched	Large	14/ 7%	FALSE
2		Normal	Large	16/ 8%	FALSE
3	Painted				FALSE
4	Incised				TRUE
5		Normal	Large	25/ 7%	FALSE
6		Normal	Large	21/4%	FALSE
7		Normal	Large	20/4%	FALSE
8		Normal	Large	over 25 cm/ less than 5%	FALSE
9					FALSE
10					FALSE
11	Incised		Small	shoulder leading to small opening	FALSE
12					FALSE
13					FALSE
14					FALSE
15		Normal	Large	24/7%	FALSE
16	Painted				FALSE
17			Large	12/6%	TRUE
18					FALSE
19		Normal	Large	16/ 7%	TRUE
20	Incised				TRUE
21					FALSE
22		Normal	Large	indeterminate	FALSE
23	Incised				FALSE
24	Incised		Large		FALSE
25	Incised				TRUE
26		Normal	Large		FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
1				
2	Upper Body	Concentric, Patched		
3			white residue	
4				
5				
6				
7				
8				
9	Upper Rim	Concentric		
10				
11				
12				
13				
14				
15				
16				
17				
18				
19			white residue	
20				
21				
22			white residue	
23	Upper Body	Patched	white residue	
24	Lower Body, Mid Body, Upper Body	Patched		
25				
26	Upper Body	Patched		

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
1		
2		
3		White Powder
4	small cracking on inside	Cracking
5		
6		
7		
8	1.828 cm of concentric markings	
9		
10		
11		
12		
13		
14		
15		
16		Organic, White Powder
17		Wasting/Erosion
18		White Powder
19	inside: small area of spalling .659 x .789	Wasting/Erosion, White Powder
20	inside: extreme spalling	Wasting/Erosion
21		
22	very small spall	Wasting/Erosion
23		
24		
25	major attrition on the inside. Unclear if it was done by deposition or not.	Wasting/Erosion
26		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
1			
2	Sooting	4, 5	3
3			
4			
5	Sooting	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	4
6	Sooting		3
7	Sooting	4, 5	3
8	Fire-Clouding	4, 5	4
9			
10			
11		3, 6	3
12			
13	Fire-Clouding		3
14	Fire-Clouding		3
15			
16			
17			
18			
19	Sooting	4	1
20			
21			
22			
23			
24	Fire-Clouding		1
25			
26	Fire-Clouding		4

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
1			
2	Fire-Clouding		3
3	Fire-Clouding		1
4			
5			
6			
7	Fire-Clouding		2
8	Fire-Clouding		3
9			
10			
11	Fire-Clouding		3
12	Fire-Clouding		3
13			
14	Fire-Clouding		3
15			
16	Fire-Clouding		3
17	Fire-Clouding		3
18			
19			
20			
21			
22	Fire-Clouding		3
23			
24	Fire-Clouding		1
25	Fire-Clouding		3
26	Fire-Clouding		4

Sample #	Overall Notes
1	Vertical incising
2	Blackening is on the lip and inside of vessel
3	White slip? With red ochre paint
4	
5	Burned sherd?
6	Burned sherd?
7	Blackening on lip and neck
8	4 on outside 5 on inside
9	
10	
11	on inside
12	
13	
14	Faint fabric impression, entire inside dark.
15	burned sherd?
16	Burned edges. Light slip on outside, looks like red ochre paint on inside same as the outside of ID 5
17	Sherd is extremely eroded
18	Normal depositional wear
19	very light sooting along rim.
20	
21	
22	
23	deep incising, possible the inside was slipped
24	very light incisions
25	
26	possibly burned sherd. Dark on outside and inside

Sample #	Photo log
1	16,18,19
2	16,17,20
3	21,22,23
4	21,24,25
5	26,27,29
6	26,28,30
7	26,31,32
8	33,34,35
9	36,37,38
10	36, 39, 40
11	41,42,43
12	
13	
14	44,45,46
15	47,48,49
16	47,50,51
17	47,52,53
18	44,57,58
19	44,55,56
20	59,60,61
21	59,62,63
22	71,72,73
23	64,65,66
24	64,67,68
25	64,69,70
26	74,75,76

Sample #	ID	Date	Archaeological Site	Site Number	State	County
27	29	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
28	30	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
29	31	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
30	32	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
31	33	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
32	34	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
33	35	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
34	36	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
35	37	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
36	38	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
37	39	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
38	40	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
39	41	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
40	42	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
41	43	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
42	44	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
43	45	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
44	46	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
45	47	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
46	48	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
47	49	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
48	50	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
49	51	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
50	52	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
51	53	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
52	54	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
27	90-1.107	Body	3.47	1.64
28	90-1.68	Rim	6.04	4.56
29	90-1.68	Body	2.85	2.69
30	90-1.94	Rim	2.68	4.30
31	90-1.106	Body	5.76	3.70
32	90-1.106	Body	3.12	2.10
33	90-1.75	Body	5.40	3.67
34	90-1.75	Body	4.68	3.30
35	90-1.75	Body	4.04	1.66
36	90-1.69	Body	5.72	4.40
37	90-1.76	Body	4.28	3.52
38	90-1.74	Body	less than 2cm	less than 2cm
39	90-1.78	Body	4.09	2.52
40	90-1.25	Body	less than 2cm	less than 2cm
41	90-1.50	Body	6.49	4.10
42	90-1.50	Body	6.23	4.65
43	90-1.50	Body	3.88	2.95
44	90-1.46	Rim	3.62	2.56
45	90-1.150	Rim	5.46	3.30
46	90-1.150	Rim	5.04	2.62
47	90-1.116	Body	3.18	2.46
48	90-1.116	Rim	5.28	6.35
49	90-1.148	Body	7.46	5.19
50	90-1.166	Body	5.69	2.19
51	90-1.166	Body	3.71	2.97
52	90-1.166	Body	4.34	4.13

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
27	0.89	1.108	.7510
28	1.61	1.534	1.584
29	1.09	1.240	.812
30	1.12	1.091	1.057
31	1.45	1.451	1.454
32	1.23	1.251	1.223
33	1.15	1.021	1.177
34	1.32	1.354	1.026
35	1.09	1.130	1.151
36	1.59	1.480	1.664
37	0.92	.911	.945
38	0.47		
39	1.53	1.542	1.491
40	1.51		
41	1.66	1.496	1.621
42	1.23	1.525	1.002
43	1.29	1.465	1.220
44	1.48	1.542	1.396
45	1.05	1.056	1.017
46	1.47	2.189	1.224
47	1.10	1.178	1.018
48	1.22	1.234	1.036
49	1.18	1.212	1.112
50	1.48	1.573	1.392
51	1.18	1.239	1.084
52	1.06	1.006	1.049

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
27	.948	.762	Shell	Plain
28	1.565	1.750	Grog	Plain
29	1.220	1.070	Grog	Plain
30	1.281	1.054	Shell	Plain
31	1.458	1.448	Grog	Plain
32	1.302	1.126	Grog	Plain
33	1.207	1.214	Shell	Plain
34	1.506	1.398	Shell	Plain
35	1.030	1.050	Grog	Plain
36	1.753	1.448	Grog, Shell	Plain
37	.910	.895	Shell	Plain
38			Shell	Plain
39	1.583	1.519	Grog	Plain
40			Shell	Plain, Unknown (Worn)
41	1.851	1.658	Grog, Shell	Plain
42	1.223	1.174	Shell	Plain
43	1.409	1.057	Shell	Plain, Unknown (Worn)
44	1.473	1.499	Grog, Shell	Plain
45	1.102	1.042	Shell	Plain
46	1.332	1.149	Shell	Plain
47	1.125	1.085	Grog	Plain
48	1.214	1.379	Shell	Plain
49	1.114	1.292	Shell	Plain
50	1.517	1.438	Grog, Shell	Plain
51	1.355	1.059	Grog, Shell	Plain
52	1.153	1.049	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
27					TRUE
28			Large	25/6%	TRUE
29	Incised				TRUE
30			Large	20/5%	TRUE
31					FALSE
32					FALSE
33	Incised				FALSE
34	Incised				TRUE
35					FALSE
36					FALSE
37					FALSE
38	Incised				FALSE
39	Incised				FALSE
40					FALSE
41					FALSE
42					FALSE
43					FALSE
44			Large	Indeterminate	FALSE
45			Large	16/5%	FALSE
46			Large	indeterminate	FALSE
47	Incised				FALSE
48			Large	25/7%	FALSE
49					FALSE
50	Incised				FALSE
51					FALSE
52					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
27	Mid Body, Upper Body			
28	Mid Body	Patched		
29			organic residue	
30	Upper Body	Patched		
31				
32				
33				
34	Lower Body, Mid Body, Upper Body			
35				
36				
37				
38				
39			white residue	
40				
41				
42				
43			white residue	
44			white residue	
45			white residue	
46				
47				
48				
49				
50				
51			white residue	
52				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
27	major attrition on the inside due to either deposition or spalling	Wasting/Erosion
28	small instances of spalling	Wasting/Erosion
29	most likely depositional	Organic
30	spotty spalling, not identical to the depositional effects had on the outside of the vessel.	Wasting/Erosion
31		
32		
33		
34	heavy attrition, possibly due to spalling	Wasting/Erosion
35		
36	small areas of spalling, cracking	Wasting/Erosion
37		
38		
39		White Powder
40		
41		White Powder
42		White Powder
43		White Powder
44		
45		
46		
47		White Powder
48		White Powder
49		
50		
51		
52		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
27			
28	Fire-Clouding		2
29			
30			
31			
32			
33			
34	Fire-Clouding		1
35			
36			
37			
38			
39			4
40			
41			1
42			
43			
44			4
45			
46			
47			
48			
49			
50			
51			
52			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
27			
28	Fire-Clouding		1
29			
30			
31	Fire-Clouding		3
32	Fire-Clouding		3
33			
34			
35			
36			
37	Fire-Clouding		3
38			
39			
40			
41			
42			
43			
44	Fire-Clouding		5
45			
46			
47	Fire-Clouding		3
48	Fire-Clouding		2
49			
50			
51			
52	Fire-Clouding		2

Sample #	Overall Notes
27	
28	
29	
30	
31	dark interior in vessel
32	dark interior
33	
34	
35	
36	
37	Burned sherd
38	
39	Corner of sherd burned
40	
41	dark interior of sherd
42	
43	sherd is unidentifiable
44	sooting in what is believed to be the inside of the vessel just under the start of the lip
45	
46	looks to be a handle that Kit stated was Wickliffe
47	darker inside, slipped like others?
48	at 2.78cm down from the rim the pottery becomes darker
49	
50	
51	
52	

Sample #	Photo log
27	77,78,79
28	80,81,82
29	80,83,84
30	85,86,87
31	88,89,90
32	88,91,92
33	93,96,97
34	93,94,95
35	93,98,99
36	100,101,102
37	103,104,105
38	
39	106,107,108,109
40	
41	110,111,112
42	110,113,114
43	110,115,116
44	117,118,119
45	120,123,124
46	120,121,122
47	125,128,129
48	125,126,127
49	130,131,132
50	133,134,135
51	133,136,137
52	133,138,139

Sample #	ID	Date	Archaeological Site	Site Number	State	County
53	55	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
54	56	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
55	57	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
56	58	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
57	59	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
58	60	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
59	61	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
60	62	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
61	63	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
62	64	14-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
63	65	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
64	66	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
65	67	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
66	68	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
67	69	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
68	70	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
69	71	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
70	72	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
71	73	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
72	74	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
73	75	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
74	76	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
75	77	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
76	78	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
77	79	15-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
78	80	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
53	90-1.166	Rim	3.76	2.95
54	90-1.166	Rim	7.14	7.79
55	90-1.146	Body	4.63	3.27
56	90-1.146	Body	3.61	2.40
57	90-1.146	Rim	2.72	3.19
58	90-1.146	Rim	4.31	4.53
59	90-1.146	Rim	3.40	5.42
60	90-1.146	Rim	3.42	2.84
61	90-1.171	Body	5.58	4.72
62	90-1.171	Body	4.73	3.51
63	90-1.164	Rim	5.05	5.62
64	90-1.164	Body	4.38	4.18
65	90-1.174	Body	3.86	2.29
66	90-1.174	Body	2.79	2.88
67	90-1.140	Rim	2.09	4.47
68	90-1.149	Rim	4.69	6.84
69	90-1.149	Rim	4.13	3.13
70	90-1.175	Body, Shoulder	3.68	2.43
71	87-1.230	Body	5.53	2.85
72	87-1.230	Body	4.28	3.56
73	87-1.283	Body	6.37	3.38
74	87-1.283	Rim	3.39	4.16
75	87-1.283	Rim	5.50	4.51
76	87-1.281	Body	7.40	7.07
77	87-1.277	Body	7.66	7.32
78	87-1.287	Rim	3.21	3.09

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
53	1.22	1.368	1.194
54	1.26	1.017	1.259
55	1.20	1.177	1.201
56	0.94	.9520	.9690
57	1.10	1.241	.9850
58	1.52	1.684	1.432
59	1.61	1.524	1.502
60	1.34	1.249	1.384
61	1.04	1.052	1.074
62	1.30	1.309	1.302
63	1.29	1.306	1.255
64	1.26	1.496	1.076
65	1.38	1.464	1.219
66	1.21	1.305	1.112
67	1.04	1.518	0
68	1.06	1.102	1.011
69	1.01	1.111	1.030
70	1.19	1.267	1.107
71	1.00	1.018	.9960
72	1.24	1.262	1.268
73	1.08	1.010	1.067
74	1.26	1.378	1.027
75	1.35	1.333	1.314
76	1.10	1.108	1.124
77	1.64	1.336	1.603
78	0.98	1.106	.9900

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
53	1.327	.9730	Grog	Plain
54	1.323	1.458	Shell	Plain
55	1.216	1.200	Grog	Plain
56	.9870	.8320	Shell	Plain
57	1.088	1.097	Grog, Shell	Plain
58	1.447	1.513	Grog, Shell	Plain
59	1.728	1.687	Grog	Plain
60	1.389	1.322	Grit, Grog	Plain
61	1.005	1.017	Grog, Shell	Plain
62	1.320	1.273	Grog, Shell	Plain
63	1.211	1.369	Shell	Fabric Impressed, Unknown (Worn)
64	1.207	1.266	Grog, Shell	Plain
65	1.416	1.426	Grog, Shell	Plain
66	1.118	1.297	Grog	Plain
67	1.253	1.405	Shell	Plain
68	1.074	1.055	Shell	Plain
69	.9310	.9760	Shell	Plain
70	1.135	1.246	Grog, Shell	Plain
71	.9380	1.034	Grog, Shell	Plain
72	1.306	1.116	Limestone	Burnished, Plain
73	1.054	1.187	Grog	Plain
74	1.373	1.271	Shell	Plain
75	1.420	1.340	Grog	Plain
76	1.079	1.089	Shell	Plain
77	1.722	1.890	Grog	Plain
78	.9930	.8160	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
53			Large	15/ 8%	TRUE
54			Large	over 25cm/ ~8%	TRUE
55	Incised				FALSE
56					FALSE
57			Large	Indeterminate	FALSE
58			Large	19/5%	FALSE
59			Large	18/8%	FALSE
60			Large	8/11%	FALSE
61	Incised				FALSE
62					FALSE
63			Large	24/ 7%	FALSE
64					FALSE
65	Incised				FALSE
66					FALSE
67			Large	indeterminate	FALSE
68			Large	26/6%	FALSE
69	Incised		Large	16/9%	FALSE
70	Incised		Small	Shoulder leading to small opening	FALSE
71					FALSE
72					FALSE
73	Incised				FALSE
74			Large	20,5 %	FALSE
75			Large	12, 9%	TRUE
76					FALSE
77					TRUE
78			Large	16, 5%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
53	Upper Body, Upper Rim	Patched	organic residue	
54	Mid Body, Upper Body, Upper Rim			
55				
56				
57				
58				
59			white residue	
60			white residue	
61				
62				
63			white residue	
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74	Lower Body, Mid Body, Upper Body	Concentric		
75				
76	Mid Body, Upper Body	Patched		
77				
78	Lower Body, Mid Body, Upper Body	Patched		

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
53	spalling and destruction of vessel wall. Could be from deposition.	Organic
54	extreme cracking, vessel might have had too much temper	Cracking
55		
56		
57		
58		White Powder
59		White Powder
60		
61		
62		White Powder
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75	spalling, destruction of vessel walls	Wasting/Erosion
76		
77	spalling and cracking	Wasting/Erosion
78		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
53			
54	Sooting	4	1
55			
56			
57	Fire-Clouding	4, 5	2
58			
59			
60	Sooting	5	3
61			
62			
63	Sooting	1, 4, 5	2
64			
65			
66			
67			
68	Sooting	4	3
69			
70			
71			
72			
73			
74			
75			
76			
77	Fire-Clouding	1	4
78			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
53			
54			
55			
56	Fire-Clouding		2
57	Fire-Clouding		5
58			
59			
60			
61			
62	Fire-Clouding		2
63			
64	Fire-Clouding		3
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			

Sample #	Overall Notes
53	
54	small amount of sooting near rim
55	
56	darker inside of sherd
57	burned sherd?
58	
59	
60	either very small vessel or the diameter measurement is thrown off by the awkward shape of rim.
61	
62	
63	burned sherd
64	dark inside
65	
66	
67	
68	faint sooting ring
69	
70	
71	
72	burnished inside
73	
74	
75	
76	
77	
78	

Sample #	Photo log
53	140,141,142
54	140,143,144
55	145,146.147
56	145,148,149
57	145,150,151
58	153,154,155
59	153,156,157
60	153,158,159
61	160,161,162
62	160,163,164
63	165,166,167
64	165,168,269
65	170,171,172
66	170,173,174
67	175,176,177
68	178,179,180
69	178,181,182
70	183,184,185
71	186,187,188
72	186,189,190
73	191,192,193
74	191,194,195
75	191,196,197
76	198,199,200
77	201,202,203
78	204,205,206

Sample #	ID	Date	Archaeological Site	Site Number	State	County
79	81	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
80	82	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
81	83	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
82	84	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
83	85	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
84	86	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
85	87	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
86	88	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
87	89	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
88	90	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
89	91	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
90	92	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
91	93	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
92	94	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
93	95	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
94	96	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
95	97	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
96	98	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
97	99	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
98	100	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
99	101	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
100	102	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
101	103	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
102	104	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
103	105	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
104	106	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
105	107	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
79	87-1.271	Rim, Shoulder	2.66	3.97
80	87-1.261	Rim	5.20	6.07
81	87-1.261	Body	4.07	3.98
82	87-1.285	Body	3.86	2.61
83	87-1.285	Body	3.313	2.614
84	87-1.285	Body	3.307	3.053
85	87-1.229	Rim	3.277	4.924
86	87-1.229	Body	7.062	5.066
87	87-1.291	Rim	3.217	3.106
88	87-1.267	Rim, Shoulder	6.997	7.289
89	87-1.274	Body	4.795	3.442
90	87-1.274	Body	3.567	3.339
91	87-1.315	Rim	1.830	1.98
92	87-1.262	Body	2.827	2.861
93	87-1.254	Body	3.305	2.004
94	87-1.254	Body	3.449	2.060
95	87-1.277	Body	4.322	3.839
96	87-1.104	Body	6.639	6.789
97	87-1.104	Body	4.144	3.072
98	87-1.150	Body	4.146	3.435
99	87-1.150	Body	6.123	3.763
100	87-1.150	Body	3.723	2.801
101	87-1.150	Body	4.495	3.038
102	87-1.150	Body	3.724	2.493
103	87-1.150	Body	3.475	3.687
104	87-1.178	Rim	2.867	4.174
105	87-1.178	Rim	2.466	3.470

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
79	1.20	1.499	1.074
80	1.31	1.252	1.415
81	1.25	1.304	1.213
82	0.97	1.004	.8650
83	0.99	1.081	.9230
84	0.76	.0868	1.019
85	1.11	1.130	.9930
86	1.07	1.053	1.104
87	1.78	1.749	1.755
88	1.41	.9850	1.569
89	0.94	.9250	.9560
90	0.85	.9220	.7520
91	1.32		
92	1.16		
93	0.93	.9300	.8790
94	0.96	.8500	1.131
95	1.11	1.048	1.185
96	1.18	1.088	1.239
97	1.06	1.016	1.136
98	1.14	1.058	1.110
99	1.06	.9750	1.102
100	1.24	1.218	1.202
101	1.20	1.175	1.144
102	1.17	1.098	1.244
103	1.08	.9000	1.218
104	1.00	.9980	.9450
105	1.28	1.259	1.327

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
79	1.059	1.153	Shell	Burnished, Fabric Impressed
80	1.368	1.221	Grog, Shell	Plain, Unknown (Worn)
81	1.242	1.256	Shell	Plain
82	1.020	1.001	Grog	Plain
83	1.064	.9070	Grog	Plain
84	1.020	.9100	Grog	Plain
85	1.144	1.159	Grog	Plain
86	1.117	1.008	Shell	Plain
87	1.799	1.825	Shell	Plain
88	1.511	1.593	Grog, Shell	Plain
89	.9950	.8730	Grog	Plain
90	.8380	.9070	Grog	Plain
91			Grog, Shell	Plain
92			Indeterminate	Plain
93	.8700	1.048	Indeterminate	Plain
94	1.049	.7910	Shell	Burnished, Plain
95	1.153	1.063	Shell	Plain
96	1.079	1.314	Shell	Plain
97	1.041	1.066	Shell	Plain
98	1.209	1.192	Grog	Plain
99	1.099	1.063	Shell	Plain
100	1.247	1.285	Shell	Plain
101	1.197	1.294	Shell	Plain
102	1.091	1.259	Grog, Shell	Plain
103	1.168	1.040	Grog, Shell	Plain
104	.9750	1.069	Shell	Burnished, Plain
105	1.283	1.250	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
79			Large	25, 4%	FALSE
80			Large	16, 7%	TRUE
81	Incised				FALSE
82					FALSE
83					FALSE
84	Incised				FALSE
85			Large	11, 10%	FALSE
86	Incised				FALSE
87			Large	20, 3%	FALSE
88	Incised		Small	3, 20%	TRUE
89	Incised				FALSE
90	Incised				TRUE
91			Large	Indeterminate	FALSE
92					FALSE
93	Incised				FALSE
94					TRUE
95					FALSE
96					FALSE
97					FALSE
98	Incised				FALSE
99	Incised				FALSE
100	Incised				FALSE
101					FALSE
102					TRUE
103					TRUE
104			Large	25, 5%	TRUE
105			Large	11, 6%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
79				
80	Upper Body, Upper Rim	Patched		
81				
82				
83				
84				
85				
86				
87				
88	Lower Rim	Patched		
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99				
100				
101				
102	Lower Body, Mid Body, Upper Body			
103	Upper Body	Concentric		
104	Upper Rim			
105				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
79		
80	spalling	Wasting/Erosion
81	small instances of spalling	Wasting/Erosion
82	cracking and destruction of vessel wall, possible spalling	Wasting/Erosion
83		
84		
85		
86		
87		
88	small instances of spalling near orifice	Wasting/Erosion
89		
90	very light spalling	Wasting/Erosion
91		
92		
93	crude	
94	one side atrophy	Wasting/Erosion
95		
96		
97		
98		
99		
100		
101		
102	destruction of the vessel wall, most likely due to spalling	Wasting/Erosion
103	markings and spalling just below rim	Wasting/Erosion
104		Wasting/Erosion
105		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
79	Fire-Clouding	5	3
80			
81			
82			
83			
84			
85			
86			
87			
88	Fire-Clouding, Sooting	6	1
89			
90			
91			
92			
93			
94			
95	Sooting		1
96			
97			
98			
99			
100			
101			
102			
103	Sooting		1
104			
105			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
79	Fire-Clouding	5	3
80	Fire-Clouding		2
81	Fire-Clouding		3
82	Fire-Clouding		3
83	Fire-Clouding		3
84			
85			
86			
87	Fire-Clouding		3
88	Fire-Clouding		2
89	Fire-Clouding		3
90			
91			
92			
93			
94			
95			
96			
97	Fire-Clouding		1, 4
98			
99			
100			
101			
102			
103	Fire-Clouding		3
104			
105			

Sample #	Overall Notes
79	fabric impressed outside, burnished inside
80	different color inside
81	darker inside
82	
83	darker inside, slipped?
84	
85	
86	very flat, possibly not WT
87	darker at bottom edge of sherd
88	darker inside, possible slipping, possible sooting at lower body to rim (very light)
89	darker inside
90	
91	
92	
93	crude, broke along incisions.
94	signs of burnishing on the more intact side
95	faint sooting towards bottom edge
96	
97	darker inside
98	
99	
100	
101	
102	
103	darker inside
104	
105	

Sample #	Photo log
79	207,208,209
80	210,211,212,
81	210,213,214
82	215,216,217
83	215,218,219
84	215,220,221
85	222,225,226
86	222,223,224
87	227,228,229
88	230,231,232
89	233,234,235
90	233,236,237
91	241,242,243
92	238,239,240
93	244,245,246
94	244,247,248
95	249,250,251
96	252,253,254
97	252,255,256
98	257,258,259
99	257,260,261
100	257,262,263
101	264,267,268
102	264,265,266
103	264,269,270
104	271,272,273
105	271,274,275

Sample #	ID	Date	Archaeological Site	Site Number	State	County
106	108	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
107	109	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
108	110	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
109	111	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
110	112	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
111	113	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
112	114	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
113	115	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
114	116	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
115	117	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
116	118	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
117	119	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
118	120	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
119	121	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
120	122	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
121	123	21-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
122	124	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
123	125	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
124	126	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
125	127	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
126	128	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
127	129	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
128	130	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
129	131	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
130	132	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
131	133	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
106	87-1.178	Body	7.636	6.726
107	87-1.178	Body	3.605	3.391
108	87-1.178	Body	4.344	3.684
109	87-1.178	Body	4.189	3.552
110	87-1.178	Body	6.581	2.833
111	87-1.178	Body	4.298	3.659
112	87-1.178	Body	5.139	5.157
113	87-1.190	Body	2.421	1.644
114	87-1.190	Body	1.934	1.984
115	87-1.185	Body	3.281	3.083
116	87-1.185	Rim	1.903	2.456
117	87-1.183	Rim	4.801	7.629
118	87-1.183	Rim	2.481	2.742
119	87-1.183	Body	3.471	1.942
120	87-1.183	Body	4.334	2.722
121	87-1.183	Body	5.304	3.280
122	87-1.177	Rim	3.506	1.979
123	87-1.177	Body	5.866	4.218
124	87-1.177	Body	2.408	2.800
125	87-1.177	Body	6.060	4.198
126	87-1.177	Body	3.371	2.158
127	87-1.177	Body	3.395	2.373
128	87-1.170	Body	2.543	1.632
129	87-1.160	Body	6.419	5.770
130	87-1.151	Body	3.874	2.739
131	87-1.149	Body	4.280	3.084

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
106	1.48	1.485	1.344
107	1.14	1.126	1.116
108	0.96	.9210	1.015
109	1.38	1.327	1.395
110	1.15	1.198	1.072
111	0.90	.9730	.7140
112	0.90	.9400	.8820
113	1.46		
114	0.92		
115	1.30	1.260	1.302
116	1.22		
117	1.26	1.176	1.170
118	1.12	1.224	.9760
119	1.29	1.338	1.246
120	1.10	1.337	.8600
121	1.51	1.378	1.509
122	1.31		
123	1.17	.8520	.9920
124	1.02		
125	1.15	1.084	1.244
126	0.77	1.115	.9440
127	1.40	1.163	1.085
128	1.08		
129	1.17	1.512	1.259
130	0.87	1.058	1.102
131	1.17	1.202	1.130

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
106	1.618	1.479	Shell	Fabric Impressed
107	1.124	1.196	Shell	Plain
108	.9140	1.004	Shell	Plain
109	1.420	1.359	Shell	Plain
110	1.080	1.233	Shell	Plain
111	.9490	.9620	Shell	Plain
112	.8580	.9330	Shell	Plain
113			Shell	Plain
114			Indeterminate	Plain
115	1.242	1.383	Grog, Shell	Plain
116			Grog, Shell	Plain
117	1.450	1.251	Grog, Indeterminate	Plain
118	1.190	1.087	Indeterminate	Plain
119	1.288	1.271	Indeterminate	Plain
120	1.074	1.131	Indeterminate	Plain
121	1.593	1.541	Grog	Plain
122			Indeterminate	Plain
123	.9330	1.030	Grog	Plain
124			Grit, Grog	Plain
125	1.220	1.132	Grog	Plain
126	.9960	1.024	Indeterminate	Plain
127	1.150	1.187	Grog	Plain
128			Indeterminate	Plain
129	1.412	1.432	Grog	Plain
130	1.085	1.064	Grog, Limestone	Plain
131	1.167	1.173	Indeterminate	Cord-Marked, Unknown (Worn)

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
106					FALSE
107					FALSE
108					FALSE
109	Incised				FALSE
110					TRUE
111					FALSE
112					FALSE
113					FALSE
114	Incised				FALSE
115					FALSE
116			Large	11, 7%	TRUE
117		Pinched	Large	12, 18%	FALSE
118			Large	10, 4%	FALSE
119					TRUE
120	Incised				TRUE
121					FALSE
122			Large	Indeterminate	TRUE
123	Incised				FALSE
124	Incised				FALSE
125					TRUE
126					FALSE
127					FALSE
128	Incised				TRUE
129					TRUE
130	Incised				FALSE
131					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
106				
107				
108				
109				
110	Lower Body, Mid Body, Upper Body			
111				
112				
113				
114				
115				
116	Upper Body, Upper Rim			
117				
118				
119				
120				
121				
122				
123				
124				
125	Mid Body, Upper Body	Radial		
126				
127	Mid Body, Upper Body	Concentric, Cordial		
128				
129				
130				
131				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
106		
107		
108		
109		
110	Spalling	Wasting/Erosion
111		
112		
113		
114		
115		
116	Spalling	Wasting/Erosion
117	crudely made	
118		
119	destruction of vessel wall possibly due to spalling	Wasting/Erosion
120	Outside of sherd	Wasting/Erosion
121		
122	missing upper body portion of inside of sherd	Wasting/Erosion
123		
124		
125		Wasting/Erosion
126		
127		
128	inside of sherd wall is destroyed	Wasting/Erosion
129		Wasting/Erosion
130		
131		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
106			
107			
108	Sooting		1
109			
110			
111			
112			
113			
114			
115			
116			
117			
118			
119			
120			
121			
122	Fire-Clouding	4	2
123			
124			
125			
126			
127			
128			
129			
130			
131			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
106			
107	Fire-Clouding		2
108			
109			
110			
111			
112			
113			
114			
115	Fire-Clouding		2
116			
117			
118			
119			
120			
121	Fire-Clouding		2
122	Fire-Clouding		2
123			
124			
125			
126	Fire-Clouding		2
127			
128			
129	Fire-Clouding		2
130			
131	Fire-Clouding		3

Sample #	Overall Notes
106	
107	darker inside
108	sooting outside
109	
110	
111	possible rim
112	
113	
114	
115	darker inside
116	
117	
118	
119	
120	
121	darker inside
122	darker inside, fire clouding on top of rim
123	
124	Grit was most likely a natural inclusion in the clay
125	
126	darker inside, crudely made
127	
128	ignore thickness
129	darker inside, crude
130	
131	some dark dis-coloration

Sample #	Photo log
106	276,277.278
107	276,281,282
108	276, 279, 280
109	283,284,285
110	283,286,287
111	283,288,289
112	290,291,292
113	293,294,295
114	293,296,297
115	298,299,300
116	298,301,302
117	303,304,305
118	303,306,307
119	308,309,310
120	308,311,312
121	308,313,314
122	315,316,317
123	315,318,319
124	315,320,321
125	322,323,324
126	322,325,326
127	322,327,328
128	329,330,331
129	332,333,334
130	335,336,337
131	338,339,340

Sample #	ID	Date	Archaeological Site	Site Number	State	County
132	134	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
133	135	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
134	136	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
135	137	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
136	138	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
137	139	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
138	140	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
139	141	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
140	142	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
141	143	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
142	144	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
143	145	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
144	146	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
145	147	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
146	148	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
147	149	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
148	150	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
149	151	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
150	152	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
151	153	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
152	154	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
153	155	22-Dec-16	Wickliffe	15BA4	Kentucky	Ballard
154	201	04-Jan-17	Tinsley Hill	15LY18	Kentucky	Lyons

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
132	87-1.149	Body	3.032	3.033
133	87-1.149	Body	3.195	2.131
134	87-1.149	Body	1.513	1.945
135	87-1.149	Body, Rim	6.266	4.568
136	87-1.127	Rim	4.561	6.582
137	87-1.127	Body	4.462	4.656
138	87-1.105	Rim	4.443	3.612
139	87-1.114	Body	5.054	3.886
140	87-1.116	Body	3.869	3.170
141	87-1.116	Body	2.922	2.413
142	87-1.116	Rim	3.313	3.185
143	87-1.120	Body	3.769	2.822
144	87-1.124	Body	5.882	4.864
145	87-1.124	Body	4.569	2.989
146	87-1.192	Body, Rim	8.177	7.230
147	87-1.200	Body	5.808	4.548
148	87-1.201	Body	4.045	2.665
149	87-1.213	Body	4.551	3.993
150	87-1.216	Body	6.402	3.563
151	87-1.217	Body	4.511	4.290
152	87-1.36	Body	9.082	6.777
153	87-1.90	Body	4.216	3.924
154	65	Body	4.420	2.202

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
132	1.24		
133	1.31	1.286	1.262
134	1.157		
135	1.10	.9790	1.146
136	1.16	1.125	1.114
137	0.94	.9200	.9730
138	1.73	1.461	2.025
139	1.11	1.068	1.158
140	1.10	1.053	1.050
141	1.08	1.078	1.051
142	1.46	1.701	1.399
143	1.45	1.414	1.413
144	1.02	.9580	1.015
145	1.07	1.003	1.116
146	1.21	1.041	1.214
147	1.54	1.698	1.417
148	1.37	1.452	1.352
149	1.93	1.962	1.850
150	1.34	1.191	1.409
151	1.10	.9820	1.216
152	1.22	1.193	1.267
153	1.08		
154	1.03	1.038	1.007

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
132			Grog, Shell	Plain
133	1.377	1.309	Grog, Shell	Plain
134			Indeterminate, Shell	Plain
135	1.240	1.016	Grog, Shell	Plain
136	1.228	1.161	Grit, Grog, Shell	Fabric Impressed
137	.9680	.9130	Shell	Plain
138	1.838	1.609	Grog	Plain
139	1.059	1.172	Grog, Shell	Plain
140	1.032	1.265	Grog, Shell	Plain
141	1.152	1.056	Grog	Plain
142	1.380	1.352	Shell	Cord-Marked, Fabric Impressed, Unknown (Worn)
143	1.469	1.523	Grog, Shell	Plain
144	1.066	1.058	Grog, Shell	Plain
145	1.120	1.044	Shell	Plain
146	1.120	1.466	Grog, Shell	Plain
147	1.590	1.473	Grog	Plain
148	1.332	1.363	Grog, Shell	Plain
149	2.104	1.790	Grog, Shell	Plain
150	1.386	1.373	Shell	Plain
151	1.260	.9560	Indeterminate	Plain
152	1.266	1.171	Shell	Plain
153				
154	1.033	1.037	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
132	Incised				TRUE
133					FALSE
134	Incised				FALSE
135	Incised		Large		TRUE
136			Large	24, 7%	FALSE
137	Incised				FALSE
138		unintentional? Notch on top off rim	Large	15, 8%	FALSE
139					FALSE
140	Incised				FALSE
141					FALSE
142			Large	23, 5%	FALSE
143					TRUE
144					TRUE
145	Incised				FALSE
146	Incised		Large	14, 9%	FALSE
147					FALSE
148					FALSE
149					FALSE
150					TRUE
151					FALSE
152					FALSE
153					FALSE
154					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
132	Lower Body, Mid Body, Upper Body	Patched		
133				
134				
135				
136	Upper Body	Concentric		
137				
138				
139				
140				
141				
142				
143				
144	Mid Body, Upper Body	Radial		
145				
146				
147				
148				
149				
150				
151				
152				
153				
154				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
132	destruction of vessel wall, possibly from spalling	Wasting/Erosion
133		
134		
135	Lots of cracking	Cracking
136		
137		
138		
139		
140		
141		
142		
14	cracking	Wasting/Erosion
144	some uneven places from water damage	Wasting/Erosion
145		
146		
147		
148		
149		
150	light spalling	Wasting/Erosion
151		
152		
153		
154		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
132			
133			
134			
135			
136			
137			
138			
139			
140	Sooting		1
141			
142	Sooting		
143			
144	Sooting		3
145			
146			
147	Sooting		3
148	Sooting		2
149			
150			
151			
152			
153			
154			3

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
132	Fire-Clouding		2
133			
134			
135			
136			
137			
138			
139			
140	Fire-Clouding		2
141	Fire-Clouding		2
142	Fire-Clouding		3
143	Fire-Clouding		1
144	Fire-Clouding		3
145			
146			
147	Fire-Clouding		2
148	Fire-Clouding		2
149			
150			
151	Fire-Clouding		2
152	Fire-Clouding		2
153			
154	Fire-Clouding		2

Sample #	Overall Notes
132	dark dis-coloration
133	
134	
135	
136	
137	
138	
139	
140	dark inside possible burned sherd
141	dark interior
142	dark interior
143	slightly darker interior
144	darker on inside
145	
146	
147	dark inside
148	dark inside sooting, fire clouding outside
149	
150	
151	dark interior
152	dark interior
153	
154	burned sherd

Sample #	Photo log
132	338,341,342
133	338,343,344
134	345,346,347
135	345,348,349
136	350,351,352
137	350,353,354
138	355,356,357,358
139	359,360,361
140	362,363,364
141	362,365,366
142	362,367,368
143	369,370,371
144	372,373,374
145	372,375,376
146	377,378,379
147	380,381,382
148	383,384,385
149	386,387,388
150	389,390,391
151	392,393,394
152	395,395,397
153	
154	388,389,400

Sample #	ID	Date	Archaeological Site	Site Number	State	County
155	203	04-Jan-17	Tinsley Hill	15LY18	Kentucky	Lyons
156	204	04-Jan-17	Tolu	15CN1	Kentucky	Crittenden
157	205	04-Jan-17	Tolu	15CN1	Kentucky	Crittenden
158	206	04-Jan-17	Tolu	15CN1	Kentucky	Crittenden
159	207	04-Jan-17	Tolu	15CN1	Kentucky	Crittenden
160	208	04-Jan-17	Tolu	15CN1	Kentucky	Crittenden
161	209	04-Jan-17	Tolu	15CN1	Kentucky	Crittenden
162	210	04-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
163	211	04-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
164	212	04-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
165	213	04-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
166	214	04-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
167	215	04-Jan-17	Twin Mounds	15CE6	Kentucky	Carlisle
168	216	04-Jan-17	Twin Mounds	15CE6	Kentucky	Carlisle
169	217	04-Jan-17	Sassafras Ridge	15FU3	Kentucky	Fulton
170	218	04-Jan-17	Sassafras Ridge	15FU3	Kentucky	Fulton
171	219	04-Jan-17	Adams	15FU4	Kentucky	Fulton
172	220	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
173	221	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
174	222	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
175	223	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
176	224	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
177	225	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
178	226	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
179	227	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
155	65	Body	4.650	2.323
156	CN-C87 (10)	Body	9.820	7.122
157	CN-C87 (10)	Body	10.743	7.958
158	CN-C87 (16)	Body	14.419	6.895
159	CN-C87 (16)	Body	5.543	6.012
160	CN-C87 (16)	Body	11.196	7.279
161	CN-C87 (23)	Body	7.990	6.537
162	HI-C6 (13)	Rim	2.627	6.477
163	HI-C7	Body	7.893	9.112
164	HI-C7	Body	5.814	5.071
165	HI-C3	Body	3.879	6.789
166	HI-C3	Body	3.074	4.331
167	BA-2	Body	4.078	3.511
168	BA-2	Body	3.718	4.613
169	FU-3	Body	6.479	5.695
170	FU-3	Rim	4.651	5.081
171	BA-4	Body, Shoulder	6.211	5.011
172	3028	Body	4.593	3.542
173	3028	Body	4.077	2.950
174	100E 30N 591	Body	4.941	4.749
175	100E 32N 3151	Body	5.047	5.627
176	100E 30N 2957	Body	6.168	4.377
177	96E 34N 772	Body	5.808	3.031
178	96E 43N 11360	Body	6.225	5.258
179	96E 34N 1888	Body	6.836	6.367

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
155	1.08	1.056	1.071
156	1.54	1.448	1.620
157	1.26	1.281	1.241
158	1.12	1.164	0.768
159	1.27	1.227	1.201
160	1.07	1.021	1.174
161	1.30	1.289	1.339
162	1.46	1.613	1.445
163	1.36	1.191	1.397
164	1.18	1.091	1.156
165	1.65	1.467	1.806
166	1.42	1.417	1.533
167	1.41	1.475	1.382
168	1.37	1.459	1.311
169	1.39	1.282	1.461
170	1.34	1.023	1.429
171	1.20	1.108	1.197
172	0.93	.799	1.011
173	1.11	1.067	1.149
174	1.12	1.071	1.106
175	0.99	1.066	.9340
176	0.76	1.080	.0813
177	1.46	1.257	1.527
178	1.28	1.185	1.336
179	1.27	1.371	1.149

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
155	1.090	1.104	Shell	Plain
156	1.705	1.382	Shell	Plain
157	1.346	1.166	Shell	Plain
158	1.246	1.304	Shell	Plain
159	1.251	1.381	Shell	Plain
160	1.066	1.028	Shell	Plain
161	1.311	1.261	Shell	Plain
162	1.457	1.324	Grog	Plain
163	1.438	1.421	Grog	Plain
164	1.316	1.158	Grog	Plain
165	1.587	1.740	Grog	Plain
166	1.290	1.457	Grog	Plain
167	1.372	1.408	Shell	Plain
168	1.377	1.347	Grit, Grog	Plain
169	1.521	1.297	Grog	Plain
170	1.437	1.469	Grog	Plain
171	1.273	1.227	Grog	Plain
172	.940	.988	Shell	Plain, Unknown (Worn)
173	1.095	1.117	Grog	Plain
174	1.170	1.150	Shell	Plain
175	.9990	.9470	Shell	Plain
176	.9200	.9580	Shell	Burnished, Plain
177	1.444	1.598	Grog, Shell	Fabric Impressed
178	1.235	1.353	Shell	Cord-Marked, Plain
179	1.205	1.372	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
155					FALSE
156					FALSE
157					FALSE
158					FALSE
159					FALSE
160					TRUE
161					FALSE
162			Large	23, 9%	TRUE
163					FALSE
164					TRUE
165	Incised				TRUE
166	Incised				TRUE
167					FALSE
168					FALSE
169					FALSE
170			Large	15, 7%	FALSE
171	Incised				TRUE
172					FALSE
173					FALSE
174					TRUE
175					FALSE
176					FALSE
177					FALSE
178					FALSE
179	Other				FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
155				
156	Lower Body, Mid Body, Upper Body	Concentric		
157				
158				
159				
160				
161				
162	Upper Rim			
163				
164			white residue	
165	Lower Body, Mid Body, Upper Body			
166				
167				
168			white residue	
169			white residue	
170				
171				
172				
173				
174				
175				
176				
177				
178				
179				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
155		
156	spalling also	Wasting/Erosion
157		
158		
159	very crude inside	
160	spalling on outside and inside	Wasting/Erosion
161		
162	spalling	Wasting/Erosion
163		
164	spalling on inside	Wasting/Erosion, White Powder
165	spalling and destruction of vessel wall	Wasting/Erosion
166	spalling	Wasting/Erosion
167		
168		White Powder
169		White Powder
170		
171	some instances of vessel wall destruction, possibly due to spalling	Wasting/Erosion
172		
173		
174	spalling	Wasting/Erosion
175	burned	
176		
177		
178		
179		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
155			3
156	Fire-Clouding		1
157			
158			
159			
160			
161	Fire-Clouding		4
162	Fire-Clouding		2
163	Sooting		2
164	Sooting		2
165			
166			
167			
168	Fire-Clouding		1
169			
170	Fire-Clouding	3	
171			
172			
173			
174			
175	Fire-Clouding		1
176	Fire-Clouding		2
177			
178			
179			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
155	Fire-Clouding		2
156	Fire-Clouding		3
157			
158			
159	Fire-Clouding		3
160			
161	Fire-Clouding		4
162	Fire-Clouding		2
163	Fire-Clouding		2
164	Fire-Clouding		2
165			
166			
167	Fire-Clouding		5
168	Fire-Clouding		5
169			
170			
171			
172	Fire-Clouding		2
173	Fire-Clouding		1
174	Fire-Clouding		1
175	Fire-Clouding		4
176	Fire-Clouding		3
177			
178			
179	Fire-Clouding		2

Sample #	Overall Notes
155	burned sherd
156	slightly darker inside
157	
158	
159	
160	attrition on both sides makes it seem like depositional
161	Dark outside and inside (possibly a burned sherd)
162	
163	Sooting on outside, clouding on inside
164	small spot of sooting on inside
165	
166	
167	dark sherd
168	very dark inside
169	
170	
171	Funkhouser and Webb need to clean their artifacts better
172	light sooting
173	
174	
175	burned inside
176	dark spot
177	
178	little darker inside
179	Darker inside, very crudely made but brushing on outside

Sample #	Photo log
155	388,401,402
156	403,404,405,406
157	403,407,408
158	409,410,411,412
159	409,413,414
160	409,415,416
161	417,418,419
162	420,421,422
163	423,424,425
164	423,426,427
165	428,429,430
166	428,431,432
167	433,434,435
168	433,436,437
169	438,439,440
170	438,441,442
171	443,444,445,446
172	447,448,449
173	447,450,451
174	452,453,454
175	455,456,457
176	458,459,460
177	461,462,463
178	464,465,466
179	467,468,469

Sample #	ID	Date	Archaeological Site	Site Number	State	County
180	228	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
181	229	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
182	230	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
183	231	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
184	232	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
185	233	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
186	234	05-Jan-17	Andalex	15HK22	Kentucky	Hopkins
187	235	05-Jan-17	Canton	15TR1	Kentucky	Trigg
188	236	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
189	237	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
190	238	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
191	239	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
192	240	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
193	241	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
194	242	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
195	243	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
196	244	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
197	245	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
198	246	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
199	247	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
200	248	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
201	249	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
180	96E 30N 2221	Body	4.768	3.997
181	96E 28N 1733	Body	5.080	3.008
182	96E 28N 1733	Body	3.873	3.003
183	96E 28N 1728	Rim	4.170	5.869
184	96E 36N 2270	Body	4.340	3.183
185	102E 32N 37664	Body	4.800	3.493
186	102E 30N 610	Body	3.958	3.768
187	Unit A	Body	4.134	3.530
188	1979 survey bag #4	Body	2.706	2.576
189	1979 survey bag #4	Body	3.928	4.387
190	1979 survey bag #3	Body	4.166	2.429
191	1979 survey bag #3	Body	5.144	2.827
192	1979 survey bag #15	Body	3.694	3.331
193	1979 survey bag #15	Body	2.415	1.949
194	1979 survey bag #15	Body	2.522	2.891
195	1979 survey bag #15	Body	3.247	2.967
196	1979 survey bag #15	Body	4.802	3.955
197	1979 survey bag #15	Body	3.688	2.883
198	1930 survey in type collection UofK	Body	7.019	6.136
199	1930 survey in type collection UofK	Body	4.800	4.206
200	1930 survey in type collection UofK	Body	6.910	5.558
201	1930 survey in type collection UofK	Body	7.872	5.369

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
180	1.09	1.029	1.164
181	1.07	1.019	1.118
182	1.11	1.172	1.084
183	1.12	1.197	1.100
184	1.14	1.150	1.154
185	1.17	1.237	1.230
186	1.08	1.049	1.090
187	1.35	1.396	1.332
188	1.24		
189	1.20	1.189	1.302
190	1.24	1.211	1.287
191	1.03	1.082	1.035
192	1.35	1.398	1.255
193	0.88		
194	1.61		
195	0.88	.9100	.8640
196	1.61	1.564	1.600
197	1.05	1.061	1.028
198	1.32	1.426	1.311
199	1.47	1.402	1.535
200	1.48	1.491	1.411
201	1.11	1.019	1.225

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
180	1.180	.9990	Shell	Plain
181	1.071	1.086	Grog	Plain
182	1.095	1.090	Grog	Plain
183	1.109	1.082	Grog	Plain
184	1.112	1.157	Grog, Shell	Plain
185	1.097	1.103	Grog, Shell	Plain
186	1.100	1.096	Shell	Plain
187	1.296	1.387	Indeterminate, Shell	Plain
188			Indeterminate	Plain
189	1.051	1.254	Shell	Plain
190	1.280	1.190	Grog	Plain
191	.9690	1.025	Grog	Plain
192	1.305	1.453	Grog	Plain
193			Grog, Shell	Plain
194			Grog	Plain
195	.8520	.8890	Indeterminate	Plain
196	1.802	1.486	Grog	Plain
197	1.058	1.063	Grog, Shell	Plain
198	1.276	1.252	Grog, Shell	Plain
199	1.539	1.386	Grog, Shell	Plain
200	1.587	1.424	Grog, Shell	Plain
201	1.214	.9770	Grog, Indeterminate	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
180					FALSE
181	Painted				FALSE
182	Painted				FALSE
183			Large	More than 25	FALSE
184					FALSE
185					FALSE
186					FALSE
187					FALSE
188					FALSE
189					FALSE
190					FALSE
191					FALSE
192	Incised				TRUE
193	Incised				FALSE
194	Incised				FALSE
195	Incised				FALSE
196	Incised				TRUE
197	Incised				FALSE
198	Incised				FALSE
199	Incised				TRUE
200	Incised				FALSE
201	Incised				FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
180				
181				
182				
183				
184				
185				
186				
187				
188				
189				
190				
191				
192				
193				
194				
195			white residue	
196			white residue	
197			organic residue	
198			white residue	
199			white residue	
200				
201				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
180		
181		
182		
183		
184		
185		
186		
187		
188		
189		
190		
191		
192	vessel wall destroyed on part	Wasting/Erosion
193		
194		
195		White Powder
196	large amount of spalling	Wasting/Erosion, White Powder
197		Organic
198		White Powder
199		White Powder
200		
201		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
180	Fire-Clouding		1
181			
182			
183	Sooting	5	2
184			
185	Fire-Clouding		2
186			
187			
188			
189			
190			
191			
192			
193			
194			
195			
196			
197			
198			
199	Fire-Clouding		2
200	Fire-Clouding		2
201	Fire-Clouding		2

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
180	Fire-Clouding		4
181			
182	Fire-Clouding		1, 3
183			
184	Fire-Clouding		4
185	Fire-Clouding		4
186	burned		2
187			
188			
189			
190	Fire-Clouding		3
191	Fire-Clouding		3
192			
193			
194			
195			
196			
197			
198	Fire-Clouding		4
199	Fire-Clouding		4
200	Fire-Clouding		3
201	Fire-Clouding		5

Sample #	Overall Notes
180	dark inside
181	looks to have black painted streaks
182	SAME AS ABOVE
183	
184	darker inside color akin to that seen at Wickliffe
185	
186	slightly darker inside akin to Wickliffe examples
187	moisture damage, leeched shell
188	
189	
190	darker inside
191	darker inside
192	
193	
194	
195	color on inside similar to Wickliffe
196	
197	
198	very crude and irregular on the inside
199	cross hatched incising
200	
201	on inside of vessel

Sample #	Photo log
180	470,471,472
181	473,474,475
182	473,476,477
183	478,479,480
184	481,482,483
185	484,485,486
186	487,488,489
187	490,491,492
188	493,494,495
189	493,496,497
190	498,499,500
191	498,501,502
192	503,504,505
193	503,506,507
194	503,508,509
195	510,511,512
196	510,513,514
197	510,515,516
198	517,518,519,520
199	517,518,521,522
200	517,518,523,524
201	517,525,528,529

Sample #	ID	Date	Archaeological Site	Site Number	State	County
202	250	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
203	251	05-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
204	252	05-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
205	253	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
206	254	05-Jan-17	McLeod Bluff	15HI1	Kentucky	Hickman
207	255	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
208	256	05-Jan-17	Twin Mounds	15BA1	Kentucky	Ballard
209	257	05-Jan-17	Twin Mounds	15BA1	Kentucky	Ballard
210	258	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
211	259	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
212	260	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
213	261	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
214	262	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
215	263	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
216	264	05-Jan-17	Turk Mounds	15CE6	Kentucky	Carlisle
217	265	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
218	266	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
219	267	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
220	268	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
221	269	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
222	270	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
223	271	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
224	272	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
225	273	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
226	274	09-Jan-17	Crosno	23MI1	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
202	1930 survey in type collection UofK	Rim	9.363	5.783
203	UofK ceramic type collection	Body	5.610	6.103
204	UofK ceramic type collection	Body, Rim, Shoulder	15.011	12.298
205	1930 survey in type collection UofK	Body	7.528	5.045
206	UofK ceramic type collection	Rim	5.722	4.791
207	UofK ceramic type collection	Rim	8.516	4.379
208	Bag #1	Body	4.853	6.209
209	Bag #1	Body	6.668	6.308
210	Bag #3	Body	3.535	3.004
211	Bag #3	Body	4.476	3.938
212	Bag #3	Body	4.071	2.901
213	Bag #3	Body	4.340	2.625
214	Bag #3	Body	4.323	3.650
215	Bag #3	Body	3.550	3.545
216	Bag #3	Body	5.284	3.925
217	13	Rim	4.985	4.643
218	13	Rim	7.306	6.968
219	13	Rim, Shoulder	8.595	5.076
220	13	Rim, Shoulder	9.453	8.327
221	13	Rim	5.003	3.231
222	13	Rim	3.809	3.792
223	13	Rim	7.788	8.262
224	13	Rim	8.962	6.308
225	13	Rim	9.715	6.713
226	13	Body	6.990	5.415

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
202	1.55	1.465	1.725
203	1.11	1.079	1.205
204	1.31	1.432	1.299
205	1.40	1.296	1.411
206	1.19	.9790	1.460
207	1.18	.9770	1.419
208	0.99	.9320	.9701
209	1.03	1.015	1.083
210	1.13	1.115	1.161
211	1.21	1.240	1.189
212	1.25	1.244	1.223
213	1.00	.9180	1.067
214	1.01	1.060	1.029
215	1.75	1.781	1.804
216	1.11	1.133	1.103
217	1.27	1.049	1.489
218	1.62	1.709	1.272
219	1.19	1.334	1.344
220	1.72	2.124	1.644
221	0.97	1.121	.9070
222	0.91	.8710	.9080
223	1.75	1.742	1.741
224	1.75	1.919	1.621
225	1.42	1.627	1.263
226	1.50	1.309	1.546

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
202	1.517	1.491	Grog, Shell	Plain
203	1.005	1.136	Indeterminate	Plain
204	1.405	1.095	Grog, Shell	Plain
205	1.361	1.528	Grog, Shell	Plain
206	1.123	1.189	Grog, Shell	Plain
207	1.140	1.184	Grog, Shell	Plain
208	1.014	1.024	Shell	Plain
209	.9950	1.027	Indeterminate	Plain
210	1.092	1.138	Grog, Shell	Plain
211	1.148	1.251	Grog, Shell	Plain
212	1.267	1.250	Grog, Shell	Plain
213	.9400	1.094	Grog	Plain
214	1.012	.9360	Grit, Grog	Plain
215	1.599	1.797	Grog, Shell	Plain
216	1.146	1.072	Grog	Plain
217	1.263	1.291	Grog, Shell	Plain
218	1.774	1.706	Shell	Plain
219	1.015	1.068	Grog, Shell	Plain
220	1.577	1.523	Grog, Shell	Plain
221	.8840	.9580	Shell	Plain
222	.9270	.9150	Grog	Plain
223	1.727	1.806	Limestone, Shell	Plain
224	1.896	1.579	Grog, Shell	Plain
225	1.486	1.305	Grog, Shell	Cord-Marked, Plain
226	1.594	1.564	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
202	Incised		Small	6, 42%	FALSE
203	Incised				FALSE
204			Small	6, 36%	TRUE
205					TRUE
206			Large	17, 4%	FALSE
207			Large	12, 8%	TRUE
208					FALSE
209					FALSE
210	Incised				TRUE
211	Incised				FALSE
212	Incised				FALSE
213	Incised				FALSE
214	Incised				TRUE
215					FALSE
216					FALSE
217	Incised		Large	18, 6%	FALSE
218	Incised		Large	12, 15%	FALSE
219	Incised		Small	4, 16%	FALSE
220	Incised		Small	3, 25%	TRUE
221	Incised		Large	11, 6%	FALSE
222	Incised		Large	15, 5%	FALSE
223	Incised		Large	13, 8%	FALSE
224	Incised		Large	11, 8%	FALSE
225			Large	13, 13%	FALSE
226	Incised				TRUE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
202			white residue	
203				
204				
205				
206				
207			inner body	
208				
209				
210			spalling	
211				
212				
213				
214	Lower Body, Mid Body, Upper Body	Concentric		
215				
216				
217				
218				
219				
220	Lower Rim		Rim is worn	Rim is worn
221				
222				white residue
223			white residue	white residue
224			white residue	white residue
225				
226			spalling cracking	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
202	very little if any	White Powder
203		
204	very crude, possible spalling	Wasting/Erosion
205	some destruction of vessel wall, hole cause by spalling	Wasting/Erosion
206		
207	spalling	Wasting/Erosion
208		
209		
210		Wasting/Erosion
211		
212		
213		
214	some spalling	Wasting/Erosion
215		
216		
217		
218		
219		
220		Wasting/Erosion
221		
222		White Powder
223		White Powder
224		White Powder
225	linear markings made pre-firing	
226		Cracking

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
202			
203			
204	Fire-Clouding, Sooting	1, 2, 3, 6	4
205			
206			
207			
208			
209			
210			
211	Fire-Clouding		3
212	Sooting		2
213			
214			
215			
216			
217			
218			
219			
220			
221			
222			
223			
224			
225	Fire-Clouding	4	4
226	Fire-Clouding	1, 3	1

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
202	Fire-Clouding		2
203			
204	Sooting	4	3
205			
206			
207			
208	Fire-Clouding		2
209			
210			
211	Fire-Clouding		3
212	Sooting		2
213			
214			
215			
216			
217			
218			
219			
220			
221			
222			
223	Fire-Clouding	5	2
224	Fire-Clouding	5	2
225			
226			

Sample #	Overall Notes
202	
203	
204	sooting and fire clouding on outside, sooting on inside of rim
205	light fire clouding
206	
207	
208	
209	
210	piece of shoulder leading to small opening
211	dark inside
212	burned after break
213	
214	
215	
216	
217	has wet hand marks
218	has wet hand marks
219	
220	has wet hand marks
221	
222	
223	dark inside
224	darker inside
225	fire clouding on outside of rim
226	

Sample #	Photo log
202	517,525,526,527
203	530,531,532
204	533,534,535,536
205	537,538,539
206	537,540,541
207	537, 542,543
208	544,545,546
209	544,547,548
210	549,550,551
211	549,552,553
212	549,554,555
213	549,556,
214	557,558,559
215	557,560,561
216	557,562,563
217	564,565,566
218	564,567,568
219	564,569,570
220	571,572,573
221	571,574,575
222	571,576,577
223	578,579,580
224	578,581,582
225	583,584,585
226	583,586,587

Sample #	ID	Date	Archaeological Site	Site Number	State	County
227	275	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
228	276	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
229	277	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
230	278	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
231	279	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
232	280	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
233	281	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
234	282	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
235	283	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
236	284	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
237	285	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
238	286	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
239	287	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
240	288	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
241	289	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
242	290	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
243	291	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
244	292	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
245	293	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
246	294	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
247	295	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
248	296	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
249	297	09-Jan-17	Crosno	23MI1	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
227	13	Body	9.801	4.838
228	13	Body	6.729	5.830
229	13	Body	7.787	3.635
230	13	Body	8.078	5.523
231	13	Body	5.334	2.562
232	13	Body	3.625	4.229
233	13	Body	4.235	3.977
234	13	Body	5.121	4.334
235	13	Body, Shoulder	6.856	5.328
236	13	Body	3.349	3.054
237	13	Body	5.078	4.108
238	13	Body	6.054	3.474
239	13	Body	4.487	4.146
240	13	Body	4.653	5.165
241	13	Body	4.378	4.028
242	16	Body	4.888	4.006
243	16	Body	3.515	3.396
244	16	Body	4.443	4.459
245	16	Body	3.581	3.357
246	16	Body	4.379	2.966
247	16	Body	3.848	4.405
248	16	Body	3.399	3.000
249	16	Body	5.766	4.864

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
227	2.27	2.284	2.100
228	1.91	1.962	1.898
229	1.18	1.110	1.202
230	1.54	1.475	1.698
231	0.81	.8940	.7240
232	1.36	1.322	1.353
233	1.41	1.399	1.409
234	1.25	1.291	1.231
235	1.68	1.850	1.441
236	1.26	1.334	1.260
237	1.09	1.038	1.214
238	1.34	1.563	1.171
239	0.95	1.008	.8680
240	1.87	2.009	1.725
241	1.26	1.221	1.269
242	1.26	1.260	1.270
243	0.82	.7230	.8590
244	1.24	1.213	1.220
245	0.96	.8920	1.017
246	1.55	1.540	1.557
247	0.95	.9270	.9220
248	1.06	1.086	1.036
249	1.53	1.600	1.563

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
227	2.388	2.289	Grog, Shell	Plain
228	1.740	2.034	Grog	Plain
229	1.149	1.257	Grog, Indeterminate	Plain
230	1.487	1.516	Shell	Plain
231	.7730	.8620	Indeterminate	Plain
232	1.376	1.370	Indeterminate	Plain
233	1.460	1.382	Grog	Plain
234	1.223	1.251	Grog, Shell	Plain
235	1.715	1.696	Limestone, Shell	Plain
236	1.216	1.240	Shell	Plain
237	1.017	1.102	Grog, Limestone	Plain
238	1.441	1.173	Shell	Plain
239	.9330	.9940	Shell	Plain
240	1.881	1.876	Grog, Shell	Plain
241	1.271	1.263	Indeterminate	Plain
242	1.229	1.261	Grog, Shell	Plain
243	.8030	.8950	Limestone, Shell	Plain
244	1.207	1.300	Indeterminate	Plain
245	.9920	.9530	Grog, Shell	Plain
246	1.590	1.500	Shell	Plain
247	.9900	.9460	Limestone, Shell	Plain
248	1.060	1.055	Indeterminate	Plain
249	1.312	1.642	Grog, Limestone	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
227	Incised				FALSE
228	Incised				FALSE
229	Incised				FALSE
230	Incised				FALSE
231	Incised				FALSE
232	Incised				FALSE
233	Incised				FALSE
234	Incised				FALSE
235	Incised				FALSE
236	Incised				FALSE
237	Incised				FALSE
238	Incised				FALSE
239	Incised				FALSE
240	Incised				TRUE
241	Incised				FALSE
242	Incised				FALSE
243	Incised				TRUE
244	Incised				FALSE
245	Incised				FALSE
246	Incised				FALSE
247	Incised				FALSE
248	Incised				TRUE
249	Incised				TRUE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
227				
228				
229				
230				
231				
232				
233				white residue
234			very little erosion	
235				
236			hole in vessel wall	
237				
238				
239				
240	Lower Body, Mid Body, Upper Body	Patched	spalling	
241			white residue	
242				
243			destruction of vessel wall	white residue
244	Lower Body, Mid Body, Upper Body	Concentric	trowel scrape?	
245				
246				
247			white residue	
248			white residue, low spalling	
249			heavy attrition on body, spalling?	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
227		
228		
229		
230		
231		
232		
233		White Powder
234		White Powder
235		
236		
237		
238		
239		
240		Wasting/Erosion
241		White Powder
242		
243		Wasting/Erosion, White Powder
244		
245		
246		
247		White Powder
248		White Powder
249		Wasting/Erosion

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
227			1
228			
229			
230			
231			
232			
233			
234			
235			
236	Sooting		1
237	Sooting		1
238			
239			
240			
241			
242			
243			
244			
245			
246			
247	Sooting		1
248			
249			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
227			
228			
229			
230			
231			
232			
233			
234			
235			
236			
237			
238			
239			
240			
241	Fire-Clouding		4
242			
243			
244			
245			
246			
247			
248			
249			

Sample #	Overall Notes
227	sooting on body of sherd, lots of destruction to vessel wall, cracking
228	
229	
230	maybe limestone
231	
232	
233	
234	orange clay with white slip??
235	has wet hands marking
236	
237	outside sooting
238	
239	
240	
241	
242	dark inside
243	
244	
245	
246	has wet hands mark
247	
248	
249	

Sample #	Photo log
227	583,588,589
228	596,590,591
229	596,592,593
230	596,594,595
231	597,598,599
232	597,600,601
233	597,602,603
234	597,604,605
235	606,607,608
236	606,609,610
237	606,611,612
238	606,613,614
239	615,616,617
240	615,618,619
241	615,620,621
242	622,623,624,
243	622,625,626
244	622,627,628
245	622,629,630
246	631,632,633
247	631,634,635
248	631,636,637
249	631,638,639

Sample #	ID	Date	Archaeological Site	Site Number	State	County
250	298	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
251	299	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
252	300	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
253	301	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
254	302	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
255	303	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
256	304	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
257	305	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
258	306	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
259	307	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
260	308	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
261	309	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
262	310	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
263	311	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
264	312	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
265	313	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
266	314	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
267	315	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
268	316	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
269	317	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
270	318	09-Jan-17	Crosno	23MI1	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
250	16	Body	4.810	4.440
251	16	Body	4.249	4.593
252	16	Body	5.092	3.514
253	16	Body	3.963	4.503
254	16	Body	3.409	3.410
255	16	Body	4.240	4.821
256	16	Body	5.089	4.151
257	16	Body	5.066	4.720
258	16	Body	5.127	5.887
259	16	Body	2.793	2.869
260	16	Rim	6.137	5.209
261	16	Rim	4.726	5.224
262	16	Rim	5.875	4.348
263	16	Rim	3.926	3.944
264	16	Rim	2.957	2.687
265	16	Body	4.363	3.810
266	16	Body	5.899	4.901
267	16	Body	3.674	2.905
268	16	Body	5.010	3.282
269	16	Body	4.800	3.358
270	16	Body	6.027	5.021

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
250	1.19	1.149	1.248
251	1.07	1.193	.8010
252	1.07	1.051	1.099
253	0.93	.9190	.9330
254	1.48	1.636	1.381
255	2.02	2.226	1.909
256	1.33	1.286	1.393
257	1.11	1.035	1.136
258	1.44	1.391	1.553
259	1.11		
260	1.72	1.715	1.668
261	1.11	1.152	1.073
262	1.30	.9810	1.438
263	1.64	1.661	1.556
264	1.37		
265	1.36	1.344	1.375
266	1.37	1.414	1.271
267	1.16	1.150	1.177
268	1.20	1.201	1.138
269	1.34	1.208	1.410
270	1.23	1.128	1.223

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
250	1.167	1.178	Indeterminate	Plain
251	1.235	1.048	Indeterminate	Plain
252	1.103	1.042	Grit, Shell	Plain
253	.8940	.9540	Grog, Shell	Plain
254	1.451	1.445	Shell	Plain
255	2.089	1.843	Shell	Plain
256	1.322	1.335	Shell	Plain
257	1.089	1.185	Limestone	Plain
258	1.311	1.497	Grog, Shell	Plain
259			Shell	Plain
260	1.728	1.778	Grog, Shell	Plain
261	1.127	1.088	Shell	Plain
262	1.368	1.413	Limestone, Shell	Plain
263	1.589	1.745	Grit, Shell	Plain
264			Indeterminate, Shell	Plain
265	1.338	1.397	Indeterminate	Plain
266	1.400	1.393	Grog, Limestone	Plain
267	1.191	1.126	Limestone	Plain
268	1.293	1.184	Grog	Plain
269	1.525	1.223	Indeterminate	Plain
270	1.256	1.304	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
250	Incised				FALSE
251	Incised				FALSE
252	Incised				TRUE
253	Incised				FALSE
254	Incised				FALSE
255	Incised				FALSE
256	Incised				FALSE
257	Incised				FALSE
258	Incised				FALSE
259	Incised				FALSE
260	Incised		Large	13, 9%	FALSE
261	Incised		Large	15, 7%	TRUE
262	Incised		Large	11, 7%	FALSE
263	Incised		Large	10, 12%	FALSE
264	Incised		Small	6, 21%	TRUE
265	Incised				FALSE
266					FALSE
267					FALSE
268					TRUE
269					FALSE
270					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
250				
251			heavy attrition on body, spalling?	
252			attrition	
253				
254				
255				
256				
257			white residue	
258				
259				
260			crude inside	
261	Upper Rim		spalling, destruction of wall	
262				
263			white residue	
264			white residue, vessel wall destroyed	
265				
266			white residue	
267				
268			white residue, destruction of vessel wall	
269				
270				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
250		
251		Wasting/Erosion
252		Wasting/Erosion
253		
254		
255		
256		
257		White Powder
258		
259		
260		
261		Wasting/Erosion
262		
263		White Powder
264		Wasting/Erosion, White Powder
265		
266		White Powder
267		
268		Wasting/Erosion, White Powder
269		
270		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
250			
251			
252			
253			
254			
255			
256			
257			
258	Fire-Clouding		1
259	Sooting		2
260			
261			
262			
263			
264			
265			
266	Sooting		1
267			
268			
269	Fire-Clouding		1
270	Fire-Clouding		1

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
250	Fire-Clouding		2
251	Fire-Clouding		2
252			
253			
254			
255			
256	Fire-Clouding		2
257			
258	Fire-Clouding		4
259			
260			
261	Fire-Clouding		3
262			
263			
264			
265			
266			
267			
268			
269			
270			

Sample #	Overall Notes
250	darker inside
251	
252	darker inside
253	
254	
255	
256	
257	
258	darker inside
259	sooting on body outside
260	
261	dark inside
262	
263	
264	thickness records vessel wall destruction
265	
266	darker inside
267	
268	
269	
270	darker inside

Sample #	Photo log
250	640,641,642
251	640,643,644
252	640,645,646
253	640,647,648
254	649,650,651
255	649,652,653
256	649,654,655
257	656,657,658
258	656,659,660
259	656,661,662
260	663,664,665
261	663,666,667
262	668,669,670
263	668,671,672
264	668,673,674
265	675,676,677
266	678,679,680
267	678,681,682
268	678,683,684
269	678,685,686
270	687,688,689

Sample #	ID	Date	Archaeological Site	Site Number	State	County
271	319	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
272	320	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
273	321	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
274	322	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
275	323	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
276	324	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
277	325	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
278	326	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
279	327	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
280	328	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
281	329	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
282	330	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
283	331	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
284	332	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
285	333	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
286	334	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
287	335	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
288	336	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
289	337	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
290	338	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
291	339	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
292	340	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
293	341	09-Jan-17	Crosno	23MI1	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
271	16	Body	6.066	5.003
272	16	Body	5.914	5.627
273	16	Body	5.826	4.339
274	16	Body	7.000	6.195
275	16	Body	6.778	3.800
276	16	Rim	3.208	3.019
277	16	Rim	4.622	2.513
278	16	Rim	3.317	3.656
279	16	Rim	5.076	5.149
280	16	Rim	4.101	4.817
281	16	Rim	4.311	4.148
282	16	Rim	5.001	4.353
283	16	Rim	3.529	6.250
284	16	Rim	8.050	4.018
285	16	Rim	4.658	3.655
286	16	Rim	1.593	6.465
287	16	Rim	6.683	4.075
288	16	Rim	3.303	5.679
289	16	Rim	2.894	3.454
290	16	Rim	2.894	3.454
291	16	Rim	5.122	4.029
292	16	Rim	4.202	5.613
293	16	Rim	3.873	5.369

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
271	1.21	1.121	1.214
272	1.31	1.353	1.182
273	1.39	1.297	1.396
274	1.89	1.772	2.006
275	1.18	1.163	1.200
276	0.99	.7030	1.092
277	1.77	1.776	1.875
278	1.11	1.034	1.169
279	1.49	1.429	1.477
280	1.09	1.087	1.116
281	1.29	1.263	1.318
282	1.33	1.252	1.312
283	1.29	1.400	1.306
284	1.82	1.818	1.603
285	1.68	1.875	1.490
286	1.40	1.483	1.449
287	1.37	1.576	1.282
288	1.60	1.617	1.591
289	1.48	1.515	1.477
290	1.15	1.054	1.240
291	1.02	1.094	1.018
292	1.51	1.602	1.534
293	1.09	1.070	1.019

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
271	1.343	1.148	Shell	Plain
272	1.380	1.323	Shell	Plain
273	1.546	1.316	Shell	Plain
274	1.876	1.918	Grog, Shell	Plain
275	1.224	1.132	Shell	Plain
276	1.042	1.133	Shell	Plain
277	1.662	1.764	Grit, None	Plain
278	1.086	1.146	Grog, Shell	Plain
279	1.480	1.573	Shell	Plain
280	1.068	1.087	Shell	Plain
281	1.357	1.213	Grog	Plain
282	1.382	1.367	Shell	Plain
283	1.231	1.227	Shell	Plain
284	1.938	1.930	Grog, Shell	Plain
285	1.656	1.691	Grog, Shell	Plain
286	1.194	1.467	Shell	Plain
287	1.286	1.353	Shell	Plain
288	1.724	1.465	Shell	Plain
289	1.536	1.393	Shell	Plain
290	1.148	1.173	Indeterminate	Plain
291	.9870	.9900	Shell	Plain
292	1.560	1.363	Shell	Plain
293	1.093	1.168	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
271					FALSE
272					TRUE
273					TRUE
274					FALSE
275					FALSE
276			Small	3, 27%	FALSE
277			Large	20, 4%	FALSE
278			Small	4, 20%	TRUE
279			Large	14, 8%	FALSE
280			Large	15, 8%	FALSE
281			Large	24, 4%	FALSE
282			Large	9, 9%	FALSE
283			Large	12, 13%	FALSE
284			Small	3, 24%	FALSE
285			Large	12, 5%	TRUE
286			Large	12, 15%	FALSE
287			Large	14, 8%	FALSE
288			Large	15, 10%	FALSE
289			Large	indeterminate	TRUE
290			Large	16,8%	FALSE
291			Large	14, 9%	FALSE
292			Large	15, 9%	FALSE
293			Large	18, 7%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
271			spalling	
272			white residue	
273			white residue, destruction of the vessel wall, spalling	
274			white residue	
275				
276				
277				
278			spalling	
279			white residue	
280			white residue	
281				
282				
283			white residue	
284				
285	Upper Rim		spalling	
286				
287				
288			white residue	
289			destruction of vessel wall, spalling?	
290				
291				
292				
293				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
271		Wasting/Erosion
272		White Powder
273		Wasting/Erosion, White Powder
274		White Powder
275		
276		
277		
278		Wasting/Erosion
279		White Powder
280		White Powder
281		
282		
283		White Powder
284		
285		Wasting/Erosion
286		
287		
288		White Powder
289		Wasting/Erosion
290		
291		
292		
293		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
271			
272			
273			
274			
275			
276			
277			
278			
279			
280			
281			
282			
283	Fire-Clouding		2
284	Sooting		1
285			
286			
287			
288			
289			
290			
291			
292			
293			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
271	Fire-Clouding		1
272			
273			
274			
275			
276			
277			
278			
279			
280			
281			
282			
283			
284			
285			
286			
287			
288			
289			
290			
291			
292	Fire-Clouding	5	1
293	Fire-Clouding	5	2

Sample #	Overall Notes
271	
272	light outside
273	
274	darker inside
275	
276	
277	
278	dark interior
279	
280	
281	
282	
283	sooting towards outer rim
284	sooting before the rim and the outside rim is missing but it is likely that it extends to that area.
285	
286	
287	
288	
289	
290	
291	
292	
293	

Sample #	Photo log
271	687,690,691
272	687,692,693
273	694,695,696
274	694,697,698
275	694,699,700
276	701,702,703
277	701,704,705
278	701,706,707
279	701,708,709
280	710,711,712
281	710,713,714
282	710,715,716
283	710,717,718
284	719,720,721
285	719,722,723
286	719,724,725
287	719,726,727
288	728,729,730
289	728,731,732,
290	728,733,734
291	728,735,736
292	737,738,739
293	737,740,741

Sample #	ID	Date	Archaeological Site	Site Number	State	County
294	342	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
295	343	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
296	344	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
297	345	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
298	346	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
299	347	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
300	348	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
301	349	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
302	350	09-Jan-17	Crosno	23MI1	Missouri	Mississippi
303	351	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
304	352	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
305	353	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
306	354	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
307	355	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
308	356	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
309	357	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
310	358	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
311	359	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
312	360	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
313	361	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
314	362	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
315	363	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
316	364	10-Jan-17	Crosno	23MI1	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
294	16	Rim	3.321	4.339
295	16	Rim	5.621	3.783
296	16	Rim	5.161	3.877
297	16	Rim	4.714	4.005
298	16	Rim	4.430	4.387
299	16	Rim	7.137	4.931
300	16	Rim	7.393	5.459
301	16	Rim	6.068	3.900
302	16	Rim	5.484	6.475
303	16	Rim	6.252	7.554
304	16	Rim	6.946	7.800
305	16	Rim	7.045	5.611
306	16	Rim	4.161	5.797
307	16	Rim	3.144	3.903
308	16	Rim	6.157	5.101
309	16	Rim	7.451	5.374
310	16	Rim	3.650	4.301
311	16	Body, Shoulder	8.644	4.536
312	16	Body	6.664	6.234
313	16	Body	6.920	7.196
314	16	Body	5.686	4.329
315	16	Body	4.591	4.218
316	16	Body	8.236	6.104

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
294	1.05	1.017	1.061
295	1.10	.9380	1.330
296	1.53	1.489	1.528
297	2.20	2.165	2.579
298	0.84	1.209	.6350
299	1.51	1.787	1.225
300	1.27	1.939	.9030
301	1.19	1.466	1.031
302	1.06	.9560	1.113
303	1.34	1.406	1.229
304	1.24	1.592	.8660
305	1.28	1.401	1.273
306	1.15	1.263	1.067
307	1.15	1.134	1.118
308	1.31	1.143	1.360
309	1.52	1.785	1.160
310	1.09	1.128	1.052
311	1.38	1.767	1.043
312	1.33	1.193	1.483
313	1.40	1.457	1.474
314	1.49	1.527	1.440
315	1.46	1.524	1.389
316	1.46	1.411	1.257

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
294	1.078	1.052	Shell	Plain
295	.9900	1.147	Shell	Plain
296	1.608	1.507	Limestone, Shell	Plain
297	1.863	2.200	Grog, Shell	Plain
298	.7740	.7300	Shell	Plain
299	1.426	1.597	Shell	Plain
300	1.143	1.083	Shell	Plain
301	1.251	1.017	Shell	Plain
302	1.147	1.015	Shell	Plain
303	1.416	1.318	Shell	Plain
304	1.293	1.194	Shell	Plain
305	1.212	1.228	Shell	Plain
306	1.050	1.216	Shell	Plain
307	1.125	1.231	Shell	Plain
308	1.400	1.336	Shell	Plain
309	1.583	1.536	Shell	Plain
310	1.087	1.093	Indeterminate	Plain
311	1.496	1.221	Shell	Plain
312	1.448	1.187	Shell	Plain
313	1.203	1.460	Shell	Plain
314	1.598	1.398	Shell	Plain
315	1.557	1.381	Shell	Plain
316	1.541	1.622	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
294			Large	16, 6%	FALSE
295			Large	9, 12%	FALSE
296			Large	10, 9%	FALSE
297			Large	indeterminate	TRUE
298			Small	4, 20%	FALSE
299			Large	16, 4%	FALSE
300			Small	9, 20%	FALSE
301			Small	2, 35%	FALSE
302			Large	24, 10%	FALSE
303			Large	14, 11%	FALSE
304			Small	3, 20%	FALSE
305			Large	14, 5%	FALSE
306			Large	12, 13%	TRUE
307			Large	15, 7%	FALSE
308			Large	14, 8%	FALSE
309			Small	6, 14%	FALSE
310			Large	18, 6%	FALSE
311					FALSE
312					FALSE
313					FALSE
314					FALSE
315					FALSE
316					TRUE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
294				
295				
296			white residue	
297			destruction of vessel wall, possibly from spalling	
298				
299			white residue	
300				
301				
302			normal attrition	
303			white residue	
304			white residue	
305				
306	Upper Body, Upper Rim		white residue, destruction of vessel wall	
307				
308			white residue	
309			white residue	
310				
311				
312			white residue	
313			white residue	
314			white residue	
315			white residue	
316			white residue	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
294		
295		
296		White Powder
297		Wasting/Erosion
298		
299		White Powder
300		
301		
302		
303		White Powder
304		White Powder
305		
306		Wasting/Erosion, White Powder
307		
308		White Powder
309		White Powder
310		
311		
312		White Powder
313		White Powder
314		White Powder
315		White Powder
316		White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
294			
295			
296			
297	Fire-Clouding		1
298			
299			
300			
301			
302			
303			
304			
305			
306			
307			
308	Sooting	5	2
309			
310			
311			
312			
313			
314			
315			
316			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
294			
295			
296			
297			
298			
299			
300			
301			
302			
303			
304	Fire-Clouding		3
305			
306	Fire-Clouding	4	3
307			
308			
309			
310			
311			
312			
313			
314			
315			
316			

Sample #	Overall Notes
294	
295	
296	
297	fire clouding on lip
298	
299	
300	
301	
302	
303	
304	dark inside
305	dark inside
306	dark inside
307	dark inside
308	
309	dark inside, light outside
310	
311	
312	crude
313	
314	dark inside
315	dark inside
316	

Sample #	Photo log
294	737,742,743
295	737,744,745
296	746,747,748
297	746,749,750
298	756,751,752
299	746,753,754
300	755,756,757
301	755,758,759
302	755,760,761
303	762,763,764
304	762,765,766
305	762,767,768
306	762,769,770
307	771,772,773
308	771,774,775
309	771,776,777
310	771,778,779
311	780,781,782
312	780,783,784
313	780,785,786
314	787,788,789
315	787,790,791
316	787,792,793

Sample #	ID	Date	Archaeological Site	Site Number	State	County
317	365	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
318	366	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
319	367	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
320	368	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
321	369	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
322	370	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
323	371	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
324	372	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
325	373	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
326	374	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
327	375	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
328	376	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
329	377	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
330	378	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
331	379	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
332	380	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
333	381	10-Jan-17	Crosno	13MI1	Missouri	Mississippi
334	382	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
335	383	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
336	384	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
337	385	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
338	386	10-Jan-17	Crosno	23MI1	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
317	16	Body	8.408	6.803
318	16	Body	9.425	6.782
319	16	Body	4.557	4.757
320	16	Body	11.125	10.681
321	16	Rim	3.417	5.423
322	16	Rim	1.970	4.692
323	16	Rim	4.197	4.049
324	16	Rim	4.246	3.455
325	16	Rim	5.428	4.344
326	16	Body	5.961	3.937
327	16	Body	6.812	5.635
328	16	Body	7.492	5.776
329	16	Body, Shoulder	6.826	6.365
330	16	Body	6.261	4.8.06
331	16	Body	5.864	4.425
332	16	Body	5.233	4.836
333	16	Body	5.281	7.055
334	16	Body	5.235	4.404
335	16	Body	4.607	3.713
336	16	Body, Shoulder	4.737	5.083
337	16	Body	2.895	5.363
338	16	Body	5.388	4.337

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
317	1.67	1.882	1.600
318	1.21	1.206	1.015
319	1.23	1.180	1.215
320	1.25	1.476	1.055
321	1.01	1.068	.9160
322	1.33	1.319	1.350
323	1.28	1.373	1.170
324	1.85	1.881	1.886
325	1.62	1.571	1.687
326	1.27	1.221	1.280
327	1.38	1.506	1.417
328	1.06	.9890	1.033
329	1.21	1.184	1.203
330	1.51	1.416	1.682
331	1.37	1.366	1.326
332	2.82	2.722	2.683
333	2.04	1.935	2.183
334	0.99	1.029	.9010
335	1.10	.982	1.181
336	1.07	1.045	1.041
337	0.90	.9200	.9580
338	1.39	1.464	1.261

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
317	1.524	1.685	Grog, Shell	Plain
318	1.352	1.252	Shell	Plain
319	1.290	1.244	Shell	Plain
320	1.224	1.243	Shell	Plain
321	.9210	1.122	Grog, Shell	Plain
322	1.334	1.327	Shell	Plain
323	1.249	1.313	Shell	Plain
324	1.803	1.842	Shell	Plain
325	1.661	1.573	Grog	Plain
326	1.251	1.309	Indeterminate	Plain
327	1.301	1.305	Grog	Plain
328	1.165	1.065	Shell	Plain
329	1.340	1.127	Grog	Plain, Unknown (Worn)
330	1.467	1.478	Grit, Grog, Shell	Plain
331	1.339	1.449	Grog, Shell	Plain
332	3.058	2.798	Grog, Indeterminate, Shell	Plain, Unknown (Worn)
333	1.866	2.182	Grog, Shell	Plain
334	.9380	1.093	Indeterminate	Plain
335	1.126	1.108	Shell	Plain
336	1.028	1.146	Shell	Plain
337	.8400	.8710	Shell	Plain
338	1.373	1.477	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
317					FALSE
318					FALSE
319					FALSE
320					FALSE
321	Incised		Small	4, 27%	FALSE
322	Incised		Large	12, 7%	FALSE
323	Incised		Large	14, 6%	FALSE
324	Incised		Large	17, 4%	FALSE
325	Incised		Large	13, 5%	TRUE
326	Incised				FALSE
327	Incised				FALSE
328	Incised				FALSE
329	Incised				FALSE
330	Incised				TRUE
331	Incised				FALSE
332	Incised				FALSE
333	Incised				FALSE
334	Incised				FALSE
335	Incised				FALSE
336	Incised				FALSE
337	Incised				FALSE
338	Incised				FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
317			white residue	
318			white residue	
319				
320			small amounts of spalling	
321				
322			white residue	
323				
324			white residue, spalling	
325	Upper Body		white residue, spalling	
326				
327			white residue	
328				
329			probably depositional	
330			white residue	
331				
332			destruction of vessel wall	
333				
334				
335			white residue	
336			white residue	
337			white residue	
338				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
317		White Powder
318		White Powder
319		
320		Wasting/Erosion
321		
322		White Powder
323		
324		Wasting/Erosion, White Powder
325		Wasting/Erosion, White Powder
326		
327		White Powder
328		
329		
330		Wasting/Erosion
331		
332		Wasting/Erosion
333		
334		
335		White Powder
336		White Powder
337		White Powder
338		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
317			
318	Fire-Clouding		1
319			
320			
321			
322			
323			
324	Fire-Clouding		1
325	Fire-Clouding		1
326			
327			
328	Fire-Clouding		2
329			
330	Sooting		1
331			
332			
333			
334			
335			
336			
337			
338			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
317			
318			
319			
320			
321			
322			
323			
324	Fire-Clouding	5	3
325	Fire-Clouding	5	3
326			
327			
328			
329			
330			
331			
332			
333			
334			
335			
336			
337			
338			

Sample #	Overall Notes
317	
318	light clouding towards top
319	
320	
321	
322	
323	
324	
325	destruction of vessel wall
326	
327	dark inside
328	fire clouding on outside
329	
330	dark inside
331	
332	
333	
334	darker in outside and inside towards assumed bottom
335	
336	
337	darker inside
338	

Sample #	Photo log
317	794,795,796
318	794,797,798
319	794,799,800
320	801,802,803
321	804,805,806
322	804,807,808
323	804,809,810
324	811,812,813
325	811,814,815
326	816,817,818
327	816,819,820
328	816,821,822
329	823,824,825
330	823,826,827
331	823,828,829
332	830,831,832
333	830,833,834
334	830,835,836
335	837,838,839
336	837,840,841
337	837,842,843
338	837,844,845

Sample #	ID	Date	Archaeological Site	Site Number	State	County
339	387	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
340	388	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
341	389	10-Jan-17	Crosno	23MI1	Missouri	Mississippi
342	390	10-Jan-17	Hoecake	23MI8	Missouri	Mississippi
343	391	10-Jan-17	Hoecake	23MI8	Missouri	Mississippi
344	392	10-Jan-17	Hoecake	23MI8	Missouri	Mississippi
345	393	10-Jan-17	Hoecake	23MI8	Missouri	Mississippi
346	394	10-Jan-17	Hoecake	23MI8	Missouri	Mississippi
347	395	10-Jan-17	Hoecake	23MI8	Missouri	Mississippi
348	396	10-Jan-17	Hoecake	23MI8	Missouri	Mississippi
349	397	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
350	398	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
351	399	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
352	400	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
353	401	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
354	402	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
355	403	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
356	404	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
357	405	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
358	406	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
359	407	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
360	408	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
361	409	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
362	410	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
363	411	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
339	16	Body	9.260	6.965
340	16	Rim	3.621	3.720
341	16	Rim	5.916	4.694
342	26	Body	7.666	4.747
343	33	Body	4.347	3.614
344	33	Body	3.965	3.180
345	36	Body	4.547	5.220
346	37	Body	3.626	3.533
347	41	Body	4.191	3.026
348	41	Rim	5.349	4.997
349	2	Rim	5.433	6.789
350	13	Rim	6.658	6.058
351	13	Body	3.548	2.820
352	13	Body	2.412	2.602
353	13	Body	3.371	3.365
354	13	Body	4.602	3.675
355	10	Body	3.522	4.158
356	10	Body, Rim	8.333	8.534
357	11	Body	6.582	6.254
358	11	Rim, Shoulder	6.238	3.019
359	12	Body	4.345	2.650
360	12	Rim	3.002	4.068
361	16	Body	5.976	4.027
362	16	Body	3.932	3.884
363	17	Body	5.515	3.004

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
339	1.32	1.272	1.267
340	1.21	1.116	1.221
341	1.33	1.455	1.217
342	1.45	1.557	1.400
343	1.30	1.226	1.329
344	1.41	1.398	1.404
345	0.85	.9370	.7340
346	1.35	1.296	1.437
347	1.41	1.394	1.417
348	1.30	1.411	1.143
349	1.40	1.803	1.326
350	1.37	1.546	1.134
351	1.02	1.035	.9940
352	1.20		
353	1.50	1.383	1.754
354	1.20	1.195	1.249
355	1.20	1.130	1.306
356	1.41	1.451	1.118
357	1.18	1.190	.8160
358	1.52	1.598	1.110
359	1.04	1.033	1.045
360	1.30	1.383	1.142
361	1.31	1.318	1.094
362	1.65	1.588	1.703
363	1.56	1.553	1.684

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
339	1.290	1.453	Shell	Plain
340	1.282	1.226	Shell	Plain
341	1.371	1.292	Shell	Plain
342	1.342	1.505	Grit, Grog	Plain
343	1.276	1.385	Grog	Plain
344	1.432	1.386	Grog	Plain
345	.8480	.8760	Grog, Shell	Plain
346	1.379	1.275	Grog	Plain
347	1.353	1.462	Grog	Plain
348	1.162	1.471	Grog	Plain
349	1.214	1.252	Grit, Grog	Plain
350	1.414	1.367	Shell	Plain
351	1.036	1.031	Shell	Plain
352			Shell	Plain, Unknown (Worn)
353	1.413	1.445	Shell	Plain, Unknown (Worn)
354	1.137	1.229	Shell	Plain
355	1.192	1.187	Shell	Plain
356	1.399	1.686	Grit, Shell	Plain
357	1.456	1.267	Shell	Plain
358	1.613	1.770	Shell	Plain
359	1.048	1.022	Shell	Plain
360	1.347	1.322	Shell	Plain
361	1.316	1.522	Shell	Plain
362	1.595	1.733	Shell	Plain
363	1.442	1.569	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
339	Incised				FALSE
340	Incised		Large	9, 10%	FALSE
341	Incised		Large	indeterminate	FALSE
342	Incised				FALSE
343					FALSE
344					FALSE
345	Incised				FALSE
346					FALSE
347					TRUE
348	Incised		Large	10, 13%	FALSE
349			Large	13, 14%	FALSE
350			Large	20, 4%	FALSE
351					FALSE
352					FALSE
353					FALSE
354					FALSE
355	Incised				FALSE
356				Indeterminate	TRUE
357	Incised				TRUE
358	Incised		Small	4, 6%	TRUE
359					FALSE
360			Large	22, 4%	TRUE
361					FALSE
362					FALSE
363					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
339				
340				
341			white residue	
342			from deposition	
343				
344			white residue	
345				
346				
347	Lower Body, Mid Body, Upper Body		white residue, spalling	
348			vessel wall	
349				
350			white residue	
351				
352				
353				
354				
355				
356	Mid Body		white residue, cracking	
357	Lower Body, Mid Body, Upper Body		attrition on vessel wall	
358	Lower Body, Lower Rim		erosion	
359				
360			outside rim	
361				
362			slight spalling	
363				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
339		
340		
341		White Powder
342		
343		
344		White Powder
345		
346		
347		Wasting/Erosion, White Powder
348		
349		
350		White Powder
351		
352		
353		
354		
355		
356		Cracking, White Powder
357		Wasting/Erosion
358		
359		
360		Wasting/Erosion
361		
362		
363		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
339			
340			
341	Fire-Clouding		1
342			
343			
344			
345			
346			
347			
348			
349			
350			
351			
352			
353			
354			
355			
356			
357	Fire-Clouding		2
358			
359			
360	Fire-Clouding		2
361			
362			
363			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
339			
340			
341	Fire-Clouding		2
342	Fire-Clouding		2
343			
344	Fire-Clouding		3
345			
346	Fire-Clouding		2
347	Fire-Clouding		1
348	Fire-Clouding		1
349			
350			
351	Fire-Clouding		2
352			
353	Fire-Clouding		2
354	Fire-Clouding		2
355			
356			
357	Fire-Clouding		2
358			
359			
360	Fire-Clouding		2
361			
362			
363	Fire-Clouding		4

Sample #	Overall Notes
339	darker inside
340	
341	darker inside
342	sooting on inside
343	
344	dark inside
345	
346	dark inside
347	dark inside
348	dark inside away from rim
349	
350	
351	
352	dark inside
353	dark inside
354	dark inside
355	
356	
357	dark inside
358	
359	
360	
361	
362	
363	dark inside

Sample #	Photo log
339	846,847,848
340	849,850,851
341	849,852,853
342	854,855
343	856,857,858
344	856,859,860
345	860,861,862
346	863,864,865
347	867,868,869
348	867,870,871
349	875,876,877
350	872,873,874
351	878,879,880
352	878,881,882
353	878,883,884
354	878,885,886
355	887,888,889
356	890,891,892
357	893,894,895
358	893,896,897
359	898,899,900
360	898,901,902
361	903,904,905
362	903,906,907
363	908,909,910

Sample #	ID	Date	Archaeological Site	Site Number	State	County
364	412	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
365	413	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
366	414	10-Jan-17	McCulloch	23NM251	Missouri	New Madrid
367	415	11-Jan-17	Hoecake	23MI8	Missouri	Mississippi
368	416	11-Jan-17	Hoecake	23MI8	Missouri	Mississippi
369	417	11-Jan-17	Hoecake	23MI8	Missouri	Mississippi
370	418	11-Jan-17	Hoecake	23MI8	Missouri	Mississippi
371	419	11-Jan-17	McCulloch	23MI251	Missouri	Mississippi
372	420	11-Jan-17	McCulloch	23MI251	Missouri	Mississippi
373	421	11-Jan-17	McCulloch	23MI251	Missouri	Mississippi
374	422	11-Jan-17	Lilbourn	23NM49	Missouri	New Madrid
375	423	11-Jan-17	Lilbourn	23NM49	Missouri	New Madrid
376	424	11-Jan-17	Towosahgy	23MI2	Missouri	Mississippi
377	425	12-Jan-17	Perrine	11U796	Illinois	Union
378	426	12-Jan-17	Perrine	11U796	Illinois	Union
379	427	12-Jan-17	Perrine	11U796	Illinois	Union
380	428	12-Jan-17	Perrine	11U796	Illinois	Union
381	429	12-Jan-17	Perrine	11U796	Illinois	Union
382	430	12-Jan-17	Perrine	11U796	Illinois	Union
383	431	12-Jan-17	Perrine	11U796	Illinois	Union

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
364	20	Body	5.264	3.965
365	20	Body	4.944	4.943
366	20	Body	3.648	3.389
367	40	FULL VESSEL	10.895	14.853
368	40	Body	7.007	4.787
369	40	Body	5.568	4.924
370	40	Body	5.768	4.151
371	Cab 34 Shelf 04	FULL VESSEL	15.966	12.225
372	Cab 34 Shelf 04	Body	9.147	6.369
373	Cab 34 Shelf 04	Body	5.818	4.596
374	Cab 36 Shelf 01	FULL VESSEL	10.087	17.511
375	Cab 36 Shelf 01	FULL VESSEL	12.215	16.781
376	Cab 08 Shelf 03	FULL VESSEL	26.900	36.800
377	8-26	Rim	9.940	7.234
378	8-26	Rim	11.918	13.334
379	8-26	Rim	7.292	4.543
380	8-06 F.8	Rim	12.796	10.774
381	8-06 F.8	Rim	11.268	10.704
382	8-06 F.8	Rim	12.719	8.293
383	8-06 F.8	Body	9.136	6.936

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
364	0.77	1.043	.5820
365	1.23	1.267	1.239
366	1.41	1.437	1.407
367	1.13	see notes	
368	1.24	1.277	1.131
369	1.13	1.177	.9900
370	1.13	1.010	1.279
371	1.29	see notes	
372	1.33	1.289	1.334
373	1.29	1.392	1.202
374	0.98	see notes	
375	1.17	see notes	
376	1.62	see notes	
377	1.17	.9510	1.329
378	1.62	1.955	1.258
379	1.19	1.465	.9110
380	1.55	1.764	1.381
381	1.67	1.684	1.528
382	1.65	1.766	1.471
383	1.23	1.006	1.408

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
364	.6790	.7590	Grit, Shell	Plain, Unknown (Worn)
365	1.210	1.209	Grit, Shell	Plain, Unknown (Worn)
366	1.373	1.420	Shell	Plain
367			Grit, Grog	Plain
368	1.168	1.365	Grit, Grog	Plain
369	1.377	.9860	Grit, Grog	Plain
370	1.154	1.074	Grit, Grog	Plain
371			Grog, Shell	Plain
372	1.309	1.400	Grog, Shell	Plain
373	1.280	1.284	Grog, Shell	Plain
374			Grog, Shell	Plain
375			Grog, Shell	Plain
376			Grog, Shell	Plain
377	1.162	1.239	Grog	Plain
378	1.769	1.517	Grog	Plain
379	1.170	1.216	Shell	Plain
380	1.373	1.690	Grog	Plain
381	1.727	1.732	Grog	Plain
382	1.710	1.669	Grog, Shell	Plain
383	1.247	1.252	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
364					FALSE
365					FALSE
366					FALSE
367					FALSE
368					FALSE
369					FALSE
370					FALSE
371	Incised				FALSE
372	Incised				FALSE
373	Incised				FALSE
374					TRUE
375					FALSE
376	Incised				FALSE
377			Small	5, 12%	FALSE
378			Large	24, 12%	FALSE
379			Large	16, 5%	FALSE
380			Large	22, 14%	FALSE
381			Large	24, 10%	FALSE
382			Large	24, 7%	FALSE
383					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
364			white residue	
365			white residue	
366				
367				
368			white residue	
369	Lower Body, Mid Body, Upper Body			
370				
371				
372				
373				
374			spalling on inside	
375				
376				
377				
378				
379				
380				
381				
382				
383				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
364		White Powder
365		White Powder
366		
367	organic and white residue	Organic
368		White Powder
369		
370		
371		
372		
373		
374		Wasting/Erosion
375	lines created pre-firing	
376		
377		
378	smears caused by dragging large temper particles	
379		
380	smears caused by dragging	
381	smears caused by dragging	
382		
383		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
364			
365			
366			
367			
368			
369			
370			
371	Sooting		4
372	Sooting		2
373	Sooting		2
374			
375	Fire-Clouding	6	2
376			
377	Fire-Clouding		2
378	Fire-Clouding	5	1
379	Fire-Clouding	7	2
380			
381			
382			
383			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
364			
365			
366			
367			
368			
369			
370			
371	Fire-Clouding		3
372			
373			
374	Fire-Clouding	2, 3, 8	2
375	Fire-Clouding	2, 3, 8	4
376			
377			
378	Fire-Clouding	5	2
379	Fire-Clouding		2
380	Fire-Clouding	9	1
381			
382			
383			

Sample #	Overall Notes
364	
365	
366	
367	see notebook for more info
368	
369	
370	
371	sooting occurs on the outside near the rim and shoulder of the small orifice, the inside is dark and has evidence of faded sooting in many places
372	sooting on inside occurring with erosion
373	sooting on inside
374	
375	sooting on inside, dark inside, sooting on small rim of outside
376	
377	fire-clouding around small orifice and shoulder
378	dark stain on inside
379	fire-clouding on outside and sooting on inside
380	
381	
382	
383	

Sample #	Photo log
364	911,912,913
365	911,914,915
366	911,916,917
367	918-938,947
368	939,940,941,942
369	939,940,943,944
370	939,940,945,946
371	948-954
372	955,956,957
373	955,958,959
374	960-970
375	971-981
376	982,992
377	993,994,995
378	993,996,997
379	998,999,1000
380	1000,1001,10002
381	1003,1004,1005
382	1006,1007,1008
383	1009,1010,1011

Sample #	ID	Date	Archaeological Site	Site Number	State	County
384	432	12-Jan-17	Perrine	11U796	Illinois	Union
385	433	12-Jan-17	Perrine	11U796	Illinois	Union
386	434	12-Jan-17	Perrine	11U796	Illinois	Union
387	435	12-Jan-17	Perrine	11U796	Illinois	Union
388	436	12-Jan-17	Perrine	11U796	Illinois	Union
389	437	12-Jan-17	Perrine	11U796	Illinois	Union
390	438	12-Jan-17	Perrine	11U796	Illinois	Union
391	439	12-Jan-17	Perrine	11U796	Illinois	Union
392	440	12-Jan-17	Perrine	11U796	Illinois	Union
393	441	12-Jan-17	Perrine	11U796	Illinois	Union
394	442	12-Jan-17	Perrine	11U796	Illinois	Union
395	443	12-Jan-17	Perrine	11U796	Illinois	Union

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
384	8-06 F.8	Body	6.283	5.308
385	F. 8-01	Rim	11.704	15.592
386	F. 8-01	Rim	7.116	6.578
387	F.8 8-3	Rim	15.063	12.355
388	F.8-12	Rim	6.062	6.869
389	F.8-12	Rim	7.831	6.834
390	40-85	Rim	11.007	9.013
391	40-44	Rim	6.027	6.914
392	40-44	Rim	6.652	5.432
393	40-44	Rim	8.690	5.980
394	40-64	Rim	7.316	6.170
395	40-64	Rim	7.329	6.438

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
384	1.23	1.171	1.178
385	1.53	1.705	1.259
386	1.19	1.140	1.143
387	1.21	1.139	1.045
388	1.25	1.410	1.253
389	1.82	1.777	1.713
390	1.65	1.517	1.589
391	1.55	1.621	1.401
392	1.51	1.578	1.385
393	1.91	1.915	2.159
394	1.35	1.484	1.209
395	1.57	1.473	1.591

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
384	1.393	1.158	Grog	Plain
385	1.523	1.613	Grog, Indeterminate, Shell	Plain
386	1.293	1.186	Grog	Plain
387	1.349	1.303	Grog	Plain
388	1.194	1.149	Grog	Slip
389	1.887	1.921	Grog	Plain
390	1.806	1.703	Grog	Plain
391	1.563	1.618	Grog	Plain, Unknown (Worn)
392	1.507	1.567	Indeterminate, Shell	Plain
393	1.814	1.768	Grog	Plain
394	1.457	1.231	Grog	Plain
395	1.694	1.517	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
384					FALSE
385			Large	25, 14%	FALSE
386			Small	8, 11%	TRUE
387			Small	5, 21%	TRUE
388			Large	22, 4%	FALSE
389			Large	indeterminate	FALSE
390			Large	12, 32%	FALSE
391			Large	18, 8%	FALSE
392			Large	22, 6%	FALSE
393	Incised		Large	indeterminate	FALSE
394			Large	19, 8%	TRUE
395			Large	21, 8%	TRUE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
384				
385			white residue	
386			cracking at rim, possible spalling	
387	Lower Body, Lower Rim	Concentric	lower body has markings and medium spalling on bottom rim.	
388				
389				
390				
391			white residue	
392			white residue	
393				
394	Upper Body, Upper Rim		destruction of vessel wall	
395	Upper Body, Upper Rim		white res, destruction of vessel wall	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
384		
385		White Powder
386		Cracking
387		Wasting/Erosion
388	smears caused by dragging	
389	smears caused by dragging	
390		
391		White Powder
392		White Powder
393	smears caused by dragging	
394	smears caused by dragging	Wasting/Erosion
395		Wasting/Erosion, White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
384			
385			
386			
387	Sooting		3
388			
389			
390	Fire-Clouding	4	3
391			
392			
393			
394			
395	Fire-Clouding	5	2

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
384			
385			
386			
387			
388			
389			
390	Fire-Clouding	9	3
391	Fire-Clouding	5	3
392			
393	Fire-Clouding		1
394	Fire-Clouding	5	1
395	Fire-Clouding	5	2

Sample #	Overall Notes
384	
385	
386	
387	sooting found on rim, more prominent on outside
388	orange slip
389	
390	dark interior, fire-clouding on rim outside
391	light on outside dark interior
392	light on outside
393	dark inside light outside
394	
395	dark inside

Sample #	Photo log
384	1009,1012,1013
385	1014,1015,1016
386	1014,1017,1018
387	1019,1020,1021
388	1022,1023,1024
389	1022,1025,1026
390	1027,1228,1029
391	1030,1031,1032
392	1030,1033,1034
393	1035,1036,1037
394	1038,1039,1040
395	1038,1041,1042

Sample #	ID	Date	Archaeological Site	Site Number	State	County
396	444	12-Jan-17	Perrine	11U796	Illinois	Union
397	445	12-Jan-17	Perrine	11U796	Illinois	Union
398	446	12-Jan-17	Perrine	11U796	Illinois	Union
399	447	12-Jan-17	Perrine	11U796	Illinois	Union
400	448	12-Jan-17	Perrine	11U796	Illinois	Union
401	449	12-Jan-17	Perrine	11U796	Illinois	Union
402	450	12-Jan-17	Perrine	11U796	Illinois	Union
403	451	12-Jan-17	Perrine	11U796	Illinois	Union
404	452	12-Jan-17	Perrine	11U796	Illinois	Union
405	453	12-Jan-17	Perrine	11U796	Illinois	Union
406	454	12-Jan-17	Perrine	11U796	Illinois	Union
407	455	12-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
408	456	12-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
409	457	12-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
396	40-64	Rim	5.270	4.690
397	40-64	Rim	6.879	8.305
398	F40-80	Rim	9.954	6.591
399	F40-82	Rim	8.475	6.255
400	F40-82	Rim	5.688	5.021
401	F40-91	Rim	7.821	7.061
402	F40-91	Rim	5.676	5.521
403	F25-6	Rim	8.017	7.448
404	F25-6	Rim	5.228	5.002
405	F25-6	Rim	7.492	5.103
406	25-11	Rim	8.422	6.929
407	5-F2310	FULL VESSEL	13.741	12.749
408	6-F619	FULL VESSEL	14.355	9.540
409	5-2604-6	Body, Rim, Shoulder	13.030	13.170

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
396	1.53	1.391	1.624
397	1.36	1.566	1.133
398	1.41	1.413	1.277
399	0.67	.6630	.6590
400	0.71	.7260	.7260
401	1.10	1.087	1.137
402	1.45	1.749	.9390
403	1.81	1.687	1.995
404	1.32	1.446	1.403
405	1.15	.9820	1.106
406	1.21	1.358	1.150
407	1.03	1.047	1.067
408	0.98	1.436	.8530
409	0.82	.9580	.8300

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
396	1.543	1.550	Grog	Plain
397	1.403	1.346	Grog	Plain
398	1.592	1.343	Grog	Plain
399	.7060	.6520	Grog	Plain
400	.6850	.6990	Grog	Plain
401	1.068	1.091	Grog	Plain
402	1.584	1.526	Grog	Plain
403	1.772	1.797	Grog	Plain
404	1.336	1.087	Grog	Plain
405	1.283	1.246	Grog	Plain
406	1.201	1.143	Grog	Plain
407	.8710	1.136	Shell	Plain
408	.8730	.7740	Grog, Shell	Plain
409	.7870	.7060	Grog	Cord-Marked

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
396			Large	14, 7%	FALSE
397	Incised		Large	13,18%	TRUE
398	Incised		Large	12, 13%	FALSE
399	Incised		Small	5, 25%	FALSE
400	Incised		Small	5, 27%	FALSE
401			Small	3, 20%	TRUE
402			Small	5, 20%	FALSE
403	Incised		Small	5, 24%	FALSE
404	Incised		Large	21, 4%	TRUE
405			Large	indeterminate	FALSE
406			Large	13, 11%	FALSE
407			Large	14, 28%	TRUE
408			Large	14, 11%	TRUE
409			Small	3, 29%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
396			white res,	
397	Upper Body, Upper Rim		little spalling	
398			organic res.	
399				
400				
401	Lower Body		white residue,	
402				
403				
404	Upper Rim		spalling below rim	
405			white residue, no but very crude	
406			white residue	
407	Upper Body, Upper Rim		lines	
408	Mid Body		spalling mid body	
409				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
396		White Powder
397		
398		Organic
399		
400		
401		White Powder
402		
403		
404		Wasting/Erosion
405		White Powder
406		White Powder
407		Linear
408		Wasting/Erosion
409		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
396	Fire-Clouding	2	1
397	Fire-Clouding	2	1
398			
399			
400			
401			
402			
403	Fire-Clouding	6	3
404			
405			
406			
407	Fire-Clouding	2	3
408	Fire-Clouding	2	4
409	Fire-Clouding		1

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
396	Fire-Clouding	9	2
397	Fire-Clouding	9	2
398	Fire-Clouding	5	1
399			
400			
401			
402			
403			
404			
405			
406			
407	Fire-Clouding	10	3
408	Fire-Clouding	2	
409	Fire-Clouding	10	

Sample #	Overall Notes
396	dark inside
397	dark inside, light outside, burned on corner(thrown in fire)
398	
399	
400	
401	
402	
403	darker clay?
404	lighter than previous piece
405	
406	wet hands
407	darker towards smaller orifice. Thickness of smaller orifice: 1.030cm; smaller orifice: 3cm, 45%
408	
409	

Sample #	Photo log
396	1038,1043,1044
397	1045,1046,1047
398	1048,1049,1050
399	1051,1052,1053
400	1051,1054,1055
401	1056,1057,1058
402	1056,1059,1060
403	1061,1062,1063
404	1061,1064,1065
405	1066,1067,1068
406	1066,1069,1070
407	1071,1072,1073
408	1074,1075,1076,1077
409	1077,1078,1079

Sample #	ID	Date	Archaeological Site	Site Number	State	County
410	458	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
411	459	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
412	460	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
413	461	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
414	462	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
415	463	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
416	464	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
417	465	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
418	466	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
419	467	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
420	468	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
421	469	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
422	470	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
423	471	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
410	5-2482-6	Rim	8.268	4.620
411	5-2482-6	Rim	8.167	6.963
412	5-2482-6	Rim	9.470	10.330
413	5-2482-6	Rim	8.194	12.122
414	5-2455-51	Rim	3.846	5.468
415	5-2455-51	Body	5.056	2.740
416	5-2455-51	Body	5.103	3.803
417	5-1555-10	Rim	10.630	5.961
418	5-1555-10	Body	7.986	6.460
419	5-1555-10	Body	8.040	4.920
420	5-1555-10	Body	6.087	4.823
421	5-1555-10	Body	6.726	3.402
422	5-1553-01	Body	6.924	5.690
423	5-1553-01	Rim	7.651	4.963

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
410	0.84	1.425	.8780
411	1.04	1.777	.7300
412	0.73	.8420	.7310
413	0.86	1.081	.7330
414	1.00	1.456	.8350
415	0.74	.7080	.7470
416	0.87	.9350	.8100
417	0.80	1.433	.6450
418	0.86	.9690	.8650
419	0.70	.7250	.7190
420	0.77	.7700	.8040
421	0.74	.7390	.7250
422	0.74	.6060	.7820
423	0.83	1.455	.5270

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
410	.1072	.9410	Shell	Plain
411	.8490	.8130	Shell	Plain
412	.6290	.7210	Shell	Plain
413	.7880	.8180	Shell	Plain
414	.9010	.8080	Grog, Shell	Plain, Unknown (Worn)
415	.7310	.7610	Grog, Shell	Plain, Unknown (Worn)
416	.7970	.9530	Grog, Shell	Plain, Unknown (Worn)
417	.5890	.5240	Grog, Shell	Plain
418	.7150	.8900	Grog, Shell	Plain
419	.6840	.6910	Grog, Shell	Plain
420	.8090	.6800	Grog, Shell	Plain
421	.7160	.7660	Grog, Shell	Plain
422	.6930	.8690	Grog, Shell	Slip, Unknown (Worn)
423	.5330	.8210	Grog, Shell	Slip, Unknown (Worn)

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
410			Large	12, 42%	FALSE
411	Incised		Large	12, 42%	FALSE
412	Incised		Small	5, 40%	FALSE
413	Incised		Small	5, 40%	FALSE
414			Small	2, 50%	FALSE
415					FALSE
416					FALSE
417			Large	14, 24%	TRUE
418					FALSE
419					FALSE
420					FALSE
421					FALSE
422					FALSE
423			Large	16, 16%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
410			white residue	
411			white residue	
412			white residue	
413			white residue	
414			depositional	
415			depositional	
416			depositional	
417	Upper Rim		white residue, spalling	WR
418			white residue	WR
419			white residue	WR
420			white residue	
421			white residue	
422			white residue	
423			white residue	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
410		White Powder
411		White Powder
412		White Powder
413		White Powder
414		
415		
416		
417		Wasting/Erosion, White Powder
418		White Powder
419		White Powder
420		White Powder
421		White Powder
422		White Powder
423		White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
410			
411			
412			
413			
414			
415	Sooting	2	1
416	Sooting	2	2
417			
418	Fire-Clouding	1	
419	Fire-Clouding, Sooting		1
420	Fire-Clouding, Sooting		2
421	Fire-Clouding, Sooting		1
422	Fire-Clouding		1
423	Fire-Clouding		1

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
410			
411			
412			
413			
414	Sooting	2	1
415	Sooting	2	1
416	Sooting	2	2
417			
418			
419			
420			
421			
422			
423			

Sample #	Overall Notes
410	
411	
412	
413	too flimsy to take out of bag, no profile
414	on inside of rim
415	outside
416	outside
417	inside and outside of rim
418	inside
419	outside
420	outside
421	outside
422	outside
423	outside

Sample #	Photo log
410	1080,1081,1082
411	1080,1083,1084
412	1085,1086,1087
413	1085,1088,1089
414	1090,1091,1092
415	1090,1093,1094
416	1090,1095,1096
417	1097,1098,1099
418	1097,1100,1101
419	1102,1103,1104
420	1102,1105,1106
421	1102,1107,1108
422	1109,1110,1111
423	1109,1112,1113

Sample #	ID	Date	Archaeological Site	Site Number	State	County
424	472	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
425	473	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
426	474	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
427	475	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
428	476	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
429	477	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
430	478	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
431	479	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
432	480	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
433	481	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
434	482	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
424	5-2383-03	Rim	4.865	4.078
425	5-2383-03	Body	6.906	5.511
426	5-2118-1	Body, Rim	10.382	9.899
427	5-1905-02	Rim	8.514	4.157
428	5-1554-16	Rim	8.1312	5.033
429	5-1554-16	Body	8.697	5.789
430	4-1970-386	Rim	4.105	3.160
431	5-1464-17	Rim	3.984	3.786
432	5-1464-17	Rim	9.044	7.316
433	5-979-03	Rim	4.785	3.334
434	5-979-03	Body	4.073	2.927

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
424	1.55	1.906	1.246
425	1.37	1.609	1.001
426	0.85	.7840	.9860
427	1.11	1.035	1.195
428	1.59	1.445	1.848
429	1.69	1.762	1.692
430	1.14	1.375	1.068
431	1.14	1.186	1.154
432	1.39	1.324	1.450
433	0.95	.9680	.9290
434	0.51	.5210	.4930

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
424	1.528	1.530	Grog, Shell	Plain
425	1.399	1.488	Grog, Shell	Plain
426	.8320	.7960	Grog	Plain
427	1.030	1.182	Shell	Plain
428	1.595	1.464	Grog	Plain
429	1.614	1.689	Grog	Plain
430	.9480	1.178	Shell	Plain, Unknown (Worn)
431	1.059	1.165	Grog, Shell	Plain
432	1.456	1.339	Grog, Shell	Plain
433	.9110	1.011	Grog, Shell	Plain
434	.5090	.5010	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
424	Incised		Small	2.5, 34%	FALSE
425	Incised				FALSE
426			Small	2, 35%	FALSE
427			Large	15, 17%	FALSE
428			Large	8, 25%	FALSE
429					FALSE
430			Large	10, 49%	FALSE
431			Large	16, 20%	TRUE
432			Large	16, 20%	TRUE
433	Incised		Large	16, 6%	FALSE
434	Incised				FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
424				
425				
426			organic residue	
427				
428			white residue	
429			white residue	
430			white residue, inside vessel wall erosion	
431	Upper Rim		white residue, destruction of vessel wall	
432	Upper Rim		white residue	
433			white residue	
434			white residue, destruction of vessel wall	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
424		
425		
426		Organic
427		
428		White Powder
429		White Powder
430		Wasting/Erosion, White Powder
431		Wasting/Erosion, White Powder
432		White Powder
433		
434		Linear

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
424	Fire-Clouding		4
425	Fire-Clouding		4
426	Fire-Clouding	3	3
427	Sooting		5
428			
429	Fire-Clouding		1
430			
431			
432			
433			
434			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
424	Fire-Clouding		4
425	Fire-Clouding		4
426	Fire-Clouding	1, 2, 3	3
427	Fire-Clouding	5	1
428	Fire-Clouding	5	3
429	Fire-Clouding		2
430			
431			
432	Fire-Clouding	5	2
433			
434	Fire-Clouding	2, 3	2

Sample #	Overall Notes
424	outside, black inside
425	outside, black inside
426	inside dark
427	small instance of sooting
428	dark inside
429	dark inside
430	
431	
432	
433	
434	dark inside

Sample #	Photo log
424	1114,1115,1116
425	1114,1117,1118
426	1119,1120,1121
427	1122,1123,1124,1125
428	1126,1127,1128
429	1126,1129,1130
430	1131,1132,1133
431	1134,1135,1136
432	1134,1137,1138
433	1139,1140,1141
434	1139,1142,1143

Sample #	ID	Date	Archaeological Site	Site Number	State	County
435	483	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
436	484	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
437	485	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
438	486	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
439	487	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
440	488	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
441	489	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
442	490	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
443	491	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
435	5-810-43	Body	10.759	6.697
436	5-810-43	Body	7.065	5.786
437	5-810-43	Body	5.226	4.359
438	5-810-43	Rim	5.961	4.059
439	5-810-43	Rim	5.130	4.622
440	5-943-7	Rim	6.774	5.317
441	5-2384-6	Body, Rim	12.312	15.071
442	5-3888-1	Rim	5.618	3.429
443	5-900-537	Rim	6.684	5.002

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
435	0.95	.9330	.8020
436	0.96	1.025	.7660
437	1.02	.9090	1.043
438	0.89	.7900	.9710
439	0.77	.6300	.8870
440	1.45	1.408	1.373
441	1.51	1.774	1.424
442	1.10	1.296	1.031
443	1.27	1.449	1.068

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
435	1.040	1.014	Shell	Plain, Unknown (Worn)
436	1.038	1.026	Shell	Plain, Unknown (Worn)
437	1.042	1.084	Shell	Plain, Unknown (Worn)
438	.8970	.8920	Shell	Plain, Unknown (Worn)
439	.7590	.8120	Shell	Plain, Unknown (Worn)
440	1.677	1.360	Grog	Plain
441	1.347	1.511	Grog	Plain
442	1.015	1.052	Grog	Plain
443	1.300	1.245	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
435	Incised				FALSE
436	Incised				FALSE
437	Incised				TRUE
438	Incised		Large	12, 50%	FALSE
439	Incised		Small	3, 48%	FALSE
440			Small	2, 25%	FALSE
441			Large	12, 85%	FALSE
442			Large	13, 10%	FALSE
443	Incised		Large	10, 18%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
435			organic residue, destruction of internal vessel wall	
436			organic residue, destruction of internal vessel wall	
437			organic residue, destruction of internal vessel wall	
438			organic residue, destruction of internal vessel wall	
439			organic residue, destruction of internal vessel wall	
440			white residue	
441			white res. Outside	
442			white res.	
443			white residue	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
435		Organic
436		Organic
437		Organic
438		Organic
439		Organic
440		White Powder
441		White Powder
442		White Powder
443		White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
435			
436			
437			
438			
439	Fire-Clouding	7, 11	2
440	Fire-Clouding	8	3
441			
442			
443			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
435	Fire-Clouding	3	3
436	Fire-Clouding	1, 2, 3	2
437			
438			
439	Fire-Clouding	2, 3, 6	2
440	Fire-Clouding	11	2
441	Fire-Clouding	10	4
442	Fire-Clouding	2	2
443	Fire-Clouding	4, 5	1

Sample #	Overall Notes
435	darker inside
436	darker inside
437	darker inside
438	
439	darker inside
440	darker towards rim
441	dark inside
442	dark inside
443	darker inside

Sample #	Photo log
435	1144,1145,1146
436	1144,1147,1148
437	1144,1149,1150
438	1151,1152,1153
439	1151,1154,1155
440	1156,1157,1158
441	1159,1160,1161
442	1162,1163,1164
443	1165,1166,1167

Sample #	ID	Date	Archaeological Site	Site Number	State	County
444	492	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
445	493	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
446	494	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
447	495	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
448	496	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
449	497	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
450	498	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
451	499	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
452	500	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
453	501	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
454	502	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
444	5-4468-07	Rim	5.478	4.153
445	5-3855-5	Body	5.969	4.066
446	5-3855-5	Body	5.309	3.947
447	5-3855-5	Body	3.701	3.580
448	5-3855-5	Rim	4.566	4.020
449	5-3855-5	Rim	5.466	3.954
450	5-2267-16	Rim	7.980	6.790
451	5-619-12	Rim	9.996	8.430
452	6-4-047	Rim	6.479	6.146
453	6-576-02	Rim	5.768	4.239
454	4-1970-389	Rim	6.434	4.344

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
444	1.03	1.142	1.013
445	0.86	.739	1.013
446	0.94	.9310	.8970
447	0.90	.9100	.9350
448	0.94	1.196	.8190
449	1.00	1.233	.8740
450	1.11	1.605	.8260
451	0.74	.8490	.6260
452	1.21	1.089	1.195
453	0.97	.8980	1.058
454	1.03	1.135	.6970

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
444	.9190	1.030	Grog	Plain
445	.8230	.8570	Grog	Plain
446	1.011	.925	Grog	Plain
447	.8940	.8410	Grog	Plain
448	.8510	.8840	Grog	Plain
449	.9570	.9160	Grog	Plain
450	.9350	1.061	Grog, Shell	Cord-Marked
451	.7310	.7610	Grog, Shell	Plain
452	1.331	1.237	Shell	Plain
453	.9540	.9860	Shell	Plain
454	1.161	1.112	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
444			Large	Indeterminate	FALSE
445	Incised				TRUE
446	Incised				TRUE
447	Incised				TRUE
448	Incised		Large	18, 24%	TRUE
449	Incised		Large	4, 100%	TRUE
450			Large	14, 15%	FALSE
451			Large	Indeterminate	FALSE
452	Incised		Large	13, 13%	FALSE
453	Incised		Small	4, 22%	FALSE
454	Incised		Large	Indeterminate	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
444			white residue outside	
445	Lower Body, Mid Body, Upper Body		destruction of vessel wall white residue	
446	Lower Body, Mid Body, Upper Body		destruction of vessel wall white residue	
447	Lower Body, Mid Body, Upper Body		destruction of vessel wall white residue	
448	Upper Rim		destruction of vessel wall white residue	
449	Upper Rim		destruction of vessel wall white residue	
450			white residue	
451			Striations caused before firing	
452				
453				
454			white residue	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
444		White Powder
445		Wasting/Erosion, White Powder
446		Wasting/Erosion, White Powder
447		Wasting/Erosion, White Powder
448		Wasting/Erosion, White Powder
449		Wasting/Erosion, White Powder
450		White Powder
451		Cracking, Linear
452		
453		
454		White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
444	Sooting	4	4
445			
446			
447			
448			
449			
450			
451	Fire-Clouding		3
452			
453	Sooting	7	2
454			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
444			
445	Fire-Clouding		1
446	Fire-Clouding		1
447	Fire-Clouding		1
448	Fire-Clouding		1
449	Fire-Clouding		1
450			
451	Fire-Clouding	9	3
452	Sooting	4, 5	2
453	Sooting	8	2
454			

Sample #	Overall Notes
444	darker inside
445	organic residue on inside
446	organic residue?
447	organic residue?
448	organic residue?
449	organic residue?
450	dark inside
451	outside and inside FC
452	inside
453	inside and outside
454	

Sample #	**Photo log**
444	1168,1169,1170
445	1171,1172,1173
446	1171,1174.1175
447	1171,1176,1177
448	1178,1179,1180
449	1178,1181,1182
450	1183,1184,1185
451	1186,1187,1188
452	1189,1190,1191
453	1192,1193,1194
454	1195,1196,1197

Sample #	ID	Date	Archaeological Site	Site Number	State	County
455	503	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
456	504	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
457	505	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
458	506	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
459	507	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
460	508	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
461	509	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
462	510	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
463	511	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
464	512	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
465	513	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
466	514	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
467	515	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
468	516	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
455	5-30-29	Rim	8.308	7.511
456	5-30-29	Rim	5.214	5.094
457	5-30-29	Rim	6.074	4.133
458	5-30-29	Rim	5.626	5.195
459	4-710-1	Rim	9.976	7.776
460	6-521-13	Rim	5.377	5.203
461	6-521-11	Rim	4.942	3.461
462	6-521-11	Rim	4.417	4.394
463	6-521-11	Rim	3.740	3.089
464	6-521-11	Rim	5.293	4.647
465	5-2295-1	Rim	5.484	4.567
466	5-3656-1	Rim	7.455	4.704
467	6-79-29	Rim	4.895	4.527
468	6-79-29	Rim	4.060	2.589

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
455	1.29	1.279	1.210
456	1.44	1.276	1.467
457	1.39	1.252	1.415
458	1.35	1.280	1.315
459	0.97	.9310	1.014
460	1.16	1.634	.852
461	1.35	1.856	1.039
462	1.34	1.744	1.089
463	1.35	1.755	1.016
464	1.32	1.824	1.068
465	1.17	1.041	1.204
466	1.29	1.061	1.342
467	1.19	1.079	1.044
468	1.25	1.287	1.222

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
455	1.334	1.336	Grog, Shell	Plain
456	1.500	1.526	Grog, Shell	Plain
457	1.395	1.485	Grog, Shell	Plain
458	1.413	1.384	Grog, Shell	Plain
459	.9780	.9600	Shell	Plain
460	1.035	1.132	Grog	Plain
461	1.187	1.300	Grog, Shell	Plain
462	1.183	1.338	Grog, Shell	Plain
463	1.246	1.402	Grog, Shell	Plain
464	1.137	1.240	Grog, Shell	Plain
465	1.201	1.224	Grog	Plain
466	1.329	1.424	Grog, Shell	Plain
467	1.301	1.350	Shell	Unknown (Worn)
468	1.256	1.222	Shell	Unknown (Worn)

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
455			Large	14, 46%	FALSE
456			Large	14, 46%	FALSE
457			Large	14, 46%	FALSE
458			Large	14, 46%	FALSE
459	Incised		Small	2, 51%	FALSE
460			Large	13, 9%	FALSE
461			Large	14, 16%	FALSE
462			Large	14, 16%	FALSE
463			Large	14, 16%	FALSE
464			Large	14, 16%	FALSE
465	Incised		Large	16, 8%	FALSE
466			Small	Indeterminate	FALSE
467			Large	13, 15%	FALSE
468			Large	13, 15%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
455			white residue	
456			white residue	
457			white residue	
458			white residue	
459				
460			white residue	
461			white residue	
462			white residue	
463			white residue	
464			white residue	
465			organic residue	
466				
467				
468				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
455		White Powder
456		White Powder
457		White Powder
458		White Powder
459		
460		White Powder
461		White Powder
462		White Powder
463		White Powder
464		White Powder
465		Organic
466		
467		
468		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
455			
456			
457			
458			
459	Sooting	7	3
460			
461			
462			
463			
464	Sooting		4
465			
466	Sooting		4
467			
468			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
455			
456			
457			
458			
459	Sooting	7	1
460			
461			
462			
463			
464			
465			
466			
467	Sooting	4, 5	2
468	Sooting	4, 5	2

Sample #	Overall Notes
455	
456	
457	
458	
459	sooting on small shoulder and orifice
460	
461	
462	
463	
464	
465	
466	
467	inside of rim
468	inside of rim

Sample #	Photo log
455	1198,1199,1200
456	1198,1201,1202
457	1203,1204,1205
458	1203,1206,1207
459	1208,1209,1210
460	1211,1212,1213
461	1214,1215,1216
462	1214,1217,1218
463	1214,1219,1220
464	1214,1221,1222
465	1223,1224,1225
466	1226,1227,1228
467	1229,1230,1231
468	1229,1232,1233

Sample #	ID	Date	Archaeological Site	Site Number	State	County
469	517	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
470	518	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
471	519	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
472	520	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
473	521	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
474	522	20-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
475	523	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
476	524	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
477	525	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
478	526	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
479	527	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
480	528	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
481	529	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
482	530	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
469	4-290-38	Body	6.423	5.164
470	4-290-38	Body	3.039	2.535
471	4-290-38	Body	4.293	2.387
472	4-290-38	Body	5.540	5.246
473	4-290-38	Rim	5.212	4.033
474	4-290-38	Rim, Shoulder	4.530	4.490
475	5-3153-35	Body, Rim, Shoulder	14.664	11.966
476	5-2851-12	Body, Rim, Shoulder	8.073	7.335
477	5-2851-12	Body, Rim, Shoulder	10.438	9.104
478	5-3153-40	Body	12.157	9.539
479	5-3153-40	Rim	7.978	5.200
480	5-1308-2	Rim	5.996	3.960
481	5-1308-2	Rim	10.311	7.292
482	5-1308-2	Body	8.157	4.982

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
469	0.81	.7220	.9500
470	0.79		
471	0.77	.8100	.7480
472	0.79	.6630	.9510
473	1.04	1.255	.8370
474	1.12	1.353	1.011
475	1.78	1.430	1.741
476	1.25	1.069	1.476
477	1.47	1.100	1.446
478	1.13	.8080	1.310
479	1.49	1.986	1.249
480	1.25	1.156	1.161
481	1.22	1.123	1.250
482	1.25	1.365	1.165

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
469	.8090	.7740	Shell	Plain
470			Shell	Plain
471	.8080	.7100	Shell	Plain
472	.7540	.7890	Shell	Plain
473	.978	1.106	Shell	Plain
474	1.068	1.063	Shell	Plain
475	1.945	1.998	Shell	Plain
476	1.210	1.250	Grog, Shell	Plain
477	1.584	1.761	Grog, Shell	Plain
478	1.471	.9300	Shell	Plain
479	1.387	1.329	Shell	Plain
480	1.347	1.344	Grog, Shell	Burnished, Slip
481	1.255	1.257	Grog, Shell	Burnished, Slip
482	1.239	1.243	Grog, Shell	Burnished, Slip

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
469	Incised				FALSE
470	Incised				FALSE
471	Incised				FALSE
472	Incised				FALSE
473	Incised		Small	4, 23%	FALSE
474	Incised		Small	4, 23%	FALSE
475			Small	2, 75%	FALSE
476			Small	3, 30%	FALSE
477			Small	3, 30%	FALSE
478					FALSE
479			Large	12, 38%	FALSE
480			Large	16, 26%	FALSE
481			Large	16, 26%	FALSE
482					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
469				
470				
471				
472				
473				
474				
475				
476				
477				
478				
479				
480				
481				
482				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
469		
470		
471		
472		
473		
474		
475		
476		
477		
478		
479		
480		
481		
482		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
469			
470			
471			
472			
473			
474			
475	Fire-Clouding	2, 3, 6	3
476			
477	Fire-Clouding		3
478	Fire-Clouding		4
479	Fire-Clouding		1
480			
481			
482			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
469			
470			
471			
472			
473			
474			
475	Fire-Clouding	2, 3, 6	3
476	Fire-Clouding	3, 7	1
477	Fire-Clouding		3
478	Fire-Clouding		4
479	Fire-Clouding		4
480			
481			
482			

Sample #	Overall Notes
469	small amount on inside
470	
471	small amount on inside
472	
473	outside rim
474	darker inside
475	wet hands
476	
477	darker inside
478	dark inside, burned?
479	dark inside
480	
481	
482	

Sample #	Photo log
469	1234,1235,1236
470	1234,1237,1238
471	1234,1239,1240
472	1234,1241,1242
473	1243,1244,1245
474	1243,1246,1247
475	1248,1249,1250
476	1251,1252,1253
477	1251,1254,1255
478	1256,1257,1258
479	1256,1259,1260
480	1261,1262,1263
481	1261,1264,1265
482	1261,1266,1267

Sample #	ID	Date	Archaeological Site	Site Number	State	County
483	531	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
484	532	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
485	533	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
486	534	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
487	535	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
488	536	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
489	537	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
490	538	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
491	539	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
492	540	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
493	541	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
494	542	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
495	543	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
496	544	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
483	5-1554-01	Rim	8.347	5.464
484	5-1554-01	Rim	6.065	5.965
485	5-1554-01	Body	8.850	3.522
486	5-1205-3	Body, Rim, Shoulder	8.788	12.267
487	5-0991-03	Body, Rim, Shoulder	12.404	9.589
488	4-0367-17	Body	8.782	8.078
489	4-0367-17	Rim	5.092	7.984
490	4-0367-17	Rim	5.378	8.649
491	4-0367-17	Rim	4.694	6.676
492	5-256-013	Body	8.231	6.691
493	5-256-013	Body	10.482	7.284
494	5-256-013	Body, Rim	11.604	7.190
495	4-1122-4	Rim, Shoulder	8.966	7.281
496	6-551-1	Rim	6.665	6.385

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
483	0.98	1.017	1.011
484	1.08	1.031	1.093
485	0.93	.9260	.9370
486	0.79	see notes	
487	0.84	1.134	.6720
488	0.79	.8860	.8430
489	0.88	.9290	.9590
490	0.97	.9970	.9180
491	1.01	1.130	1.045
492	1.25	1.190	1.409
493	1.20	1.379	1.107
494	1.17	1.557	.9940
495	1.58	1.423	1.426
496	1.44	2.058	1.229

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
483	.9190	.9570	Grog, Limestone	Plain
484	1.047	1.136	Grog, Limestone	Plain
485	.9160	.9460	Grog, Limestone	Plain
486			Grog	Plain
487	.8870	.6520	Grog, Shell	Plain
488	.7290	.6930	Shell	Plain
489	.8940	.7530	Shell	Plain
490	1.087	.8860	Shell	Plain
491	.8920	.9870	Shell	Plain
492	1.241	1.172	Grog	Plain
493	1.182	1.139	Grog	Plain
494	1.175	.9690	Grog	Plain
495	1.621	1.846	Grog	Plain
496	1.176	1.290	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
483	Incised		Large	12, 39%	FALSE
484	Incised		Large	12, 39%	FALSE
485	Incised				FALSE
486			Small	2.5, 100%	TRUE
487			Large	8, 12%	FALSE
488	Incised				FALSE
489			Large	16, 57%	FALSE
490			Large	16, 57%	FALSE
491			Large	16, 57%	FALSE
492					FALSE
493					FALSE
494			Small	2, 24%	FALSE
495			Small	2, 40%	FALSE
496			Small	5, 23%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
483				
484				
485				
486	Lower Body, Lower Rim, Mid Body, Upper Body, Upper Rim		cracked, spall	
487				
488				
489				
490				
491				
492				
493				
494				
495				
496				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
483		
484		
485		
486		Wasting/Erosion
487		
488		
489		
490		
491		
492		White Powder
493		White Powder
494		
495		
496		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
483			
484			
485			
486			
487	Fire-Clouding	2, 3	2
488			
489			
490			
491			
492			
493			
494			
495			
496			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
483	Fire-Clouding	5	2
484	Fire-Clouding	5	2
485	Fire-Clouding		2
486	Fire-Clouding	2, 3, 6, 7	1
487	Fire-Clouding	2, 3	2
488	Fire-Clouding	5	3
489	Fire-Clouding	5	3
490	Fire-Clouding	5	3
491	Fire-Clouding	5	3
492			
493	Fire-Clouding		1
494			
495			
496	Fire-Clouding	5, 7	3

Sample #	Overall Notes
483	darker inside
484	darker inside
485	darker inside
486	Wickliffe funnel + stumpware?
487	
488	dark inside
489	dark inside
490	dark inside
491	dark inside
492	white powder inside
493	white powder inside
494	white powder
495	
496	dark inside

Sample #	Photo log
483	1268,1269,1270
484	1268,1271,1272
485	1268,1273,1274
486	1275-1285
487	1286,1287,1288
488	1289,1290,1291
489	1292,1293,1294
490	1292,1295,1296
491	1292,1297,1298
492	1299,1300,1301
493	1302,1303,1304
494	1302,1305,1306
495	1307,1308,1309
496	1310,1311,1312

Sample #	ID	Date	Archaeological Site	Site Number	State	County
497	545	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
498	546	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
499	547	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
500	548	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
501	549	26-Jan-17	East St. Louis Mound Group	11S706	Illinois	St. Clair
502	550	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
503	551	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
504	552	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
505	553	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
506	554	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
507	555	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
508	556	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
509	557	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
510	558	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
497	6-551-1	Rim	7.727	6.494
498	5-839-13	Body, Rim	6.132	5.063
499	5-839-13	Body	4.619	3.575
500	5-2095-2	Body	5.753	4.476
501	5-2095-2	Body	7.659	6.635
502	87-1.94	Rim	8.897	7.410
503	87-1.19	Rim	3.737	4.845
504	87-1.19	Body	4.240	3.542
505	87-1.85	Body	3.097	3.371
506	87-1.85	Body	5.785	3.613
507	87-1.33	Rim	6.809	6.410
508	87-1.33	Rim	6.562	3.405
509	87-1.33	Body	4.155	4.031
510	87-1.21	Rim	4.385	3.549

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
497	1.55	1.719	1.425
498	0.97	1.056	.8630
499	1.15	1.088	1.203
500	0.94	.8580	.9880
501	0.92	.8960	1.012
502	1.26	1.242	1.365
503	0.98	.9700	.9570
504	1.52	1.584	1.354
505	1.00		
506	0.98	1.060	.8870
507	1.00	1.122	.8840
508	1.06	1.106	.9140
509	1.13	.8820	1.302
510	1.48	1.374	1.515

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
497	1.334	1.708	Grog	Plain
498	.9980	.9640	Shell	Plain
499	1.174	1.124	Shell	Plain
500	.9890	.9150	Grog, Shell	Burnished, Slip
501	.9670	.7980	Grog, Shell	Burnished, Slip
502	1.157	1.267	Grog, Shell	Plain
503	.9660	1.013	Shell	Plain
504	1.789	1.371	Shell	Plain
505			Grog, Shell	Plain
506	.9260	1.033	Shell	Plain
507	1.040	.9560	Shell	Plain
508	1.187	1.027	Shell	Plain
509	1.177	1.170	Shell	Plain
510	1.466	1.583	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
497			Small	5, 23%	TRUE
498	Incised		Large	12, 25%	FALSE
499	Incised				FALSE
500					FALSE
501					FALSE
502			Small	4, 44%	FALSE
503			Large	13, 5%	FALSE
504					FALSE
505	Incised				TRUE
506	Incised				FALSE
507			Large	11, 12%	FALSE
508			Large	16, 9%	FALSE
509					FALSE
510	Incised		Large	10, 6%	TRUE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
497			destruction of vessel wall	
498			depositional….	
499			depositional….	
500				
501				
502				
503				
504				
505			destruction of vessel wall	
506				
507			white	
508			white	
509			white,	
510			white, some spalling on inside	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
497		Wasting/Erosion
498		
499		
500		
501		
502		
503		
504		
505		Wasting/Erosion
506		
507		White Powder
508		White Powder
509		White Powder
510		White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
497			
498			
499			
500	Fire-Clouding		2
501	Fire-Clouding		2
502			
503			
504			
505	Sooting	2	1
506			
507			
508			
509			
510			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
497	Fire-Clouding	5, 7	3
498	Fire-Clouding		3
499	Fire-Clouding		3
500	Fire-Clouding		2
501	Fire-Clouding		2
502	Fire-Clouding		3
503	Fire-Clouding		3
504			
505	Sooting		2
506			
507			
508			
509			
510			

Sample #	Overall Notes
497	dark inside
498	dark, burned?
499	dark, burned?
500	dark
501	dark
502	dark inside
503	stained inside
504	
505	burned sherd, did not take thickness because most of back of sherd is missing
506	
507	residue?
508	residue?
509	
510	residue?

Sample #	Photo log
497	1310,1313,1314
498	1315,1316,1317
499	1315,1318,1319
500	1320,1321,1322
501	1320,1323,1324
502	1325,1326,1327
503	1328,1329,1330
504	1328,1331,1332
505	1333,1334,1335
506	1333,1336,1337
507	1338,1339,1340
508	1338,1341,1342
509	1338,1343,1344
510	1345,1346,1347

Sample #	ID	Date	Archaeological Site	Site Number	State	County
511	559	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
512	560	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
513	561	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
514	562	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
515	563	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
516	564	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
517	565	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
518	566	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
519	567	27-Jan-17	Wickliffe	15BA4	Kentucky	Ballard
520	600	09-Feb-17	Adams	15FU4	Kentucky	Fulton
521	601	09-Feb-17	Adams	15FU4	Kentucky	Fulton
522	602	09-Feb-17	Adams	15FU4	Kentucky	Fulton

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
511	87-1.21	Body	5.568	2.792
512	87-1.21	Body	3.198	2.898
513	87-1.2	Body	4.383	3.251
514	87-1.2	Body	4.769	2.546
515	87-1.2	Body	4.372	2.927
516	87-1.36	Body	9.029	7.028
517	87-1.9	Body	4.036	3.946
518	87-1.9	Body	3.232	3.154
519	87-1.4	Body	5.565	3.478
520	1657-3	Rim	4.128	3.670
521	1120-1	Rim	3.681	2.670
522	1324-1	Rim	3.207	2.027

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
511	1.33	1.219	1.386
512	1.43	1.379	1.557
513	1.52	1.611	1.397
514	1.46	1.539	1.404
515	1.29	1.468	1.176
516	1.21	1.141	1.284
517	1.18	1.238	1.099
518	1.31	1.221	1.448
519	0.70	.7360	.6720
520	1.24	1.207	1.247
521	0.89	.7650	.9210
522	0.82		

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
511	1.374	1.338	Grog, Shell	Plain
512	1.407	1.378	Shell	Plain
513	1.523	1.553	Shell	Plain
514	1.500	1.381	Shell	Plain
515	1.231	1.293	Shell	Plain
516	1.264	1.161	Shell	Plain
517	1.150	1.220	Shell	Plain
518	1.200	1.355	Shell	Plain
519	.6850	.7230	Shell	Plain
520	1.298	1.217	Grog	Plain
521	.8970	.9700	Grog, Shell	Plain
522			Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
511					FALSE
512					FALSE
513	Incised				FALSE
514	Incised				FALSE
515	Incised				FALSE
516					FALSE
517	Incised				FALSE
518	Incised				FALSE
519	Incised				FALSE
520	Incised		Large	indeterminate	FALSE
521			Small	4, 12%	TRUE
522			Small	5, 22%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
511				
512				
513				
514				
515				
516				
517				
518				
519				
520				
521			some chipping around edge, probably depositional	
522				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
511		
512		
513		
514		
515		
516		
517		
518		
519		
520		
521		Wasting/Erosion
522		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
511			
512			
513			
514			
515			
516			
517	Fire-Clouding		3
518			
519			
520			
521			
522			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
511			
512			
513			
514			
515			
516			
517	Fire-Clouding		2
518			
519			
520			
521	Fire-Clouding		3
522			

Sample #	Overall Notes
511	
512	
513	
514	
515	very crude on inside
516	dark inside
517	fc on inside
518	
519	
520	can see wet finger marks
521	dark sherd
522	pristine

Sample #	Photo log
511	1345,1348,1349
512	1345,1350,1351
513	1352,1353,1354
514	1352,1355,1356
515	1352,1357,1358
516	1359,1360,1361
517	1362,1363,1364
518	1362,1365,1366
519	1367,1368,1369
520	1370,1371,1372
521	1370,1373,1374
522	1370,1375,1376

Sample #	ID	Date	Archaeological Site	Site Number	State	County
523	603	09-Feb-17	Adams	15FU4	Kentucky	Fulton
524	604	09-Feb-17	Adams	15FU4	Kentucky	Fulton
525	605	09-Feb-17	Adams	15FU4	Kentucky	Fulton
526	606	09-Feb-17	Adams	15FU4	Kentucky	Fulton
527	607	09-Feb-17	Adams	15FU4	Kentucky	Fulton
528	608	09-Feb-17	Adams	15FU4	Kentucky	Fulton
529	609	09-Feb-17	Adams	15FU4	Kentucky	Fulton
530	610	09-Feb-17	Adams	15FU4	Kentucky	Fulton
531	611	09-Feb-17	Adams	15FU4	Kentucky	Fulton
532	612	09-Feb-17	Adams	15FU4	Kentucky	Fulton
533	613	09-Feb-17	Adams	15FU4	Kentucky	Fulton
534	614	09-Feb-17	Adams	15FU4	Kentucky	Fulton

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
523	1120-1	Rim	2.955	2.639
524	1162-8	Rim	2.999	2.116
525	1664-1	Rim	3.272	3.513
526	83-56 Picture Collection	Body, Shoulder	8.192	8.471
527	83-3 Picture Collection	Body, Shoulder	3.939	3.495
528	83-1 Picture Collection	Rim	5.827	5.903
529	83-26 Picture Collection	Rim	3.060	3.602
530	83-22 Picture Collection	Body, FULL VESSEL, Rim, Shoulder	14.305	16.488
531	83-80	Rim	4.822	3.645
532	83-14	Rim	3.726	1.859
533	83-14	Rim	4.495	3.953
534	83-11	Rim	4.036	3.980

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
523	0.72		
524	0.82	.8640	.7430
525	0.72	.6580	.8010
526	1.22	1.252	1.224
527	1.18	1.080	1.177
528	1.40	1.514	1.343
529	0.93	.7220	1.011
530	0.77	see notebook	
531	1.27	1.189	1.312
532	0.77	.8150	.7710
533	0.90	.9360	.9210
534	0.80	.6100	.8340

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
523			Shell	Plain, Unknown (Worn)
524	.8310	.8450	Grog, Shell	Cord-Marked, Unknown (Worn)
525	.7640	.6610	Shell	Plain
526	1.241	1.151	Grog, Shell	Plain
527	1.190	1.256	Grit, Shell	Plain
528	1.537	1.200	Grog, Shell	Plain
529	.9370	1.048	Grog, Shell	Plain
530			Grog, Shell	Plain
531	1.270	1.317	Grog, Shell	Plain
532	.6530	.8560	Shell	Plain
533	.9020	.8530	Grog, Shell	Plain
534	.8670	.8760	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
523			Small	3, 20%	FALSE
524			Small	3, 20%	TRUE
525			Small	3, 26%	TRUE
526	Incised				TRUE
527	Incised				FALSE
528			Small	3, 35%	TRUE
529	Incised		Small	3, 25%	FALSE
530			Small	5.5, 65%	TRUE
531			Small	3, 26%	FALSE
532			Small	4.5, 24%	FALSE
533	Incised		Large	11, 12%	FALSE
534			Small	4, 21%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
523			depositional eroding on the outside	
524			depositional	
525			chipping	
526			some deterioration due to spalling	
527				
528			crude	
529				
530			near top and near bottom orifices	
531				
532				
533				
534				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
523		
524		
525		Wasting/Erosion
526		Wasting/Erosion
527		
528		Wasting/Erosion
529		
530		Wasting/Erosion
531		
532		
533		
534		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
523			
524			
525			
526			
527			
528			
529			
530			
531			
532			
533			
534			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
523	Fire-Clouding		3
524			
525			
526			
527			
528			
529			
530			
531	Fire-Clouding		3
532			
533			
534			

Sample #	Overall Notes
523	dark inside
524	
525	
526	
527	different incised pattern
528	crudely fired with globs of clay fired without being smoothed out
529	
530	
531	dark inside and out
532	
533	
534	

Sample #	Photo log
523	1370,1377,1378
524	1379,1380,1381
525	1379,1382,1383
526	1384,1385,1386
527	1384,1387,1388
528	1389,1390,1391
529	1389,1392,1393
530	1394-1405
531	1406,1407,1408
532	1406,1409,1410
533	1406,1411,1412
534	1413,1414,1415

Sample #	ID	Date	Archaeological Site	Site Number	State	County
535	615	09-Feb-17	Adams	15FU4	Kentucky	Fulton
536	616	09-Feb-17	Adams	15FU4	Kentucky	Fulton
537	617	09-Feb-17	Adams	15FU4	Kentucky	Fulton
538	618	09-Feb-17	Adams	15FU4	Kentucky	Fulton
539	619	09-Feb-17	Adams	15FU4	Kentucky	Fulton
540	620	09-Feb-17	Adams	15FU4	Kentucky	Fulton
541	621	09-Feb-17	Adams	15FU4	Kentucky	Fulton
542	622	09-Feb-17	Adams	15FU4	Kentucky	Fulton
543	623	09-Feb-17	Adams	15FU4	Kentucky	Fulton
544	624	09-Feb-17	Adams	15FU4	Kentucky	Fulton
545	625	09-Feb-17	Adams	15FU4	Kentucky	Fulton
546	628	09-Feb-17	Adams	15FU4	Kentucky	Fulton
547	629	09-Feb-17	Adams	15FU4	Kentucky	Fulton
548	630	09-Feb-17	Adams	15FU4	Kentucky	Fulton

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
535	83-37	Rim	2.958	1.472
536	83-116	Rim	3.120	3.072
537	83-34	Body, Shoulder	8.166	10.170
538	83-74	Body	4.011	5.305
539	83-12	Body	5.299	2.756
540	83-42	Body	9.498	7.329
541	83-42	Body	5.821	5.423
542	83-7	Body	5.366	4.135
543	83-3	Rim	4.423	3.349
544	83-4	Rim	4.026	3.104
545	83-1	Body	5.852	4.836
546	83-8	Body	5.159	6.376
547	83-8	Body	3.655	2.989
548	83-8	Body	4.408	3.283

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
535	1.00		
536	1.03	1.131	.8710
537	1.00	1.091	.8660
538	2.17	2.167	2.230
539	1.91	1.928	1.909
540	1.39	1.455	1.509
541	1.29	1.399	1.103
542	0.99	1.021	.9600
543	1.42	1.432	1.386
544	1.59	1.479	1.660
545	1.83	1.767	1.979
546	1.35	1.367	1.423
547	1.55	1.594	1.560
548	1.51	1.610	1.382

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
535			Indeterminate	Plain
536	1.046	1.082	Grog	Plain
537	1.154	.8760	Grog, Shell	Plain
538	2.202	2.081	Grog	Plain
539	1.892	1.901	Grog	Plain
540	1.302	1.305	Grog, Shell	Plain
541	1.306	1.354	Grog	Plain
542	.9280	1.064	Grog, Shell	Plain
543	1.565	1.280	Grog	Plain
544	1.711	1.520	Grog, Shell	Plain
545	1.771	1.799	Grog, Shell	Plain
546	1.429	1.163	Grog	Plain
547	1.510	1.547	Grog, Shell	Plain
548	1.448	1.590	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
535			Small	4, 18%	FALSE
536			Small	3.5, 19%	TRUE
537	Incised				FALSE
538	Incised				FALSE
539	Incised				FALSE
540	Incised				FALSE
541					TRUE
542	Incised				FALSE
543			Small	4, 22%	FALSE
544			Large	12,8%	TRUE
545					FALSE
546	Incised				FALSE
547	Incised				FALSE
548					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
535				
536			on rim pitting	
537				
538				
539				
540				
541			spall	
542				
543				
544			erosion around lip base	
545			cracking	
546				
547				
548				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
535		
536		Wasting/Erosion
537		
538		
539		
540		
541		Wasting/Erosion
542		
543		
544		Wasting/Erosion
545		Cracking
546		
547		
548		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
535			
536			
537			
538			
539			
540			
541			
542			
543			
544			
545			
546			
547			
548			

Sample #	**Inside Fire Contact**	**Contact Location Score 2**	**Opacity of Blackening 2**
535			
536	Fire-Clouding		2
537			
538			
539			
540	Fire-Clouding		2
541			
542			
543			
544			
545			
546			
547			
548			

Sample #	Overall Notes
535	
536	dark sherd
537	
538	
539	
540	dark inside
541	crude inside
542	
543	
544	
545	
546	crude inside
547	crude inside
548	crude

Sample #	Photo log
535	1413,1416,1417
536	1418,1419,1420
537	1418,1421,1422
538	1418,1423,1424
539	1418,1425,1426
540	1427,1428,1429
541	1427,1430,1431
542	1427,1432,1433
543	1434,1435,1436
544	1434,1437,1438
545	1434,1439,1440
546	1441,1442,1443
547	1441,1444,1445
548	1441,1446,1447

Sample #	ID	Date	Archaeological Site	Site Number	State	County
549	631	10-Feb-17	Adams	15FU4	Kentucky	Fulton
550	632	10-Feb-17	Adams	15FU4	Kentucky	Fulton
551	633	10-Feb-17	Adams	15FU4	Kentucky	Fulton
552	634	10-Feb-17	Adams	15FU4	Kentucky	Fulton
553	635	10-Feb-17	Adams	15FU4	Kentucky	Fulton
554	636	10-Feb-17	Adams	15FU4	Kentucky	Fulton
555	637	10-Feb-17	Burcham	15Hi15	Kentucky	Hickman
556	638	10-Feb-17	Turk Mounds	15Ce6	Kentucky	Carlisle
557	639	10-Feb-17	Turk Mounds	15Ce6	Kentucky	Carlisle
558	640	10-Feb-17	Turk Mounds	15Ce6	Kentucky	Carlisle
559	641	10-Feb-17	Turk Mounds	15Ce6	Kentucky	Carlisle
560	642	10-Feb-17	Turk Mounds	15Ce6	Kentucky	Carlisle
561	643	10-Feb-17	Turk Mounds	15Ce6	Kentucky	Carlisle
562	644	10-Feb-17	Turk Mounds	15Ce6	Kentucky	Carlisle

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
549	83-1	Body	4.890	4.878
550	83-1	Body	7.157	4.855
551	83-4	Body	5.055	6.259
552	83-4	Body	6.551	3.688
553	83-40	Rim	5.564	3.288
554	83-40	Rim	5.940	5.800
555	86-13	Body, Rim	8.556	6.988
556	85-87	Rim	9.542	5.033
557	86-26-24	Rim	6.431	5.271
558	84-26-21	Rim, Shoulder	9.572	8.762
559	85-88	Body, Rim, Shoulder	15.213	11.765
560	84-26-19	Body, Shoulder	7.793	4.889
561	84-26-19	Body	3.369	3.629
562	84-26-16	Body	3.386	4.300

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
549	1.34	1.321	1.366
550	1.13	1.146	1.142
551	1.03	1.071	1.003
552	1.30	1.229	1.413
553	1.42	1.222	1.491
554	1.32	1.150	1.495
555	1.42	1.491	1.376
556	1.10	1.087	1.142
557	0.83	.8140	.8900
558	1.38	1.062	1.252
559	1.30	1.434	1.252
560	1.43	1.732	1.109
561	0.88	.8790	.8060
562	1.26	1.213	1.284

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
549	1.419	1.242	Grog, Shell	Plain
550	1.045	1.172	Shell	Plain
551	.9930	1.043	Grog, Shell	Plain
552	1.297	1.251	Grog, Shell	Plain
553	1.457	1.523	Grog, Shell	Plain
554	1.283	1.355	Grog, Shell	Plain
555	1.486	1.330	Grog	Plain
556	1.042	1.135	Grog, Shell	Plain
557	.8180	.8030	Grit, Shell	Plain, Unknown (Worn)
558	1.605	1.589	Grog	Plain
559	1.373	1.153	Grog	Plain
560	1.437	1.430	Grog	Plain
561	.9470	.8970	Shell	Plain
562	1.265	1.263	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
549					FALSE
550					FALSE
551					TRUE
552					TRUE
553			Large	indeterminate	FALSE
554			Large	10,11%	TRUE
555			Large	indeterminate	TRUE
556			Small	3.5, 50%	FALSE
557			Small	4, 26%	FALSE
558			Small	3, 30%	FALSE
559	Incised		Large	19,15%	FALSE
560					FALSE
561	Incised				FALSE
562					FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
549				
550				
551			worn inside, water damage?	
552			some cracking	
553				
554			one spall, white residue?	
555			around base of rim	
556			white residue?	
557			depositional wear	
558				
559			white residue	
560				
561				
562			white residue	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
549		
550		
551		Wasting/Erosion
552		Cracking
553		
554		Wasting/Erosion, White Powder
555		Wasting/Erosion
556		White Powder
557		
558		
559		White Powder
560		
561		
562		White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
549			
550			
551			
552			
553			
554			
555			
556			
557			
558			
559			
560			
561			
562	Fire-Clouding		2

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
549			
550			
551			
552			
553	Fire-Clouding		2
554			
555			
556			
557			
558			
559			
560			
561			
562	Fire-Clouding		1

Sample #	Overall Notes
549	rough from high tempering of grog
550	heavy shell temper
551	
552	
553	dark outside
554	
555	
556	light clay?
557	
558	
559	very white
560	towards bottom orifice
561	
562	dark outside, light inside

Sample #	Photo log
549	1448,1449,1450
550	1448,1451,1452
551	1453,1454,1455
552	1453,1456,1457
553	1458,1459,1460
554	1458,1461,1462
555	1463,1464,1465
556	1466,1467,1468
557	1466,1469,1470
558	1466,1471,1472
559	1473,1474,1475
560	1476,1477,1478
561	1476,1479,1480
562	1481,1482,1483

Sample #	ID	Date	Archaeological Site	Site Number	State	County
563	645	10-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
564	646	10-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
565	647	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
566	648	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
567	649	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
568	650	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
569	651	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
570	652	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
571	653	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
572	654	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
573	655	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
574	656	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
575	657	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
576	658	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
563	94-1.1	Body	3.037	2.623
564	94-1.1	Body	4.430	2.926
565	94-1.2	Body	6.702	5.298
566	94-1.2	Body	6.827	4.494
567	89-1.163	Body	4.489	4.303
568	89-1.163	Body	6.399	5.570
569	89-1.192	Body, Shoulder	6.352	4.339
570	89-1.192	Body	3.710	3.404
571	89-1.192	Body	3.021	2.579
572	89-1.163	Body	6.662	5.202
573	89-1.163	Body	4.363	4.214
574	89-1.163	Body	3.018	2.641
575	89-1.116	Body	5.274	4.778
576	89-1.116	Body	3.756	3.563

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
563	1.09		
564	1.04	1.059	.9530
565	1.09	1.069	1.063
566	1.09	.9750	1.070
567	1.48	1.481	1.507
568	1.31	1.364	1.169
569	1.43	1.343	1.514
570	0.96	0.975	.8890
571	1.48		
572	1.25	1.170	1.179
573	1.48	1.477	1.492
574	1.01		
575	1.42	1.455	1.358
576	1.01	1.008	1.029

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
563			Grog	Plain
564	1.021	1.108	Grog, Shell	Plain
565	1.079	1.137	Grog, Shell	Plain
566	1.189	1.136	Grog, Shell	Plain
567	1.489	1.424	Grog, Shell	Plain
568	1.429	1.292	Grog, Shell	Plain
569	1.325	1.523	Grog	Plain
570	.9520	1.015	Grog, Shell	Plain
571			Grog	Plain
572	1.220	1.432	Grog, Shell	Plain
573	1.461	1.508	Grog, Shell	Plain
574			Grog, Shell	Plain
575	1.425	1.424	Grog, Shell	Plain
576	.997	1.017	Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
563	Incised				FALSE
564					FALSE
565					FALSE
566					FALSE
567	Incised				FALSE
568	Incised				TRUE
569	Incised				FALSE
570	Incised				TRUE
571	Incised				FALSE
572	Incised				TRUE
573	Incised				TRUE
574	Incised				FALSE
575	Incised				FALSE
576	Incised				FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
563				
564				
565				
566				
567				
568			markings	
569				
570			worn interior	
571				
572			markings	
573			slight attrition	
574				
575				
576				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
563		
564		
565		
566		
567		
568		Wasting/Erosion
569		
570		Wasting/Erosion
571		
572		Wasting/Erosion
573		Wasting/Erosion
574		
575		
576		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
563			
564			
565			
566	Fire-Clouding		2
567			
568			
569			
570			
571			
572			
573			
574			
575	Fire-Clouding		2
576			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
563			
564			
565			
566			
567			
568			
569			
570			
571			
572			
573	Fire-Clouding		3
574	Fire-Clouding		3
575			
576			

Sample #	Overall Notes
563	
564	
565	
566	
567	crude
568	
569	
570	
571	wet finger marks
572	
573	dark inside
574	dark inside
575	
576	wet finger marks

Sample #	Photo log
563	1484,1485,1486
564	1484,1487,1488
565	1489,1490,1491
566	1489,1492,1493
567	1494,1495,1496
568	1494,1497,1498
569	1499,1500,1501
570	1499,1502,1503
571	1499,1504,1505
572	1506,1507,1508
573	1506,1509,1510
574	1506,1511,1512
575	1513,1514,1515
576	1513,1516,1517

Sample #	ID	Date	Archaeological Site	Site Number	State	County
577	659	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
578	660	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
579	661	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
580	662	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
581	663	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
582	664	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
583	665	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
584	666	20-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
585	667	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
586	668	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
587	669	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
588	670	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
577	89-1.116	Body	5.547	3.363
578	89-1.76	Body	4.083	4.026
579	89-1.76	Body	4.405	2.720
580	89-1.76	Body	4.070	3.863
581	89-1.76	Rim	4.778	2.791
582	89-1.23	Body, Shoulder	6.292	3.514
583	89-1.23	Body	4.973	4.821
584	89-1.23	Body	4.445	4.157
585	89-1.8	Body	4.068	4.228
586	89-1.8	Body	2.852	2.397
587	89-1.8	Body	3.362	3.017
588	89-1.8	Rim	3.167	3.011

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
577	1.08	.9960	1.133
578	1.04	1.060	1.074
579	1.16		
580	1.02	1.033	.9960
581	1.16	1.265	1.101
582	1.06	1.289	.9090
583	1.30	1.235	1.409
584	1.15	1.206	1.193
585	0.93	.9170	.870
586	0.89	.842	.959
587	0.97	.9190	.9480
588	0.69	.6930	.6150

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
577	1.077	1.095	Shell	Plain
578	.9970	1.047	Grog	Plain
579			Grog, Shell	Plain
580	.9800	1.057	Grog	Plain
581	1.113	1.149	Shell	Plain
582	.8620	1.164	Grog	Plain
583	1.302	1.256	Grog, Shell	Plain
584	1.054	1.132	Shell	Plain
585	.895	1.044	Grog	Plain
586	.884	.893	Grog, Shell	Plain
587	.9620	1.035	Grog, Shell	Plain
588	.6700	.7960	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
577					FALSE
578	Incised				FALSE
579	Incised				FALSE
580					FALSE
581			Large		FALSE
582	Incised				FALSE
583					FALSE
584					FALSE
585	Incised				FALSE
586	Incised				FALSE
587					FALSE
588	Incised		Small	2, 17%	TRUE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
577				
578				
579				
580				
581				
582				
583				
584				
585				
586				
587				
588			heavy attrition on shoulder	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
577		White Powder
578		
579		
580		
581		
582		
583		
584		
585		
586		
587		
588		Wasting/Erosion

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
577			
578			
579			
580			
581			
582			
583			
584			
585			
586			
587			
588			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
577	Fire-Clouding		3
578			
579			
580			
581			
582			
583	Fire-Clouding		3
584			
585			
586			
587			
588			

Sample #	Overall Notes
577	light outside dark inside
578	
579	
580	
581	
582	crude
583	light outside, dark inside
584	
585	crude outside lines made when wet
586	crude and rough inside
587	
588	

Sample #	Photo log
577	1513,1518,1519
578	1520,1521,1522
579	1520,1523,1524
580	1520,1525,1526
581	1520,1527,1528
582	1529,1530,1531
583	1529,1532,1533
584	1529,1534,1535
585	1536,1537,1538
586	1536,1539,1540
587	1536,1541,1542
588	1536,1543,1544

Sample #	ID	Date	Archaeological Site	Site Number	State	County
589	671	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
590	672	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
591	673	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
592	674	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
593	675	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
594	676	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
595	677	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
596	678	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
597	679	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
598	680	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
599	681	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
600	682	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
589	89-1.18	Body	4.568	3.304
590	92.1.333	Body	6.359	5.142
591	92-1.307	Rim	3.906	2.637
592	92-1.076	Body	5.424	4.185
593	92-1.076	Body	7.146	4.907
594	88-1.205	Body	3.319	3.564
595	88-1.205	Body	2.175	3.606
596	88-1.205	Rim	7.066	5.706
597	92-1.228	Body	3.419	2.992
598	88-1.124	Body, Shoulder	7.956	9.991
599	88-1.124	Rim	4.817	5.428
600	88-1.2	Body	4.744	3.479

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
589	1.10	1.065	1.109
590	0.97	.8820	1.032
591	1.01	.9640	1.028
592	1.33	1.335	1.368
593	2.31	2.360	2.268
594	1.58	1.576	1.582
595	0.83	.8400	.8580
596	1.45	1.016	1.677
597	1.23	1.186	1.289
598	1.37	1.210	1.366
599	0.92	.9020	.953
600	0.79	1.007	.7190

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
589	1.143	1.086	Grog, Shell	Plain
590	.8850	1.081	Grog, Shell	Plain
591	1.015	1.037	Grog	Plain
592	1.342	1.267	Grog	Plain
593	2.030	2.587	Grog	Plain
594	1.579	1.569	Grog	Plain
595	.8270	.7760	Shell	Plain
596	1.625	1.472	Grog, Shell	Plain
597	1.213	1.244	Indeterminate	Plain
598	1.817	1.069	Grog, Shell	Plain
599	.8630	.9670	Grog, Shell	Plain
600	.6850	.7450	Grog, Shell	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
589	Incised				TRUE
590	Incised				FALSE
591	Incised		Large	indeterminate	FALSE
592					FALSE
593	Incised				TRUE
594					FALSE
595	Incised				FALSE
596	Incised		Small	5.5, 34%	TRUE
597	Incised				FALSE
598					FALSE
599			Small	4, 26%	FALSE
600	Incised				FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
589			either spalling or inside was pressed against something while wet	
590				
591				
592				
593			deterioration of inside wall	
594				
595				
596			very little wear on the lip	
597				
598			white residue	
599				
600			white residue	

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
589		Wasting/Erosion
590		
591		
592		
593		Wasting/Erosion
594		
595		
596		Wasting/Erosion
597		
598		White Powder
599		
600		White Powder

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
589			
590	Fire-Clouding		2
591			
592			
593			
594			
595			
596			
597			
598			
599			
600			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
589			
590	Fire-Clouding		2
591			
592			
593			
594			
595			
596			
597	Fire-Clouding		2
598			
599			
600			

Sample #	Overall Notes
589	
590	fire clouding on inside and outside; wet finger marks, crude inside
591	
592	
593	heavily tempered with grog and stone
594	crude inside
595	
596	
597	darker inside
598	white residue? Manufacture marks near connection of rim and shoulder
599	no wear on rim
600	white outside

Sample #	Photo log
589	1545,1546,1547
590	1548,1549,1550
591	1551.1552.1553
592	1554,1555,1556
593	1554,1557,1558
594	1559,1560,1561
595	1559,1562,1563
596	1559,1564,1565,1566
597	1567,1568,1569
598	1570,1571,1572
599	1570,1573,1574
600	1575,1576,1577

Sample #	ID	Date	Archaeological Site	Site Number	State	County
601	683	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
602	684	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
603	685	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
604	686	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
605	687	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
606	688	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
607	689	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
608	690	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
609	691	17-Feb-17	Wickliffe	15BA4	Kentucky	Ballard
610	692	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
611	693	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
612	694	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
613	695	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
601	88-1.2	Body	5.016	4.435
602	88-1.122	Body	4.212	3.534
603	88-1.122	Body	4.591	3.775
604	88-1.191	Body	5.741	4.741
605	88-1.62	Body	5.811	4.292
606	88.1.62	Body	6.108	4.889
607	88-1.9	Body	5.434	4.393
608	92-1.092	Body	2.945	3.087
609	92-1.092	Body, Shoulder	4.549	3.776
610	TB-404- Beckwith	Body	6.680	7.197
611	B-24- Beckwith	Body	5.207	5.440
612	B-213- Beckwith	Body	7.332	5.274
613	B-16- Beckwith	Body	5.240	7.129

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
601	1.15	1.063	1.217
602	1.66	1.683	1.692
603	1.17	1.150	1.116
604	1.14	1.352	1.147
605	1.28	1.193	1.461
606	1.20	1.239	1.156
607	0.98	.9020	1.037
608	1.09	1.034	1.320
609	1.27	1.140	1.388
610	1.25	1.249	1.223
611	1.39	1.331	1.455
612	1.40	1.436	1.267
613	1.02	.9740	1.014

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
601	1.138	1.174	Grog	Plain
602	1.696	1.578	Grog, Shell	Plain
603	1.149	1.247	Indeterminate	Plain
604	1.013	1.054	Grog, Shell	Plain
605	1.311	1.148	Grog, Shell	Plain
606	1.220	1.194	Grit, Grog, Shell	Plain
607	.8980	1.090	Shell	Plain
608	1.034	.9680	Shell	Plain
609	1.381	1.164	Grog	Plain
610	1.194	1.332	Grog	Plain
611	1.313	1.469	Grog	Plain
612	1.537	1.345	Grog	Plain
613	1.015	1.086	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
601					TRUE
602					TRUE
603					FALSE
604	Incised				TRUE
605	Incised				TRUE
606	Incised				TRUE
607	Incised				FALSE
608	Incised				FALSE
609	Incised				FALSE
610	Incised				FALSE
611	Incised				FALSE
612	Incised				FALSE
613	Incised				FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
601			little destruction of inside wall	
602			cracking, deterioration	
603				
604			outside is atrophied	
605			inside is gone, possible shovel scraped off	
606			spalling on inside	
607				
608				
609				
610				
611				
612				
613				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
601		Wasting/Erosion
602		Wasting/Erosion
603		
604		Wasting/Erosion
605		Wasting/Erosion
606		Wasting/Erosion
607		
608		
609		
610		
611		
612		
613		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
601			
602			
603			
604			
605			
606			
607			
608			
609			
610	Fire-Clouding		1
611			
612			
613			

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
601			
602			
603	Fire-Clouding		2
604			
605			
606			
607			
608			
609			
610	Fire-Clouding		1
611	Fire-Clouding		1
612	Fire-Clouding		1
613			

Sample #	Overall Notes
601	
602	
603	dark inside
604	
605	different design
606	
607	
608	
609	
610	fire clouding patch on outside; fire clouding dark inside
611	
612	different design
613	

Sample #	Photo log
601	1575,1578,1579
602	1580,1581,1582
603	1580,1583,1584
604	1585,1586,1587
605	1588,1589,1590
606	1588,1591,1592
607	1593,1594,1595
608	1596,1597,1598
609	1596,1599,1600
610	1601,1602,1603
611	1601,1604,1605
612	1601,1606,1607
613	1608,1609,1610

Sample #	ID	Date	Archaeological Site	Site Number	State	County
614	696	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
615	697	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
616	698	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
617	699	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
618	700	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
619	701	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
620	702	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
621	703	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
622	704	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
623	705	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi
624	706	17-Feb-17	Towosahgy	23MI2	Missouri	Mississippi

Sample #	Identifier (# or provenience)	Sherd Type	Length (cm)	Width (cm)
614	B-261- Beckwith	Body	4.577	4.515
615	TB-345- Beckwith	Body	10.233	7.887
616	B-18- Beckwith	Body	5.154	4.566
617	B-264- Beckwith	Body	4.346	4.572
618	B-12- Beckwith	Body	10.335	8.473
619	B-47- Beckwith	Rim	3.838	4.841
620	B-31- Beckwith	Rim	4.593	6.033
621	B-36- Beckwith	Rim	7.127	5.910
622	751- Beckwith	Body, FULL VESSEL, Rim, Shoulder	13.498	13.404
623	752-Beckwith	Body, FULL VESSEL, Rim, Shoulder	12.750	12.852
624	TB-405- Beckwith	Body, Rim, Shoulder	15.523	22.355

Sample #	Thickness (average, cm)	Thickness (north, cm)	Thickness (south, cm)
614	0.99	.9260	1.002
615	1.02	.8750	1.118
616	0.87	.8200	.9070
617	1.00	.9690	1.055
618	0.79	.7750	.8370
619	1.02	1.060	.9900
620	1.34	1.187	1.381
621	1.35	1.548	1.074
622	1.10	see notes	
623	1.00	see notes	
624	1.10	.9300	.9020

Sample #	Thickness (east, cm)	Thickness (west, cm)	Temper	Surface Treatment
614	.9630	1.062	Grog	Plain
615	1.149	.9230	Grog	Plain
616	.8520	.8980	Grog, Shell	Plain
617	1.026	.9580	Grog	Plain, Unknown (Worn)
618	.7770	.7830	Grog	Plain
619	1.028	.9820	Grog	Plain
620	1.355	1.438	Grog	Plain
621	1.346	1.416	Grog	Plain
622			Grog	Plain
623			Grog	Plain
624	1.230	1.319	Grog	Plain

Sample #	Decoration	Rim Mode	Orifice Type	Orifice Diameter (cm)	Attrition
614	Incised				FALSE
615	Incised				FALSE
616	Incised				FALSE
617	Incised				FALSE
618	Incised				FALSE
619	Incised		Small	3, 20%	FALSE
620	Incised		Small	5, 14%	TRUE
621	Incised		Large	12.5, 13%	TRUE
622			Small	3.5, 100%	FALSE
623	Incised		Small	3, 100%	TRUE
624	Incised		Small	4.5, 22%	FALSE

Sample #	Attrition Location	Attrition Pattern	Inside notes	Outside notes
614				
615				
616				
617			natural	
618			white residue	
619				
620	Lower Body, Lower Rim		spalling	
621	Upper Body, Upper Rim		white residue, worn	
622				
623			spalling below lip?	
624				

Sample #	Other Attrition Info (Depth, etc.)	Final Use-wear Designation
614		
615		
616		
617		
618		White Powder
619		
620		Wasting/Erosion
621		Wasting/Erosion, White Powder
622		
623		Wasting/Erosion
624		

Sample #	Outside Fire Contact	Contact Location Score 1	Opacity of Blackening 1
614			
615	Fire-Clouding		2
616			
617			
618	Fire-Clouding		2
619			
620			
621			
622			
623			
624	Sooting		3

Sample #	Inside Fire Contact	Contact Location Score 2	Opacity of Blackening 2
614			
615	Fire-Clouding		2
616			
617			
618	Sooting		3
619			
620	Fire-Clouding		1
621	Fire-Clouding		3
622			
623			
624	Fire-Clouding		3

Sample #	Overall Notes
614	different design
615	clouding towards shoulder (bottom), dark inside
616	crude, wet finger marks
617	crude outside and inside
618	clouding on outside and inside; patched on outside, ring on inside. Both occur towards the large orifice
619	
620	
621	darker inside
622	
623	
624	on outside, towards small orifice

Sample #	Photo log
614	1608,1611,1612
615	1608,1613,1614
616	1615,1616,1617
617	1615,1618,1619
618	1615,1620,1621
619	1622,1623,1624
620	1622,1625,1626
621	1622,1627,1628
622	1632-1642
623	1643-1655
624	1629,1630,1631,1632,1633

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Thesis Title:
A Survey and Use-wear Analysis of Wickliffe Thick Pottery in the Southeastern United States

Major Professor: Paul D. Welch