A COMPARATIVE ANALYSIS OF A POTENTIAL TAVERN SITE IN JACKSON, NORTH CAROLINA

by

Katherine D. Thomas

July, 2015

Director of Thesis: Dr. Charles R. Ewen

Major Department: Anthropology

Residents of Jackson, North Carolina have found what they believe to be an 18th century tavern site. This thesis assesses this claim by comparing those artifacts to the artifacts at Wetherburn's Tavern in Colonial Williamsburg and the Palmer-Marsh cellar in Bath, North Carolina in addition to tavern criteria created by Kathleen Bragdon. The artifacts are dated using Mean Ceramic Date, *Terminus Post Quem,* and pipestems. These methods show that the site in question is indeed a tavern, dated to the early part of the 18th century. Historical research indicates that this tavern belonged to Jeptha Atherton, an important figure in Jackson history.

A COMPARATIVE ANALYSIS OF A POTENTIAL TAVERN SITE IN JACKSON, NORTH CAROLINA

A Thesis

Presented To the Faculty of the Department of Anthropology

East Carolina University

In Partial Fulfillment of the Requirements for the Degree

Master of Arts in Anthropology

by

Katherine D. Thomas

November, 2015

© Katherine D. Thomas, 2015

A COMPARATIVE ANALYSIS OF A POTENTIAL TAVERN SITE IN JACKSON, NORTH CAROLINA

by

Katherine D. Thomas

APPROVED BY:

DIRECTOR OF
THESIS: _____
(Charles R. Ewen, PhD)

COMMITTEE MEMBER: _____
(Susanne Grieve, MA)

COMMITTEE MEMBER: _____
(I. Randolph Daniel Jr., PhD)

CHAIR OF THE DEPARTMENT
OF (Anthropology): _____
(I. Randolph Daniel Jr., PhD)

DEAN OF THE
GRADUATE SCHOOL: _____
Paul J. Gemperline, PhD

ACKNOWLEDGEMENTS

This thesis would not been possible without the time, help, and passion of Bill Futrell, Ken Odom, Dennis Babb, and everyone else involved in Jackson. I would also like to thank the State Archaeology Department, especially Dolores Hall and Lynn Flora. I would also like to thank Kelly Ladd-Kostro and Emily Williams at Colonial Williamsburg for their help with Wetherburn's Tavern.

I would like to thank my advisor Dr. Ewen for his support, advice, and guidance. I would also like to thank the rest of my committee: Dr. Tony Boudreaux, Susanne Grieve, and Dr. Randy Daniel.

A portion of this project required fieldwork. For their time, effort and friendship, I would like to thank Terry Barbour, Marianne McGlinn, CJ Idol, Eva Falls, Diana Johnson, and Hannah Smith. I would additionally like to thank Eva Falls for her aid in ceramic identification and Hannah Smith for her help with the GPR.

And last, but not least, I would like to thank my family and friends for their unwavering support.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter One: Introduction

The town of Jackson, North Carolina is located in Northampton County along the Roanoke Rapids. It operates as the county seat for Northampton County with its courthouse functioning as the county's courthouse since its creation in 1741. In 2013, 18th century artifacts were found in a field owned by William Futrell. Ten years prior to this, farming methods had switched to a no-till system. Before this system, plowing would bring up artifacts, such as projectile points, and these were assembled in the Northampton County Museum. The no-tilling brought an end to these discoveries, and a metal detector was employed to find some of the iron artifacts in the assemblage. Upon this discovery, residents of the town, such as the landowner, William Futrell, and a local surveyor, Ken Odom, began to dig in the portion of the field that yielded the most artifacts. This digging resulted in a large collection of artifacts, which were put on display in the county museum located in Jackson. While not exactly sure as to the nature of the site, they believe it to be a tavern that was once owned by Jeptha Atherton. Jim Gossip, the mayor of Jackson, contacted the state, who in turn directed them to Dr. Charles R. Ewen at East Carolina University.

Chapter One discusses North Carolina history, the history of the region, the history of taverns, and the previous archaeology done on the site. Chapter Two lays out the methodology used in this project. It covers the excavation methods, conservation, categorization scheme, and dating techniques. The site is then dated using Mean Ceramic Date, pipestem dating formulas, and *terminus post quem*.

Chapter Three outlines the historical and archaeological backgrounds of the comparison sites. Wetherburn's Tavern and the Palmer-Marsh house are discussed in depth, as they are the main comparative sites. Three other sites are briefly outlined as a part of a tavern artifact pattern and Kathleen Bragdon's (1981) tavern criteria is also discussed. Chapter Four features an analysis of the Futrell site, as well as comparisons between the Futrell site, the Palmer-Marsh house, and Wetherburn's Tavern. Chapter Five concludes with interpretations, conservation recommendations, site significance, the tavern artifact pattern, and suggestions for future research.

Chapter Two: Background

History of the Region

Northampton County was mainly occupied by Native Americans until the Tuscarora War, which lasted from 1711-1715. At the beginning of the 18th century, North Carolina consisted of the Albemarle and Bath regions. The century was marked by an expansion westward and southward. Originally North Carolina was only lightly settled by the English, as they referred to the region as the "Dismal Swamp" (La Vere 2013; Lawson 1709; Byrd II 1929). The terrain was too difficult to navigate and the soil was not considered fertile, which allowed escaped slaves and other outcasts to seek refuge in the area. Eventually, more people moved into the region and began to settle the area.

Albemarle County was the first to be settled, primarily by Quakers. Bath was the second, and consisted mostly of Anglicans. According to their religious doctrine, the Quakers were pacifists and advocated a positive relationship with the neighboring Indians. Albemarle, being the oldest portion of the colony, held the political power. This mix of Quaker political power and a population of refugees made the beginning of the North Carolina territory fairly egalitarian. But the Crown wanted to gain political control over North Carolina. The king assigned South Carolina, which had become a booming port and trade center, power over North Carolina (La Vere 2013).

The Quakers and the Anglicans began to fight for control of the North Carolinian government, as the Anglicans wanted to expand into Indian territory in order to acquire better farmland. They viewed the Native Americans as people to be conquered, whereas the Quakers wanted to work and trade with the Native Americans (La Vere 2013). As this political battle

raged, people began to push westward. The political battle waging on the coast ended with the Anglicans gaining control of the state, and the previous policy of friendly relationships with the Indians ended. This new political shift allowed for the Indian slave trade to grow. Indian enslavement was supposedly outlawed by some colonies, namely the French colonies. The English, on the other hand, were heavily involved in the Indian slave trade. They played upon inter-group rivalries to get Indians to capture slaves for them. The Tuscarora were not pleased with the change in European attitudes, and they decided to fight back. The Tuscarora response was simple: attack the English so they will stop their attacks on the Tuscarora. The goal was to not start a war, but to show the English that the Tuscarora could attack them so that peace would continue between the two groups. Instead, the English interpreted this action as a declaration of war. The battle between the two groups raged for three years until the Tuscarora eventually lost (La Vere 2013).

The Tuscarora lived along the Roanoke, Tar, Neuse, Pamlico, and Cape Fear Rivers in North Carolina. The northern Tuscarora had fewer issues with the North Carolina colonists than the southern villages. The Tuscarora extended up into Virginia, and many Tuscarora in Virginia and along the upper Roanoke River did not want to engage in war. The dividing line between Virginia and North Carolina was heavily disputed at this time, but Jackson would have been much closer to the border than it is today. The northern Tuscarora attempted to make an alliance with the Five Nations in New York, and move there. Others went to Governor Spotswood of Virginia to seek protection from the North Carolinian Colonists.

By the end of the Tuscarora war, the Tuscarora ceased to be a power in North Carolina. A reservation was created in what is now Northampton County, along the Roanoke River. The rest left for New York to join the Five Nations.

Bertie County, formed in 1722, stretched its borders until it split into two, with the northern section becoming Northampton County in 1741 and the southern section remained Bertie County (Figure 1). Jackson was not incorporated until the 19th century. The area that would become Jackson was denoted by the Courthouse. The Moseley Map, made in 1773 shows Bertie County extending from the Pamlico Sound to the Virginia Border, with the courthouse in what would become Northampton County (Figure 2). After Northampton County was formed, the county courthouse was located where Jackson is today. This can be seen on maps made in 1770 and 1808 (Figures 3, 4). The area was referred to as the Northampton Courthouse in the 18th century, until Jeptha Atherton began buying land. He owned about 900 acres, including the land where the courthouse sat. The town was then referred to as Atherton, as a reference to his land holdings. The courthouse had gone through two iterations before the present one was built in 1856. The town was involved heavily in regional politics, with Jeptha Atherton being a Colonel in the Revolutionary War and the town was later occupied during the Civil War. The town is still the county seat for Northampton County.

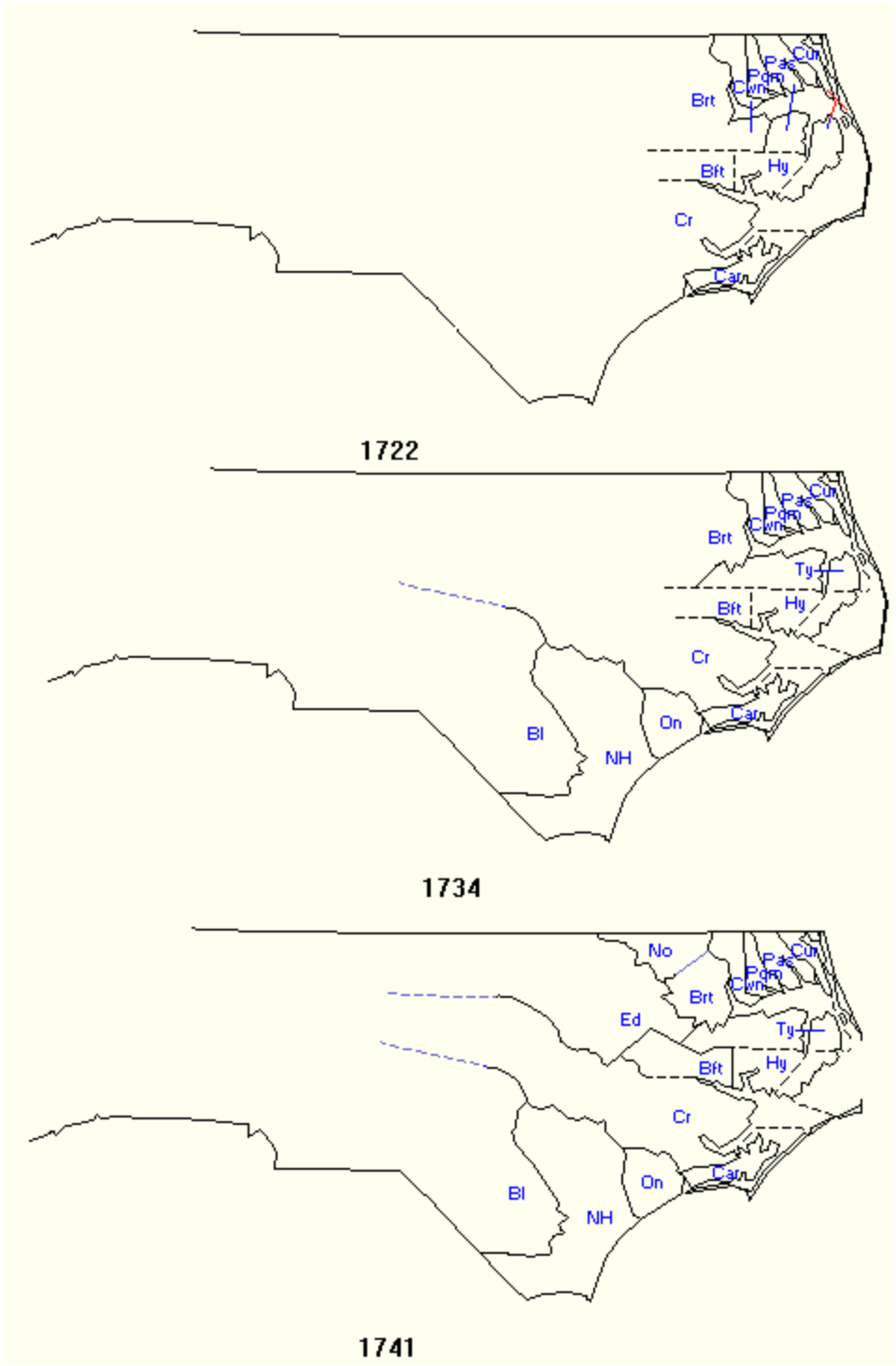


Figure 1 The formation of Northampton County from Bertie County. Bertie County is in the northeast corner noted as "BRT" (US GenNet, 2015).

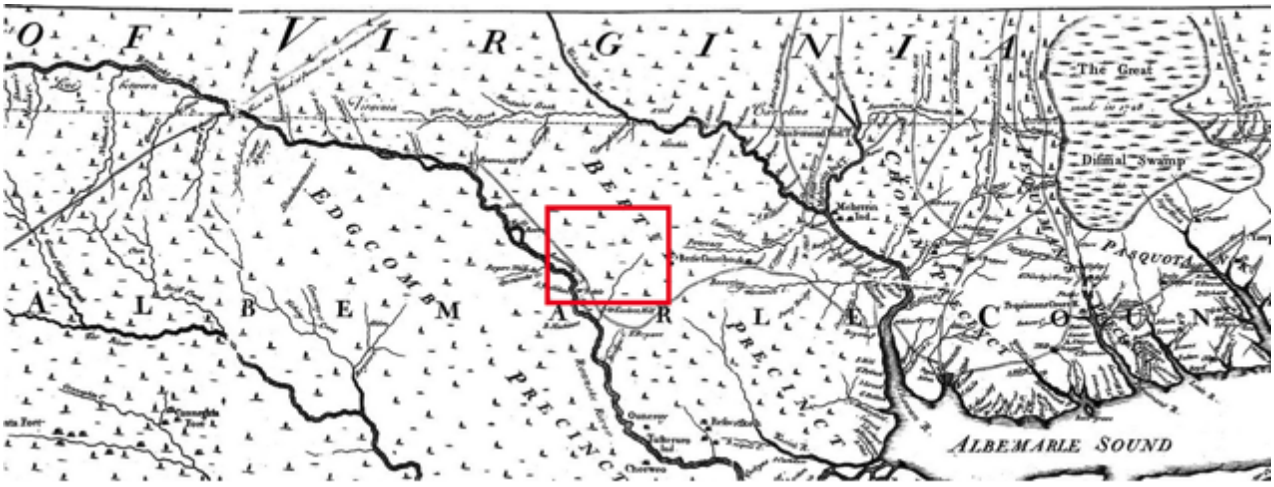


Figure 2 Excerpt from the 1733 Moseley Map. The red square indicates the area that will become part of Northampton County. Source: (Moseley 1773).

Figure 3 Excerpt from a 1775 Map (Mouzon 1775).

Figure 4 Excerpt from an 1808 Map (Price and Struther 1808).

The war and the subsequent removal of the Native American populations created a space for the colonists to move in. This rapid expansion westward created an ideal environment for a tavern to be built.

A History of Taverns

Taverns have gone by many names throughout history: ordinaries, boarding houses, coffee houses, and public houses. Outside of the United States, the archaeology of alcohol consumption has been quite popular. Classical and Old World archaeologists have examined sites for alcohol consumption throughout various time periods. The topics around alcohol consumption range from structures for drinking, the ways alcohol is used to form social bonds, and what role alcohol has in society, including religious contexts (Smith 2008). Often, alcohol is considered to be a part of the foodways subsystem (Smith 2008). During the expansion of Colonial America, taverns were often the first community structures built. They held the functions of all community buildings, from inns to restaurants, from town centers to courthouses. In larger cities they fulfilled public functions until the proper structure could be built. In rural towns they kept these functions for as long as it was standing (Sismodo 2011).

Taverns were a vital connection to the outside world, and were place where patrons could learn about major events (Linnekin 2011). This major function of taverns can be determined by the archaeology of these sites. In Canaan, Connecticut, the placement of a central tavern in a rural community connects the community to the greater society (Handsman 1981). Locations of taverns provide suggestions about the relationship between the tavern and the community. St. Mary's City in Maryland had taverns placed in the center of the town, and can be interpreted as showing a way to survey and control the population's drinking habits (Leon and Hurry 1998). This is also seen in Jamestown and Canaan, Connecticut (Cotter 1958, Handsman 1981). Canaan

also illustrates how taverns became the center of rural communities and functioned as a tie between the community and the greater society (Handsman 1981). On the opposite end of the spectrum, the Moravian town of Salem, North Carolina placed its tavern on the outskirts of the town. Thomas (1994; 27) interprets this as an attempt by the Moravians to separate themselves from other ethnicities that may need to use the tavern in their travels; although on the outside, the Moravians can still control who uses the tavern and how it affects the community.

Much of tavern research has gone into understanding their function. From an archaeological perspective, this requires defining what artifacts are used in taverns. This has been defined by Kathleen Bragdon (1981) to be an assemblage with a high percentage of drinking vessels and pipes. This is a broad category, and can be further subdivided by ceramic types commonly used for drinking vessels, wine glasses, and specialized glasswork. Ivor Noël Hume (1968) has also created an archaeological standard for a tavern site based solely on glassware. Yolanda Courtney (2000) utilizes pub tokens as a way of understanding networks that function through taverns. These definitions, while useful, are incredibly broad. Historical research into taverns suggests that they had a wide variety of uses making a specific definition impossible. There have been attempts made to create criteria to identify a tavern site, mostly through comparative criteria.

Rockman and Rothschild (1984) expanded upon Bragdon's (1981) work by attempting to distinguish between city and country taverns. They examined the relationship between ratios of pipes, ceramics, and bottles and glasses at four separate taverns: two located in cities and two in the countryside. They found that the rural taverns contained a higher percentage of ceramics and a wider variety, indicating that those taverns were used for travel accommodations. The urban taverns have a higher percentage of pipes and a lower percentage of ceramics, indicating it was a

popular place of meeting. They were better equipped to fulfill a wide range of needs, such as lodging, whereas urban taverns were designed to fit only a few functions (Rockman and Rothschild 1984, Salinger 2002). This has been replicated at other taverns in order to create a divide between city and county taverns, and this as a general model, rather than a rule (Chenoweth 2012). For example, certain rural taverns in Maryland imported and served exclusive types of alcohol (Kerns-Nocerito and Mintz 2000). Thus, the Rockman and Rothschild equation is not necessarily applicable to every site. Later, both Rockman and Rothschild's and Bragdon's work were used to show community function at a South Carolina Parish (Pyszka 2012).

The comparison of rural and urban taverns illustrates the variety of ways a tavern can be used, and within those two categories there is further variation. In Charleston, South Carolina, taverns were seen to be both public places for alcohol consumption as well as places to live (Zierden and Calhoun 1986). In Buffalo, New York, a boardinghouse also served as a saloon, which differentiated from corporate-owned boardinghouses that had very strict anti-drinking codes (Pena and Denmon 2000). Artifact assemblage is important in understanding the nature of a tavern, as glass, pipe stems and faunal evidence has identified specialty whaling taverns in Cape Cod (Deetz 1971). Bragdon also used clay pipes and drinking ceramics compared to a farmstead in order to ascertain that the tavern was mainly a place for alcohol consumption, whereas the farmstead had much more variety in its assemblage (Bragdon 1981). Tobacco pipes were also used at Flowerdew Hundred to understand site utility (Deetz 1993). St. Mary's City in Maryland used multiple studies of assemblages to find a tavern and a coffee house by comparison (King 1988, King and Miller 1987). The multiple taverns at Colonial Williamsburg show evidence of gaming, such as at Shield's Tavern, where a circular pit was found (Brown

1968; Brown et al. 1990). Wetherburn's Tavern in Williamsburg provides the most comprehensive look at tavern material culture.

Ivor Noël Hume's excavations at Wetherburn's Tavern in Colonial Williamsburg mostly focused on creating a timeline for the tavern and locating when renovation took place. The historical record was missing twenty years in the early 18th century (1740-1760), and one of the goals was to discover what happened during that time. The site was previously known to be a tavern, and in fact was still standing; this established common artifacts found in association with the tavern. Before Hume became the archaeologist in charge, excavations were not supervised by archaeologists. Architects oversaw the excavations, including the tavern located across from Wetherburn's Tavern, the Raleigh Tavern. This created a focus on finding the foundations of buildings during the excavation, rather than artifacts (Ragland 1930). The focus on architecture led to the discarding of many tavern-related artifacts. This also holds for Shield's Tavern, where artifacts were kept but rendered useless by the inability to tie them to a specific occupation time, which spanned over a century (Samford 1985). Wetherburn's Tavern, with excavations done by units excavated in a vertically controlled manner, created a tavern-related assemblage that included glassware and ceramics making the assemblage most useful in archaeological understandings of Colonial era taverns from Williamsburg.

Jeptha Atherton

Prior to the contact of Dr. Ewen, the site was believed to be a tavern owned by Jeptha Atherton. Atherton owned most of Jackson at one point, and the town was called "Atherton's" in the late 18th and early 19th centuries (Babb 2011). Jeptha Atherton was born in Isle of Wright County, later Southampton County, in Virginia. He married and lived in Virginia until he inherited land in North Carolina through his first wife's family. His first deed in Northampton

County indicates that he was an "innholder". Beyond this legal definition, he was also a farmer and mill owner. He eventually acquired 900 acres. Beyond his extensive land ownership, Atherton was also a Colonel during the Revolutionary War as well as a delegate for his community in North Carolina. Additionally, he was also an avid horse racer, and many of his horses and equipment were left to his children in his will (Babb 2011). Several places he had owned have been located in Northampton County, except for his tavern.

Historical evidence indicates that Atherton owned the land near the county courthouse (Northampton County Courthouse, Jackson, North Carolina [NCC]: Deed Book [DB] 2:259). Although the location of this courthouse is unknown, a 1798 newspaper ad suggests the tavern and the courthouse were near each other "for lease—Land and Plantation at Northampton Courthouse formerly belonging to Col. Jeptha Atherton upon which is a good dwelling house—convenient outhouses—also a grist mill. Besides—immediately at the courthouse there is a house which is now used as a tavern and is from its location well calculated for that purpose. And—a storehouse near it which is well situated for a country store" (North Carolina Journal, 1798).

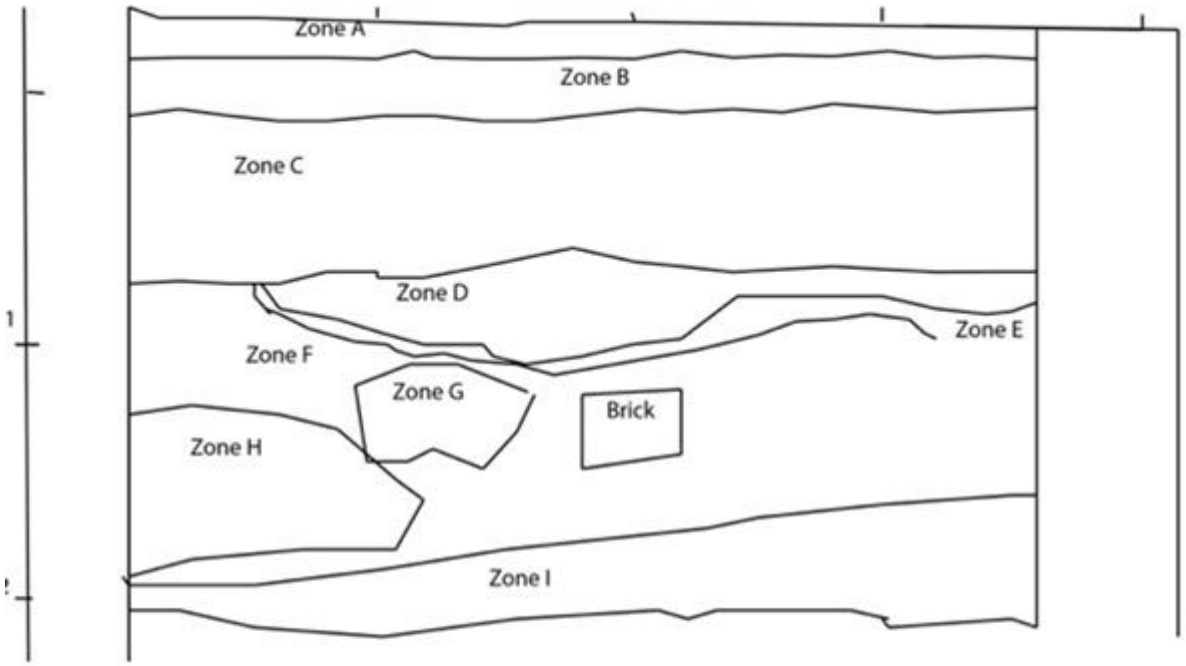
Previous Archaeology

As a part of Dr. Charles R. Ewen's *Public Archaeology* class in spring of 2014, students spent a day cleaning up the site and performing a Ground Penetrating Radar survey. A few artifacts were collected, but the vast majority of the assemblage had been collected previously by

local collectors.

Figure 5 The *Public Archaeology* class at the site. (Photo by author, 2014).

The focus of the day was to get a profile of the site (Figure 6). Historical background indicates that this land was owned by multiple people prior to the Futrell's farm (see Chapter 5). The top layers are associated with the use of the land as a farm. The dark brown top soil represents the plow zone (Zone A) with a reddish layer below that (Zone B). Below those two layers, there is a brown layer with brick, and intrusions of light brown soil (Zone F). This is most likely the level that the Futrell site artifacts were found. Unfortunately, the method of recovery prior to Dr. Ewen's involvement of the artifacts makes it difficult to tie artifacts with zones.



Zone A- Plow Zone
Zone B- 2.5 Yr 2.5/4. Dark reddish brown.
Zone C- 2.5 Yr 3/4. Dark reddish brown
Zone D- 10 Yr 6/3. Pale brown. Charcoal flecking.
Zone E- 10 Yr 4/3. Brown.
Zone F- 10 Yr 6/3. Pale brown. Modled with brown clay.
Zone G- 7.5 Yr 6/8. Reddish yellow
Zone H- 2.5 Yr 4/6. Red
Zone I- 10 Yr 5/6. Yellowish brown.

Figure 6 Western wall profile (drawing by author, 2015).

A Ground Penetrating Radar survey was performed in two 50 foot by 50 foot grids to search for a structure associated with the site (Figure 7). The GPR survey was done on high ground near the site, next to a rodent intrusion that had produced bricks. The GPR revealed anomalies in Grid 1 and Grid 2 that were most likely due to natural phenomena, rather than a structure.

Figure 7 GPR grids in relation to the excavated area. The excavated area is outlined and located at the bottom center of the picture (Smith 2014).

Chapter Three: Methodology

The majority of the artifacts from this site were procured by William Futrell and Ken Odom. The artifacts are permanently curated in the Northampton County Museum, located in Jackson. Some of the pottery has been either completely or partially reassembled, and identification has been attempted prior to contact with East Carolina University. Digging has continued throughout the analysis phase of the project, resulting in a few additional artifacts being found. The majority of the artifacts were recovered before fieldwork reported here was performed.

Organization

Cataloging of artifacts consists of description, weight, style, and measurements and were classified by Stanley South's (1977) categories based on artifact functionality (Figure 8). These categories include Kitchen, Activity, Arms, Personal, Clothing, Architecture, Tobacco, and Furniture. Identification of ceramics is based on typologies found in the Historical Archaeology database at the Florida Museum of Natural History (http://www.flmnh.ufl.edu/histarch/gallery_types/type_list.asp) and the Maryland Archaeological Conservation Lab (http://www.jefpat.org/diagnostic/ColonialCeramics/index-colonial.html). These categories will be used as a method of analysis and comparison between the Futrell site and potential similar sites

Conservation

Archaeology has the power to legitimize the present and inform the future. That is to say, the tangible historical evidence of a community is a powerful force in identity formation as well as material for future decisions to be considered. This powerful use of material remains is not limited to the interpretations presented in this thesis. By nature, archaeology is a destructive investigation into material culture. Excavation removes the (relatively) stable environment that the artifacts have been existing in for hundreds of years and puts them into a new environment. The goal of conservation is not to return an artifact to its original state, but to stabilize it. Not only is it a good idea to conserve items, it is an ethical necessity for archaeologists according to the Society for American Archaeologists, which first principle states:

> "The archaeological record, that is, in situ archaeological material and sites, archaeological collections, records and reports, is irreplaceable. It is the responsibility of all archaeologists to work for the long-term conservation and protection of the archaeological record by practicing and promoting stewardship of the archaeological record. Stewards are both caretakers of and advocates for the archaeological record for the benefit of all people; as they investigate and interpret the record, they should use the specialized knowledge they gain to promote public understanding and support for its long-term preservation." (SAA Code of Ethics 1996).

Additionally, Principle 2 of the Society for Historical Archaeology's ethics state that " Members of the Society for Historical Archaeology have a duty to encourage and support the long-term preservation and effective management of archaeological sites and collections, from both terrestrial and underwater contexts, for the benefit of humanity" (SHA Code of Ethics 2003). The

goals of conservation also indirectly apply to other ethics in the SAA, such as those pertaining to public outreach and education (Principle 4), public reporting (Principle 6), and recording (Principle 7). Furthermore, conservation is often an essential part of acquiring archaeological permits and contracts for cultural resource management projects. This is further emphasized by the pace at which archaeology is done, in which sites excavated as a part of the New Deal during the 1930s continue to be analyzed and reanalyzed. Conservation is not only important for the community connected to the site, but future archaeologists.

This site not only functions as a way to test models on artifact patterns, but it also a vital part of Jackson's history. Conservation is then a vital portion for this site to be relevant to the community. This site has a potential to lead to further research into the town and county history. Although the analysis has been completed, the storage and display of these artifacts requires constant monitoring for the artifact's needs. Additionally, the exhibit in the County Museum is an excellent teaching resource for the city and county that can be used for years to come. This assemblage is also important in terms of future excavations and future research into the origins of Jackson and Northampton County. It is necessary that the artifacts be maintained for future analysis as a part of a larger picture in Jackson's history.

For the Futrell site, conservation has concentrated on the iron artifacts. This was done for three reasons. Firstly, the site is mainly made up of ceramics, pipes, and glass. These artifacts tend to be more consistently stable and require the least intervention besides washing and consolidation. Second and thirdly, the iron artifacts were extremely corroded and the most damaged of the assemblage, though the information they could provide concerning the site was potentially important.

Iron

Air scribing as a part of the conservation plan helped refine the analysis of some of the iron objects. Deconcretion of the nails allowed for a better understanding of their shape, method of construction, and therefore their age. Additionally, the process of deconcretion can reveal how corroded each object is, which in turn suggests the environment in which they are deposited or how long they have been a part of the archaeological record. In this case, although the corrosion made many of the iron objects impossible to positively identify, their level of corrosion provides a relative dating method for these objects. Most importantly, deconcreting a large object that was recovered showed that it was a farming equipment. More specifically, it was a blade, and is more modern than the other finds (Figure 9).

Once the iron artifacts were cleaned, a select few were treated by the East Carolina University *Introduction to Archaeological and Museum Artifact Conservation* class. For the purposes of this thesis, I will discuss the conservation of the two horseshoes. The other three artifacts, two nails and another piece of iron, followed the same procedures as the horseshoes; however, these specific artifacts are discussed throughout this thesis.

Concretion forms on pieces of iron due to the iron object existing in moist, oxygen rich environments. Air scribing removed a majority of the concretions, with the exception of a few patches that could not be removed without damaging the horseshoes. Unlike a few of the other artifacts, these were identifiable before deconcretion. Removal of the concretion showed that one of the horseshoes had been bent on the bottom. The horseshoes were chemically cleaned in preparation for coating with six coats of 3% tannic acid in ethanol and were allowed to dry for one week. Once they were dried, they were then covered in Renaissance Wax to seal the artifacts

(Figures 9 and 10). The wax should protect the iron artifacts from moisture and exposure to oxygen, but constant monitoring and proper storage are necessary to protect these artifacts.

Figure 8 Iron horseshoe post deconcretion and pre-tannic acid (photo by author, 2015).

Figure 9 Horseshoe after coating with tannic acid (Photo by author, 2015).

Ceramic Dating and Terminus Post Quem

A site assemblage consisting primarily of dateable artifacts, like ceramics and pipes, allows for multiple methods of dating. TPQ, or *terminus post quem,* is a way of determining the earliest time the deposit could have been made. Literally meaning "time after which", it is used to determine the earliest date artifacts can be deposited at a site (Noël Hume 1969:11). In regards to ceramics, this involves taking the latest of the beginning manufacturing dates. For the Futrell site, an examination of the manufacturing dates (Table 1) shows that the site has a TPQ of 1785. The Bone China found on the site has a much later manufacturing date (1830-1900) and would change the TPQ of the site to 1900, but this is contrary to any historical information about the site and the rest of the ceramics found. Judging from the low sherd count (Table 1) and the

anomalous TPQ, the Bone China is probably a modern intrusion in comparison to the rest of the site. This will be discussed further in the next section. The TPQ suggests that this site was in use in the late 18th century which aligns with the time period of Atherton's tavern. Further dating through formulae applied to smoking pipes and ceramics can narrow down a more specific date.

Mean Ceramic Date

The Mean Ceramic Date formula was created by Stanley South (1977) and based, in part, on ceramics recovered from his work in North Carolina. The concept behind this dating formula is using the median manufacturing date for each ceramic type to create a midpoint occupation date of the site. It relies on the number of sherds of each ceramic type, and the median manufacturing date for each type. Stanley South mentions that whole vessel counts would yield a more accurate MCD, but sherds will work as well. In the case of the Futrell site, sherds are the easiest to use due to the lack of provenience for the ceramics.

The equation is as follows: $MCD=\frac{\sum_{k=1}^{n} M_k F_k}{\sum_{k=1}^{n} F_k}$ where M equals median date for type k, F equals frequency of type k, and n equals total number of types (South 1977:217). The breakdown of the ceramic types for the site is shown in Table 1. The MCD of the Futrell site is 1719.18 which is calculated as sherds multiplied by median manufacturing date (table 1) for each ceramic type added together equals 5,191,942. This is divided by the number of sherds, 3,020 to reach a mean ceramic date of 1719.18. Although 3, 134 sherd were found, 101 of them cannot be identified. Additionally, 13 of the Bone Chine sherds were removed from analysis due to the low number of sherds and anomalous dates. In examining the median manufacturing dates of the ceramics, it is apparent that this type of porcelain is an anomaly. It is possible that it was deposited during the use of the Colonial structure at the site based upon manufacturing date, but

unlikely as the other forms of ceramic found at the site date much earlier. Furthermore, dating of the site is complicated by the lack of stratigraphy. Some of the iron objects found appear to be much more modern than any of the ceramics, including with the collection modern farming equipment. This artifact can be accounted for by the location of the site, which is in the middle of a farmer's field. Large amounts of window glass were also found at this site. The addition of modern artifacts in other categories throughout the site indicate that there could be a later occupation/use of the site yielding later ceramics, and the bone china falls into that category. Therefore, it has been removed from analysis. The MCD is different than the TPQ. This is due to the fact that MCD measures the midpoint occupation, while TPQ measures the earliest date these artifacts could be deposited. The MCD, combined with the previous discussed TPQ, create a fairly solid date of the 18th century. Further testing through pipe stem dating is necessary in order to solidify a date.

Table 1 Ceramic types, the number of sherds, the manufacturing date and the median manufacturing date for ceramics found at the Futrell site

Ceramic Type	**Number of Sherds**	**Manufacturing Date**	**Median Man. Date**	$\boldsymbol{M_k F_k}$
Delft, Blue on White	1209	1630-1790	1710	2,067,390
Delft, Polychrome	200	1571-1790	1680	336,000
Delft, Sponged	106	1708-1790	1749	185,394
Delft, Plain	478	1640-1800	1720	822,160

White Salt Glazed Stoneware	254	1720-1770	1745	443,230
White Salt Glazed, Scratch Blue	14	1735-1775	1755	24,570
White Salt Glazed, Debased Scratch Blue	8	1765-1795	1780	14,240
Green Lead Glazed	9	1490-1650	1570	14,130
Pearlware, Rocco Edged Green/Blue	7	1785-1840	1812	12,684
Stoneware, Rhenish Blue and Grey	100	1575-1775	1687	168,700
Stoneware, Rhenish Blue and Grey, Medallion Design	6	1700-1775	1737	10,422
Stoneware, Manganese Purple	1	1650-1775	1712	1712
Staffordshire Slipware	6	1675-1770	1722	10,332
Coarse Earthenware, Manganese Mottled	1	1680-1750	1705	1705
Unglazed Coarse Earthenware	103	1490-1900	1605	165,315
Lead Glazed Coarse Earthenware	117	1490-1900	1695	198,315

Black Lead Glazed Coarse Earthenware	32	1700-1770	1735	55,520
Jackfield	5	1740-1790	1765	8,825
Plain Pearlware	137	1780-1840	1810	247,970
Transfer Printed Pearlware	7	1784-1840	1812	12,684
Plain Creamware	122	1762-1820	1791	218,502
Featheredged Creamware	1	1765-1810	1787	1787
English Soft Paste Porcelain	6	1745-1800	1772	10,632
Ching Blue on White Porcelain	66	1644-1912	1778	117,348
Dehua White Porcelain	25	1640-1750	1695	42,375
Bone China Porcelain	13	1830-1900	1865	24,245

Pipes

Clay tobacco pipes are common artifacts in Colonial America sites. A majority of them have been imported from England, though some may have been made in the Netherlands and even America. The process in which the pipes are made are important to the dating process. The

clay was washed and dried, and then all of the air was beat out. Balls of clay were then made and formed into a general pipe shape. A metal rod was taken and pushed through the pipe. The pipe was then trimmed and fired, resulting in the final product (Ayto 1979:12).

Figure 10 Reconstructed pipe from the Futrell site (Photo by author, 2015).

Non-formulaic methods of dating have been proposed. Pipes can be dated by their bowl decoration, but Dutch pipes tend to be decorated and English ones do not, leaving the English pipes undateable. Both Ivor Noel Hume and Adrian Oswald are proponents of dating pipes by their bowl morphology, and Oswald has created a typology (Figure 12) (Oswald 1975; Noël Hume 1969). Although Noël Hume and Oswald insist that this is the better method, it only works when you have a number of intact pipe bowls.

Another common way of dating is by the maker's marks, for which Oswald has compiled a list of these for Great Britain (Oswald 1975). The marks could be placed anywhere on the pipe,

although it depended on the time period it was made in. Common placements include the foot of the pipe, the side of the foot, and the bottom of the bowl (Figures 13-16). Some were placed on pipes, but that does not appear to be common, and were used infrequently in the 18th century (Noël Hume 1969:304-305). Maker's marks are considered to be the most reliable form of pipe dating. Oswald could rely on the historical record to locate makers, match them with their marks, and create a time period the maker was in business (Oswald 1975). Unfortunately, pipes are often found in fragments on archaeological sites, thus obliterating the maker's marks. Such is the case in Jackson, where there are few full pipe bowls.

Figure 11 "CR" maker's mark on the foot. c. 1610-1640 (Museum of London, 2015).

Figure 12 "IR" maker's mark on the side of the bowl (Colony of Avalon, 2015).

Figure 13 Crowned sun/rose maker's mark on the side of the foot. c. 1700-1740 (Colony of Avalon, 2015).

Figure 14 Gryphon maker's mark on the pipestem (Colony of Avalon, 2015).

J.C. Harrington (1954), noticed that the size of the bore hole in the stem aligned with when it was made. Lacking the actual device with which it was made, he measured these bore holes using drill bits, which has made the default measurement of pipe stems in 64ths of an inch. Drill bits were chosen mostly out of convenience, as they were the most effective way to measure a bore hole with what J.C Harrington had on hand. The small size they come in are useful for the size of the pipe stems, and it also allows for a more standard measuring system.

In order to test his theory, Harrington (1954) used 300 pipe fragments from Jamestown, and noticed that they generally fell into five time periods. From this, he created a histogram based upon his observations (Figure 17). Although a useful method, it has been criticized by many. For one, a pipe maker's piercing instrument can wear down over time, skewing the bore hole sizes (Alexander 1979:83). Additionally, the way in which the piercing instrument is

removed can make one end of pipe larger. Lewis Binford improved upon Harrington's histogram by creating a linear regression formula in order to calculate the mean date of occupation for a site using multiple bore hole sizes. The formula, Y=1931.85-38.26X, with X indicating hole size, was designed to calculate the midpoint of a site's occupation based on the average bore hole diameter. Binford extrapolated that a pipe stem's bore hole diameters would theoretically reach zero in 1931, and 38.26 is the difference between periods in Harrington's histogram (Binford 1962). This appeared to solve some of the issues with Harrington's histogram. Despite this, Binford's formula had some guidelines. For one, the site had to date before 1780. After 1780, pipes were produced in North America rather than England (Binford 1962). Second, it had to be a representative, random sample. This made calculating the date based on bore hole size easier, but it was not without its criticism. Lee Hanson, Jr., found Binford's formula to be problematic and argued that the change in bore hole sizes was not a straight line through time (Hanson 1968). Hanson decided to add standard deviation to the regression formula which consisted of ten different equations (Table 2).

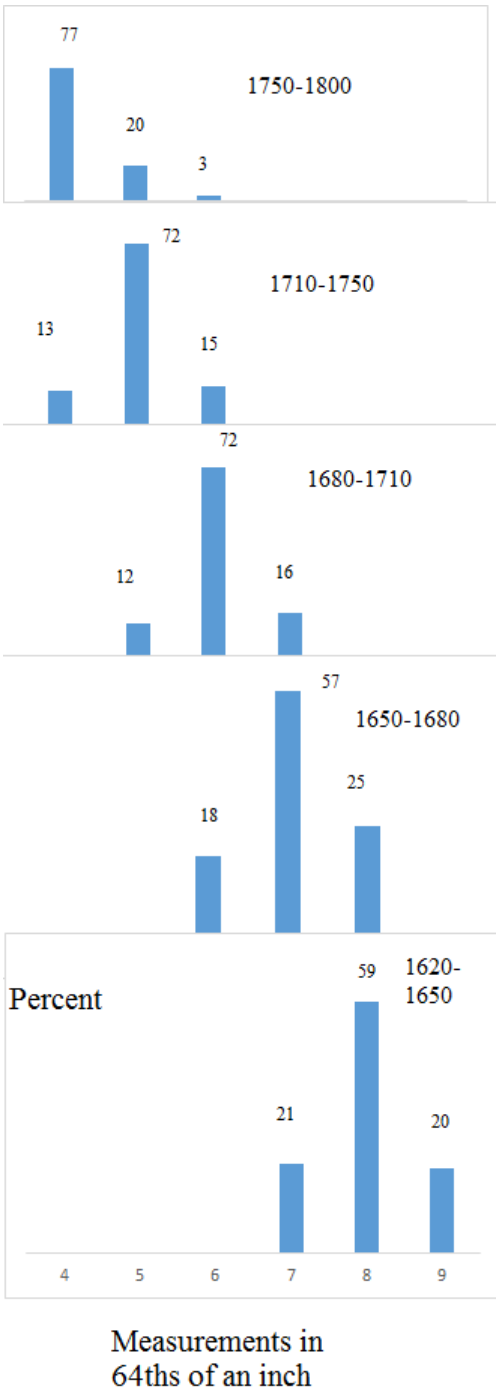


Figure 15 Harrington's Histogram
(Drawing by author, 2015)

Table 2 Hanson's Formulas. The date range on the left indicates which formula to use

1620-1680	Y= 1891.64 - 32.09X ± (2SD) (15.00)
1620-1710	Y= 1880.92 - 30.70X ± (2SD) (15.00)
1650-1710	Y= 1869.31 - 28.88X ± (2SD) (15.00)
1620-1750	Y= 1887.99 - 31.66X ± (2SD) (16.25)
1650-1750	Y= 1888.06 - 31.67X ± (2SD) (16.67)
1680-1750	Y= 1894.88 - 32.98X ± (2SD) (17.50)
1620-1800	Y= 1919.10 - 36.06X ± (2SD) (18.00)
1650-1800	Y= 1930.24 - 38.23X ± (2SD) (18.75)
1680-1800	Y= 1959.66 - 44.32X ± (2SD) (20.00)
1710-1800	Y= 2026.12 - 58.97X ± (2SD) (22.50)

Based upon the hypothetical time period of the site, one can choose the applicable equation. This system has been debated by Binford and eventually retracted by Hanson himself (Hanson 1971).

Heighton and Deagan (1971) agreed with Hanson's challenge of Binford's formula and use of statistics. They thought rather than a straight line regression the regression was curvilinear and so created a two-part formula. One, a point of origin formula date, date=1600+22X. Two, a logarithmic function: X=(-logY + 1.04435)/ 0.05324. This, they argued, would solve the problems inherent in Harrington's histogram (Heighton and Deagan 1971). Previous work done on pipe formulas shows that Heighton and Deagan's formula is consistently the most reliable dating method (McMillian 2010). This can change based on the location of the pipes themselves. Further testing showed that the most correct formula varied from state to state,

with Heighton and Deegan being most effective in Maryland and the Chesapeake. North and South Carolina have proved problematic, and there is no trend on the most effective test in these states.

Table 3 Pipestem bore hole diameters and their frequency at the Futrell site

Pipe size (inches)	Number of Pipes
4/64	31
5/64	104
6/64	58

Results

With North Carolina proving to be problematic in regards to optimal formula, all three formulas were used at the Futrell site. The date results are as follows: Binford: 1734.801. Hanson: 1725.033. Heighton and Deegan: 1737. With this site likely being influenced by Virginia given its location and history, the Heighton and Deagan formula may be the most accurate. The three formulas producing relatively similar dates is promising. Testing done on these formulas have revealed that they can produce an inaccuracy up to twenty years from the actual date (McMillian 2010).

Table 4 Summary of Dating results at the Futrell site

Formula	Resulting Date
Binford	1734.801
Hanson	1725.033
Heighton and Deagan	1737
MCD	1719.18

TPQ	1785

The pipestem dates and MCD provide solid agreement that the site was in use in the first half of the 18th century (Table 4). The TPQ shows that the site was in use at least through the second half of the 18th century. This supports other evidence, such as the John Elam bale seal found at the site that belongs to an English merchant active in the early 18th century.

Chapter Four: Tavern Comparison Sites

With the site dated to the 18th century, the site function becomes the next question. In order to determine the site function, comparative analysis will be used. The Futrell site will be compared to a tavern, a commercial property, and criteria for tavern sites created by Kathleen Bragdon (1981). In this chapter this criteria will be examined, along with the historical and archaeological background of the comparative sites in addition to the basic ceramic assemblage for these sites.

Bragdon's Criteria

In Kathleen Bragdon's 1981 paper, she examines the material culture of taverns using three sites and their probate inventories to determine a pattern for taverns. Six criteria were identified:

> "1) a large number of vessels; 2) a large percentage of drinking vessels in relation to the total ceramic sub-assemblage; 3) a large percentage of those ceramic types most often found in the form of drinking vessels; 4) large numbers of wineglasses; 5) specialized glassware; 6) large numbers of pipestems" (Bragdon 1981: 31).

This functions as a broad definition of a tavern site. But it is based upon probate inventories, which only capture the items in a person's possession at one point in time. Furthermore, archaeological recovery of vessels, one of the major parts of Bragdon's criteria, is often difficult to assess because they are not always completely recovered. Despite these obstacles, Bragdon's criteria has been used to assess tavern function in South Carolina by Pyszka (2012). Determining the minimum vessel count is necessary to compare an assemblage to

Bragdon's criteria. Considering these challenges, comparing the Futrell site to other sites is necessary.

Comparison sites

Wetherburn's Tavern

Wetherburn's Tavern is one of six taverns at Colonial Williamsburg. It was in use from 1720 to the early 19th century. It was originally excavated by Ivor Noël Hume in the 1960's. Although excavations at Williamsburg started in the 1920's, the goal was to find building walls rather than artifacts. Noël Hume's appointment at Colonial Williamsburg ushered in new methods of excavation and cataloging. One of the first projects he undertook was the excavation of Wetherburn's Tavern. Periods of written history were missing during the use of the tavern, and Noël Hume's excavations revealed how the tavern had changed during that time period (Noël Hume 1969).

The site is comprised of a larger variety of ceramics types than the Futrell site, which is consistent with its location and social standing (Table 5). The assemblage itself is also greater in number, consisting of 14,483 artifacts. Additionally, the large amount of Chinese porcelain, difficult to get in this time period, emphasizes its high social standing.

Table 5 Ceramic types and their corresponding relationship to the overall assemblage of Wetherburn's Tavern.

Ceramic Type	Percent of Total Assemblage	Percent of Kitchen Class	Percent of Ceramics	Common Form
English Delftware	16%	23%	33%	Tableware
White Salt Glazed Stoneware	8.5	12	17	Storage, Service, Consumption, Sanitation

Chinese Porcelain	9	13	18	Tableware and Teaware
Pearlware	1.7	2.4	3.4	Tableware and Teaware
Creamware	1.6	2.3	3.2	Tableware and Teaware
Westerwald Stoneware	2.4	3.3	4.8	Storage, Service, Consumption
Nottingham	1.1	1.6	2.3	Drinking Vessels
Staffordshire	.24	.6	.9	Utilitarian
Buckley	.8	1.1	1.6	Tableware and Utilitarian
North Midland	.5	.8	1.1	Utilitarian
North Devon	.6	.8	1.2	Tableware
Colonoware	.3	.4	.5	Various
Local Coarseware	.3	.4	.6	Various
Burslem	.07	.1	.15	Unknown
Astbury	.2	.2	.36	Cups, Bowls, Mugs
Shaw Stone	.07	.09	.13	Unknown
English Soft Porcelain	.1	.2	.23	Teaware, Tableware
Yorktown	.7	1	1.4	Teaware, Tableware
Redware	.2	.3	.5	Tableware, Chamber pot
Jackfield	.3	.4	.6	Tea and Coffee
Whiteware	.1	1.4	2	Tableware
Porcellaneous	.3	.5	.7	Teaware and Tableware
Whieldon	.07	.1	.15	Plate, Platter

Bone China	.01	.01	.02	Bowls, Plates, Vases
Iberian	.5	.8	1.1	Unknown
Bennington	.04	.06	.08	Unknown
Yelloware	.04	.06	.08	Bowls, Chamber pots
Ironstone	.01	.02	.02	Tableware
Brown Stoneware	.09	.13	.19	Jugs, Mugs
Unknown	.2	.2	.37	N/A

Palmer Marsh cellar

The Palmer-Marsh House is located in Bath, North Carolina. The house was built, according to local history in 1744, but archaeological evidence can neither confirm nor deny this (South 1960). The house was in use from the 18th to the 19th century. Its name comes from Colonel Palmer, who owned the house in the 18th century, and the Marshes who owned the house in the 19th century. The house was famous for its gardens in the 18th century (South 1960). The Palmer-Marsh house is still standing, but the cellar was destroyed. The cellar is located directly north of the house and was excavated in 1960 by Stanley South. Examination of a Sauthier map indicates that the structure in the yard was built before the Palmer house, as it does not appear on any maps (South 1960). Excavations revealed that a house was built, torn down, and backfilled prior to the building of the Palmer-Marsh house. A storehouse was built over the original cellar. There is some evidence that the house was built by Michael Cotanche, as his name appears on a piece of glass recovered from the foundations and is the house's builder according to local history. The Palmer-Marsh cellar consists of 1,415 artifacts and contains a majority of Delft,

Stoneware, and Redware. The ceramic identifications and counts were taken from Stanley South's analysis (Table 6).

Table 6 Ceramic types and their relationship to the overall assemblage at the Palmer-Marsh house

Ceramic Type	Percent of Assemblage	Percent of Kitchen Class	Percent of Ceramics	Common form
Lead Glazed Redware	3.1	5.1	7.5	Bowls, Jars
Lead Glazed Buff Body	.4	.6	.9	Bowls, Jars
Unglazed Redware	.9	1.5	2.2	Bowls, Jars, Basins
Slipware	.5	.8	1.2	Tableware
Whieldonware	.6	.9	1.3	Plate, Platter
Plain Delft	7.5	12.5	18.3	Tableware
Blue Delft	8.7	14.5	21.2	Tableware
Polychrome Delft	.3	.5	.7	Tableware
Plain Porcelain	.9	1.5	2.2	Tableware, Teaware
Overglaze Porcelain	.1	.2	.3	Bowl, Cup, Plate, Saucer
Blue Underglaze Porcelain	2.4	4	5.9	Bowl, Cup, Plate, Saucer
Saltglazed Mottled	2.3	3.9	5.7	Unknown
Rhenish Stoneware	2.7	4.5	6.5	Storage, Service, Consumption
Scratch Blue Stoneware	.07	.1	.2	Storage, Service, Consumption
White Salt Glazed Stoneware	3.5	5.9	8.6	Storage, Service, Consumption

Colonoware	1.4	2.3	3.4	Utilitarian
Creamware	1	1.6	2.4	Tableware and Teaware
Jackfield Type	.3	.5	.7	Tea and Coffee
Pearlware	.3	.5	.7	Tableware
Ironstone	.1	.2	.3	Tableware
Whiteware	3.5	5.9	8.6	Tableware
Yelloware	.2	.4	.5	Bowls, Chamber Pots
Annularware	.1	.2	.3	Bowl, Jug, Mug

Other

Two other sites in North Carolina, Colson's Ordinary and Kelly's Tavern, will be added to determine a tavern pattern. These two sites were chosen due to the fact that they mainly consist of surface finds, have comparatively small assemblages, and many of the ceramics could not be identified beyond broad categories due to their size. This is opposed to the Palmer-Marsh cellar and Wetherburn's tavern which have large assemblages where the majority of the ceramics could be identified, making interpreting function easier.

Colson's Ordinary

Colson's Ordinary, a tavern, is located in Stanley County. It was excavated in 1985 by Robin F. Rhodes. The site is located at the confluence of the Pee Dee and Rocky Rivers, and was a site of an important battle in the American Revolution. The Ordinary was connected to a Mill as well as the site of the battle, and was named after the landowner (Rhodes 1985). The location of the battle and the mill were determined and marked by locals in the early 1950's, but

the reasons given were both vague and few. A local farmer found pottery in his fields near this area, and local interest was rekindled in the 1980s. Rhodes' excavation followed this finding in order to locate the ordinary. Rhodes could not conclusively declare the area of interest as the tavern, but the pottery recovered indicates that it was in use in the late 18th and early 19th century (Rhodes 1985). No drinking vessels could be identified, and the ceramic sherds were so fragmented that identification was impossible (Rhodes 1985). Nevertheless, the site has been registered with the state as Colson's Ordinary.

Kelly's Tavern

The ruins of Kelly's Tavern still remain according to reports filed with the state. There are questions as to the year it was built and who did the building prompted archaeological investigations into the property. Located in Yadkin County, the tavern was named after John Kelly who did not own the tavern originally. Rather, he leased it from Joseph Williams (Cross 1992). Upon Williams' death, he was granted the title to the land. These records indicate that the tavern was in use by Williams in the late 18th-early 19th century (Cross 1992). The building was also used as his home, and he expanded his business beyond tavern-keeping to carpentry. By 1820 John Kelly had passed away, his widow remarried, and his children sold the land upon which the tavern was located (Cross 1992).

Table 7 An overview of the makeup of each site being used

Class	Ceramics (Kitchen)	Glass (Kitchen)	Glass (Architecture)	Nails (Architecture)	Tobacco
Wetherburn's	49%	22%	3%	1%	26%
Kelly's Tavern	27%	14%	35%	4%	.08%
Colson's Ordinary	56%	8%	2%	8%	.5%

Dudley's Tavern

Dudley's Tavern was located in Halifax County, the County adjacent to Northampton County. A 20 mile drive, Halifax sits on the other side of the Roanoke Rapids. Halifax was home to multiple taverns, but they moved around often. Theoretically, Dudley's Tavern should resemble the Futrell site, if the Futrell site is a tavern. Additionally, Bragdon's (1981), Rockman and Rothschild's (1984) and other research on taverns indicate that taverns and residence are supposed to look similar from a material culture standpoint. Dudley's Tavern does not resemble the Futrell site, Wetherburn's Tavern, or the Palmer-Marsh house. Additionally, Dudley's Tavern had issues with the reporting, identification, and preservation of the artifacts. This made gathering data from the site impossible, and this site will not be used in the analysis despite it being the most obvious choice for comparison.

Table 8 Dudley's Tavern in comparison with the two major sites and the Futrell site.

Class	Kitchen (Ceramic)	Kitchen (Glass)	Architecture (Glass)	Architecture (Nails)	Tobacco
Dudley's Tavern	29%	12%	20%	33%	1%
Futrell Site	44%	21%	14%	1%	14%
Wetherburn's	49%	22%	3%	1%	26%
Palmer-Marsh	41%	19%	15%	13%	4%

Chapter Five: Futrell site interpretation

Assemblage Analysis

The assemblage consists of 3,134 ceramic sherds, 1,484 glass shards, and 538 pieces of iron. Much of the iron is too corroded to discern the original usage, but a few items are identifiable.

Ceramics

Of the 3,134 ceramic sherds, the majority are coarse earthenware. Delftware makes up the majority of the assemblage at 64%. Stoneware, Pearlware, and Creamware make up the next largest portion of the ceramics (Table 11). The number of Delft sherds is almost twice as much as the other ceramic types combined. 101 of the sherds found could not be identified.

It should be noted that none of the ceramics were found whole. Some of the polychrome delftware could be reassembled into three matching bowls (Figure 18), and one stoneware chamber pot could be reassembled. The majority of each vessel was reassembled at the Northampton County Museum, and were further completed at ECU. Nearly all of the ceramic types are commonly used as tableware, and many of those can be used as drinking vessels. None of the vessel types were strictly used for plates.

Generally speaking, the ceramics themselves are all similar in forms and date range. With the exception of the Bone China Porcelain, all types fit into the 18th-early 19th century. It is important to note the lack of Whiteware in the assemblage. Whiteware is in prominent on 19th century sites. This minority ware appears to be a result of later deposition unrelated to the

original occupation of the site. The massive amounts of delftware indicates that the main usage of the site was in the 18th century.

Figure 16- One of three reassembled Polychrome Delftware Bowl (Photo by author, 2015)

Table 9 Ceramic type, number of sherds, usage, and percent of the assemblage at the Futrell site.

Ceramic Type	Number of Sherds	Percent of Total Assemblage	Percent of Kitchen Class artifacts	Percent of Ceramics	Common Vessel Form
Delft, Blue on White	1054	20	23	34	Tableware
Delft, Polychrome	200	3.9	4.4	6.4	Tableware
Delft, Sponged	114	2.2	2.5	3.6	Tableware
Delft, Plain	506	9.8	11	16	Tableware

White Salt Glazed Stoneware	265	5.1	5.8	8.4	Storage, Service, Consumption, Sanitation
White Salt Glazed, Scratch Blue	14	.2	.3	.4	Storage, Service, Consumption, Sanitation
White Salt Glazed, Debased Scratch Blue	14	.2	.3	.4	Storage, Service, Consumption, Sanitation
Green Lead Glazed	9	.1	.1	.2	Tableware
Pearlware, Rocco Edged Green/Blue	7	.1	.1	.2	Tableware: Plates
Stoneware, Rhenish Blue and Grey	100	1.9	2.2	3.1	Storage, Service, Consumption, Sanitation
Stoneware, Rhenish Blue and Grey, Medallion Design	6	.1	.1	.1	Storage, Service, Consumption, Sanitation
Stoneware, Manganese Purple	1	.01	.02	.03	Storage, Service, Consumption, Sanitation
Staffordshire Slipware	6	.1	.1	.2	Variety. Generally utilitarian table and kitchenware
Coarse Earthenware, Manganese Mottled	1	.01	.02	.03	Tankards, Mugs, and Cups

Unglazed Coarse Earthenware	103	1.9	2.2	3.2	Various
Lead Glazed Coarse Earthenware	117	2.2	2.5	3.7	Various
Black Lead Glazed Coarse Earthenware	32	.6	.7	1	Various
Jackfield	2	.03	.04	.06	Serving Tea and Coffee
Plain Pearlware	173	2.6	3	4.3	Tableware, Chamber pots
Transfer Printed Pearlware	10	.1	.2	.3	Tableware
Plain Creamware	120	2.3	2.6	3.8	Large Variety. Generally Tableware and tea ware, but can be used for more utilitarian and specialized vessels.
Featheredged Creamware	1	.01	.02	.03	Large Variety. Generally Tableware and tea ware, but can be used for more utilitarian and specialized vessels.
English Soft Paste Porcelain	6	.1	.1	.2	Tableware, Teaware, Decorative

Ching Blue on White Porcelain	66	1.2	1.4	2.1	Tableware, Teaware, Decorative
Dehua White Porcelain	25	.4	.5	.8	Tableware, Teaware, Decorative
Bone China Porcelain	13	.2	.3	.4	Tableware, Teaware, Decorative

Glassware

A majority of the glass recovered from the site relates to wine bottles or liquor bottles, with a small amount being drinking glasses. There is evidence of specialized glassware, as a few glass stems are present in the assemblage. Unfortunately, glassware is difficult to date. The olive green glass fragments are typical of the 18th century. Only 299 of the 1783 glass shards were window glass.

Iron

The iron artifacts are corroded and in poor condition and many are impossible to identify. Figure 19 illustrates the difference between a corroded nail and a nail that has received treatment. The corroded items are in the general shape of nails, and were counted as such. Other iron artifacts include stakes, wires, and tools. A padlock is corroded to the point that there is most likely no solid metal left. The degree of corrosion made conservation difficult, and some pieces were so fragile that the corrosion had to be left on. Removal of the corrosion has revealed wrought nails, horseshoes, and hinges. A rotary hoe blade or a tillage blade was also recovered (Figure 20). This modern intrusion illustrates the problematic nature of dating the site. Clearly,

the continued use of the area has affected the integrity of the site, but not greatly. Although there are clear trends in the function and time period of the site, there are modern intrusions that made dating some of the objects difficult.

Figure 17- A nail pre (left) and post (right) deconcretion

Figure 18- A partially cleaned piece of farming equipment (Photo by author, 2015)

Copper Alloy and Lead

Iron was the most common metal found on the site, followed by copper and lead. Copper alloys came in the form of plates, furniture decorations, buttons and coins. The coins have been broken and are unidentifiable. Lead was found most commonly in the form of lead shot. The most significant piece found was a lead cloth seal with the name "John Elam" inscribed (Figure 21). John Elam was a merchant in Yorkshire, England who played an important role in 18th century cloth trade between England and the colonies (Egan 1997). This is a clear indication that this site was in use in the 18th century, and also provides a small picture of the relationship between Northampton County and the rest of the world during this time.

Figure 19 "John Elam" seal (Egan 1997) (Photo by author, 2015).

Faunal Remains

There are 45 fragments of bone and 14 teeth in the assemblage. These bones have been identified as animal, mostly deer and pig. The small number of faunal remains in addition to the lack of stratigraphy of the site makes it impossible to know if this related to the farm or the site.

Prehistoric Artifacts

One broken quartz projectile point was found. It is missing a base, and cannot be temporally identified.

Site Function Breakdown

Analyzing the site using Stanley South's artifact classifications, there is a clear Kitchen function to the site. Approximately 76% of the artifacts fall into the kitchen category, with 5.4% falling into the architecture category (Table 10). Most of the architecture class artifacts are window glass or nails. The most common classes found were Kitchen, Architecture, and

Tobacco. Looking at the types of artifacts, a majority of the architecture comes from window glass (Table 11). This is a modern intrusion in comparison with the other artifacts found. Very few nails were found in relation to the total assemblage. The definition of the Kitchen class is ceramics and glass, and the majority of this section is ceramics. The tobacco class consist of pipe bowls and stems.

Table 10 Percentage of South's artifact class at the Futrell site.

Class	**Kitchen**	**Architecture**	**Bone**	**Furniture**	**Arms**	**Clothing**	**Personal**	**Tobacco**	**Activities**
Futrell Site	76%	5.4%	1%	0%	.3%	.08%	0%	16%	.05%

Table 11 A targeted look the major aspects of the Kitchen artifact class at the Futrell site

Class	**Kitchen (Ceramic)**	**Kitchen (Glass)**	**Architecture (Glass)**	**Architecture (Nails)**	**Tobacco**
Percent of Total (All Artifacts)	44%	21%	14%	1%	16%

Breaking down the Kitchen artifact class further, a majority of the artifacts are either ceramics, wine bottles, or glassware (Table 12). Much of the non-window glass was too small to identify as a certain type of bottle, and was classified as glassware. No pharmaceutical bottles were found. The majority of the Kitchen class consist of ceramics and wine bottles.

Table 12 A breakdown of the Kitchen artifact class

Sub Class	Ceramics	Wine Bottle	Tumbler	Pharmaceutical	Glassware	Tableware	Kitchenware
Percent of Total	59%	24%	0%	0%	17%	.1%	0%

The previous tables indicate that the site has a definitive kitchen function. Both residential and social buildings display Kitchen functions based on their ceramics, but further extrapolate a site function, additional criteria are needed.

Bragdon's Criteria

Kathleen Bragdon's tavern criteria have been used to understand social functions of sites (Rockman and Rothschild 1984; Pyszka 2012). To reiterate, her criteria are:

> "1) a large number of ceramic vessels; 2) a large percentage of drinking vessels in relation to the total ceramic sub-assemblage; 3) a large percentage of those ceramic types most often found in the form of drinking vessels; 4) large numbers of wineglasses; 5) specialized glassware; 6) large numbers of pipestems" (Bragdon 1981: 31).

As "a large percentage" or "large numbers" is never defined, a large percentage will be determined as a majority percentage for the purposes of this study, which is reflected in Pyszka's (2012) dissertation.

Judging criteria one and two are the most difficult. For one, it is difficult to assess the number of vessels based on sherds. The number of small sherds present at this site make this estimation more difficult. Using bases, rims, and refitted ceramics, the number of vessels present

at this site is 48 including three plates. Nine of the vessels can be interpreted as drinking vessels. This is the minimum number of vessels and their functions, as a majority of the sherds are too small to identify beyond ceramic type. Additionally, a large number of sherds that were identified as 'plain' could be part of a decorated vessel, but were too small to identify as such.

Bragdon emphasizes the final three criteria: the pipes, wine bottles, and ceramic types associated with drinking vessels. In these three categories, the Futrell site clearly fits the definition of a tavern (Table 13). In South's creation of artifact classes, he specifically creates a separate category for pipes as they can occur frequently and can be useful for site analysis (South 1977: 97). Further research has reiterated that point. Kimberly Pyszka's 2012 dissertation examines the similar social functions between parishes and taverns based upon Bragdon's criteria. Specifically, the pipes are an important part of understanding a site's sociability. Overall, the Futrell site fits the first, third, fourth, and fifth criteria, but not the second.

Table 13 The Futrell site compared to Bragdon's criteria

Bragdon's Criteria	**Futrell site**	**Result**
Large number of vessels in relation to ceramic assemblage	93%	Tavern
Large percentage of drinking vessels in relation to ceramic assemblage	19%	Not a Tavern

Large percentage of ceramic types associated with drinking vessels in relation to overall assemblage	80%	Tavern
Large number of wine glasses and specialized glassware (In fragments)	1447	Tavern
Large number of pipes (in fragments)	994	Tavern

Conclusion

The comparison of the Futrell site to Bragdon's criteria shows the potential for the Futrell site to be a tavern. Further analysis must be done to ascertain the exact nature of the site. Beyond the site's status as a tavern, the site clearly has a kitchen function.

Comparison with other sites

Wetherburn's Tavern

Similar to the Futrell site, the most frequent artifact classes that appear are Tobacco and Kitchen. The only exception is the architecture class, which only makes up 4% of the entire assemblage. Wetherburn's Tavern is still standing, which explains this difference. Both sites appear to be relatively similar in class breakdown (Table 14). The only substantial difference is

in the Architecture class, where the Futrell site is 15% versus Wetherburn's 4%. This difference is accounted for by the amount window glass found at the Futrell site. Wetherburn's Tavern, although there were some disturbances, is not as nearly intruded by modern activities as the Futrell site.

Table 14 Comparison of Wetherburn's Tavern and the Futrell site.

Class	Kitchen (Ceramics)	Kitchen (Glass)	Architecture (Glass)	Architecture (Nails)	Tobacco
Wetherburn's Tavern	49%	22%	3%	1%	26%
Futrell site	44%	21%	14%	1%	14%

Breaking down the Kitchen subclass from Wetherburn's Tavern, the majority is ceramics and wine bottles (Table 15). It is important to note that 9% of the glass was categorized as unknown, and is not included in the table. Here, there is a larger discrepancy between the two sites, with the Futrell site having more wine bottles and pharmaceutical bottles.

Table 15 Comparison of the Kitchen subclass of the two sites.

Sub Class	Ceramics	Wine Bottles	Case Bottles	Tumblers	Pharmaceutical Bottles	Glassware	Tableware	Kitchenware
Wetherburn's Tavern	70%	13%	.2%	.4%	2.3%	1.2%	4%	.2%
Futrell site	59%	24%	0%	0%	17%	.1%	0%	0%

Comparing both sites to Bragdon's criteria, the only criteria either of them fail is the second one (Table 16). Similar to the Futrell site, the vessel count is based upon reports by Audrey Noël Hume, and are conservative estimates (Noël Hume 1968). As a known tavern site, the fact that Wetherburn's Tavern does not fit all of Bragdon's criteria illustrates how broad the definition of a tavern is. With the exception of the pipe fragments, both sites display similar percentages in all categories. The other exception is the ceramic types, but the common uses of some of the ceramic types identified at Wetherburn's could not be determined.

Table 16 Comparison between the two sites and Bragdon's criteria

Bragdon's Criteria	**Futrell site**	**Wetherburn's Tavern**
Large number of vessels in relation to ceramic assemblage	93% Tavern	83% Tavern
Large percentage of drinking vessels in relation to ceramic assemblage	19% Not a Tavern	30% Not a Tavern
Large percentage of ceramic types associated with drinking vessels in relation to overall assemblage	80% Tavern	61% Tavern
Large number of wine glasses and specialized glassware (In fragments)	1447 Tavern	1498 Tavern
Large number of pipes (in fragments)	994 Tavern	3769 Tavern

Palmer-Marsh House

Like the Futrell site, the Palmer-Marsh house has a clear kitchen function (Table17). Yet, there is a sizeable architecture function in comparison to the Futrell site. Breaking down the Kitchen subclass, the Palmer-Marsh house has less glassware than the Futrell site. Other than that difference, the sites resemble each other fairly closely. The only problematic part of the functional categories is the tobacco category, of which the Palmer-Marsh house is woefully lacking. Pipes can be an indicator of social activities, and an important part of taverns (Rockman and Rothschild 1984; Pyszka 2012). Beyond the pipes and nails, the two sites appear to be similar.

Table 17 Comparison of most common artifact classes found on the two sites.

Class	**Kitchen (Ceramic)**	**Kitchen (Glass)**	**Architecture (Glass)**	**Architecture (Nails)**	**Pipes**
Palmer-Marsh House	41%	19%	15%	13%	4%
Jackson	44%	21%	14%	1%	14%

Looking at the Kitchen subclass, the Palmer-Marsh house is noticeably lacking in in glassware (Table 18). They both have similar percentages of ceramics and wine bottles but the glassware is significantly different. There is also a difference between the Palmer-Marsh house and the Futrell site in number of pharmaceutical bottles, but it is not significant.

Table 18 Kitchen subclass breakdown for the two sites.

Sub Class	Ceramics	Wine Bottle	Tumbler	Pharmaceutical	Glassware	Tableware	Kitchenware
Palmer-Marsh House	62%	36%	0%	1%	0%	0%	0%
Futrell site	59%	24%	0%	0%	17%	.1%	0%

The Palmer-Marsh house only fits into one of Bragdon's criteria solidly, with one being borderline (Table 19). The other three, it does not. Of the three most important ones, highlighted by Bragdon herself, only fourth criteria has merit. Wetherburn's Tavern and the Futrell site both fit this criteria. Many of the ceramic types at all sites can be used as Tableware, an umbrella category that includes drinking vessels. The Palmer-Marsh house has more types only associated with plates than the Futrell site does.

Table 19 Bragdon's criteria in comparison to the Futrell site and the Palmer-Marsh house.

Bragdon's Criteria	Futrell site	Palmer-Marsh House
Large number of vessels in relation to ceramic assemblage	93% Tavern	54% Borderline
Large percentage of drinking vessels in relation to ceramic assemblage	19% Not a tavern	22% Not a tavern

Large percentage of ceramic types associated with drinking vessels in relation to overall assemblage	80% Tavern	74% Tavern
Large number of wine glasses and specialized glassware (In fragments)	1447 Tavern	121 Not a Tavern
Large number of pipes (in fragments)	994 Tavern	15 Not a tavern

Conclusion

Of note is that none of the three sites fill the second criteria. This is most likely due to lack of clear definition of large percentage by Bragdon. The Futrell site and Wetherburn's Tavern share more similarities than the Palmer-Marsh house does with either site. They both fit four of Bragdon's five criteria, whereas the Palmer-Marsh house only fits one (Table 24). All three sites generally resemble each other, but the comparison to Bragdon's criteria shows the Palmer-Marsh house as an outlier (Table 20).

Table 20 Bragdon's criteria compared to the Futrell site, Wetherburn's Tavern, and the Palmer-Marsh house

Bragdon's Criteria	Futrell site	Wetherburn's Tavern	Palmer-Marsh House
Large number of vessels in relation to ceramic assemblage	93% Tavern	83% Tavern	54% Borderline
Large percentage of drinking vessels in relation to ceramic assemblage	19% Not a Tavern	30% Not a Tavern	22% Not a Tavern
Large percentage of ceramic types associated with drinking vessels in relation to overall assemblage	80% Tavern	61% Tavern	74% Tavern
Large number of wine glasses and specialized glassware (In fragments)	1447 Tavern	1498 Tavern	121 Not a Tavern
Large number of pipes (in fragments)	994 Tavern	3769 Tavern	15 Not a Tavern

Chapter Six: Interpretations, Conclusions and Recommendations

Interpretation

The Futrell site was clearly in use in the 18th century, specifically the first quarter of the century. The MCD of 1720 is a midpoint occupation of this site, and the pipestem dating confirms this date with results in the 1720s and 1730s. The TPQ of 1785 indicates that the site was in use until the latter part of the 18th century. The John Elam seal also places this site in the Colonial period.

The question as to the function of the site is more difficult to address. The site does fit four of five criteria in Bragdon's definition of a tavern. As previously discussed, some of the criteria rely on vessel count, which was difficult to complete at the Futrell site. When creating criteria, Bragdon used probate inventories from sites. The fragmented vessels encountered in the archaeological record makes differentiating food-related vessels from drinking vessels difficult. Wetherburn's Tavern fits the definition of a tavern similarly to the Futrell site. The Palmer-Marsh cellar does not. Wetherburn's Tavern and the Futrell site fit what Bragdon deems to be the most important criteria, which are the pipes, glass related to drinking, and ceramic types associated with drinking vessels. The Palmer-Marsh site only fits one of those three criteria. Wetherburn's Tavern and the Futrell site do not fit this residential criteria (Table 21).

Table 21 Bragdon's criteria, along with who fits each criteria.

Bragdon's Criteria	Futrell site Result	Wetherburn's Tavern Result	Palmer-Marsh House Result
Large number of vessels in relation to ceramic assemblage	Yes	Yes	Maybe
Large percentage of drinking vessels in relation to ceramic assemblage	No	No	No
Large percentage of ceramic types associated with drinking vessels in relation to overall assemblage	Yes	Yes	Yes
Large number of wine glasses and specialized glassware (In fragments)	Yes	Yes	No
Large number of pipes (in fragments)	Yes	Yes	No

Although the site resembles the Palmer-Marsh cellar in terms of ceramics, the pipe number disparity between the two sites is significant. Pipes are an indicator of social function and are an important part of the tavern definition (Bragdon 1981; Rockman and Rothschild 1984; Pyszka 2012). This is further shown through excavations at Shield's Tavern in Colonial

Williamsburg (Brown et al 1990). The amount of pipes was vital in proving that the building went through two separate periods as a tavern and eventually became a residential property (Brown et al 1990). The disparity between the small number of pipes at the Palmer-Marsh cellar compared with the two other sites indicates that the Palmer-Marsh cellar has a different function. The discrepancies between the Futrell site and Wetherburn's Tavern can easily be explained by the sites themselves. As shown through Rockman and Rothschild (1984) the location of the tavern can influence the material culture. Wetherburn's Tavern, being located in Colonial Williamsburg, would serve more customers in different ways than a rural tavern. The Futrell site, located in a rural part of colonial North Carolina, would have served people as travelers rather than diners. The Palmer-Marsh storehouse is very different than the Futrell site, while the Futrell site most resembles Wetherburn's Tavern. Thus, the Futrell site most likely served the same function as Wetherburn's Tavern.

The question then becomes what part of the tavern this site is. Upon its original discovery, it was thought to be a midden. Further digging has revealed a wooden plank, about fifteen feet long. This is the standard size for a colonial structure. The presence of this object indicates that this is related to a tavern, as the excavation methods of the site make it impossible to discern the exact nature of the structure.

With the site being classified as a most likely a Colonial Tavern, the next question is who it belonged to. The most likely candidate is Jeptha Atherton. As previously discussed, historical evidence indicates that Atherton owned the land near the county courthouse but has a contradictory timeline (Northampton County Courthouse, Jackson, North Carolina [NCC]: Deed Book [DB] 2:259). Archaeology offers a method of establishing information about a site without historical information.

The MCD and pipestem dating put the use of this site much earlier than records place Jeptha Atherton in North Carolina. The TPQ of 1785 fits into records of Atherton owning a tavern in the county. This is explained by the large amount of early ceramics in the assemblage. These ceramics could have been the property of the tavern's previous owners, but the exact person is uncertain. The land changed hands a few times, and the deeds are contradictory as to who owned the property before Atherton due to missing court minutes. The early MCD and pipestem dates provide an indication that the land was in use prior to Atherton's ownership. Operating under the idea that taverns were the first buildings built in a new area, and that Northampton County was created in 1741 with a courthouse already in place, building a tavern between 1715 (the end of the Tuscarora War) and sometime before the courthouse was built would be sensible. Maps show the courthouse was not in existence, or at least not mapped, by 1733 (Figure 2). The early MCD may be the result of the heirloom effect, as the pipestem dates are slightly later in time. The heirloom effect describes when ceramics are passed down through generations before becoming a part of the archaeological record, and can skew ceramic dating methods to earlier than the actual occupation. The tavern was most likely built in the 1720's. It probably would have functioned as an inn, due to its location. It is not entirely unreasonable to assume that Jeptha Atherton owned this land, as he owned 900 acres, but the site could have been owned by multiple people throughout its lifetime. There is no artifact or artifacts that undeniably connect Jeptha Atherton to the site. Therefore, the site is most likely a tavern that was in use from the early to late 18th century and was potentially owned by Jeptha Atherton.

Conservation Recommendations

Iron

The iron artifacts should be kept in a low relative humidity environment and handled with gloves if possible. Iron artifacts in storage should be kept in acid-free archival material and monitored for signs of corrosion. The two biggest concerns for damage will be water and oxygen, and they should be stored in an area that is not prone to flooding. For display, the iron artifacts should be kept in cases. There are expensive cases that can be used to prevent further deterioration, but the more economically feasible cases can work as long as the temperature and relative humidity in the museum is monitored and wood cases are sealed. If object notably changes, a conservator should be contacted immediately.

Copper

The copper artifacts have a light green patina on them in localized areas, but do not appear to be very corroded. They should be stored in a low relative humidity (75%) with protection against dust or chlorides, which can be done by air conditioning or small containers (Cronyn 1990). Handling should be avoided, as this can cause further deterioration. They should be monitored closely for changes in the corrosion color to a bright green or powdery appearance. The biggest concern for copper is “bronze disease”, but the lack of water in the excavation environment indicates that this is not likely. The glass and ceramics appear stable. Some of the ceramics have been reconstructed.

Tavern pattern

Pattern creation can be a questionable endeavor. Arguably, creating artifact patterns makes cultures into a monolith, rather than a diverse group of individuals. While this criticism has merit, pattern recognition and testing can show various cultural influences on a site. Pattern recognition is additionally important in recognizing site function, as seen by Bragdon's study of taverns or Stanley South's Carolina Pattern.

This can also be important in understanding cultural influences. In creating a pattern, South (1977) theorizes that people moving to the same area during the Colonial era would be coming from the same place. He further hypothesizes that each region will also have unique patterns. Focusing a pattern on taverns in the Virginia and North Carolina region can highlight cross-state influences and differences. Examining tavern sites in similar time periods in this region can show functional and cultural influences.

In order to delineate an artifact pattern, we must create a criterion. As previously examined in the Futrell site and Wetherburn's Tavern, the most important artifact categories are Kitchen, Architecture, and Tobacco. As South's artifact categories have proven to be useful, they will continue to be used (Figure 22). They will be further examined by ceramics, glass (kitchen), glass (architecture), nails, and pipes. Four sites will be used: Wetherburn's Tavern in Williamsburg, VA, the Futrell site, Kelly's Tavern in Yadkin County, NC and Colson's Ordinary in Stanly County, NC.

Table 22 Stanley South's Carolina Artifact Pattern

Artifact Group	Mean	% Range
Kitchen	63.1	51.8-69.2
Architecture	25.5	19.7-31.4
Furniture	.2	.1-.6
Arms	.5	.1-1.2
Clothing	3.0	.6-5.4
Personal	.2	.1-.5
Tobacco Pipes	5..8	1.8-13.9
Activities	1.7	.9-2.7

Kelly's Tavern dates slightly later than the other sites, as it was primarily used in the 19th century. This could be a possible explanation for its difference in comparison to the other three sites (Table 22). Interestingly, Kelly's Tavern and Colson's Ordinary have a very small amount of pipes, an established signature of tavern sites. We can find a pattern in the ceramics, as they should make up about 45-60% of the site assemblage. The lack of Kitchen-related glass at Colson's Ordinary is odd, but the other three establish a 14-30% range of kitchen glass. There are also very few nails found at any of the sites, which can be added to the pattern.

Table 23 The four sites compared by South's artifact classes.

Class	Ceramics (Kitchen)	Glass (Kitchen)	Glass (Architecture)	Nails (Architecture)	Tobacco
Wetherburn's	49%	22%	3%	1%	26%
Futrell Site	44%	21%	14%	1%	14%
Kelly's Tavern	27%	14%	35%	4%	.08%
Colson's Ordinary	56%	8%	2%	8%	.5%

Wetherburn's Tavern and the Futrell site are the most similar. All four are relatively similar, and can provide a basis for a tavern artifact pattern. This pattern is based, of course, on a very small sample size of taverns. As seen in Table 22, these four sites have a wide variety of category percentages. In South's examination of five sites for the Carolina Pattern, he notes that there are instances of outliers. Although these outliers are necessary to understand specialized site function, in the case of a general pattern "such contrasts would then need to be removed" (South 1977; 103). This is examined for these sites in Table 23

Table 24 Outliers in each category and site, highlighted in yellow.

	Wetherburn's	**Futrell**	**Kelly's**	**Colson's**
Ceramics (Kitchen)	49%	44%	27%	56%
Glass (Kitchen)	22%	21%	14%	8%
Glass (Architecture)	3%	14%	35%	2%
Nails (Architecture)	1%	1%	4%	8%
Tobacco	26%	14%	.08%	0.5%

By the methods set by Stanley South, a pattern can only be determined for three categories. In terms of architectural glass, none of the sites resemble each other, and Kelly's Tavern and Colson's Ordinary have a small amount of pipes. These, along with outliers in the Ceramics and Kitchen glass categories were removed to create a pattern (Table 24).

Table 25 Tavern Artifact Pattern

	Mean	**Range**
Tobacco	10.5%	0.1-26%
Ceramics (Kitchen)	49.6%	44-56%
Glass (Kitchen)	19%	14-22%
Nails (Architecture)	3.5%	1-8%

This calculation provides a vague pattern for taverns in the North Carolina and Virginia region as well as a quantification of Kathleen Bragdon's criteria. As shown through the examination of the already known tavern sites, Bragdon's criteria provides a solid basic definition for a tavern pattern. More sites are needed to solidify a pattern, which is beyond the scope of this paper. Additionally, more sites can discern regional variations in tavern material culture.

Significance

This site is significant for three reasons. Firstly, this site is important for the city of Jackson. Before its incorporation, the only known part of Jackson was the courthouse. The location of the courthouse has been lost. The identification of this tavern could provide information about that first courthouse. The location of the site has a wider importance as the courthouse was the first building in Northampton included on maps (see Figures 3 and 4).

Secondly, this site adds to the recognition of site functional patterns. The comparative sites used in this thesis were already known before the current excavations. Other studies mentioned, like Bragdon's and Rockman and Rothchild's studies, also had sites known to be taverns before excavation. Historical Archaeology relies heavily on the historical record, but the historical record does not always record everything. In cases such as this, historical archaeology is not merely history's fact-checker, but a way of providing historical information without a written record. Applying previously discussed patterns to this site not only refines the pattern but tests their effectiveness with the historical record. Contradictory court records had rendered the tavern lost, yet archaeology could provide information history could not.

Thirdly, this site is representative of how the public and archaeologists can work together. Archaeologists rely on the public for much of their profession, from funding to finding and notifying archaeologists of sites. Often times the public can be viewed as an adversary, and archaeologists can take an elitist attitude about archaeological knowledge. The project shows that open communication between the public and archaeologists is beneficial to both parties.

Further research

Jeptha Atherton's tavern is historically associated with the original Northampton County Courthouse. The location of the courthouse has been lost, and the deeds provided contradictory statements as to the owner of the land. As a part of the formation of the county, in the Act of Assembly, a courthouse was ordered to be built near the Upper Potecasi Bridge. The land was thought to have been owned by James Turner, who in 1755 sold two acres of land "where the courthouse now stands" to two Justices of the Peace for the county (Northampton County Courthouse, Jackson, North Carolina [NCC]: Deed Book [DB] 2:259). Later, in 1758, the courthouse was deemed unacceptable and needed to be changed or moved (Colonial Records of North Carolina, 5: 1059). Unfortunately, the courthouse is missing minutes from this time period, and the land grants become contradictory. Another man owning land in Northampton County, Noah Pridham, is also listed as owning land near the original courthouse. He then sold the land to James Turner in 1759, who in turn sold the land to Barnaby Thomas in 1761, which stated that the land contained "improvements on the courthouse lot" as well as a house (NCC DB 3:189). This land was then sold to Jeptha Atherton in 1762 (NCC DB 3:191). He owned the land containing the courthouse. In a 1979 newspaper ad, Jeptha Atherton placed saying "for lease—Land and Plantation at Northampton Courthouse formerly belonging to Col. Jeptha Atherton upon which is a good dwelling house—convenient outhouses—also a grist mill. Besides—

immediately at the courthouse there is a house which is now used as a tavern and is from its location well calculated for that purpose. And—a storehouse near it which is well situated for a country store" (North Carolina Journal, 1798). Further research can clear up the ownership of the land, as wells as its location. This building is an important aspect of Northampton County and Jackson's history, and the discovery of the tavern can provide a starting point to recovering this lost building

References

Ayto, Eric G.

1979 Clay Tobacco Pipes. Third edition, reprinted (2002). Shire Publications, Ltd. Pembrokeshire, England.

Alexander, L.T.

1979 More Light on the Theory of Dating Clay Pipes by Measuring Stem Hole Diameters. Quarterly Bulletin of the Archeological Society of Virginia 33(3): 81-86.

Babb, Dennis L.

2011 The Life and Times of Colonel Jeptha Atherton of Colonial Northampton County, North Carolina. Unpublished. Jackson, North Carolina

Binford, Lewis

1962 "A New Method of Calculating Dates from Kaolin Pipe Stem Fragments." Southeastern Archaeological Conference Newsletter 9(1):19-21.

Beaudry, Mary C., Janet Long, Henry M. Miller, Fraser D. Neiman and Garry Wheeler Stone

1983 "A Vessel Typology of Early Chesapeake: The Potomac Typological System." *Historical Archaeology* 17(1):18-43

Bragdon, Kathleen Joan

1981 Occupational Differences Reflected in Material Culture 10(1).

Brown, Gregory J.

1986 *Block 9 in the Eighteenth Century: the Social and Architectural Context of the Shield's Tavern Property.* Report of the Colonial Williamsburg Foundation, Department of Archaeological Research, Williamsburg, Va.

Brown, Gregory J., Thomas F. Higgins III, David F. Muraca, S. Kathleen Pepper, and Roni H. Polk

1990 *Archaeological Investigations of the Shield's Tavern Site Williamsburg, Virginia.* Report of the Colonial Williamsburg foundations, Departments of Archaeological Research, Williamsburg, VA.

Brown, Marley R., III

1973 "Ceramics from Plymouth: The Documentary Record." In *Ceramics in America,* ed. I. M. G Quimby, 15-40. Charlottesville: University Press of Virginia.

Byrd, William, II

1728 *The History of the Dividing Line Betwixt Virginia and North Carolina"*

Colony of Avalon

2015 Seventeenth- and Eighteenth-Century Marked Clay Tobacco Pipes from Ferryland, Newfoundland. Colony of Avalon, Colony of Avalon Foundation. http://www.colonyofavalon.ca/index.php?option=com_content&view=article&id=125:pipe-makers-marks&catid=61:the-artifacts&Itemid=109. Accessed April 28, 2015

Chenoweth, John M.

2012 "What'll Thou Have": Quakers and the Characterization of Tavern Sites in Colonial Philadelphia 35(1).

Cotter, John L.

1958 *Archaeological Excavations at Jamestown, Virginia.* Archaeological Research Series no. 4. Washington, D.C.: National Park Service

Courtney, Yolanda

2000 "Pub Tokens: Material Culture and Regional Marketing Patterns in Victorian England and Wales." *International Journal of Historical Archaeology* 4(2):159-90

Cross, Jerry L.

1992 "The John Kelly Tavern. Yadkin County, North Carolina". State Library of North Carolina, Digital Collections.

Deetz, James F.

1973 "Ceramics from Plymouth, 1620-1835: The Archaeological Evidence." In *Ceramics in America,* ed. I. M. G Quimby, 15-40. Charlottesville: University Press of Virginia.

1993 *Flowerdew Hundred: The Archaeology of a Virginia Plantation, 1619-1864.* Charlottesville: University Press of Virginia

Eckholm, Erik and James F. Deetz

1971 "Wellfleet Tavern". *Natural History* 80(7):49-56

Egan, Geoff

1997 "Wound Wire and Silver Gilt: changing fashions in dress accessories c. 1400-c. 1600" *OXBOW MONOGRAPH,* 215-238.

Handsman, Russell

1981 "Early Capitalism and the Center Village of Canaan, Connecticut: A Study of Transformations and Separations." *Artifacts* 9(3):1-22

Hanson, Lee Jr.

1968 Kaolin Pipestems—Boring in on a fallacy. Conference on Historic Site Archaeology Papers 4(1):2-15. 78

1971 A Few Cents More. The Conference on Historic Site Archaeology Papers 6:254-257.

Harrington, J. C.

1954 Dating Stem Fragments of Seventeenth and Eighteenth Century Clay Tobacco Pipes. Quarterly Bulletin of the Archeological Society of Virginia 9(1):10-14. Reprinted 1978 in Historical Archaeology: A Guide to Substantive and Theoretical Contributions, edited by Robert Schuyler, 63-65. Baywood Publishing Company, Farmingdale, New York.

Heighton, Robert F., and Kathleen A. Deagan

1971 A New Formula for Dating Kaolin Clay Pipestems. The Conference on Historic Site Archaeology Papers. 6:220-229.

Hofmann, Margaret M.

1975 *Northampton County, North Carolina 1759-1808 Genealogical Abstracts of Wills* Roanoke News Company, North Carolina.

Kerns-Nocerito, Mechelle L., and Paul F. Mitz

2000 "Trade in Colonial Anne Arundel County: The Tobacco Port of London Town." *Maryland Historical Magazine* 98(3):325-44

King, Julia A.

1988 "A Comparative Midden Analysis of a Household and Inn in St. Mary's City, Maryland." *Historical Archaeology* 18(2):75-82

King, Julia A., and Henry Miller

1987 "The View from the Midden: An Analysis of Midden Distribution and Composition at the van Swerigen Site, St. Mary's City, Maryland." *Historical Archaeology* 21(2):37-59

Knight, James

1932 *Archaeological Survey of Foundations at King's Arms Tavern Uncovered in Williamsburg, Virginia, 1932.* Report of the Colonial Williamsburg Foundation, Department of Archaeological Research, Williamsburg, VA

La Vere, David

2013 *The Tuscarora War: Indians, Settlers, and the Fight for the Carolina Colonies.* UNC Press, Chapel Hill, North Carolina.

Lawson, John

1709 *A New Voyage to Carolina***;** *Containing the Exact Description and Natural History of That Country: Together with the Present State Thereof. And a Journal of a Thousand Miles, Travel'd Thro' Several Nations of Indians. Giving a Particular Account of Their Customs, Manners, &c"* London, UK.

Leone, Mark P. and Silas D. Hurry

1998 "Seeing: the Power of Town Planning in the Chesapeake." *Historical Archaeology* 32(4):34-62

Linnekin, Baylen J.

2011 "Tavern Talk" and the Origins of the Assembly Clause : Tracing the First Amendment's Assembly Clause Back to Its Roots in Colonial Taverns 1.

McMillan, Lauren K.

2010 *Put this in your Pipe and Smoke it: An Evaluation of Pipe Stem Dating Methods.* Master's Thesis. East Carolina University, Greenville, NC

Moseley, Edward

1733 *A New and Correct Map of the Province of North Carolina.* North Carolina Maps Collection, Greenville, North Carolina. https://digital.lib.ecu.edu/1028

Mouzon, Henry

1775 *An Accurate Map of North and South Carolina With Their Indian Frontiers, Shewing in a distinct manner all the Mountains, Rivers, Swamps, Marshes, Bays, Creeks, Harbours,*

Sandbanks andSoundings on the Coasts, with The Roads and Indian Paths; as well as The Boundary or Provincial Lines, The Several Townships and other divisions of the Land in Both the Provinces. North Carolina State Archives, Raleigh, North Carolina. http://dc.lib.unc.edu/cdm/ref/collection/ncmaps/id/125

Museum of London

2015 Clay Tobacco Maker's Marks from London. Museum of London. http://archive.museumoflondon.org.uk/claypipes/pages/makers.asp Accessed April 28, 2015; site now discontinued.

Noël Hume, Audrey

1968 "Wetherburn's Tavern Archaeological Report, Block 9 Lot 20 & 21" Colonial Williamsburg Library Research Report Series. Williamsburg, VA

Noël Hume, Ivor

1968 "A Collection of Glass from Port Royal, Jamaica, with Some Observations on the Site, Its History, and Archaeology." *Historical Archaeology* 2:5-34

1969 *Archaeology and Wetherburn's Tavern.* Archaeological Series no. 3 Williamsburg, Va.: Colonial Williamsburg Foundation.

1969 *A Guide to the Artifacts of Colonial North America.* University of Pennsylvania Press, Philadelphia, Pennsylvania

North Carolina Journal

1798 Advertisement placed by Jeptha Atherton. Halifax, NC

Northampton County Bicentennial Committee

1976 "Footprints in Northampton 1741-1776-1976" Rich Square, North Carolina

Oswald, Adrian

1975 Clay Pipes for the Archaeologist. British Archaeological Reports, British Series 14. Oxford.

Price, Jonathan D. and Strother John

1808 *To David Stone and Peter Brown, Esq.: this first actual survey of the state of North Carolina taken by the subscribers is respectfully dedicated by their humble servants, Jona. Price and John Strother.* North Carolina Collection, Chapel Hill, North Carolina. http://dc.lib.unc.edu/cdm/ref/collection/ncmaps/id/520

Pyszka, Kimberly Sue

2012 "… unto Seynte Paules": Anglican Landscapes and Colonialism in South Carolina". PhD Dissertation. University of Tennessee, Knoxville, TN.

Ragland, Herbert S.

1930 Raleigh Tavern Archaeological Report, Block 17 Building 6A Lot 54. Colonial Williamsburg Foundation, Williamsburg, Va.

Rhodes, Robin F.

1985 "The Colson's Ordinary Project: Final Report". Report Submitted to the North Carolina State Archaeology Office, Raleigh, North Carolina

Rockman, Diana Diz, and Nan A. Rothschild

1984 An Analysis of Four Colonial City Tavern, Country Tavern : 18(2): 112–121.

Salinger, Sharon V.

2002 *Taverns and Drinking in Early America.* Baltimore: John Hopkins University Press

Sismodo, Christine

2011 *American Walks into a Bar* Oxford University Press

Smallwood, Arwin D.

2002 *Bertie County: An Eastern Carolina History* Arcadia Publishing, South Carolina.

Smith, Hannah P.

2014 Ground Penetrating Radar Survey of an 18th Century Site in Jackson, North Carolina Society for American Archaeology. Report to William Futrell, Jackson, from Department of Anthropology, East Carolina University, Greenville.

1996 "Principles of Archaeological Ethics". Society for American Archaeology. http://www.saa.org/AbouttheSociety/PrinciplesofArchaeologicalEthics/tabid/203/Default.aspx

Society for Historical Archaeology

2003 "Ethics Statement". Society for Historical Archaeology. http://sha.org/about-us/ethics-statement/

South, Stanley

1960 "The Exploratory Excavation in the Yard to the North of the Palmer House in Bath, North Carolina". Report submitted to North Carolina State Archaeology, Office Raleigh, North Carolina.

1977 *Methods and Theory in Historical Archaeology.* Academic Press, Inc. New York, NY

Thomas, Brian W.

1994 "Inclusion and Exclusion in Early Moravian Settlement in North Carolina, 1770-1790." *Historical Archaeology* 28(3): 15-29

Thorp, Daniel B.

1996 Taverns and Tavern Culture on the Southern Colonial Frontier : 62(4): 661–688.

USGenNet

2015 North Carolina County Formation Maps. North Carolina History and Genealogy Project, UsGenNet. http://www.usgennet.org/usa/nc/state2/amap/nccf.html. Accessed January 12, 2015

Zierden, Marth A., and Jeanne A. Calhoun

1986 "Urban Adaptations in Charleston, South Carolina, 1730-1820." *Historical Archaeology* 20(1):29-43

Appendix A: Iron Treatment Reports

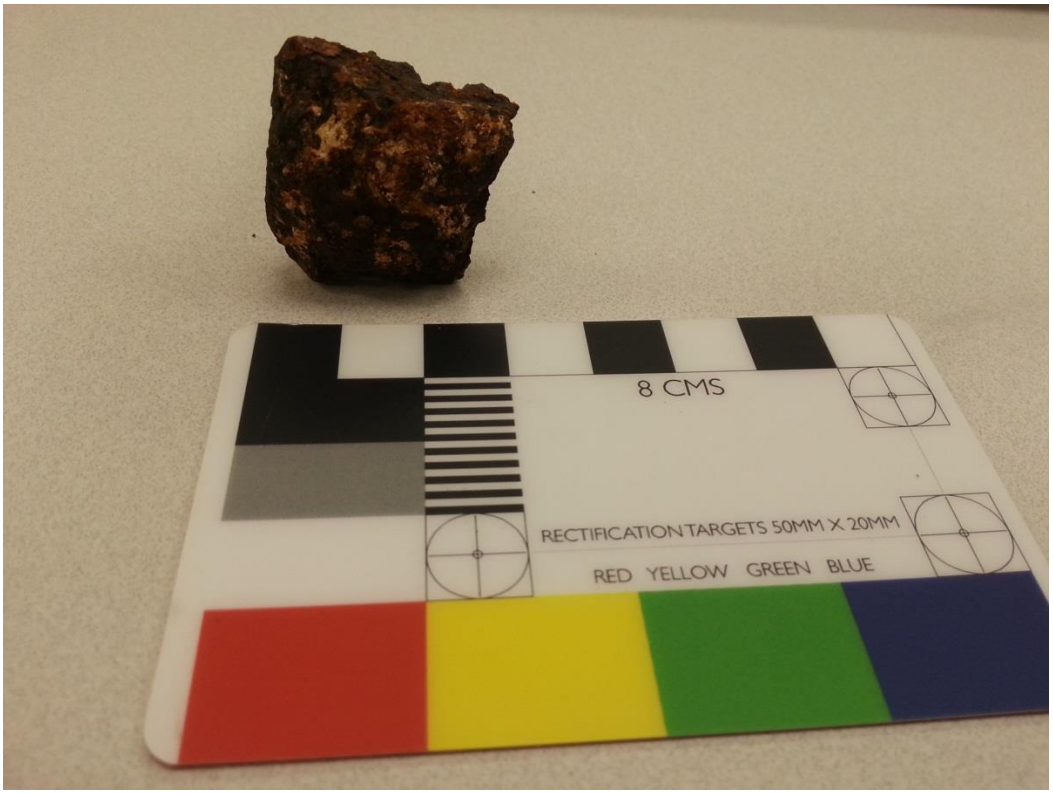
East Carolina Conservation Laboratory
Treatment Report

Internal Number: ECCL.	**External Number:**
Object Title: Jackson Tavern Artifact, from North Carolina	
Object Dimensions: 2.75cm, 2.5cm, 2.5cm, 2.5cm spike head, (almost square) 5.25cm spike total length	
Date Received: 3/18/15	**Date Completed:** 3/18/15
Requestor: Susanne/Kate Thomas	**Conservator:** Stephanie Byrd
Object BT Description (attach sketches and photographs separately): Possible colonial period artifact from Jackson Tavern Site. Rust on the artifact with little flaking, mostly staple at the head, most of the flaking is coming from the spikes end.	
Object BT Condition (note corrosion, deterioration, stability, wear): Rusted over most, top of the spike has white concretion, flaking off the metal; end of the spoke has concretion. Color is mostly uniformed dark brown, mostly stable.	
Test/Analysis (ie: pH, material type): Iron artifact, from Kate.	

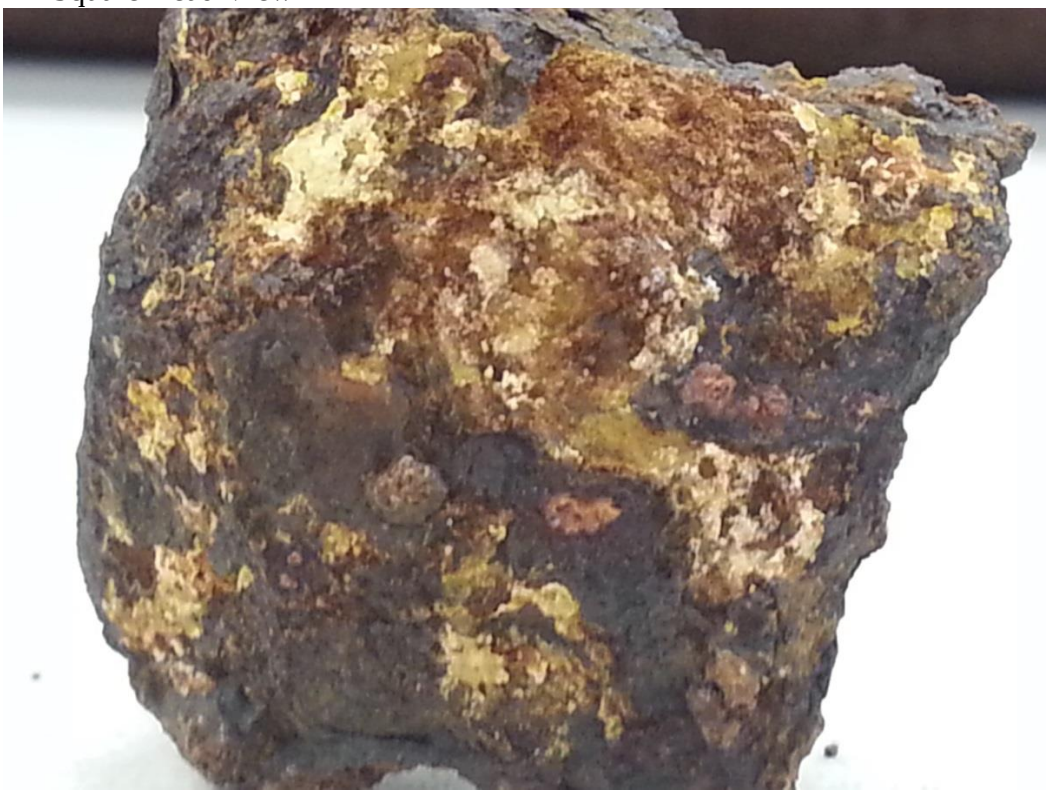
Treatment (note date and details):
3/28/15: chemical and mechanical cleaning.
Mechanical cleaning completed with dry tooth brush.
Chemical cleaning: denatured alcohol swabbed onto spike using cotton swabs. Cleaned until the tips of the cotton swabs came back cleaned.
Mechanical cleaned again to remove cotton swab fibers from the chemical cleaning
AT appearance: all over blacking in color

Exhibition/Storage Suggestions (ie: light levels, humidity):
Low humidity at 10%-30%, 10% would be better if housed with all inorganic materials. 30% if housed with organic material.

BT Side View



BT Square Head View


BT Close up of White Concretion

AT Photos

AT Head View

AT Side View

East Carolina Conservation Laboratory
Treatment Report

Internal Number: ECCL.	**External Number:**
Object Title: Iron Subject 1: Long Nail	
Object Dimensions: One (L: 0.6cm,W:1.3cm, H: 14.3 cm, M: 26.4g)	
Date Received: 4/2/2015	**Date Completed: 4/2/2015**
Requestor:	**Conservator:**
Object BT Description (attach sketches and photographs separately): Heavily corroded, cracked. Basic form in tact. Orange clay color spread in areas, primarily mix of dark rust, black, gray. Long nail for wood? Wide head.	
Object BT Condition (note corrosion, deterioration, stability, wear): Condition: Poor and deteriorating all along the shaft of the nail.	
Test/Analysis (ie: pH, material type): **None.**	
Treatment (note date and details): **4/2/2015:** **Mechanical cleaning: wood, dental, toothbrush, sponge.** **Chemical cleaning: Acetone on Qtips.** **Corrosion Converter:** **39% (aq) tonic acid and 2.5 ml phosphoric acid applied with paint brush, 5 layers**	

Exhibition/Storage Suggestions (ie: light levels, humidity): **Low humidity environment, very little air and light. Cold temperature levels.**


cm

East Carolina Conservation Laboratory
Treatment Report

Internal Number: ECCL.	**External Number:**

Object Title: Iron Subject 2: Bent Nail

Object Dimensions: Two (L: 0.6cm,W:1.4cm, H: 14.5 cm, M: 43.5g)	
Date Received: 4/2/2015	**Date Completed: 4/2/2015**
Requestor:	**Conservator:**

Object BT Description (attach sketches and photographs separately):
Heavily corroded, cracked. Basic form intact. Orange clay color spread in areas, primarily mix of dark rust, black, gray. Long nail for wood? Wide head.

Object BT Condition (note corrosion, deterioration, stability, wear):
Condition: Poor and deteriorating all along the shaft of the nail.

Test/Analysis (ie: pH, material type):
None.

Treatment (note date and details):

4/2/2015:
Mechanical cleaning: wood, dental, toothbrush, sponge.
Chemical cleaning: Acetone on Qtips.

Corrosion Converter:
39% (aq) tonic acid and 2.5 ml phosphoric acid applied with paint brush, 5 layers

Exhibition/Storage Suggestions (ie: light levels, humidity): **Low humidity environment, very little air and light. Cold temperature levels.**


cm

East Carolina Conservation Laboratory
Treatment Report

Internal Number: ECCL.	**External Number:**

Object Title: Horseshoe 1

Object Dimensions: 12.8 cm X 12 cm X 0.6 cm	
Date Received: February 23, 2015	**Date Completed: April 1, 2015**
Requestor: Kate Thomas	**Conservator: Kathryn Parker**

Object BT Description (attach sketches and photographs separately):
Object appears to be an iron horseshoe with heavy corrosion but little concretion. No smooth surface remains and color ranges from orangey-brown to a very dark brown. Weight: 154.9 g Dimensions: 12.8 cm H X 12 cm L X 0.6 cm W

Object BT Condition (note corrosion, deterioration, stability, wear):
Object is very corroded, with no surface untouched.

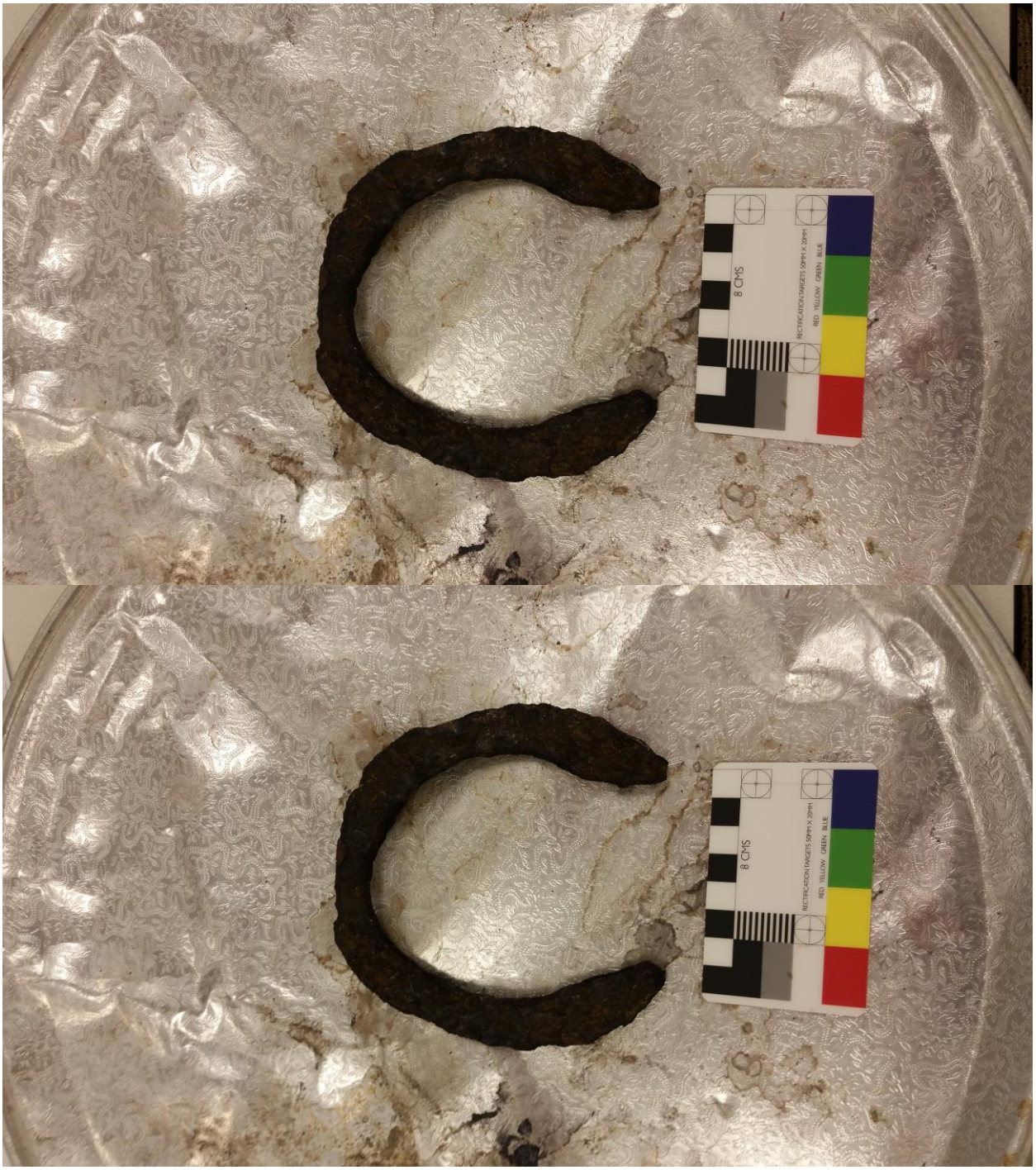
Test/Analysis (ie: pH, material type):
Magnet test: magnet stuck to object, supporting hypothesis of iron

Treatment (note date and details):

February 23, 2015: Mechanical cleaning was performed with Fancy Australian Sponge and a stiff Nylon Brush. Object was lightly vacuumed. Chemical cleaning followed this and object was swabbed using kimtech wipes wetted with acetone. Corrosion convertor was applied, 3% (aq) tanic acid + 2.5 ml of phosphoric acid. 3 coats were applied.
March 11, 2013: more corrosion convertor was applied, 3% (aq) tanic acid + 2.5 ml of phosphoric acid until a uniform color was reached.
April 1, 2015: artifact was photographed and packaged for return to Kate Thomas.

Exhibition/Storage Suggestions (ie: light levels, humidity): **Object should be stored in low humidity environment**


8 CMS
8 CMS


8 CMS
RECTIFICATION TARGETS 55MM X 20MM
RED YELLOW GREEN BLUE
8 CMS
RECTIFICATION TARGETS 55MM X 20MM
RED YELLOW GREEN BLUE


cm
cm

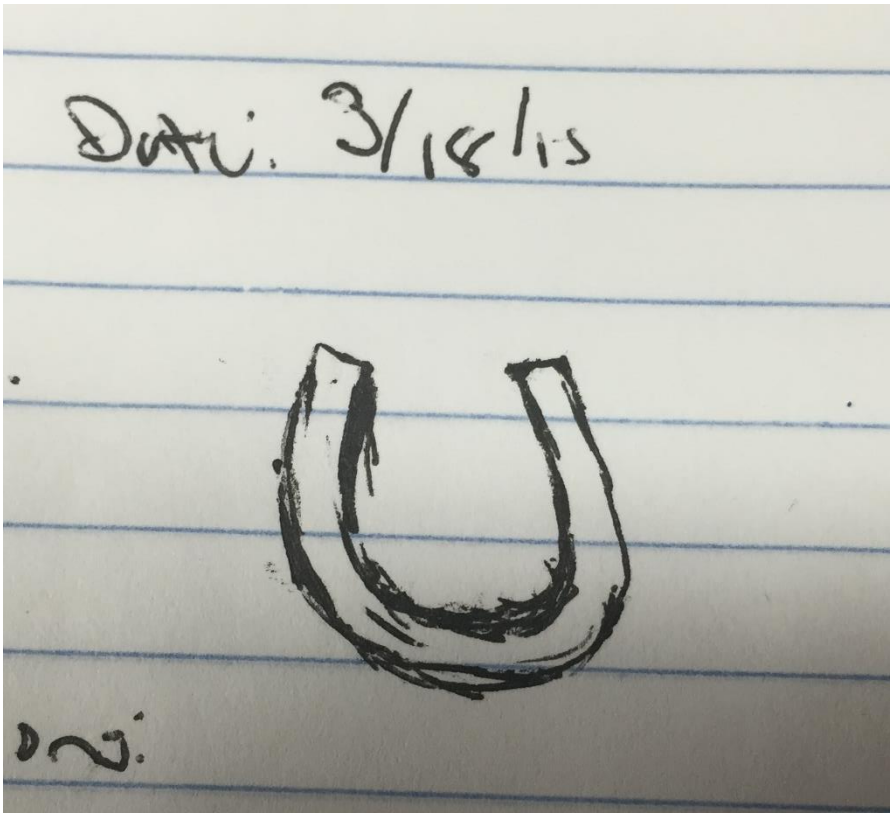

cm
cm


cm

East Carolina Conservation Laboratory
Treatment Report

Internal Number: ECCL.2015.1	**External Number:**
Object Title: Iron Horseshoe-Jackson, NC site	
Object Dimensions: 10.3cmLx3cmHx11.25cmW	
Date Received: 3/18/15	**Date Completed:** 3/25/15
Requestor: Bill Futrell	**Conservator:** Kate Thomas
Object BT Description (attach sketches and photographs separately): The horseshoe is a reddish brown with spots of concretion that are orange-brown.	
Object BT Condition (note corrosion, deterioration, stability, wear): Concretions were removed with an air scribe previous to the treatment. Some of the concretions remained, as they were impossible to remove without damaging the object.	
Test/Analysis (ie: pH, material type): Iron	
Treatment (note date and details): Concretions on the object were removed with an air scribe in January. Treatment began on 3/18 with 6 coats of tannic acid and was left to dry. One week later, on 3/25, the object was coated with 6 coats of Renaissance Wax and left to dry. The objects were then wrapped in acid-free paper and will be returned to the owners.	

Exhibition/Storage Suggestions (ie: light levels, humidity):
Object should be stored in acid-free paper in a dry storage area. Low humidity levels should be used to store the object. If on display, object should be displayed in a glass case at low light levels with a low relative humidity and monitored for changed in concretions.


Date: 3/18/15

East Carolina Conservation Laboratory
Treatment Report

Internal Number: ECCL.	**External Number:**

Object Title: Metal artifact from a tavern

Object Dimensions:

Date	Length(cm)	Width(cm)	Height(cm)
18-Mar-2015	7.7	3.0 (max)	11.8 (max)
23-Apr-2015	7.7	3.0	11.8
Change	Same	Same	Same

Date Received:	**Date Completed:**
March 18, 2015	March 25, 2015
Requestor:	**Conservator:**
Susanne Grieves	Lori Kay Gross

Object BT Description (attach sketches and photographs separately):
The metal is flaking and very unstable. The coloration varies from rust, yellow white and tan. The item is unstable and fragile at this time. Attachments of photos and sketches are provided in a separate file.

Object BT Condition (note corrosion, deterioration, stability, wear):
Significant corrosion is present. This artifact was found within a soil environment and the acidity of the soil has caused irreversible damage. The stability is poor due to the flaking and presence of white and yellow powders that are not identified. Active corrosion is present at this time. It is not possible to determine the presence of wear with the exception of the corrosive patterns. Overall stability is poor.

Test/Analysis (ie: pH, material type):
No tests were performed on this item – as the sole purpose of this is to stabilize the artifact.

Treatment (note date and details):

March 18, 2015: Mechanical cleaning was completed to remove loose material. Utilizing a paint brush to avoid any additional damage a careful cleaning was performed. Chemical cleaning consisted of swabbing the artifact with denatured alcohol to remove any surface soil that was retained following the mechanical cleaning. The next step was to use a 3% solution of tannic acid with a paint brush which is used for a corrosion converter. Application consisted of a total of 5 coats to ensure that all areas were treated. The artifact was cleaned and the white and yellow powdery substances were decreased but not completely removed. The artifact retained the colors as noted in the above treatment observations. Photos are attached.

March 25, 2015: The purpose of this lab treatment is to provide a protective barrier to the iron to prevent interaction with oxygen and water that would continue to corrode the artifact. Utilizing a small amount of Renaissance Wax and apply it to the entire surface to seal the artifact from further damage. This treatment is reversible should additional treatment be needed in the future. At this time it was used to stabilize the current condition. Following the application of the was the artifact was noticeably more stable in that the flaking was decreased and the stability of the artifact appeared to increase to moderate-good.

Exhibition/Storage Suggestions (ie: light levels, humidity):

This item is at a point that it can be displayed. However, it is recommended that the exhibition and or storage of this artifact be limited to a controlled environment that would limit the exposure to water and oxygen. Such exposures could potentially activate the corrosive process and further damage the artifact. The light in storage could be low or no lighting however, in a display situation the lighting would need to be increased for optimal viewing for the public. Appropriate acid free materials should be used for the structure holding the item while on display as well as the supports that would be needed for storage. Periodic examination should be completed to ensure that the artifact is continuing to remain stable. This treatment is reversible should additional treatment need to be made.

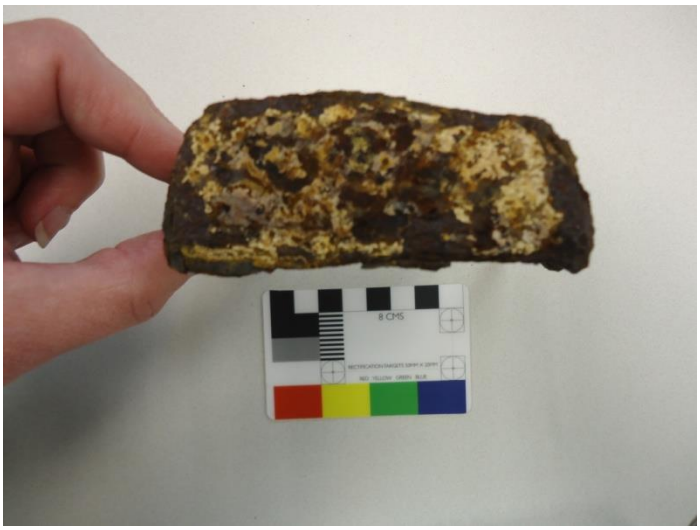


Photo #1 (18-Mar-15)

Photo #2 (18-Mar-15)

Photo #3 (18-Mar-15)

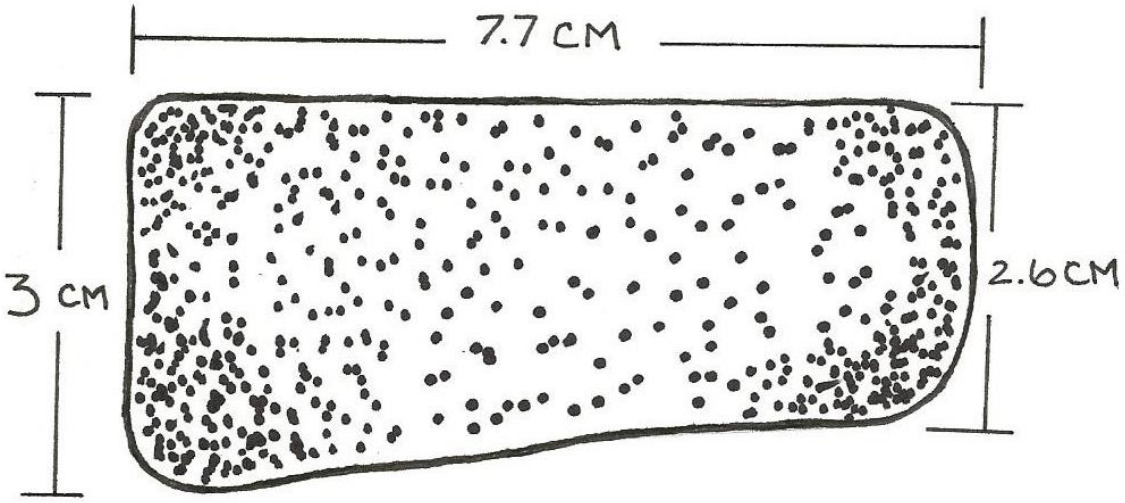
Photo #4 (18-Mar-15)

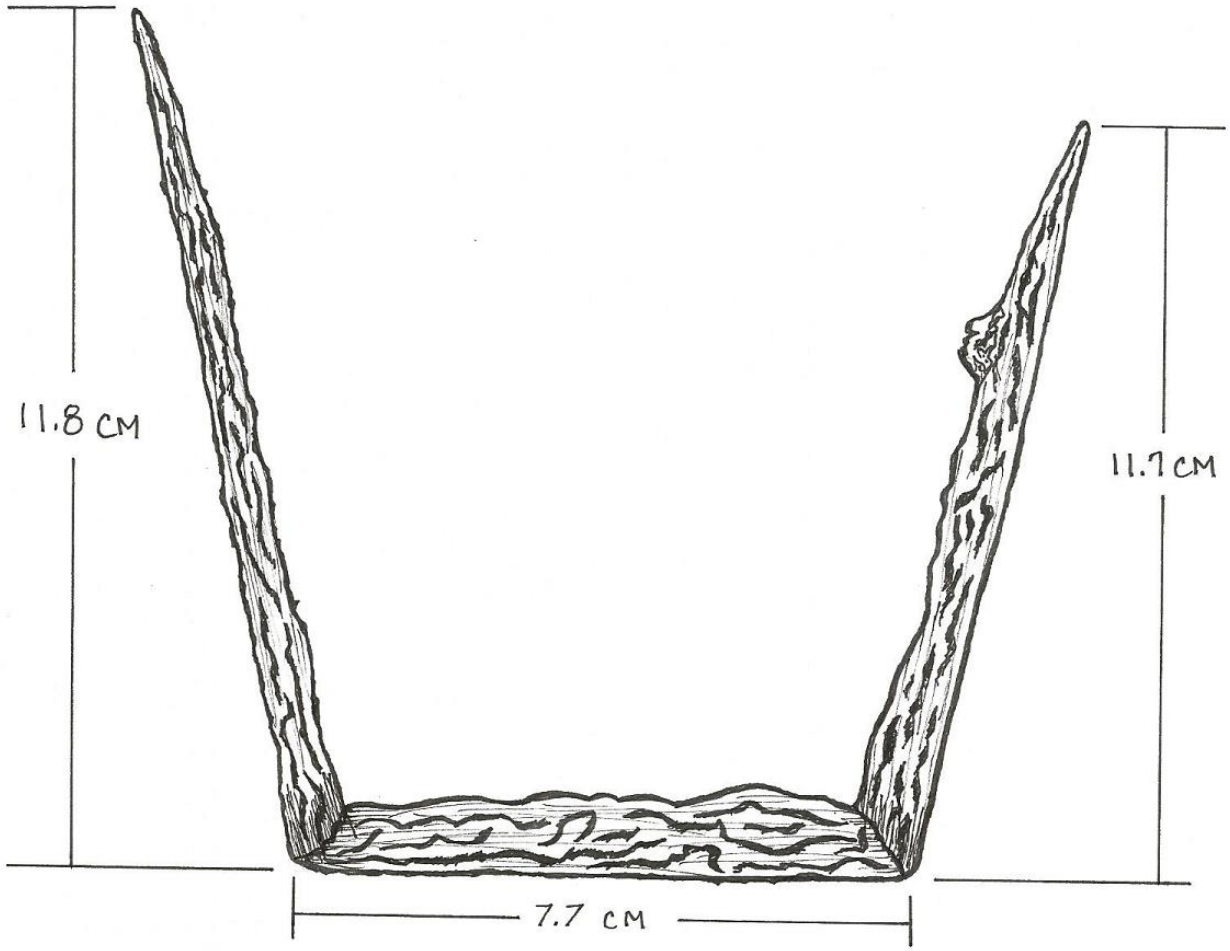
Photo #5 (25-Mar-15) – Second lab date

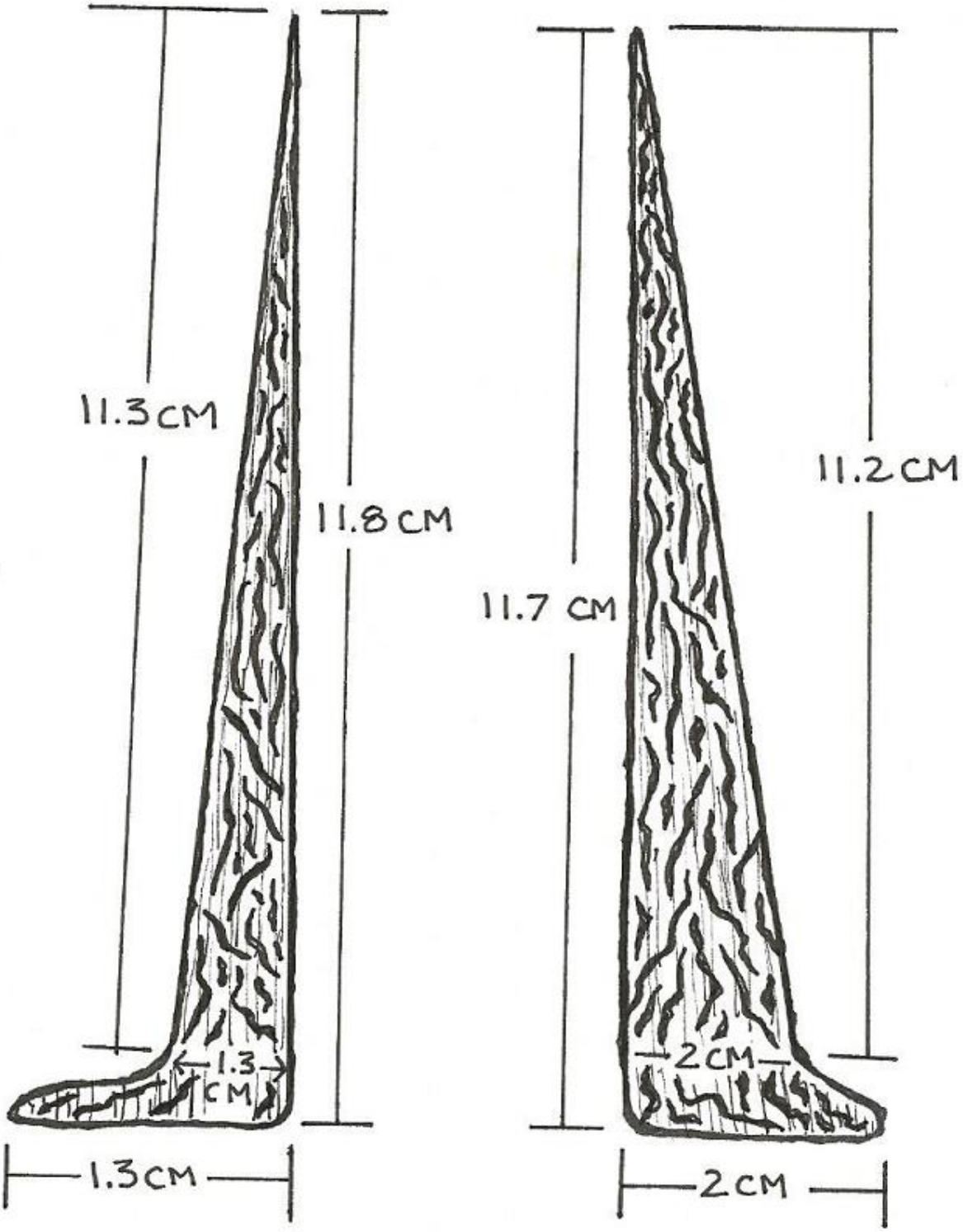
Photo #6 (25-Mar-15)

Photo #7 (25-Mar-15)

Photo #8 (25-Mar-15)




11.8 cm
11.7 cm
7.7 cm


11.3 CM
11.8 CM
1.3 CM
1.3 CM
11.7 CM
11.2 CM
2 CM
2 CM

East Carolina Conservation Laboratory
Treatment Report

Internal Number: ECCL.2015.1	**External Number:**
Object Title: Iron Horseshoe-Jackson, NC site	
Object Dimensions: 10.3cmLx3cmHx11.25cmW	
Date Received: 3/18/15	**Date Completed:** 3/25/15
Requestor:	**Conservator:** Kate Thomas
Object BT Description (attach sketches and photographs separately): The horseshoe is a reddish brown with spots of concretion that are orange-brown.	
Object BT Condition (note corrosion, deterioration, stability, wear): Concretions were removed with an air scribe previous to the treatment. Some of the concretions remained, as they were impossible to remove without damaging the object.	
Test/Analysis (ie: pH, material type): Iron	
Treatment (note date and details): Concretions on the object were removed with an air scribe in January. Treatment began on 3/18 with 6 coats of tannic acid and was left to dry. One week later, on 3/25, the object was coated with 6 coats of Renaissance Wax and left to dry. The objects were then wrapped in acid-free paper and will be returned to the owners.	

Exhibition/Storage Suggestions (ie: light levels, humidity):