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New Perspectives on the Seventeenth-Century Protohistoric Period in East Tennessee: Redefining the Period through Glass Trade Bead and Ceramic Analyses

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To the Graduate Council:

I am submitting herewith a dissertation written by Jessica Nicole Dalton-Carriger entitled "New Perspectives on the Seventeenth-Century Protohistoric Period in East Tennessee: Redefining the Period through Glass Trade Bead and Ceramic Analyses." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Anthropology.

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Degree
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Abstract

The Protohistoric period in East Tennessee is poorly understood in the archaeological record and is defined as the intermediate period between the Late Mississippian and Historic periods in the seventeenth century. Earlier research focused on depopulation, population replacement, and the rise of Overhill Cherokee settlements in the eighteenth century, with little attention to the transitional Protohistoric period. The goal of this dissertation is to examine new fields of evidence and employ new dating methods in order to fully understand the Protohistoric period in East Tennessee

This dissertation does this in three ways. It explores three hypotheses concerning the habitation of East Tennessee, using extant archaeological collections and new theoretical models to redefine habitation patterns during the Protohistoric period. Second, using both pXRF and LA-ICP-MS analyses on European glass trade beads it creates a chronological sequence of chemical patterns corresponding to Native American habitation. Finally, it uses temporally sensitive ceramic rim metrics at the microseriation level to develop a transitional Protohistoric potting tradition exists between Prehistoric Mississippian and Historic Cherokee ceramics in East Tennessee.

This dissertation uses glass bead and ceramic collections from the McClung Museum of Natural History and Culture and other comparative collections to show a continuous occupation of the East Tennessee Valley from the Prehistoric period into the seventeenth century. The data from the glass bead analysis shows continued habitation and stresses the importance of Native American middlemen in intercontinental trade. Instead of showing a clear transition from one tradition to the next, the ceramic data reveals an amalgamation of potting traditions incorporating

both Prehistoric and Historic Native American traits. This mingling of traits suggests that the Prehistoric peoples of East Tennessee were not replaced by migrating Cherokee populations, but were instead a coalescent society formed during the Protohistoric period that helped to reshape the cultural and political landscape of East Tennessee.

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Chapter 1: Introduction

Little evidence in the archaeological record of the Protohistoric period in East Tennessee has forced many researchers (Ethridge and Hudson 2002; Polhemus 1982; Rodning 2002b; Smith 1987; 1994; 2002; 2004/2005; 2006 [1989]; Wesson and Rees 2002) to pass over the importance of seventeenth-century Native American habitation in shaping this period. The transition from the Late Prehistoric Mississippian period to the Historic period spans little more than a century, offering a very brief window to interpret the immense changes in the archaeological record. Scholars have based interpretations of this period on stylistic traits in the archaeological record, which show very little change. This lack of change has lead researchers to postulate that the East Tennessee Valley could have been abandoned during this period, since a clear transitional phase cannot be easily identified in the artifacts. This dissertation offers a new perspective on the Protohistoric period in East Tennessee by utilizing new technology to date European glass trade beads alongside metric ceramic analysis.

1.1 Issues with Southeastern Research

Attempting to reconstruct a century-long, Native American occupation for East Tennessee presents multiple research problems. Marvin Smith accurately states “the archaeology of the Protohistoric period in the interior Southeast is a relatively recent phenomenon. Research for all practical purposes only began in the 1970s” (Smith 2004/2005:225). Smith outlines many of the problems we see in dealing with the Protohistoric period in his 2004/2005 article, examining definitions of geographical range, chronological range, artifact chronology, and population movement. Older methods have offered little insight into the Protohistoric period, but

now new methods and even new technologies can help to accurately date assemblages. Reliance solely on stylistic attributes has for too long been the main focus of Southeastern archaeologists for building their chronologies. These analyses produce broad stylistic definitions that overlap multiple centuries. Rarely are temporally diagnostic artifacts from the sixteenth and seventeenth centuries recovered in the East Tennessee Valley. Consequently, research in East Tennessee has remained mainly confined to the Late Mississippian before ca. A.D. 1600 and Historic Cherokee periods after ca. A.D. 1700.

Temporal Periods. Temporal designations for this project range from the Prehistoric to the Historic periods, spanning from the fifteenth to the eighteenth centuries. Terminology in both the archaeological and historical fields are diverse in defining these centuries and standardization has not yet appeared in the literature for designating specific periods or date ranges. For the purpose of this project the time periods and terminology used are outlined in Table 1.1 and are based on previously established historic and archaeological periods and temporal ranges I propose based on the glass bead analysis in Chapter 9. The cultural phases correspond to those found in East Tennessee and are not applicable to the wider Southeast.

1.2 Hypotheses

My research for this dissertation began with a simple question: if the East Tennessee Valley remained inhabited during the seventeenth century what would the archaeological record look like? This question has led me to evaluate three alternative hypotheses. (1) Because of Mississippian political collapse and the devastation from European pathogens, East Tennessee was depopulated during the seventeenth century and was then repopulated by Historic Cherokee populations in the eighteenth century; (2) East Tennessee was populated by Mississippian

Table 1.1. Time periods with terminology.

Time Period	Sub-Period	East Tennessee Cultural Phase	Temporal Range
Mississippian			1000 – 1600
	Early Mississippian	Hiwassee Island	1000 – 1300
	Late Mississippian	Dallas/Mouse Creek	1300 – 1600
Early Contact		Dallas/Mouse Creek	1492 – 1568*
Protohistoric			1570 – 1700
	Early Protohistoric	Dallas/Mouse Creek; Proto Cherokee?	1570 – 1630
	Middle Protohistoric	Dallas/Mouse Creek; Proto Cherokee?	1630 – 1680
	Late Protohistoric	Proto Cherokee? – Historic Cherokee?	Post ca. 1680
Historic Period		Historic Cherokee	Post ca. 1700

(* Date is based on the discovery of the Americas by Columbus to Juan Pardo's final *entrada* into the Southeast).

populations into the seventeenth century, but these populations remained separate from and were ultimately replaced by Historic Cherokee populations; and (3) East Tennessee remained populated by Mississippian populations into the seventeenth century and over time a transitional Native American culture emerged that resulted in the formation of the Historic Cherokee culture. Using historical background studies as well as glass trade bead and ceramic analyses, I will examine the evidence for these three hypotheses in the following chapters.

1.3 Chapter Organization

Chapters 2 through 4 focus on the historic background of North America with a focus on the interior Southeast. Chapter 2 deals mainly with the Early Contact period of the fifteenth and sixteenth centuries. Chapter 3 focuses on the Protohistoric seventeenth century and Chapter 4 covers the Historic period of the eighteenth century. Each of these chapters discusses historically documented European interactions in the interior Southeast as well as the broader North

American continent. Chapter 5 focuses on the turbulent seventeenth century and the themes of depopulation, European trade, and Cherokee origins, which helped shape the Historic period in East Tennessee.

Chapter 6 covers the broader theoretical models used in this dissertation: culture contact theory, borderland theory, cultural transmission theory, and shatter zone theory, with each section detailing the development and use of the theory as well as an analysis of their application to this project. The remainder of Chapter 6 is dedicated to a critical analysis of the Spanish conquest in the American Southeast. Chapter 7 outlines the methods used in this study. Chapter 8 concentrates on the archaeological sites that produced the samples used in this dissertation. Subsections for this chapter include criteria for site selection and a detailed description of each site including summaries of the geography of the area, Native American habitation, and subsequent site excavations.

Chapter 9 focuses on the glass trade bead analysis. Subsections of this chapter cover the methods used, including a brief discussion of pXRF and LA-ICP-MS analyses, a description of the bead samples, a detailed explanation of the seriation developed from these processes, and the results of the analysis. Chapter 10 focuses on the ceramic analysis. The first part of this chapter includes descriptions of methods used, criteria for site selection, and a list of ceramic types. The remainder of the chapter deals with analytical and quantitative aspects of the analysis. Three variables of the ceramics were quantified including rim angles, shoulder angles, and rim metrics. The remainder of the chapter focuses on the results of the ceramic analysis in terms of the broader historical context.

Chapter 11, the final chapter, presents the results and conclusions of this project relative to the research questions generated. I also provide an interpretation for implications of this

project for East Tennessee as well as in a broader regional context. The concluding section discusses the possibilities for future research and a larger regional and nationwide glass bead research database.

Chapter 2: Early Contact

(Fifteenth & Sixteenth Centuries)

2.1 Introduction

Native American populations in both North and South America have been isolated since the end of the last Ice Age allowing cultures to evolve independently from the rest of the world. The shores of eastern North America were largely unknown until the end of the fifteenth and early sixteenth centuries, despite the early voyages of the Vikings who reached North America in the tenth century. Prior to Columbus the North and South American continents were unknown to Europeans, and initial attempts to cross the Atlantic Ocean were undertaken, in part, as a means to travel quickly to Asia in order to establish trade routes. Beginning in the fifteenth century, with the Age of Exploration/Discovery, European powers explored what they saw as the New World and laid claim to lucrative resources that included native populations. The following chapters focus on major European expeditions in the interior southeast of North America, established colonies, and their interactions with Native American. Figure 2.1 depicts the sites discussed throughout Chapter 2.

2.2 The European Discovery of America (Fifteenth Century)

European powers had expanded their seafaring technology by the fifteenth century to allow them to explore larger areas of the world. One of their main concerns was trade routes to Asia. The Silk Road across Asia was a long standing trade route, yet distance limited trade. To truly establish long term trade, ships would need to be sent directly to Asia. Estimates of Asia's

Figure 2.1. Map of major European sites during the fifteenth and sixteenth centuries.

landmass was based on the writing of Marco Polo who at the time overestimated the size of the continent.

> Europe and Asia, he said, took up so much of the earth's space that only a small part was left to be covered with water. Therefore, only a short water passage separated Europe from Asia, and moreover, to sail from one to the other would present no difficulty, as the water passage contained islands that would serve as stopping-off place[s] (Pickett and Pickett 2011:7).

The Portuguese were the first to explore westward into the southern Atlantic in an attempt to open up better trade routes with Africa while the English began to explore the northern Atlantic. Christopher Columbus petitioned both the Portuguese and then the Spanish court by the 1480s for permission and funding to explore Polo's idea of a western passage to Asia. Columbus was granted approval in 1492, making landfall in the Bahamas on October 12, 1492. Once Columbus returned to Europe, his success in finding what he thought were islands off the coast of India spurred on the Age of Exploration in the Americas during the sixteenth century (Pickett and Pickett 2011).

European powers often competed for resources and in their exploration of the Atlantic World. Portugal and Spain lead the effort to establish new maritime trade routes in the late fifteenth century and they appealed to the Vatican on two separate occasions to help settle ownership of both land and sea. When Columbus sailed to the New World he violated the 1479 Treaty of Alcaçover, which prohibited the Spanish from exploring or trading below the latitude of Cape Bajador (Pickett and Pickett 2011:9). The Spanish monarchy appealed to the Vatican in and was rewarded with the Treaty of Tordesillas in 1494 which divided the world between the two powers with a line running down the center of Earth, 370 leagues west of one of the Cape Verde Islands. The treaty granted all of the lands to the east of the line to Portugal and the lands

west of the line to Spain. The Treaty of Tordesillas excluded the other European monarchies from laying claims to any area in the Americas and eventually led to conflicts between these countries that continued into the eighteenth century.

2.3 The Contact Period (Sixteenth Century)

With the European discovery of the New World, it became prudent to not only determine the land mass of both North and South America, find an ocean passage to the Pacific, and to begin exploiting the resources they found, often at the expense of Native American lives. Beginning in the early 1500s Sebastian Cabot sailed from England in an attempt to reach Asia. The European consensus was that North America was a small chain of islands that once mapped could be traversed easily in route to Asia. The 1507 Martin Waldseemüller world map labels the southern land mass as America after Amerigo Vespucci and shows the northern landmass as a string of islands (Figure 2.2). Using this map as a base, Cabot believed that the only thing that stood in his way to Asia was Arctic ice. By the 1520s, both the northern and southern landmasses were termed America (Quinn 1971). The Southwest Passage to Asia proved feasible based on Magellan's voyage which ended in 1522; however, South America proved to be too large a landmass to efficiently circumnavigate. The need for a shorter and more direct Northwest Passage fueled the English and the French to further explore North America. Giovanni da Verrazzano was sponsored by Francis I of France between 1523 and 1524 to explore the coast between Nova Scotia and Florida. A year later the Spanish explorer Estevão Gomes repeated Verrazzano's voyage attempting to ascertain the existence of an isthmus and John Rut followed suit leading an English expedition in 1527 to map the Northwest Passage. Despite his efforts one ship was lost and the other survived to explore Newfoundland. The entire eastern coastline

Figure 2.2. Martin Waldseemüller's 1507 world map. Digital image on file at the Library of Congress, image in the public domain (https://www.loc.gov/resource/g3200.ct000725C/).

of North America had been charted by the 1530s and the reality of the size of North American and the lack of a faster Northwest Passage became clear to the Europeans (Quinn 1971).

2.4 Sixteenth-Century Spanish Interests in North America

Spanish interest in North America began in the sixteenth century. Using the Caribbean islands as ports to launch expeditions, the Spanish attempted to secure their claim on the continent (Lyon 1976). Two goals drove the Spanish expeditions, (1) finding a water passage to the Pacific Ocean, and (2) a quest for gold and silver deposits thought to be abundant in the New World (Avellaneda 1997). Spanish and other European powers routinely exploited the fishing resources in the northern Atlantic, but contact with Native Americans on the northern coast was limited. Direct contact with native tribes came through explorers and fur traders. Consequently, Native Americans became targets for slavery as a common Spanish tactic was to abduct Native Americans to use as guides (Trigger and Swagerty 1996).

The concept of the Spanish abducting guides has been further researched by Smith and Hally (1992) in order to introduce a sense of Native American agency. Smith and Hally work from the idea of native politics and diplomacy, instead of seeing the guides as Spanish prisoners. Spanish written accounts show similar experiences with Native populations throughout the Southeast. Messengers were sent to offer peace, greetings offered on the outskirts of towns, speeches were made, and gifts given. The De Soto accounts mention that he was often granted burden bearers to help carry supplies. It has often been assumed that the Spanish took native people as unwilling slaves and that the custom of giving burden bearers was a foreign idea in southeastern Native American cultures, including cases in which the bearers had to be chained together to prevent them from running away. Smith and Hally reinterpret this situation within the realm of chiefly power. They suggest that it would have been expected for chiefs to provide

burden bearers to other chiefs and likely Native Americans would have considered the Spanish to represent powerful chiefs. “It follows that Indian behavior towards those men may well reflect native rules of diplomacy appropriate to the situations in which chiefs submitted to the authority of conquering paramounts” (Smith and Hally 1992:106).

Smith and Hally further suggest that the reason the Spanish eventually had to chain the native bearers was perhaps because they had reached the limit of a territory and the bearers intended to turn back for home. The Spanish, misunderstanding the situation, assumed the bearers could be kept as slaves and were forced to chain them to prevent their escape. This idea is consistent with Hally’s (1994) hypothesis regarding the territorial size of Mississippian chiefdoms. Established boundaries would likely have been known, especially by those tasked with escorting chiefs and acting as bearers, and once a boundary point was reached, it would be expected for the bearers to turn back. While the Spanish certainly did exploit many of the native people they encountered, it is logical to suggest that before their intentions were known they would have been seen as a new political force in the Southeast, and the Native Americans they encountered would have strived to incorporate them into their concept of political behavior.

La Florida. Spanish interests turned towards North America after it became apparent that South American could not be traversed quickly. Juan Ponce de León’s voyage in 1513 confirmed that there was a large landmass to the north, which he named *La Florida* (Hoffman 2002). After scouting the shoreline little interest was given by the Spanish to La Florida for the next few decades, since a passage could not be found to the Pacific.

Lucas Vázquez de Ayllón in 1521 sought permission from the Spanish crown to colonize the Atlantic coast. Ayllón settled in South Carolina in 1526, but found the land scarce of natives to enslave and the soil too acidic to cultivate. Consequently, Ayllón relocated his colony down

the coast in modern Georgia establishing *San Miguel de Gualdape* (Weber 2009). The settlement failed after Ayllón died and only 150 colonists survived to return to *Hispaniola* (Parry 1985).

Spanish exploration of the Gulf coast had the ultimate goal of settling the area because of its proximity to Mexico. Pánfilo de Narváez, in 1526, was contracted to colonize the Gulf coast, but despite his preparation he did not procure enough provisions to sustain his crew and horses. Narváez had counted on being able to commandeer native provisions, but crops had not ripened when he reached shore. Pillaging of Native American food stores led to native hostilities and Narváez was forced to construct makeshift boats and try to make it back to Mexico; however, Narváez and most of his men drowned attempting to reach the coast of Texas (Parry 1985).

Hernando de Soto was able to extend his ambitions into La Florida using the wealth he had accumulated during the conquest of Peru and a grant from the Spanish crown in 1536. According to the terms of his grant De Soto had "exclusive right to conquer, pacify, and populate the huge Florida territory that extended from the *Rio de las Palmas* on the Gulf of Mexico to Terra Nova, or New Foundland" (Avellaneda 1997:208). While De Soto's expedition continued on into the interior, the chroniclers of the expedition (Clayton et al. 1995a, 1995b) did leave behind detailed impressions of the Florida Peninsula indicating that it lacked desirable resources and that the natives would only serve as a source of slaves for the Caribbean. Nevertheless, the Spanish decided to colonize La Florida to legitimize their claims. Pedro Menéndez de Avilés signed an *adelantado* contract on March 20, 1565, to establish St. Augustine (Hoffman 2002; Weber 2009).

The Spanish were not the only European power attempting to lay claim to the continent. France and England took interest as well, despite lack of desirable resources reported by the

Spanish. Even with the Spanish monopoly over La Florida the French still intended to exploit the resources of North America and set their sights on Florida. Admiral Coligny attempted to create a Protestant French foothold in Florida between 1562 and 1565 with a French privateering base. Privateers were crown-sponsored sailors who engaged in pirating activities in order to disrupt communication and trade between colonies and parent countries in Europe. The expedition was initially led by Jean Ribaut in 1562, but after Ribaut returned to France in 1563, René de Laudonnière assumed command in 1564. Internal conflict weakened the colony and delayed attempts to begin agriculture. In 1565 Pedro Menéndez de Avilés led a campaign to destroy the French outpost in what came to be known as the St. Bartholomew Massacre which resulted in the death of over 1,000 French settlers (Davis 1974). Avilés went on to found the colony of *Santa Elena* in 1566 on Parris Island, South Carolina, in an attempt to thwart French control on the coast. Avilés' settlements of St. Augustine in northern Florida and *Santa Elena* in South Carolina were the only truly successful settlements outside of the main mission system in La Florida (Beck, Moore, and Rodning 2006; Hoffman 2002; Weber 2009). Other efforts to colonize Florida included Jean Ribault's 1562 French post at Charlesfort which is believed to have been on Port Royal Sound, Parris Island, South Carolina. The French fort on Parris Island was short lived as an internal revolt ensued and the survivors soon returned to France. René Goulaine de Laudonnière in 1564 established a settlement at Fort Caroline on the St. Johns River near Jacksonville, Florida, but it was soon taken over by the Spanish and replaced with *San Mateo* (Pickett and Pickett 2011; Quinn 1971). Once St. Augustine was fully established, the French were able to mount a retaliation attack in 1568 killing several hundred Spanish colonists, but all further attempts to colonize Florida by the French had ended and the remaining French population were essentially privateers (Davis 1974).

Spanish in the Interior Southeast. The Spanish made three attempts to explore and colonize the interior Southeast in the sixteenth century. Hernando de Soto (1539-1544), Tristan de Luna (1559-1561), and Juan Pardo (1566-1567, 1567-1568) all led *conquistadores* into the interior Southeast. These three *entradas* aimed to explore the land, locate valuable resources, and establish a road to Mexico. Each expedition explored various parts of the Southeast and provided first hand documentation of Native American lifeways and small short-lived encampments were established over the course of the expeditions (Beck, Moore, and Rodning 2006; Hoffman 2002; Weber 2009).

De Soto. Hernando de Soto became the first Spanish *conquistador* to extensively explore the interior Southeast between 1539 and 1543. Departing from Havana in May of 1539 De Soto utilized the geographical knowledge of preceding explorers and chose an area near Tampa Bay as his port. De Soto's expedition consisted of roughly 700 men who he attempted to provision for the prolonged travel, including a herd of pigs which he took in hope of preventing starvation (Clayton, Knight, and Moore 1993; Hudson 1994). De Soto began the expedition on the Gulf coast and pushed north through Florida then west to Apalachee where De Soto and his men were repeatedly attacked during the winter of 1539 and 1540 (Hudson 1994).

De Soto then continued in a northeast direction across Georgia and into South Carolina where he visited the Native American towns of Capachequi, Cofaqui, and Ocute. Once the entrada reached Ocute, they were informed by the native inhabitants that if De Soto wished to continue to Cofitachequi, they would face an empty span of wilderness. Despite the accurate warnings, De Soto continued to follow the advice of one of his captured guides and as a result faced starvation. De Soto still did not find the heavily populated centers he was expecting upon reaching Cofitachequi. The expedition then continued northwest into North Carolina crossing the

Appalachian Mountains (Hudson 1994; Hudson, Smith, and DePratter 1984), finally turning south down the East Tennessee Valley passing into Georgia.

When De Soto reached the chiefdom of Coosa the expedition camped at the site for over a month. Before departing, he took the chief of Coosa and other retainers hostage as well as enslaved several non-elites as burden bearers. De Soto then continued across the northwestern corner of Georgia into Alabama. As he traversed Alabama, he stopped at Tuasi, Talisi, and Mabila. When the expedition encountered Native Americans at Mabila De Soto was confronted with intense resistance. After recovering, De Soto set out to the north into Mississippi where his men faced a severe winter between 1540 and 1541 and were repeatedly attacked by the Chicazas. Their exploration then continued into Arkansas where De Soto fell ill of fever and died on May 21, 1542 (Hudson 1994).

After De Soto' death, Luis Moscoso de Alvarado took control of the expedition. Severely depleted by Native American attacks by the time they reached what is today Arkansas, the remaining men decided to escape to Mexico. De Alvarado led the men southwest across Arkansas and into Texas. Upon reaching the Arkansas River they fashioned boats and traveled down to the Mississippi River. The survivors entered the Pánuco River in September of 1543 in modern-day Vera Cruz and were able to return to Mexico with approximately half of their original number (Hudson 1994).

De Luna. Tristán de Luna y Arellano led a second entrada into the interior Southeast between 1559 and 1561. Don Luis de Velasco, Viceroy of New Spain, sent De Luna into the interior with the expressed intention of establishing a colony along the path De Soto had explored. De Luna set sail from *San Juan de Ulua* in June of 1559 with 500 soldiers, 1,000 colonists and servants, and a large number of Mexican Indians, and made landfall near

Apalachee Bay (Hudson et al. 1989). Relocating closer to Pensacola Bay, De Luna established his first settlement in La Florida, which may have been located near Tartar Point. He found few native inhabitants after sending out parties to explore the Pensacola Bay area, but was unable to locate native food stores to supply his crew as a hurricane severely depleted their supplies. Facing starvation, De Luna opted to lead the colonists further inland into Alabama in search of Native American towns (Hudson et al. 1989).

Starvation was the primary problem encountered by De Luna and the colonists over the course of the expedition. As De Luna pushed further north, he crossed Alabama and into northwestern Georgia in search of De Soto's famed Coosa. While unconfirmed, De Luna's expedition may also have made it further north into lower Tennessee. De Luna sent Mateo del Sauz with some of the cavalry in search of Coosa, while he and the rest of the colonists remained near Naipacana. Sauz entered into a political alliance with the chief Coosa and helped wage war on the nearby Napochies; thought to reside near the modern city of Chattanooga, Tennessee (Hudson et al. 1989; Hudson 1994). While Sauz was able to gain supplies through war, De Luna was less successful. Due mainly to starvation, De Luna and the rest of the colonists had to return to Polonza where Sauz and his men later joined them. The De Luna expedition began to disintegrate after its return to Polonza and De Luna had to give up hope of establishing a colony in 1561. While De Luna's expedition failed, his records describing the interior offer significant insights into Native American life. After De Soto's expedition, De Luna found that the interior and especially Coosa had been reduced in both power and population (Hudson et al. 1989).

Pardo. Juan Pardo led two expeditions into the interior Southeast between 1566 and 1568. Setting out from Santa Elena he was charged by Pedro Menéndez de Avilés "to explore the interior, subdue the Indians, and to establish a road to the Spanish silver mines in Zacatecas,

Mexico” (Hudson 1990:3). Pardo’s first expedition left Santa Elena in December of 1566 in a northwest direction in hopes of finding supplies in native villages. Pardo led his men through South Carolina and into the Appalachian Mountains. Pardo came to the village Joara in the Blue Ridge Mountains of North Carolina and having spent time at the town decided to build Fort *San Juan*. He left behind a contingent of men under the leadership of Sergeant Hernando Moyano de Morales. Pardo then moved southward into South Carolina and returned to Santa Elena in March of 1567 (Hudson 1990).

While Morales was stationed at Fort San Juan he allied himself with the chief of Joara and participated in several native skirmishes. Based on accounts, Morales likely traveled to the upper Nolichucky River where he destroyed a native town. He and his men then traveled to Chiaha on the French Broad River. After exploring the area surrounding Chiaha, he returned to the main town and established a small fort to wait for Pardo’s return (Hudson 1990).

Pardo’s second expedition set out from Santa Elena in September of 1567 with orders to establish a direct route to Mexico and claim all the land encountered in the name of Spain. Like his first expedition, Pardo went north through South Carolina then northwest across North Carolina to the Blue Ridge Mountains encountering many more native towns along his route. Once he reached Joara he received word that Morales and his men were in need of reinforcements. After locating Morales, Pardo set out intent on locating Coosa. Pardo learned upon reaching Satapo that there was a plot among the chiefs near Coosa to deny him supplies and attack him. Learning this, Pardo decided to turn back and return to Chiaha. As the expedition continued on, it reached Olamico where Pardo established Fort *San Pablo*. Pardo was then able return to Joara and then went east where he established Fort *Santago at Guatari*. Pardo then turned south and established Fort *Santo Tomás* at Cofitachequi. Nearing Santa Elena Pardo

established his final fort at Orista, which he named *Nuestra Señora* and then returned to Santa Elena in March of 1568. Although Pardo's intention was to build a series of forts connecting La Florida to Mexico the forts were too far inland and too sparsely populated by Spanish conquistadores to be effective. Each of the forts fell after a short period as local Native American populations refused to submit to Spanish control (Hudson 1990).

2.5 Early French Colonies in North Canada

While the search for a Northwest Passage proved to be unfruitful, French fishermen found the waters off the coast of North America abundant in resources. Fishermen had made their way into the Strait of Belle Isle by the 1530s. News of an inland water passage led Jacques Cartier to attempt his first voyage into the interior in 1534 where he discovered the Gulf of St. Lawrence and explored the St. Lawrence River between Quebec and Montreal (Quinn 1971). King Francis I of France issued a patent to Jacques Cartier, Jean François de la Roques, and Sieur de Roberval, in 1541 to establish a settlement near the St. Lawrence River at Charlesbourg-Royal in northeastern North America. Cartier sailed to North America with five ships and wintered in Cap Rouge near Quebec where he became convinced that he had discovered gold deposits. When Roberval (accompanied by three ships and 200 colonists) rendezvoused in Newfoundland with Cartier, it became clear that the colony had not been well established. Cartier returned to France with his gold samples and Roberval's group continued to Cap Rouge where within the first winter a quarter of the colonists were lost to disease. Roberval attempted to move the settlement further up the St. Lawrence River by the spring of 1543, but little is known about how the colony ultimately collapsed. Roberval and a few of the colonists managed to make their way back to France, but the first attempt to settle the St. Lawrence River had ended in disaster. Cartier's gold samples ultimately proved to be false, but his expedition enabled France

to set a precedent for claim on the land surrounding the St. Lawrence River (Davis 1974; Pickett and Pickett 2011).

Marquis de La Roche as viceroy of *Terre-Neuve* received a patent from Henry III of France in 1577 to establish a permanent colony in Canada. After a false start in 1584 when the ships wrecked off the coast of France, La Roche led a second expedition with sixty settlers in 1597 to the Isle of Sables. The colony collapsed by 1603 and only 11 survived to be rescued (Davis 1974). Pierre Chauvin a Protestant merchant then petitioned the French monarchy to settle in Canada. Unfortunately for Chauvin, La Roche complained citing that he had ownership over all of the land. As a compromise, Chauvin was made a lieutenant under La Roche and granted a monopoly over the fur trade along 100 leagues of the St. Lawrence River (Pickett and Pickett 2011).

Despite the initial disasters encountered by the French in establishing settlements, they were more interested in fishing. If captains did not remain at sea and salt their catches they would often construct seasonal camps. Consequently, sailors could venture into the interior in order to hunt and collect firewood. Native American interaction was often limited to these meetings where French sailors would trade European items for food. Interest in beaver pelts peaked by 1581 in Europe and ships were being sent to Canada explicitly for the procurement of fur pelts (Pickett and Pickett 2011).

2.6 Early English Colonization in North America

The British Empire was a late arrival to the colonization of North America. Until the 1560s, the English Empire was content to uphold the Treaty of Tordesillas. England and Spain were allies and at the time the treaty was created they shared a mutual enemy in the French.

England was allowed limited trade within the Spanish sphere under their alliance, which included the Americas. When Elizabeth I came to power in 1558 she began to challenge the Treaty of Tordesillas. She tasked sailors like Sir Francis Drake and John Hawkins, to harass and attack Spanish ships and engage in trade in the Americas without permission from the Spanish monarchy. When the Spanish accused the English of these actions "the English replied that their ships had the right to sail where they pleased and trade with whom they pleased and that Spanish laws barring English access to trade in the West Indies were binding only if the Spanish could enforce them" (Pickett and Pickett 2011:12).

By the 1580s, the English turned their interests towards settlements in North America. Sir Humphry Gilbert was given a patent in 1578 to colonize any lands across the Atlantic Ocean. Between 1581 and 1583 he sold millions of acres to English colonists who were willing to live under his lordship. Gilbert's first attempt to sail to North America failed in 1583 and his ships were forced to turn back to England. Gilbert's half-brother Sir Walter Raleigh took up his plans in 1584 and for the remainder of the 1580s Raleigh, Sir Richard Gilbert, and Ralph Lane led England's attempt to found sustainable colonies in North America (Quinn 1971).

Roanoke Island Colony. The beginning of Raleigh's colony was in 1584 when he sent an expedition under the command of Philip Amadas and Arthur Barlowe to explore the coast and locate a suitable area for settlement. When the expedition reached the Outer Banks, the pilot Simon Fernandez discovered an inlet (today the port is known as Port Ferdinando) which would allow them to access the islands. Having found the environment and topography of Roanoke Island hospitable, Amadas and Barlowe began trading with the Native Americans living on the island. The expedition returned to England later that year carrying two Native American men with them. With the intrigue of the English people piqued, Elizabeth I knighted Raleigh and

granted him permission to name this new land Virginia after herself, the Virgin Queen (Pickett and Pickett 2011).

The problems with the ill-fated Roanoke colony began long before Raleigh left England. Unlike previous European colonies, Raleigh had little financial backing. Elizabeth I refused to back the expedition beyond a supply of gunpowder and a few ships. To finance the colony, Raleigh turned to executing raids on Spanish ships. He had raised his fortune by 1585 and along with seven ships and 600 men set sail for Virginia (Pickett and Pickett 2011). The island itself was bordered by long sandbanks making it extremely difficult to land ships and the sandy soil also made agriculture difficult. Initially the colonists expected to be fed by the local Native American population, but the timing of the colony coincided with an extreme drought that limited the Native American corn stores. The English commander Ralph Lane executed the native leaders for refusing to provide more corn to the colonists which led to further conflict with the native population. By the spring of 1586, the colonists were starving and they were forced to return to England (Pickett and Pickett 2011; Taylor 2001).

Raleigh was prepared to attempt a second colony in 1587. The second wave of colonists was sent under the command of John White with the intention of settling in Chesapeake Bay, where the land was more fertile. Despite the colonists' plans, the ships carrying the colonists left them on Roanoke Island because the crews wanted to make their way to the Caribbean in order to seize more Spanish ships. The colony was heading towards starvation once again and White was forced to return to England to procure more supplies. His return coincided with the attack of the Spanish Armanda which occupied the English navy and White was unable to procure ships and supplies until 1590. When White returned, he found the colony abandoned which sparked one of the greatest mysteries in American history. The only sign the colonists left was the word

"Croatoan" etched on a tree, but the English expedition refused to venture to the nearby island in search of the colonists. Some scholars speculate that the Roanoke colonists eventually made their way to Chesapeake Bay since later accounts by native tribes recalled refugees living in a native village that was destroyed by Powhatan (Taylor 2001). With the second colony in ruin and Raleigh's major financial loss, England abandoned all attempts to colonize Roanoke. It became evident to English mariners and government officials that the cost to establish a foothold in North American would be a problem that would have to be solved in the seventeenth century (Pickett and Pickett 2011).

2.7 Discussion

The discovery of the Americas in the fifteenth century set the stage for global exploration which would last well into the eighteenth century. While the seafaring technology had improved to allow long, open sea voyages, the geography of the planet posed a much bigger problem for European powers who were seeking shorter trade routes to Asia. With the Spanish leading the way, they were able to establish a significant foothold in both North and South America. The presence of the Spanish in Mesoamerica and South America resulted in the downfall of state level civilizations and the spread of deadly diseases such as smallpox through urban areas. Within this context, the Spanish were able to expand their empire which was fueled by rich silver and gold deposits.

When the Spanish turned their attention towards southeastern North America they expected to find similar circumstances in terms of cultures and exploitable resources. Much to their disappointment, the chiefdom level cultures they encountered were too sparsely populated and gold and silver deposits fell into the realm of speculation and myth. Likewise, the landmass of North American turned out to be far more extensive than any of the European powers

originally realized and the hunt for a Northwest Passage never bore fruit. What North America, especially the Eastern Woodlands, did hold was arable land. As a result, the remainder of the fifteenth and sixteenth centuries can be seen as a series of false starts and settlement disasters as the Spanish, English, and French, attempted to adapt their civilization to the new lands to which they laid claim. The Spanish made the most headway in North American in establishing La Florida by the end of the sixteenth century, but their claim was continually challenged by the French and English as political relations in Europe deteriorated. By the beginning of the seventeenth century, the French and English were primed to expanded their territories and establish fully functioning permanent settlements in North America.

Chapter 3: The Protohistoric Period (Seventeenth Century)

3.1 Introduction

The Protohistoric period can best be viewed as a transitional period between the Prehistoric and Historic periods. Prehistoric and historic indicate the absence or presence of historic documents or written records to accompany archaeological contexts. During the Protohistoric period there are some written accounts, but significant gaps exist in time and geography in the coverage of these accounts.

Temporal Boundaries. The temporal boundaries of the Protohistoric period are subjective, because of the imprecise nature of the archaeological record. Traditionally, the end of the Mississippian period in the Southeast is set at A.D. 1600. This date is arbitrary and is a convenient end of the century in which European contact began in the interior Southeast (Kimball 1985; Sullivan and Harle 2010). Anderson and Sassaman state that “in terms of chronology, the Mississippian period extends from ca. 1000 to the period of intermittent European contact in the sixteenth century” (Anderson and Sassaman 2012:152). Marvin Smith extends the Protohistoric period back to 1513, which marks the initial discovery of the Southeast by European powers (Smith 2004/2005). Based on the research I present in Chapter 9 I use 1570 for the beginning of the Protohistoric period in the East Tennessee Valley because European interaction was limited in East Tennessee after Pardo’s final expedition into the interior. If this project encompassed more of the Atlantic Coast an earlier start date for the Protohistoric period would be more appropriate.

I am in agreement with Smith (2004/2005) that the founding of the English settlement of Charles Town, South Carolina in 1670 marks the beginning of the end of the Protohistoric period. The founding of Charles Town constituted a dramatic shift in the power dynamic of European colonies in the Southeast. Previously, the Spanish had laid claim to most of the Southeast with the English and French confined to the North. With the English expansion into the South, they were able to break the Spain's colonial monopoly. The founding of Charles Town and the expansion of the British Empire into the Southeast also marked the beginning of a new era of European/Native American interaction from both a cultural and economic standpoint. It was at this time that written documents became more widely available on Southeastern tribes and use of the Historic period is a more accurate description.

3.2 Seventeenth-Century European Interests

When Columbus first crossed the Atlantic and made landfall in the Caribbean, the Spanish government quickly laid claim to the land, the resources, and the people they encountered in the New World. The sixteenth century was not as lucrative for the British and the French as it was for the Spanish. British and French ships were sent across the Atlantic in order to explore the American continents during the latter part of the sixteenth century, to exploit the fishing resources of the Northern Atlantic, and execute raids on the Spanish Empire (Davis 1974). While the English and French attempted settlements it wasn't until after the turn of the seventeenth century that they were able to successfully colonize the Americas (Davis 1974).

European politics became increasing strained over the course of the seventeenth century. Spain had laid claim to the bulk of eastern North America and had originally thought that the English and French would respect their claim, but it became clear that the potential resources of furs, native slaves, and available land were too great of an incentive. Furthermore, as hostilities

between Spain and England escalated, the political issues of the sixteenth and seventeenth centuries spilled over into the colonies. From this perspective, the seventeenth century is a competition among rival European powers to establish a sustainable colony in North America to strengthen their claims (Grady 2010).

Each monarchy's claims relied on a complicated relationship with various native groups. Europeans and Native Americans encountered each other and negotiated their relationships with one another in three ways: (1) very early European powers secured native alliances to ensure they would have access to help if needed. Supply ships typically only reached the colonies once a year and if supplies ran thin, colonies often relied on food stores of native allies to prevent starvation, (2) the need for colonial security was a major consideration for all of the European powers. The Spanish, Dutch, French, and English all implemented their own regulations concerning interaction with the Native Americans they encountered. All but the Dutch at one point chose to try and control the native populations with religion with varying success. Additionally, the Native American tribes were not a unified group and often fought over land and trade. Allying themselves with one Native American group over another left the Europeans settlements open to attack. Likewise, European and Native American alliances could lead to attacks by other tribes allied with a rival European power. These alliances led to concerns about security and trade. The opportunity to trade guns to Native Americans was an extremely lucrative prospect, but increased the possibility for attacks on Europeans. The sale of guns to Native Americans during the early part of the seventeenth century was not favored especially by the French, but the Dutch who competed with them for fur pelts freely traded guns. The debate over the trade of guns continued throughout the century and by the turn of the eighteenth century, commerce won out and guns were freely traded to any Native American who could

afford one. (3) The third concern for Europeans was access to trade. Depending on the specific colony, some Europeans relied on direct trade with Native American groups more than others. The fur trade in the north and the late seventeenth century deer skin and slave trade to the south, fueled the European expansion into North America. Securing trade allies and trade routes became an essential part of European colonizing policies in the seventeenth century (Davis 1974)

3.3 Seventeenth-Century Dutch Interests in North America

The Dutch became interested in North America as part of their vast commercial empire in the early seventeenth century (see Figure 3.1 for discussed northern sites). Henry Hudson was granted a commission from the Dutch West India Company in 1609 and sailed up the North River, which is today known as the Hudson River, to present day Albany, New York, in order to establish a trade post. Fort Nassau had been established by 1614 but was subsequently abandoned in 1617 after a flood. The Dutch conducted intermittent trade with Native Americans between 1617 and 1624. Fort Nassau was reoccupied in 1624 under the new name Fort Orange along with the village of *Beverwyck*. Fort Orange served primarily as a fur trading post throughout the 1620s and was mainly populated by fur traders and soldiers. The intention of the Dutch West India Company was to streamline their fur production and cut costs. This goal was mainly accomplished by keeping the number of colonists to a minimum (Kicza and Horn 2013; Taylor 2001).

It became apparent to the Dutch by 1624 that if they were going to secure their economic foothold in North American they were going to need more settlements along the Hudson River. The establishment of permanent settlements would not only be a deterrent to French and English ships, but also serve as agricultural colonies supplying much needed resources for the fur traders to the north and for export to the Dutch West Indies plantations. The town of New Amsterdam

Figure 3.1. Map of major European sites in the Northeast during the seventeenth century.

was founded in 1625 on Manhattan Island, which soon served as the economic and political capital of the Dutch colonies. Once New Amsterdam was established, agricultural settlements radiated out east to Long Island, north to the bank of the Hudson River, and west into New Jersey. “New Netherlands became bifurcated between a small fur-trading post upriver and larger agricultural settlements on the lower river” (Taylor 2001:252). This separation resulted in a dichotomy in Dutch/Native American relations. To the north, Dutch colonists were few in number and were completely dependent on the fur trade with the Iroquois Nations, especially the Mohawk tribe. To the south, where Dutch settlers numbered far more, fostered a self-reliance which strained relations with neighboring Algonquians and eventually led to fighting by 1643 (Taylor 2001).

The Dutch West India Company was in near financial ruin by the mid-seventeenth century. Despite the drastic increase in fur exports, the company lost significant financial shares to illegal fur traders who ignored the Dutch monopoly. Other sources of strain came from relations with Swedish colonists in the Delaware Valley. The Swedish colony was originally formed as revenge by the disgruntled former governor of New Netherlands, Peter Minuit, who allied himself with the New Sweden Company. Minuit led Dutch entrepreneurs who had grown tired of the monopoly established by the Dutch West India Company. By 1643, the Dutch grew tired of the New Sweden Company and as a result Sweden began to send Swedish and Finish farming colonists to fill the Delaware Valley. The Dutch West India Company eventually used military force to take over New Sweden, which they accomplished in 1655 (Taylor 2001).

The end of the Dutch monopoly in the Hudson River Valley and the expansion of the English empire began in 1651 with the passing of the Navigation Acts, which were further strengthened in 1660 and 1663. The premise of the Navigation Acts was to (1) only allow

English ships to trade with English colonies; (2) to allow only a few, extremely profitable goods produced in the colonies to be shipped back to England; and (3) to force all European goods to pass through an English port where they had to pay a customs duty. The ultimate goal of the Navigation Acts was to enhance English customs revenue and establish tighter control over all the trade coming to North America (Taylor 2001).

Outraged by the passing of the Navigation Acts, the Dutch declared war on England three times between 1652 – 1654, 1664 – 1667, and 1672 – 1674. In the war that broke out in 1664 the English aimed to destroy the settlement of New Amsterdam, secure the fur trade, and connect the Chesapeake and New England colonies. Ultimately outmatched and outnumbered by the English, the Dutch formally gave the colony of New Netherland to the English in 1667. The Dutch colony was renamed New York, after King Charles II's brother James Stuart, the Duke of York. Charles granted the colony to him as a gift following the war. New Amsterdam became New York City and Fort Orange was renamed as Albany (Kicza and Horn 2013; Taylor 2001).

3.4 Seventeenth-Century French Interests in North America

Canada. Even by 1598 the need to establish a permanent settlement in North America was apparent to the French monarchy in order to solidify their claim. Under the command of La Roche, Chauvin was ready to set sail for Canada by 1600 and establish a trading post on the St. Lawrence River. *Tadoussac* was chosen for the site of Chauvin's settlement, located on the northern bank of the St. Lawrence River at the mouth of the Saguenay River. Tadoussac had become a major area of trade for the French, since exploration of the area in 1535 by Cartier. Fishing boats often anchored at the mouth of the river in order to trade with Native Americans and as the fur trade began to rise, the area became the major center for all of the European fur trade. Often Native Americans filled canoes with furs and rowed out to the ships in order to trade

for European-made goods (Pickett and Pickett 2011). While Tadoussac was suitable for trade, the mountainous topography made permanent settlement extremely difficult. By the winter of 1600, Chauvin returned to France leaving 16 men in a makeshift winter shelter to continue the settlement. When the ships returned in the summer of 1601 the settlers refused to remain and returned to France, and Tadoussac became a seasonal trading post with no long term settlers after 1602 (Pickett and Pickett 2011). Arymar de Chaste succeeded Chauvin after his death in 1603. Chaste sent an expedition under the command of François Gravé who was accompanied by Samuel de Champlain. Gravé and a few others explored the area of Lake Huron and traded with the Algonquin and Montagnais peoples during the summer of 1603. When the expedition returned to France that fall, Champlain published his observations of the land and the Native Americans in *Des Sauvages* (Pickett and Pickett 2011).

La Roche lost favor with the king of France after the failure of the colony on Sable Island and lost his claim to colonize the area. Seeing an opportunity, Pierre du Gua petitioned the King for permission to establish a settlement in Acadia and was granted the title of Sieur de Monts. De Monts' hope was that by establishing the colony further south he could avoid the harsh winters that had led to the downfall of the previous settlement on the St. Lawrence River. De Monts set sail for Canada in 1604 accompanied by Gravé and Champlain from the previous expedition. De Mont's first settlement was established on Ste. Croix Island by the summer of 1604. Ste. Croix was meant to be only a holdover settlement as the colony was eventually moved to Port Royal in modern day Nova Scotia in 1605. By 1607 the colony was abandoned. De Monts' permission to trade for beaver furs was revoked and no further supply ships would be sent from France (Pickett and Pickett 2011).

King Henri IV revoked De Monts' monopoly over France's northern fur trade because of the failure of the colony and instead began to favor other Norman and Breton merchants. De Monts was determined to make his colony succeed despite this setback. When Champlain returned from Acadia, De Monts consulted him on his new endeavor. They petitioned the king to grant De Monts a short term monopoly only over the St. Lawrence River. Champlain knew if a settlement could be established upriver where large ship navigation was limited, the colony could be protected from free traders who would ultimately poach their furs and profits. Additionally, the colony could intercept all of the furs coming from tribes further north before they came to Tadoussac. King Henri IV granted his petition in 1608 provided that De Monts cover the cost of the colonization. In return he would have a monopoly for one year. Once the colonists reached the St. Lawrence River they located a suitable area, named Québec by the native population, which would serve as both a trading fort and agricultural settlement. Despite the harsh winters in Québec, the colony was able to establish good trade relations with local Native American groups and scurvy and starvation were never as severe as they had been in previous colonization attempts (Pickett and Pickett 2011).

The success of Québec was uncertain for the first part of the seventeenth century. King Henry IV who had been an adamant supporter of the colonizing project was assassinated in 1610 leaving his kingdom to his nine-year-old son Louis XIII. Fearing he would lose the favor of the royal court, Champlain returned to France yearly to promote the colony and lure colonists. De Monts' monopoly expired in 1611 and by then he was no longer in charge of the company of merchants. Champlain knew he had to find a powerful figure in the French government to run the company in order for the fur trade and colony to survive. He was able to convince Charles de Bourbon, Comte de Soissons to take control and he was appointed lieutenant-general for the king

in New France. As a reward Champlain was made his lieutenant and placed in charge of the fur trade in "Québec and the authority to enlist the aid of anyone he thought necessary to settle and explore the country" (Pickett and Pickett 2011:177). Bourbon's reign was cut short when he died suddenly the following year. Marie de Médici, the queen mother and regent to her son Louis XIII, appointed Henri de Bourdon, Prince de Condé as viceroy of New France with a 12-year fur trade monopoly. Champlain was again appointed lieutenant with full control over the colony (Pickett and Pickett 2011).

Despite Champlain's campaign to promote the colony, he could find few colonists willing to take on the journey. Additionally, the settlement was dependent on yearly food shipments from France in order to sustain them. France was at war with England by 1628 and the English crown sent a fleet under the command of the Kirke brothers to drive the French out of Canada. They were able to capture Port Royal and force Québec to surrender. The Kirke brothers had made an arrangement with Sir William Alexander who had been granted all the land between the St. Croix and St. Lawrence Rivers by King James I of England. They renamed the land Nova Scotia and made plans to settle Scottish colonists there. England and France signed a peace treaty in 1629, part of which included returning all captured lands in Canada. King Charles I agreed to return Québec, but kept Acadia. After years of negotiations, England finally returned all of the captured land back to France in 1632 (Pickett and Pickett 2011).

The prospect of restarting the colony was not widely favored after the war, but there was still the need for the French to maintain a presence in North America, especially one with a guiding Catholic hand. Champlain returned to Québec in 1633 as governor along with Jesuit missionaries to convert the native population to the Catholic faith. Over the course of the next 30 years, the colony grew as individuals were attracted to the possibly of owning land in Canada.

New settlements were built at *Trois Rivières* in 1634 and Montréal in 1642 to accommodate the growing population (Pickett and Pickett 2011).

The Fur Trade. The French fur trade was by the far the most lucrative economic endeavor to come out of the northern French settlements. French explorers and traders made contact with native groups near the St. Lawrence River throughout the sixteenth century to trade for beaver pelts and other furs. The French, could not establish a year-round trading post, and often mariners simply anchored off shore and waited for Native Americans to row canoes carrying furs out to meet them. By the beginning of the seventeenth century, the French traders' position had not greatly changed. The Algonquin controlled the fur trade, bringing furs into Québec, Trois-Rivières, or Montréal, and prevented the French from trading further inland into the Great Lakes region (Harris 2001). Since the Native Americans controlled the fur trade in the interior, they were able to acquire large quantities of desirable European trade goods.

The Huron, Algonquin, and Montagnais, located in the Great Lakes region, were allied with the French and the Iroquois with the Dutch. European pathogens had made their way into the Great Lakes Region by 1634 and decimated the native population. As a result, the French-Huron trading system collapsed and the Iroquois executed multiple attacks on other tribes resulting in the Great Lakes region being depopulated by the mid-seventeenth century. Seeing depopulation as an opportunity, French traders moved further inland and by 1681 the French monarchy legalized western trade. Moving along inland water systems the French were able to usurp native middlemen and trade directly with groups further inland. Seasonal round trips became no longer as profitable; instead, the French built a series of trading posts to facilitate the quantity of furs being traded. By 1685 the French eventually expanded their trading empire as far south as the mouth of the Mississippi River and as far north as Lake Superior (Harris 2001).

Jesuit Missionaries. When French officials returned to Canada during the first half of the seventeenth century they brought with them Jesuit missionaries to convert the native population to Catholicism. They hoped that like the Spanish Mission System the priests could "civilize" the native groups making them better trading allies, but the licentious nature of the French traders often came to odds with the Jesuits pious mission. The French, like other European powers saw religious conversion as a means of bringing native groups into the fold of European life. While they would never fully be accepted as equals, the Jesuits saw it as their mission to save Indian people not only from damnation but also from their "uncivilized" nature. Originally four Recollet priests were sent to Canada in the 1615, but they converted few Native Americans. The arrival of the Jesuits in 1625 marked a change in religious policy in New France as the Jesuits were better funded and well trained in missionary work. Instead of following waterways inland in search of small communities like the Recollet had, the Jesuits focused on the larger Huron group, establishing four mission sites around their central mission of *Sainte-Marie* near modern-day Midland, Ontario (Blackburn 2000; Taylor 2001).

The Jesuits relied heavily on the Huron's dependence on French trade goods. They found the more they traded, the more susceptible they were to conversion. Unlike the Spanish though, they did not require the Native Americans to give up their way of life and move onto missions. Instead, the Jesuits learned the native language and travelled to their villages to meet with them. While salvation was the ultimate goal, the Jesuits' strategy was to work slowly over time to convert the people. They encountered much resistance from the Huron as they did not often believe in the absoluteness that came from Catholicism. The Huron possessed powerful shamans who wielded magic and like the shamans, the Huron believed the Jesuits had this power as well. When it came to ideas about the afterlife the thought of being separated from kinship ties

prevented many from converting. The Jesuits learned that if they wanted to convert large numbers of people they would need to convince an entire lineage in order to retain the kinship bonds that held Huron society together. When the Jesuits brought pathogens inland and decimated the Huron population, they had no choice but to convert. If the weakened Huron wished to remain trading partners with the French, they would have to convert as they were under constant threat from the Iroquois, now armed with Dutch weapons (Taylor 2001).

Hostilities with the Iroquois escalated in the 1640s. For historians, this period of hostility can be viewed as two types of war as outlined by Taylor (2001:112). First, competition in the fur trade produced a “beaver war” as the Iroquois sought to push the Huron out of the fur trade. Second, the war was also a “mourning war.” With the devastation brought on by European pathogens the population levels of both the Huron and Iroquois dropped. The Iroquois turned to taking captives during this time, who could be adopted into the tribe and replenish their numbers. The Jesuits were often subject to the violence as they were attacked while attempting to baptize the Huron population. By 1650, the Huron villages had been destroyed or abandoned and the missions were destroyed. Many of the Huron clung to their old ways despite adoption into the Iroquois confederacy, which included an alliance with the French. The Huron refugees, who made up a majority of the confederacy population, convinced many of the Mohawk to splinter away from the Iroquois by the 1670s in order to form a new settlement near Montreal. As a result, the Five Nations of the Iroquois were weakened.

French Louisiana. French interests in colonization were mainly confined to Canada for most of the Early Contact and Protohistoric periods. There was an attempt to establish a colony in Florida in the mid-sixteenth century, but the Spanish soon destroyed it. French traders had explored far beyond the St. Lawrence River and into the Great Lakes region by the mid-

seventeenth century. Over the course of establishing native trade networks, it became evident to the French that the Algonquin tribes were a great resource for furs. The French began sending trading parties to reach distant Algonquin nations as early as the 1660s. This expansion led the French to explore the Great Lakes region and the river drainages that eventually entered the Mississippi River. Governor General Louis de Baude, Comte de Frontenac attempted to establish a series of forts leading to the Gulf of Mexico and Louis Jolliet's expedition to chart the Mississippi began in 1673. After visiting Quapaw villages near the mouth of the Arkansas River he learned the Mississippi did reach the gulf, Jolliet returned his expedition to New France in 1674 to relay this information and request permission to establish a fort in the Mississippi River Valley. Frontenac denied Jolliet's request and instead enlisted René-Robert Cavelier, Sieur de La Salle to establish the fort. De Salle set out in 1675 and upon meeting the Quapaws he was given guides who led him to the Gulf of Mexico in April of 1675. De Salle promptly claimed the land for King Louis XIV and named it Louisiana (Smith 2014:48). Despite traveling the length of the Mississippi River, La Salle's estimates of the location and size of the Mississippi delta were severely exaggerated. He estimated the river was 100 miles further south than its actual position and he did not understand how large the delta was. Consequently, his map places the river as flowing into the gulf from the southwest and flowing into the western section of the Gulf of Mexico. When La Salle returned to France in 1683, he used other inaccurate maps to suggest that the river flowed through a nonexistent bay before reaching the gulf (Smith 2014).

La Salle's cartography problems came to a head in 1684 when King Louis XIV granted him permission to establish a settlement upstream from the mouth of the Mississippi. He left France with 100 soldiers and 300 colonists. Navigating towards the western section of the Gulf of Mexico, the expedition reached Matagorda Bay on the Texas coast. Finding the bay, La Salle

believed he had found the fictitious bay that led to the Mississippi River. After two months of travel La Salle finally realized his error, but not before two of the ships had sunk and the colonists were stranded. Determined to make it to the Mississippi, La Salle attempted to move some of the colonists, but between sickness, starvation, attacks by Native Americans, and internal disputes, La Salle was eventually killed. The colonists split with some returning to Texas while others made their way to a small French trading post in Arkansas and then on to Canada (Smith 2014).

Despite the failure of La Salle's expedition, the economic opportunity of Louisiana was far too great to ignore and the French sent two other expeditions in 1686. The land expedition was able to establish a fur trading post near the Quapaw tribe close to the juncture of the Arkansas and Mississippi Rivers. The sea expeditions led by Pierre Le Moyne d'Iberville explored the Gulf of Mexico where he was able to accurately chart the mouth of the Mississippi River and place one settlement at Biloxi Bay in 1699 and a second on Mobile Bay in 1702 (see Figure 3.2 for southern sites). Afterwards, the colony was left to his brother Jean Baptiste le Moyne, Sieur de Bienville who remained governor until 1740 (Taylor 2001).

It proved as difficult to entice settlers to Louisiana as it had in Canada, so instead of employing a policy of mass colonization the French took on a different approach, which entailed economic profit. Their plan was to connect Louisiana and Canada by a system of trading posts stationed along rivers. Instead of forcing Native Americans to give up their land for European settlement, they used the trading posts as nodes to link long distance trade, which covered the length of the continent. The French deemphasized religious conversion in Louisiana. "From Carolina's success and Florida's failure, the French concluded that a commerce in guns better secured native support than did missionaries" (Taylor 2001:383).

Figure 3.2. Map of European sites in the Southeast.

3.5 Seventeenth-Century Spanish Interests in North America

When the Spanish realized North America did not hold the same riches as Mesoamerica and South America, they turned to the Native Americans as a resource to exploit. Slaves were needed to work the land and help the Spanish produce valuable crops. The Spanish also sought the religious conversion of the native populations to Christianity. The establishment of the Spanish Mission System in La Florida had a profound effect on how North America was governed and how the Native Americans were treated.

Florida Mission System. The Spanish monarchy issued the Royal Orders for New Discoveries in 1573 in order to justify their conquest of the New World. These orders gave missionaries the authority to explore and pacify new lands through religion rather than through military conquest (Weber 2009). When the Franciscans reached La Florida in 1573, they established themselves in preexisting villages and steadily expanded their missions. The missions were in place along the Atlantic between Georgia and Florida and westward from St. Augustine for over 250 miles by 1675 (Weber 2009:74-75).

The structure of the mission system was designed to exploit native Indian culture while simultaneously “civilizing” them. Finding many native groups already subsisting in small scattered towns dependent on agriculture, the missionaries utilized this preexisting structure. Once the friars selected a town, they began their conversion of the Native Americans by convincing them to build friaries and churches within the town. Native Americans were required to live within sound of the mission bell and within reach of the sacraments in addition to living the ideal form of Spanish urban life (Weber 2009:78). Non-sedentary groups living in La Florida did not take well to the missionary efforts as the Franciscans found it increasingly difficult to convert them to the mission system (Weber 2009).

Spanish Relationship with Native Americans. Cultural interaction with native tribes of La Florida gave the Spanish a basic understanding of their social and political systems. Many of the groups the Spanish encountered shared common traits including social organization, culture, language, and sedentary villages. Focusing on these traits the early missionaries divided La Florida into four zones of Indian culture. These provinces were designated as Guale, Timucua, Apalachee, and Apalachicola (Weber 2009). The missionaries relied on native peoples to produce food, raise herds, build buildings, serve as long-distance bearers, and participate in labor drafts for public defense in St. Augustine. In order for the mission system to work, this process required compliance both from a cultural and spiritual position (Deagan and Thomas 2009).

The hierarchy that was in place in Native American societies in the Southeast was an advantage for the Spanish missionaries. Chiefly power was reciprocal in nature and the missionaries would entice the chiefs through gift giving. In exchange for these gifts, the chiefs would pledge their allegiance to the Spanish Crown and accept Christianity (Milanich 1999). Forming alliances with the missionaries was likely seen as a beneficial relationship. Chiefs would also have received an alliance that could open access to other trade goods, pose as a defensive measure against other groups, and used missionaries as potential intermediaries with the Spanish conquistadores (Weber 2009). Distribution of this wealth was not equal throughout Native American groups. While alliances may have benefited a group as a whole, access to trade items was still largely restricted to the elites of the population (Deagan and Thomas 2009).

Although the hierarchical structure of Native American groups was not greatly affected, religious conversions had broader effects. Initially, the Native Americans may have viewed the missionaries as “powerful shamans” with whom they needed to cooperate and the Franciscans

were able to persuade Native Americans to participate in Christian rituals. Missionaries routinely targeted native children for conversion as they were more easily persuaded (Weber 2009).

The Franciscans began “civilizing” the native populations by replacing centuries old traditions with Spanish cultural norms. Religious objects thought to be hedonistic were confiscated and destroyed, dances were banned, burial practices were Christianized, and individual Native Americans were baptized and given Christian names (Hann 1996; Milanich 1999; Weber 2009). The Franciscans did not sanction forced conversion, but punishments were severe. Once Native Americans were brought into the mission the missionaries feared that if they left “they might miss essential sacraments and fall into the company of pagans, who would surely lead them further into sin” (Weber 2009:82). Corporal punishment was enacted within the mission where Spanish soldiers were used to compel natives to remain in the mission, hunt down those who left, and whip individuals who either missed services or did not obey canon law (Milanich 1999; Weber 2009).

Change Over Time. The Spanish Mission System in La Florida did not thrive as well as the missionaries had hoped. Epidemics, depopulation, rebellion, and political strife changed the mission system over the seventeenth century and eventually led to its end. Depopulation was one of the biggest effects of the Spanish missions. Native groups had suffered from European epidemics since the beginning of the mission system, but by the mid-seventeenth century epidemics had devastated the populations in La Florida. Severe depopulation of provinces led to the breakdown of chiefly power. Multi-village chiefdoms were reduced to single village missions and the loss of political alliances with powerful chiefs reduced the labor force the Spanish Mission System had come to rely on (Deagan and Thomas 2009; Milanich 1994b, 1999)

Dissatisfied with the circumstances in La Florida, Native American rebellion came in many forms in the missions. Unbaptized groups migrated to missions to settle, but despite their willingness to live in the missions and participate in labor projects, they expressed their own form of rebellion by refusing conversion. Other forms of resistance came through cultural expression. Certain aspects of Christianity were transformed or rejected by native groups to express their religious independence. Archaeological excavations at mission sites like *Santa Catalina de Guale* and *San Luís de Talimali* show that despite strict regulations, native people were routinely buried with both indigenous and European grave goods and charnel house and bundled remains were buried within churches (Deagan and Thomas 2009; Milanich 1999:141). A larger rebellion occurred in Timucua in 1656 when the chiefs of Apalachee, Guale, and Timucua Provinces, banded together and disobeyed the Spanish who ordered them to supply St. Augustine with native soldiers. Although the rebellion was put down, it had lasting effects. The Spanish retribution left the Timucua Province decimated and the missions had to be reorganized to cope with continued depopulation (Milanich 1999; Worth 1998).

3.6 Seventeenth-Century English Interests in North America

Even with the loss of the Roanoke Colony, the English still intended to colonize and exploit the resources of Virginia. The Plymouth Company and the Virginia Company of London were granted separate charters during the early part of the seventeenth century to establish settlements in Virginia (Figure 3.3). Queen Elizabeth I had been a major advocate for colonization despite the Spanish in North America. After her death in 1603, King James I

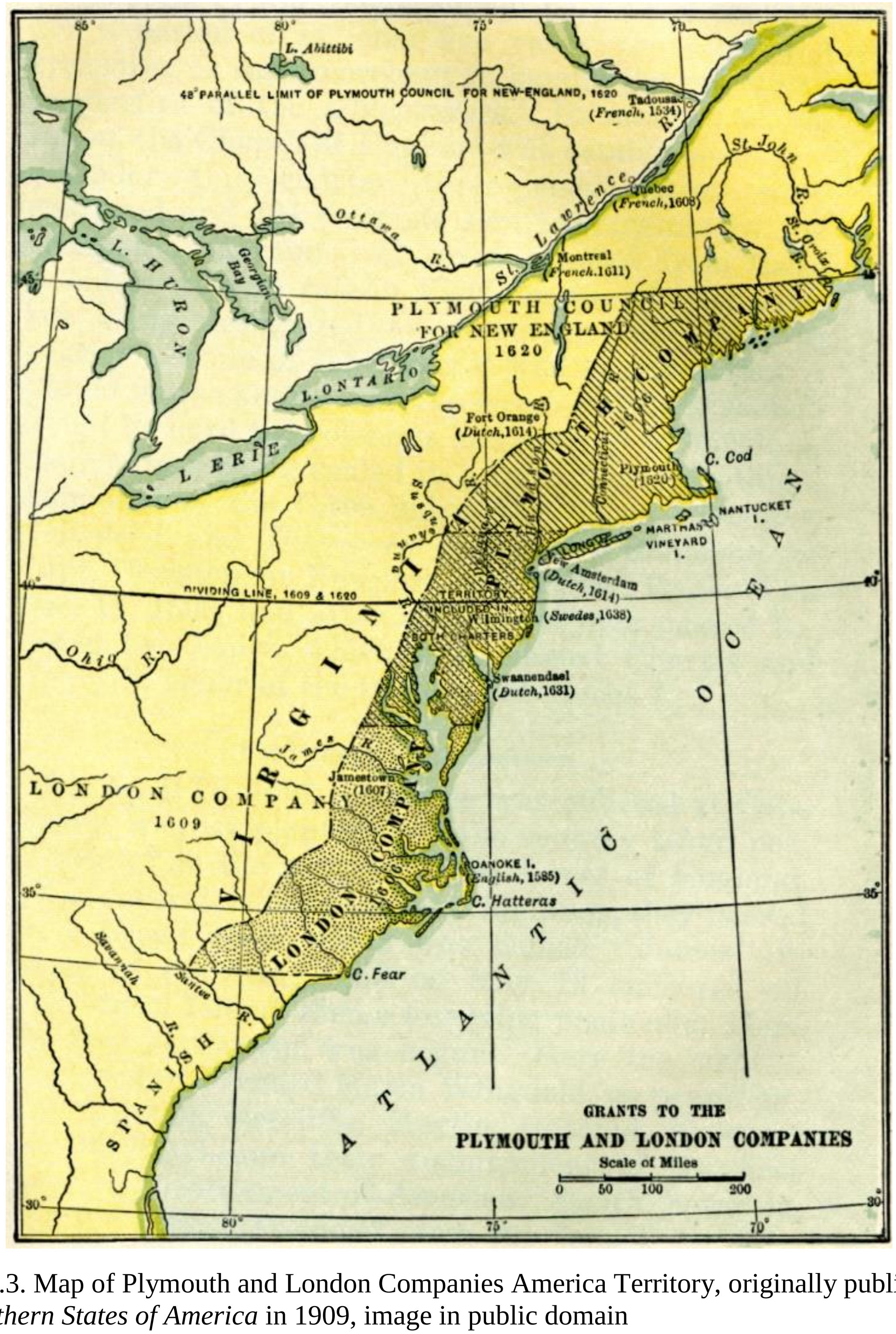

Figure 3.3. Map of Plymouth and London Companies America Territory, originally published in *The Southern States of America* in 1909, image in public domain (https://hogsheadwine.files.wordpress.com/2013/04/grants_map.jpg).

succeeded her and quickly secured peace with Spain. While Raleigh had been a major component in the English efforts to colonize Virginia, he refused to suspend his privateering against Spanish ships and was arrested for treason in 1603. English investors fully expected that they would not meet with any resistance in colonizing North America since a formal peace agreement had been reached, but Spain remained adamant that no English colony would be tolerated (see Figure 3.4 for English sites) (Pickett and Pickett 2011).

The Virginia Company. The English pushed forward with plans to establish a settlement despite resistance from Spain, but financing a colony became a problem. Raleigh had lost a fortune with the failure at Roanoke Island, leaving the monarchy and private investors apprehensive, but the idea of a joint-stock company becoming the primary investor began to gain traction in England. The English monarchy would grant a charter to explore and settle certain tracts of land and the investors in the company would provide the financial backing (Pickett and Pickett 2011). King James I's first charter was issued to a single company that formed two branches, the Virginia Company of London and the Virginia Company of Plymouth. The company was granted all the land between Spanish Florida and French Canada. The land was split between the two divisions, with the Virginia Company of London given the right to settle between 34 and 41-degrees North latitude, between modern North Carolina and Long Island, New York while the Plymouth Company was given rights to the area between 45 and 38-degrees North latitude between modern Nova Scotia and the southern border. A 100-mile buffer zone was added to the charter so that the settlements would never overlap. Terms of the charter allowed any person willing to make the voyage to settle on the land as long as they were provided with supplies. The colony could trade and keep all duties for 21 years, and it was allowed to expand the colony and use all the resources within 50 miles north or south and 100

Figure 3.4. Map of English sites on Atlantic coast.

miles inland and 100 miles out to sea. The king then had the right to obtain one fifth of all the gold and one fifteenth of all the copper found. King James I also decreed that the children born in the colony would retain the same rights as they would have in England.

Investment options in the English company were threefold, (1) a person could "adventure" the money by buying shares while remaining in England, (2) they could "adventure their person" by going to Virginia and paying their own way, or (3) they could agree to be an indentured servant for a number of years after which they would share in the profits of the colony. Initially stocks were not released to the public, but were instead reserved for wealthy merchants and government officials (Pickett and Pickett 2011:121-122).

Popham Colony. Sir John Popham served as a chief justice of the Queen's Bench and was in charge of the Plymouth Company. He also took it upon himself to help lead the colonization of Virginia. Sir Popham backed the colony along with Sir Ferdinando Gorges despite Spanish warning of treaty violations. In 1606 the Plymouth Company sent one ship, the *Richard,* to northern Virginia. Navigation problems led the *Richard* into a Spanish attack and the crew and colonists were taken prisoner. The Spanish intended to use the threat of execution as a means to pressure England into stopping all colonization efforts. Despite these threats, the English remained determined to colonize Virginia and back the Virginia Company (Pickett and Pickett 2011).

A second attempt was made in 1607 by the Plymouth Company to settle in northern Virginia. Two ships, the *Gift of God* and the *Mary and John,* set sail with over one hundred colonists under the command of Raleigh Gilbert and George Popham (nephew to Sir John Popham). Because of the financial loss the company had incurred over the *Richard,* only a limited number of low quality supplies could be sent on the second expedition. Shortly after the

two ships set sail, Sir Popham died leaving Sir Ferdinando Goreges in charge of the settlement efforts. The two ships were able to make the voyage to North America and sailed up the Kennebec River in southern Maine. Here the colonists were able to establish Fort St. George near the mouth of the river before the first winter set in. The colonists routinely traded with the Abenaki although their relations were often strained, as they feared they were trade partners with the French. The colony also suffered from internal problems as Gilbert challenged the authority of Popham for control of the council governing Fort St. George (Pickett and Pickett 2011).

The settlers survived relatively well during the first winter, but ice damaged the ship that remained in the harbor to protect the colony. Needing repairs, the ship was sent back to England with a small crew. The settlers that remained fared far better than their French counterparts had in previous winters. Death from disease was low and despite a fire in their storeroom that resulted in the loss of provisions, starvation never became a problem. One of the deaths was George Popham in 1608, which resulted in Gilbert taking over control of the colony (Pickett and Pickett 2011).

When the supply ship returned in the spring, Gilbert sent pleas to the English king to take over Plymouth Company and therefore the burden of paying for future supply ships. The king denied his request because the colony had shown little progress, and Gilbert was forced to raise the money for three additional supply ships. When the additional ships arrived, they also carried word that Gilbert was to inherit his family’s property in England. He promptly left to assume his inheritance. With Popham dead and Gilbert gone, none of the other colonists were inclined to assume command of the colony. In September of 1608, they voted to abandon the colony and return to England. Once the colony was abandoned the Virginia Company attempted to entice the Plymouth backers to transfer their funds to the Jamestown settlement, which had been

established in 1607. Additionally, the company had become involved in a series of lawsuits by the investment backers claiming that too little investment had been made to make the colony successful. Attempts to colonize Maine ultimately proved unsuccessful and further endeavors in New England were targeted in Massachusetts (Pickett and Pickett 2011).

Jamestown. While the Plymouth Company made arrangements to settle further north, the Virginia Company began preparations in 1606 to found Jamestown. The English monarchy had set up the company charter to have an established government in the form of a royal council. Each colony would have a corresponding council that would be selected by the main royal court. Under these provisions, the Virginia Company council would elect a single man to serve as president of the colony for a one-year term. With a government system in place, the Virginia Company outfitted three ships with supplies and colonists and set sail for Virginia under the command of Captain Christopher Newport. The colonists were instructed to avoid at all costs the failures of the previous settlements. Once they reached Virginia they were instructed to locate a suitable area far enough up river to protect them from the Spanish and French. Having found the Chesapeake Bay, they ventured up the James River and opted to settle on a small peninsula connected by an isthmus and named the fort Jamestown for the King of England (Pickett and Pickett 2011).

One of the biggest problems the Jamestown settlers faced was the number of colonists who died, despite annual reinforcements. The Virginia Company transported over 10,000 colonists to Jamestown between 1607 and 1622, only 20% of whom survived. The main causes of death were starvation and disease. While the inland peninsula was highly defensible, the area was also bordered by a tar swamp that nursed malaria infested mosquitoes. The river and shallow wells the colonists relied on for fresh water were often contaminated with salt water which led to

salt poisoning, and the garbage the colony produced often ended up in the river generating microbes for dysentery and typhoid fever. Failing crops were also a problem for the struggling colony. Many of the people who had been sent to Jamestown were either “gentlemen-adventures” or vagrants who had been forced to go. Neither group had experience in agriculture and often refused to work the fields. They instead chose to spend their time searching for gold as the early Spanish explorers had, and became convinced that local mica deposits were indeed gold (Taylor 2001). Their inability to sustain crops led to mass starvation and though rare, cannibalism (Herrmann 2011).

Relations with the native Algonquian groups in the vicinity of Jamestown were extremely strained. The colonists had expected to be provided with food from the Native Americans since many of them had little inclination to farm, but the Native Americans were wary of the English colonists and unwilling to trade food. This situation often led to violence as the English continuously tried to force the matter. The main conflict with the Algonquin chief Powhatan erupted in 1613 when the English kidnaped his daughter Pocahontas for ransom. Powhatan would never agree to all of their terms and Pocahontas remained with the English, eventually converting to Christianity and marrying an English man. War continued with the Algonquians until 1614 when Powhatan finally made peace (Pickett and Pickett 2011; Taylor 2001).

The year 1616 was important for the colony since dividends were supposed to be paid to the investors in the Virginia Company. There was little to show for the investors thousands of pounds, and the Virginia Company was on the verge of bankruptcy. The one thing the governing council had was copious amounts of land. The English enacted a headright system between 1618 and 1619 that granted any person who paid for their own passage to Jamestown 50 acres of land and an additional 50 acres for anyone they brought with them. Indentured servants would also

receive 40 acres once they had served out the terms of their contract. This drastic shift in land management opened up new opportunities for English men and women to own their own land, which was not always possible in England (Pickett and Pickett 2011; Taylor 2001).

Tobacco. Supplied with new settlers, all Jamestown needed was a major commercial crop that would make the colony a success. Tobacco was a New World crop cultivated in the West Indies and one that became immensely popular throughout Europe. Because tobacco requires a hot and humid climate, the plant did not survive well in England, but was suited for the climate in Virginia. In 1616 the colonists began to cultivate the plant and the Chesapeake had numerous waterways and harbors that allowed for easier shipping (Pickett and Pickett 2011; Taylor 2001).

Jamestown was in need of more land and the increase in colonists and tobacco exports, came at the expense of the Native American populations. Powhatan died in 1618 leaving Opechancanough as the new paramount chief. Opechancanough had become resentful of the English's treatment of the Algonquians and the attempts to convert them to Christianity. Tension culminated in 1622 with a surprise attack on the outlying plantation areas, resulting in the death of over 300 colonists, a substantial portion of Virginia's population. Because of the losses, two major changes took place concerning the Jamestown colony policy. First, the loss of the colonists and cultivated land led to the bankruptcy of the Virginia Company. This disaster allowed King James I to dissolve the company, revoke their charter, and convert Virginia into a royal colony in 1624. Second, the Algonquin attack gave the Jamestown council reason to alter their interaction with the tribe. Before they had expanded their plantations onto unoccupied land, but now they chose to drive out the Native Americans. They decided to attack native groups right before the corn harvest in order to destroy the crops and relegate them to a winter of starvation. A peace summit was proposed in 1623, and when the Native Americans toasted the success, they were

poisoned by the English. Opechancanough had not attended the summit and he remained obstinate until 1632 when he agreed to a massive land cession in the name of peace. Not satisfied with the terms, Opechancanough launched a second attack in 1644 that killed over 400 settlers. Subsequent counterattacks resulted in the destruction of most of the Native American towns along the river systems, allowing the English to spread further into the interior of Virginia (Pickett and Pickett 2011; Taylor 2001).

The Decline of the Algonquians and the Rise of Jamestown. The Algonquin tribe in Virginia had been devastated over the course of the seventeenth century. Only 2,000 tribal members remained by 1669 after being ravaged by disease. The survivors were forced to abandon their ancestral lands and flee into the interior after the English counterattacks in 1644. Those that remained were forced onto small reservations and were shot on sight by English colonists if they were caught on plantation land (Taylor 2001).

The overall Chesapeake population grew to over 41,000 people by 1670, but Jamestown never became a large colonial city despite efforts made by the colonial council. Jamestown remained a large town because most colonists preferred to live in scattered plantations in the surrounding area. The lure of land ownership had essentially backfired for Jamestown and reduced its overall growth. The biggest success was in tobacco farming which allowed the colonists to export millions of pounds to Europe every year and Jamestown remained the seat of government for Virginia for the next hundred years (Pickett and Pickett 2011; Taylor 2001).

New England. The English Puritans who settled in New England approached settlement in North America very differently than their Chesapeake counterparts. Wanting to establish their "city on the hill," Puritans from all over England flocked to New England to practice their faith without the fear of persecution. Available land in southern New England was freed up between

1616 and 1618 as a series of epidemics wiped out most of the coastal Native American populations. The first wave of Puritan separatists arrived in southern New England on the *Mayflower* in 1620, choosing to establish their colony of Plymouth on Massachusetts Bay. During the first winter the settlers suffered greatly, losing half of their population, but the Puritans were devout in their faith that included dedication to their work, a trait that ultimately helped them better survive in the new environment. The agricultural fields were thriving by 1630 and the Puritans were able to increase their population. This year also coincided with the "Great Migration" of John Winthrop, the man who had helped secure the charter for the Massachusetts Bay Company. The "Great Migration" resulted in the formation of Boston in 1630 (Kicza and Horn 2013; Mitchell 2001; Taylor 2001).

The expansion of Puritan settlements in New England progressed rapidly throughout the 1630s and 1640s. Government officials preferred to be more conservative in expanding the colony in order to provide safeguards against Native American attacks. Despite this fear, the prospect of new agricultural land led many Puritans to venture further into New England and to establish new settlements. Often these newly colonized areas emerged from minority religious groups breaking off from larger congregations to form new towns that enforced their own religious ideas. Puritan colonies had been established all along the coast between New Hampshire and Maine by 1640. Southeastern New England was a haven for radical Puritan Separatists by the mid-seventeenth century and the area eventually consolidated to form Rhode Island. Conservative Puritan groups spread southwest to establish Connecticut and New Haven. Even by 1660, Massachusetts remained the most influential New England colony. Massachusetts had been granted a charter in 1630 and eventually Rhode Island, Connecticut, and New Hampshire, were able to do the same. Maine's settlements were in poor shape and by 1652 were

forced to come under the rule of Massachusetts. The new Massachusetts charter of 1691was expanded to absorb Plymouth as well (Taylor 2001).

Puritan Immigrants. Previous colonizing attempts by the English and other European countries often recruited poor single men or “gentlemen adventurers” to stock their colonies. The Puritan colonists of New England were much more varied as they could predominantly pay for their own passage to North America. Additionally, whole families or congregations made the voyage to America allowing for a more even division between the sexes. This allowed for not only more stable communities, but faster population growth. The Puritans remained quite poor in comparison to their Chesapeake Bay counterparts because they were without a valuable crop to cultivate. As a result, there was a lower instance of indentured servants or African slaves brought to the New England colonies and for the colonies to survive, they had to reproduce their own population and handle all of their own manual labor. The New England climate was harsher than the Chesapeake, but was not prone to the malaria, dysentery, and typhoid fever, that came from the hot and humid climate to the south. The colder climate thus aided the Puritans in expanding their population more rapidly (Taylor 2001).

Puritan Economy. In the Chesapeake, individuals could own land after the headright land program was in place. New England land was granted to groups of individuals who formed a corporate group to found a town. Once the land was granted with established town boundaries, each corporation was left alone to allocate land to other colonists. Each New England farmer was granted anywhere from 10 to 50 acres under the freehold method and each farmer had complete ownership over the land. Though they grew enough food to support their populations, the colonists still did not have a resource they could trade to improve their economy. The Puritans turned to creating a fishing economy by the 1640s. While the fishing economy would never rival

the tobacco industry, exploiting cod resources became a major source of profit for New England throughout the seventeenth century (Taylor 2001).

Puritan/Native American Relations. When the Puritans first arrived in the Massachusetts Bay, they found the land abandoned by Native Americans mainly because of the spread of European disease. As the Puritans moved further inland, they began to encounter ethnically different Algonquian communities that shared common cultural and linguistic themes but were not a unified chiefdom. The Puritans, like other European settlers, considered their claim on the new land more important and the Puritans would not recognize the Native Americans rights to ancestral lands. Eventually they purchased land from the Native Americans, but these purchases were intended only to negate any other European claim (Taylor 2001).

The first major conflict between the Puritans and Native American groups came in the form of the Pequot War in 1636. While expanding their territory into the Mystic River Valley, the Puritans made many demands on the Pequot, which the Pequot refused. Angered by the Pequot's reaction, the Puritans entered into an alliance with the Narragansett and Mohegan and declared war on the Pequot. The Puritan forces convinced their native allies to lead them to a fortified Pequot village in May of 1637. During the night they set fire to the village, killing the Pequot as they slept. Condemned by their native allies and many Puritans in England for these atrocities, the commander John Underhill declared that they were only following God's will. Throughout the rest of 1637 the Puritans sent out multiple military expeditions to either kill or enslave the remaining Pequot population (Taylor 2001).

Praying Towns. There was still no unifying Native American group by the end of the seventeenth century. Most groups were divided into small ethnic bands and were largely outnumbered by 1670. When the Puritans first arrived in New England they chose to spend little

time trying to convert the native populations, but after the criticism from the Pequot War new policies had to be put in place. Reverend John Eliot began to missionize the native populations by the late 1640s. “The missionaries sincerely wished to rescue Indians’ lives from the colonists as well as to save their souls from hell, but the missionary effort demanded that Indians surrender their own culture as the price of physical safety” (Taylor 2001:197). The Puritans believed that the key to their success was forcing the Native Americans into permanent communities, like the Spanish missions in La Florida. This consolidation came in the form of Praying Towns where the Native Americans could be supervised and pressured into changing their behavior and appearance. Once the Native Americans agreed to live in the Praying Towns they were forced to take an English name, change their physical appearance, and abandon all of their traditional cultural patterns and behaviors and became known as Praying Indians. This strategy also freed even more land for cultivation and settlement. The success of the Praying Towns was attributed mostly to the political stability of the Native American groups. Larger more stable groups had no need to rely on the Praying towns for resources. The groups the Praying Towns attracted were smaller and weaker and needed the safety and resources the towns provided in order to survive. The missionaries were very pleased with the progress they had made by the end of the seventeenth century in converting the native population, but the native peoples were never seen as equals and rarely trusted by the other Puritan colonists (Taylor 2001).

King Philip’s War. The Wampanoag sachem (leader) Metacom, known to the Puritans as King Philip began an uprising against the New England colonists in 1675. Frustrated by the English land demands and unfair treatment of the Native Americans, Metacom allied himself with young warriors who wished to fight against the English. Metacom also recruited many of the Praying Indians, an action that turned the Puritans against the other Native Americans living

in the Praying Towns. While Metacom gained other native allies the Puritans did as well. When the Mohawks allied themselves with the English they were able to turn the tide of the war, and when Metacom was killed in battle in 1676 the war was over. Thousands had died on both sides and it would take another 40 years before the Puritans regained their original settled land (Kicza and Horn 2013; Taylor 2001).

Carolina. The West Indian planters had set their sights on the eastern coast of North America by the end of the seventeenth century to expand their planation economy. The new colony was named Carolina, in honor of King Charles II, and included most of modern day North Carolina, South Carolina, and Georgia (Figure 3.5). Unlike a royal colony, eight Lord Proprietors who were favorite subjects of the king owned Carolina. King Charles II issued the charter in 1663 and the Lord Proprietors recruited 200 colonists from Barbados who arrived in Carolina in 1670. The group founded Charles Town (later modified to Charleston in 1783) near the mouth of the Ashley River. Being between Spanish St. Augustine and English Jamestown, Charles Town sat defiant to the Spanish claim on the Southeast (Smith 2014; Taylor 2001).

The Lord Protectors knew that in order to secure the colony from the Spanish they needed to grow the colony as quickly as possible. In order to attract colonists, the leaders offered "religious toleration, political representation in an assembly with power over public taxation and expenditures, a long exemption from quitrents, and large grants of land" (Taylor 2001:224). Under their version of the headright system, they allotted 150 acres to each member of a family. Predominantly farmers and artisans wishing to own their own land were attracted to Carolina, but because of the large headright system, large plantation owners also settled in Carolina (Taylor 2001).

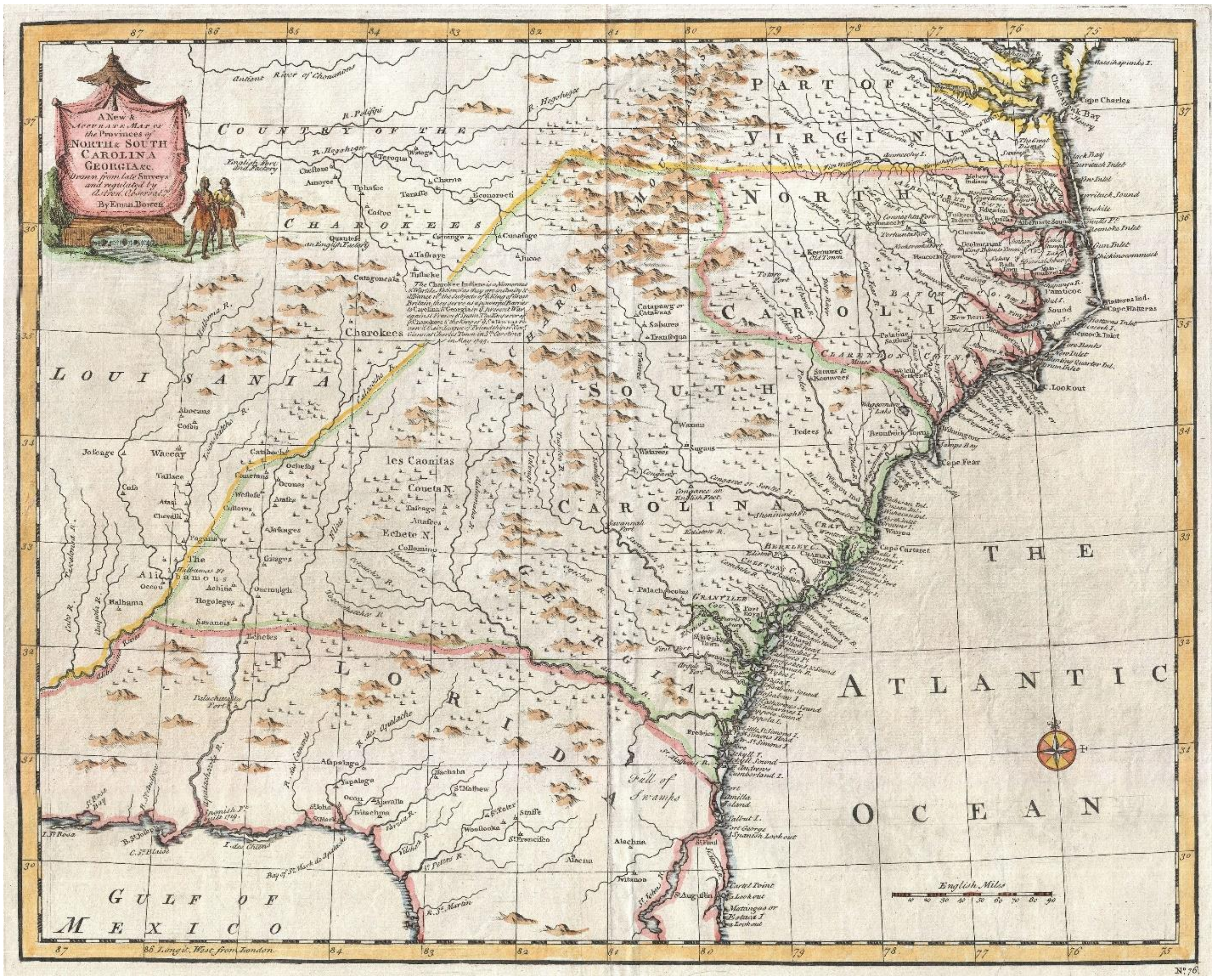

Figure 3.5. Map of the Provinces of North and South Carolina and Georgia, by Emanuel Bowen 1747. Image in public domain (https://upload.wikimedia.org/wikipedia/commons/5/5a/1747_Bowen_Map_of_the_Southeastern_United_States_(Carolina,_Georgia,_Florida)_-_Geographicus_-_CarolinaGeorgia-bowen-1747.jpg).

Carolina Trade Network. One of the lures to settle in Carolina was the large amount of available fertile land and the need for a substantial workforce. Instead of turning to importing African slaves, the colonists turned to the native groups in the interior and established a lucrative trade in deer skins and native slaves. The Spanish had proved that Native American slaves were a valuable commodity in the European market. Illegal slave traders had most certainly been venturing into the interior before the Historic period in order to procure native slaves, but it was not until the end of the seventeenth and the beginning of the eighteenth century that the slave trade expanded dramatically. Virginian slave traders expanded their trade links between 1650 and 1659 as far south as the Savannah River while at the same time European trade goods were making their way into the Appalachian Highlands at an increasing rate (Kelton 2007; Smith 2014).

The Slave Trade. The English slave trade in both Virginia and Carolina was formed around the Native American tradition of taking captives during times of war. While the male captives were normally killed, women and children were often adopted into the enemy tribe in order to replace those lost during war. The English slave trade soon became an extension of this process with the Native Americans trading the captives to the English in exchange for European trade items. Additionally, the exchange of trade items for captives was consistent with the Native American ideas of gift giving and creating kinship. Kelton (2007) and Smith (2014) contend that Native Americans assumed they were gaining a powerful network of kinsmen by engaging in this form of exchange or alliance, one that had rights and responsibilities among the Native American groups. The English, who did not understand this process entirely, frequently violated kinship norms. Disagreements usually erupted over trade opportunities. Native Americans viewed trade as a matter of gift giving, while the English saw trade as a matter of debt and would

not give trade items until deer skins or captives had been delivered. The extension of credit became a major issue in the Carolina Colony because Native Americans accumulated excessive amounts of debt to English traders (Kelton 2007; Marcoux 2008; Smith 2014).

The English alliance with the Westos tribe during the mid-seventeenth century had a profound effect on the slave trade in the Southeast. Originally the Westos were an Iroquoian-speaking tribe who resided near Lake Erie. After a defeat by the Five Nations, allied with the Dutch in 1655, the Westos migrated south into Virginia where they formed an alliance with the English. Armed with English guns, the Westos eventually settled near the Savannah River. As allies of the English, the Westos turned their attention to attacking Spanish missions for captives. Their slave raids “struck residents of the Coosa and Tallapoosa valleys, leading to the further coalescence of various Muskogean communities to form the peoples that the English would later call Upper Creeks” (Kelton 2007:113).

When Charles Town was founded, the Carolina colony was poised to take advantage of the established English trade network that existed in the Southeast, if the colony was able to take the place of Virginia as the dominant trading partner. With the abundance of fertile land, a workforce was needed to help clear the land, plant the fields, and harvest the crops. Since the tracts of land were so large in Carolina, few landowners had the capital to buy African slaves or bring indentured servants from England. Turning to the native slave trade helped to bolster the initial growth of the colony. It became apparent to the English in Carolina that the Westos were a powerful force in the Southeast, so the English sought to establish trade relations with them and hopefully usurp Virginia traders, but the Westos declared war on the Carolina colony in 1673 over exclusive slaving rights. This forced the English to turn to other native groups to form alliances for both trade and protection. The Esaw were located in the Carolina Piedmont region

and were eager to form an alliance with the English, who enlisted the Esaw to subdue the Westos. When the war came to an end in 1674, the Westos turned to Henry Woodward who was an influential landowner in the Carolina colony because the Westos wished to end the attacks and open up trade relations. Additionally, the Westos were enemies of the Cherokee who were procuring trade goods and weapons form the Virginia colony. Woodward also was approached by representatives of the Savannah tribe who wished to gain the favor of both the English and the Westos during his negotiations. As a result of Woodward's efforts, an alliance was struck with the Westos that would provide native slaves to the Carolina colony between 1675 and 1680. This alliance mainly preyed on Spanish-allied Native American groups. The English knew that their arrangement with the Westos was only a temporary one. Throughout this alliance, the Westos continued to wage war on other coastal tribes as well as the Cherokee, Chickasaw, Chisaca, Coweta, and Cuseeta, who resided further inland. If the English were going to make further headway into the interior, the war policy of the Westos was a major impediment, as they cut the English off from potential alliances and trade partners. In the end, the English chose to ally themselves with the Savannah tribe as they became the more favorable option and eventually led to the demise of the Westos (Gallay 2002).

In analyzing records of the actual slave trade that occurred in the Carolina colony, Gallay (2002) finds that most of the native slaves were later traded to other colonies to gain more profit. From 1670 to 1715 between 24,000 and 51,000 individuals were forced into the native slave trade. This number has been debated, but Gallay (2002) believes the number has been historically underestimated because of lack of records. Plantation owners may have purposefully not recorded all of the native captives since the slave trade was subject to taxation and trading was often secret. While taking captives was a tradition found in many Native American cultures,

the English spurred on the effort by inciting groups to conduct slave raids. Because of this incentive, the English changed the dynamics of taking captives and slaves and fully incorporated many of the Native American tribes residing in the Southeast into the extensive trade network (Gallay 2002; Marcoux 2008, 2010).

Deer Skin Trade. The English also found lucrative profit in the deer skin trade. Virginia colonists traded with local native groups for deer skins as early as 1607, but trade with groups further into the interior was not feasible until more direct trade routes could be established. The English were able to significantly increase the number of traders that could reach the interior with the founding of the Carolina colony with Charles Town as its main trading settlement. This process was made all the easier by the connection of Native American middlemen throughout the Carolina Piedmont. By the end of the seventeenth century, the English were exporting thousands of deer skins to Europe (Marcoux 2008; 2010).

Rice. Early on, the slave trade was seen as a means for the Carolina colonists to clear land quickly without large amounts of capital. Once the plantations were up and running Carolina was in need of a stable crop for export. Rice became the best alternative since sugar was not a viable crop for the environment, and tobacco prices were dropping by the end of the seventeenth century. Using slave labor, the colonists were able to transform the landscape with dykes keeping out the saltwater brought in by the tide to preserve the fresh water for the rice fields. By the turn of the century, Carolina had become the rice capital of the English Empire, just as tobacco was for the Chesapeake. Consequently, the Carolina colony had to rely heavily on slave labor and increased the number of African slaves bought to the colony in the eighteenth century (Taylor 2001).

3.7 Discussion

The seventeenth century was a time of great change for Eastern North America. During the previous two centuries, multiple European powers attempted to colonize the New World, establish trade relations, and learn to adapt to new environments. These efforts oftentimes ended in starvation and abandonment. Learning from their predecessors, European explorers and settlers of the seventeenth century quickly learned to avoid these pitfalls and to establish sustainable colonies. Major success for the Dutch, French, and English, came from allying themselves with various Native American groups in order to secure protection and establish trade relations. A successful colony required a profitable export and the deer skin and beaver pelt trade were extremely lucrative throughout the seventeenth century. An adverse side effect of this increased interaction was the spread of European diseases that further decimated Native American populations living near the coast. European traders and Native American middlemen also carried the same pathogens further inland as trade routes were established. The European political landscape dramatically shifted in favor of the English with the founding of Charles Town. The Spanish had managed to maintain their foothold in the Southeast since the fifteenth century, but with the rise of the Virginia, Chesapeake, and Carolina colonies, the English soon became a major European force in Eastern North American and would eventually become the dominant force in the Historic period.

The influx of European settlers and their activities are widely documented and examinations of the period from a European perspective have been exhaustive by historians. Despite what the European documents claim, it is evident that traders were mostly interested in increasing their capital and missionaries were attempting to strip the Native Americans of their culture and "civilize" them to European standards. Tribes who had remained relatively isolated

during the fifteenth and sixteenth centuries became subject to raids from the slave trade. These raids resulted in an increasing incentive for other tribes to establish alliances with European powers in exchange for trade goods. Increased record-keeping and sustained contact among Europeans and American Indian tribes, pushed the eighteenth century in eastern North America into a Historic rather than Protohistoric time period.

Chapter 4: The Historic Period (Eighteenth Century)

4.1 The Historic Period (Eighteenth Century)

European influence was firmly established throughout North America by the early 1700s and extensive colonial trade networks existed in crops, animal skins, and slaves. European powers were able to expand the boundaries of their colonies to encompass more of Eastern North America with increased revenue flowing into the colonies. The purpose of this chapter is to provide a brief overview of the major historical events that shaped the eighteenth century from the colonial perspective (see Figures 3.3 and 3.4 for major sites).

4.2 Spanish Interests in the Eighteenth Century

La Florida. La Florida had undergone intense changes by 1700 including a population increase in St. Augustine, the collapse of the *Guale* Province, and the Timucua Province was a shadow of its former size and population. Only the Province of Apalachee survived to be fully incorporated into the colonial system (Milanich 1999). With the establishment of Charles Town by the English, and the French attempting to secure the mouth of the Mississippi River, considerable pressure was placed on Spanish Florida during Queen Anne's War (1702 – 1713) when English forces attached St. Augustine. The conflict that followed ultimately led to the downfall of the Spanish Mission System and native groups that survived became refugees in the remaining missions. While war raged in Europe, the end of Spanish Florida came through the Treaty of Paris in 1763 when Spain agreed to relinquish control of La Florida to England (Milanich 1999). Under the British occupation of Florida, the land was divided into East and

West Florida. Britain returned Florida to the Spanish in 1783 and they once again reoccupied St. Augustine, *San Marcos de Apalachee*, Pensacola, and Mobile. Spanish interests in the Southeast came to an end in 1819 with the signing of the Adams-Onís Treaty that transferred land ownership to the United States to compensate for debt on the part of the Spanish monarchy (Nostrand 2001).

4.3 French Interests in the Eighteenth Century

French attempts to settle in North America were filled with problems during the sixteenth and early seventeenth centuries. Trade had been established with the Algonquians and Iroquois in order to procure furs, but prolonged settlement had proven difficult. King Louis XIV sent military troops and families to Canada in 1663 in order to expand the economy and create a permanent settlement. As a result, thousands of French settlers inhabited the area around the St. Lawrence River by the beginning of the eighteenth century (Smith 2014). The Treaty of Utrecht, which ended the War of the Austrian Succession, was signed between the French and English in 1713. Under the terms of the treaty, England gained Acadia while ceding Newfoundland to France. Based on the agreement, France had to adjust fishing enterprises in the north in order to maintain an economic foothold. The fortified town of Louisbourg in Nova Scotia was built between 1717 and the 1730s to protect the entrance of the Gulf of the St. Lawrence River. While the French fortified their position in Newfoundland, they expanded their trading and agricultural settlements into Illinois and Michigan. The Illinois area was originally inhabited by Canadian colonists, but was officially absorbed into the Louisiana colony in 1717. In the preceding decades, the French solidified their presence around the Great Lakes region, Montreal, and the Saskatchewan River. Areas such as Quebec and Montreal continued to grow into the mid-eighteenth century, becoming preindustrial towns with a stable economic future (Harris 2001).

French Louisiana. The French presence along the Mississippi River was little more than a series of trading posts throughout the seventeenth century. In order to solidify their hold on the lower Mississippi, Louisiana needed formal recognition. This recognition came from the French monarchy in 1717 when the colony was granted a merchant company title under the name of the Company of the Indies with a trading monopoly for the next 25 years. New Orleans was founded in 1718 under this new charter. Initially, the French attempted to recruit colonists from France to journey to the growing colony and who could be expected to use indentured servants to work the land. Despite these efforts few people agreed to make the journey and the colony relied heavily on African slaves (Harris 2001; Taylor 2001).

Even with a growing population of landowners, Louisiana still needed a crop for export. The French found that rice, indigo, and tobacco could be cultivated in the subtropical climate with relative success, but cultivation was hard and transportation costs to Europe were expensive. Few mariners attempted the voyage since the route between Florida and Europe was dangerous and plagued by pirates. Ultimately the colony relied on the relative financial success of the interior deer skin trade. Additional problems for the colony came from internal political issues. Louisiana officials were corrupt and chose to increase their own profits over the well-being of the colony. When the Company of the Indies went bankrupt in 1731 the French monarchy seized control of the colony. Profits were never very dependable, and despite the change in control, the colony remained a liability and financial drain on the French monarchy (Harris 2001; Taylor 2001).

The End of New France. France had become a formidable European power in North America by the 1750s. Northern Canada and the southern Mississippi were its primary access points into the continent and their trading influence extended much further into the interior

Southeast than the Spanish or the English. Despite this economic advantage, the French colony was not economically or militarily sound. Their population had only expanded to around 80,000 people by the mid-eighteenth century and most of the occupied areas were a series of isolated and vulnerable trading posts up and down the Mississippi River. The Seven Years' War began in 1754 between the French and the English. Louisbourg fell to the English in 1758 and Quebec fell the following year. When the war came to an end in 1763 the French had lost their land holdings in North America. Efforts to colonize North American had never been of great importance to the French monarchy. The fur trade was lucrative, but its loss did not significantly impact the overall French economy and the efforts to colonize Louisiana were costlier than anticipated. The one thing the French were interested in retaining their fisheries to the north. Under the provisions of the Treaty of Paris, France maintained fishing rights around Newfoundland, while England gained Canada and the remainder of Acadia, and Louisiana was granted to Spain (Harris 2001; Taylor 2001)

4.4 English Interest in the Eighteenth Century

Carolina Colony. The Lords Proprietor who controlled the Carolina colony wanted to entice land owners to the colony to improve the economy. Wealthy families primarily from the West Indies resettled in Carolina with the expectation that they would gain both wealth and political power. The colony was in desperate need of a governor by the end of the seventeenth century who could control all of the colonists while not stifling financial growth. The wealthiest landowners were known as Goose Creek Men, as their plantations were located along Goose Creek near Charles Town. The Goose Creek Men were known for their animosity towards the Lords Proprietor whom they often ignored and defied. Issues over control were precarious at settlements located in Albemarle Sound, near the Virginia colony where the colonists

vehemently defied the Lords Proprietor often in violent ways. As a means to deal with the situation, the Lords Proprietor established Albemarle Sound as North Carolina in 1691. The new area would have its own district government, assembly, and deputy governor. The division between the two colonies became permanent in 1712 when the deputy was elevated to that of governor (Taylor 2001).

The division of the colony left what would become South Carolina to the control of the Goose Creek Men. Gaining more political power, the Goose Creek Men soon began to alter colonial policy by ending religious toleration and placing other Anglicans in political office. The Lords Proprietor were seen as a nuisance which were incapable of defending the colony against the Spanish. The South Carolina assembly finally revolted in 1719 in favor of coming under direct rule of the English crown, which would increase their military protection. Accepting the petition and revolt by the assembly, the English monarchy appointed royal governors to both North and South Carolina and bought out the Lords Proprietor in 1729. As a result, the wealthy plantation owners of South Carolina consolidated their power, exercised their authority how they wished, and brought the more common planters under their direct rule (Taylor 2001).

The Yamasee War. Alliances with Native American groups had begun with the Westos and the Savannah during the seventeenth century and grew to include the Yamasee, Yuchi, Cherokee, Catawba, and what would later become the Creek, by 1715. Using trade as the main mechanism to secure alliances, the English created a buffer zone between the British and Spanish colonies, but along with the trade came debt. European traders used credit schemes to ensure that tribes were severely indebted to the English. The Yamasee fared the worst. They had accumulated a debt of 100,000 deer skins for the trade goods they had received. Changes in community dynamics also became a factor in the early years of the eighteenth century as Native

American groups moved closer to English trading posts in order to have easier access to trade goods. These problems led to a substantial degree of tension within the Native American communities and these tensions helped lead to the Yamasee War (Marcoux 2008, 2010)

The Yamasee killed a number of South Carolina trade officials at the town of Pocotaligo on April 15, 1715. They followed up the initial attack with several attacks on plantations around Port Royal just south of Charleston. These attacks resulted in the death of over 100 English colonists. Catawba and Cherokee groups likewise executed attacks on plantations to the north. The governor of South Carolina retaliated forcing the Yamasee across the Altamaha River while militia Captain George Chicken ambushed the Catawba forces. While no further attacks were made, hostilities between South Carolina and the Native American groups continued until 1717 when a peace agreement was reached (Marcoux 2008, 2010).

While multiple groups participated in the Yamasee War, the war was not a united Native American offensive. South Carolina's diplomatic policy was not uniform across Native American groups. Instead they brokered trade agreements with different terms. As a result, abuse by traders, debt, and the threat of the slave trade, resulted in each Native Americans tribe that joined the war to have their own diplomatic agenda. South Carolina's government officials realized that their non-standardized policies had led to the war. Traders and government officials made different deals with various tribes in creating a protective buffer zone around the colony that ultimately created a volatile situation. To counteract this problem, between 1715 and 1740 officials attempted to consolidate independent Indian towns into "nations" that would have an appointed individual to speak for the entire group. At the same time, Native American groups attempted to recover from the mass population loss from pathogens that accompanied the Europeans into the interior and resulted in the formation of refugee populations with coalescent

societies. The British attempt to apply a European-based political structure to Native American towns was never very successful on its own, but when combined with the coalescent societies that were already emerging, this process eventually led to the European idea of geographically distinct ethnic groups in the Southeast such as the Cherokee and the Creek (Marcoux 2008, 2010).

Georgia. The British began to expand their empire into the Southeast by the 1720s with the establishment of Georgia, named for King George II. The Georgia Trustees formed the colony. James Oglethorpe led the Trustees and the group was made up of merchants, landed gentry, and Anglican ministers. The goal of the colony was to send undesirable British citizens to Georgia in order for them to work hard on their own farms. “By this moral alchemy, people who drained English charity would become productive subjects working both to improve themselves and to defend the empire on a colonial frontier” (Taylor 2001:241). The Georgia Trustees were granted a charter in 1732 along with funding from the English crown and Parliament. Oglethorpe accompanied the first settlers who established the towns of Ebenezer and Highland Scots. The Georgia Trustees offered free passage to over 1,800 settlers and several more paid their own way in order to take advantage of the free land that was available between 1722 and 1742.

One of the founding principles that the Georgia Trustees applied to the Georgia colony was the outlawing of slavery. They knew from the success of the Carolina colony that the slave trade and large plantation systems were a profitable economic model, but they did not want this model to take over Georgia. They instead wanted to promote the idea of small farms owned and run by white British citizens who would have the conviction to work their own land without any assistance from slaves, and to preserve the disciplined labor the trustees wanted for their colony. Additionally, the Georgia Trustees wanted to avoid the South Carolina’s population problems.

With large tracts of plantation land and a large number of slaves, the actual population of British citizens was quite low. In creating these policies for Georgia, the Trustees wanted a large, free white population that would ultimately make up a militia that would defend the frontier (Taylor 2001). The ambitions of the Georgia colonists began to conflict with the policies put in place by the Georgia Trustees by the mid-eighteenth century. Increasing pressure from the British Parliament forced the Trustees to relent in their reformist policies and to permit slavery and surrender Georgia to the British Crown. The economy of Georgia swiftly shifted to the planation/slave labor model that had made the Carolina colony so successful (Taylor 2001).

The End of British North America and the Rise of the United States of America. The English were able to solidify their hold on eastern North America throughout the eighteenth century. With the French no longer a major European power and Spain relegated to Florida and west of the Mississippi, their claims were virtually unchallenged. English colonists eagerly expanded into the interior looking for available land and valuable resources. The English established the Proclamation Line in 1763 in order to counteract this unregulated expansion into the interior (Figure 4.1). The line itself ran from Maine to Georgia and ended with the St. Marys River in Florida using the Appalachian Mountains as a general divide. The Appalachian region was identified as a reserve for Native Americans and settlement beyond the Proclamation Line was prohibited. Despite the prohibition, English colonists pushed their way into the interior. Adding to this, anticolonial sentiment began to run throughout the English colonies as the colonists resented the control the British monarchy held over them in terms of trade, taxation,

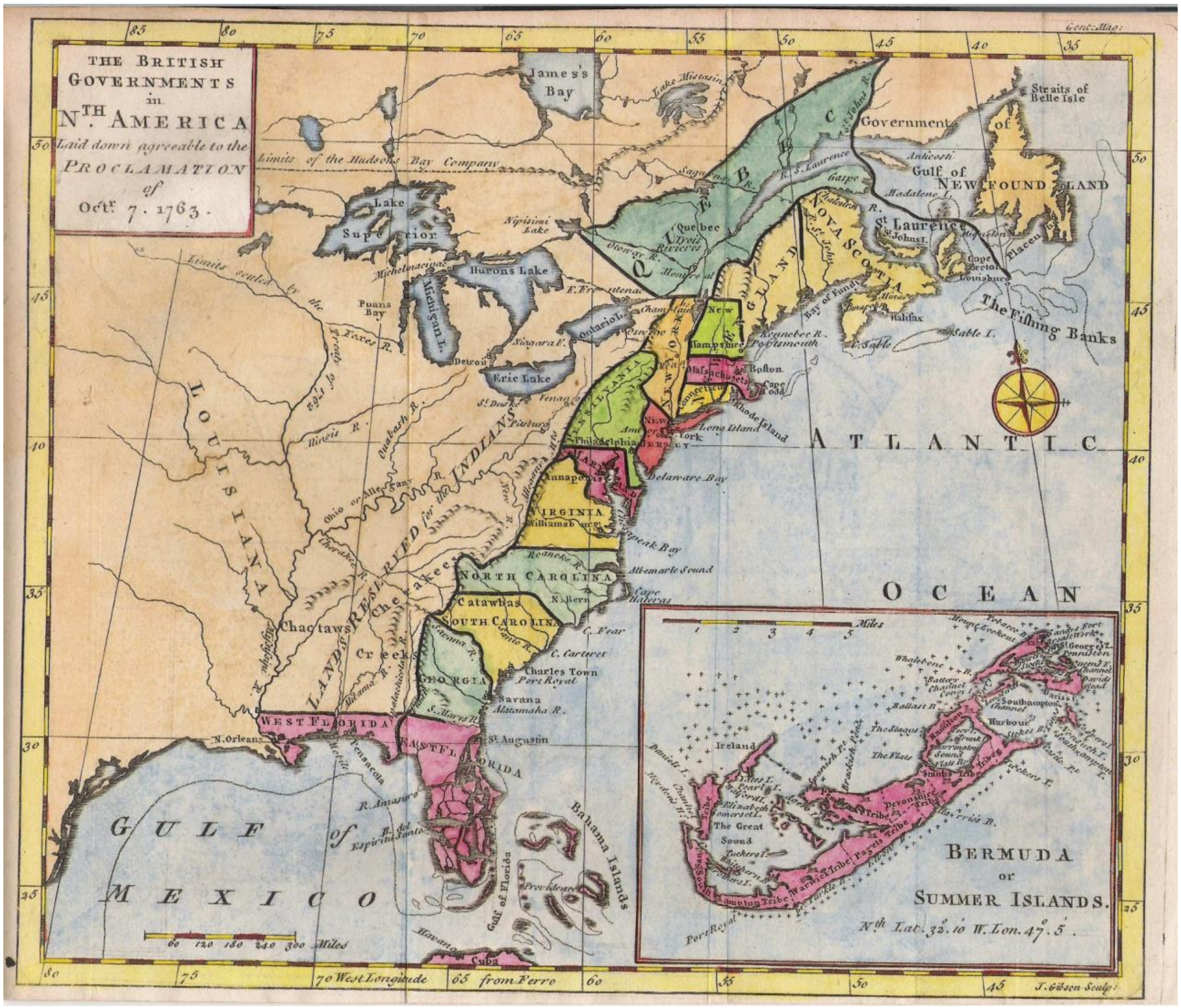

Figure 4.1. Map showing the 1763 Proclamation Line. Image originally published in *The Gentlemen's Magazine*, image in the public domain (http://www.mapsofpa.com/18th century/1763gentmag.jpg).

and regulation on settlement. The American Revolution began in 1775 as the new Continental Congress declared war. A second Treaty of Paris in 1783 ended the war and formally recognized the United States as an independent nation free from the British Empire (Martis 2001).

The Proclamation Line had been a buffer between the English and the Native American populations living further into the interior. With the English loss of control over the colonies, the new American policies ended this protection. The American government did not recognize any rights for Native Americans or for African slaves. Instead the Americans saw the open land as an opportunity for settlement. The United States government engaged in several treaties with various Native American tribes between 1780 and the 1820s in which the native tribes ceded lands to the federal government. Eventually relations between the U.S. government and Native Americans deteriorated even further and resulted in the Indian Removal Acts of the nineteenth century that forced tribes off of their ancestral lands and onto reservations (Martis 2001).

4.5 Discussion

The eighteenth century was the pinnacle of European effort to explore and colonize eastern North America. France, Spain, and England, were all powerful political entities in North America during the seventeenth century, but by the beginning of the eighteenth century, France and Spain's colonial interests began to wane and eventually most of their original colonial land was ceded to the English. While England vied for control of other colonial land, internal strife within the English colonies began to change colonial policies. Wealthy land-owners began to demand more control of government decisions and better access to interior lands. Originally, England used the Proclamation Line to maintain a buffer zone between themselves and the interior Southeast, especially in the Carolina colonies. This geographical area was intended to create a reserve for Native American groups who served as trade partners in the deer skin and

native slave trade. Despite this buffer, the English colonies were still vulnerable to attack as exemplified in the Yamasee War. South Carolina’s diplomatic relations with native groups had changed by the end of the eighteenth century, opting for the formation of native “nations” which in the minds of the English meant geographically distinct ethnic groups with little variation. Revolutionary fever broke out in the English colonies at the same time and initiated the American War for Independence. Once England lost control of the colonies and the American government was established, the Proclamation Line was rescinded and white settlers were able to push further into the interior and eventually displace Native American groups in the century to come.

Chapter 5: Depopulation, Trade, and Cherokee Origins

5.1 Introduction

Native American groups living in the East Tennessee Valley at the time of European contact shared traits with the Mississippian period. The valley was filled with multiple villages at the time of the Spanish entradas, and most of these villages were isolated by geography. Understanding the transition between the end of the Prehistoric period and the beginning of the Historic period from the Native American perspective is a difficult task because of the lack of archaeological evidence and the underdevelopment of archaeological methods and theories. The previous three chapters set the stage for the European influence on eastern North America and this chapter is dedicated to understanding the Protohistoric period in the Southeast with an emphasis on the East Tennessee Valley.

Depopulation, European trade, and Cherokee origins are addressed in this chapter. Depopulation is a catastrophic feature of the Protohistoric and early Historic periods. Internal political and cultural stress as well as external influence from Europeans initiated a series of deaths from disease and village abandonments. The extent of depopulation in the interior Southeast is still poorly understood, but its effects into the Historic period profoundly changed Native American culture in the Southeast. In recent decades archaeologists have developed a better understanding of the nature of trade, both indirect and direct, with European traders throughout the Contact, Protohistoric, and Historic periods. The extent of the trade networks and the role trade items played in Native American cultures are essential factors in understanding the

dynamics that led to Native American and European alliances during the Historic period. The arrival and settling of the Cherokee in East Tennessee is contentious from both a cultural and archaeological point of view. Using the most current research concerning Cherokee origins, this chapter synthesizes the current information and interprets what it may mean for Native American habitation in East Tennessee. The following sections seek to summarize and explore these problems as well as set the stage for new analyses of extant archeological collections using new methods and theories.

5.2 The Mississippian Period

Regional Characteristics. The Mississippian period in the Southeast dates from A.D. 1000 to 1600 (Anderson and Sassaman 2012; Kimball 1985). This cultural complex grew out of the preceding Woodland period and is characterized by a time of great change in the region. Beginning around A.D. 900 characteristics of the Mississippian period began to emerge, such as the development of large sedentary villages, shell-tempered ceramics, platform mounds, and a reliance on maize agriculture to support larger populations. The Mississippian period is also marked by ceremonial and iconographic traits that may have originated in the vicinity of Cahokia and disseminated throughout the Southeast (Anderson and Sassaman 2012; Hudson 1976; Pauketat 2004).

East Tennessee Characteristics. While “Mississippianization” was widespread throughout the Southeast, regional variation inevitably followed. The Mississippian period in East Tennessee is divided into Early and Late sub-periods. The transitional phase from the Woodland period in East Tennessee has been identified as the Martin Farm phase and is commonly characterized by sites that have a combination of attributes held over from the Late Woodland period in conjunction with Early Mississippian period traits. This combination is

commonly found in ceramic assemblages that contain globular shaped, limestone-tempered loop handled jars (Kimball 1985; Schroedl et al. 1985). Accurately identifying the Martin Farm phase through ceramic assemblages has proven difficult in the East Tennessee Valley, but the current consensus places the Martin Farm phase between A.D. 900 and 1100 (Sullivan and Koerner 2010:34).

Hiwassee Island Phase. The Early Mississippian period is characterized by the Hiwassee Island phase and ranges from A.D. 1000 to 1300 (Kimball 1985). Different archaeologists have tried to interpret the formation of the Mississippian period in different ways, WPA-era archaeologists suggested that during the Hiwassee Island phase Mississippians either conquered, drove-out, or assimilated the previous Late Woodland period people with their own populations (Lewis and Kneberg 1993 [1946]). Further research on East Tennessee sites beginning in the 1960s clarified the cultural transition that occurred. This research suggested that the Hiwassee Island phase culture developed *in situ* out of the Woodland population as a regional cultural pattern influenced by the broader Mississippian culture spreading throughout the Southeast (Faulkner 1975:20; Schroedl et al. 1985). Common characteristics found throughout the East Tennessee Valley include Late Woodland-like settlements situated along rivers and streams bordering floodplains and alluvial terraces, a complete change to shell-tempered pottery, red filmed surface decoration, rectangular house shapes with wall trench architecture, increased complexity in settlement patterns, and a reliance on corn agriculture (Kimball 1985; Lewis and Kneberg 1993 [1946]; Schroedl et al. 1985).

Dallas and Mouse Creek Phases. The Late Mississippian period in East Tennessee is dominated by the Dallas and Mouse Creek phases. Research on this cultural transition reaches back to the 1930s and 1940s under the WPA when Kneberg and Lewis first identified the two

separate phases (Lewis and Kneberg 1993 [1946]). Kneberg and Lewis originally thought that the difference in the archaeological record could be attributed to cultural heritage stemming from historic tribes. Their original research identified the Dallas phase as a Middle Mississippian transition from the Hiwassee Island phase, with the Hiwassee Island people being identified as a prehistoric Choctaw group and the Dallas people as Creeks (Lewis et al. 1995a:12). This convergence hypothesis proposed by Lewis and Kneberg dealt mainly with shared cultural traits between the Choctaws and the Creeks, which they assumed allowed the two cultures to merge (Lewis and Kneberg 1993 [1946]; Lewis et al. 1995a:13). Research into the Chickamauga Basin further led Lewis and Kneberg to assume that the Mouse Creek phase was a contemporaneous group with the Dallas phase and were ancestrally Yuchi (Bauxar 1957). Despite research linking the Yuchi to ancestral population in the East Tennessee Valley the Yuchi appear to have migrated into the valley during the early 1700s as Charles Town formed a frontier buffer zone around the English colony (Riggs 2012).

Distinctions between the Dallas and Mouse Creek phases were mainly based on differences in burial practices, ceramics, and architecture. The Dallas phase was characterized by flexed burials, the presence of more grave goods, and more use of cordmarked surface treatment on ceramics. The Mouse Creek phase, conversely was marked by extended burials, plain ceramics, and structures with subterranean floors, and vestibule wall-trench entranceways (Lewis and Kneberg 1993 [1946]; Sullivan 1986). Subsequent architectural research has revealed that vestibule wall-trench entranceways were not a novelty to Mouse Creek sites, but are also found on Dallas sites in East Tennessee, Pisgah and Qualla phase sites in western North Carolina, and on Lamar sites in northern Georgia (Hally 1994; Polhemus 1987).

The chronology of the Dallas and Mouse Creek phases has also been revised in recent years. Lynne Sullivan's doctoral research and subsequent publications (see Sullivan 1986, 1995, 2016; Sullivan and Harle 2010) show that the previous assumption of assigning an identity of Creek and Yuchi to the Dallas and Mouse Creek phases was unfounded and that they were in fact regional variations of Late Mississippian culture that developed out of the Hiwassee Island phase. While migration may have played a part in the formation of Late Mississippian culture in East Tennessee, the development of the phases occurred *in situ* in the region. Radiocarbon dates have been used to readjust the chronology of the two phases with the Dallas phase ranging from A.D. 1300 to 1600 and the Mouse Creek phase beginning in the Chickamauga Basin in the mid-1400s and becoming the dominant Late Mississippian phase in that area, but remaining contemporaneous with the Dallas phase elsewhere until A.D. 1600 (Sullivan 2016; Sullivan and Harle 2010).

Coosa Dominance. The idea of paramount chiefdoms in the Southeast is an enduring theoretical model for the Mississippian period (see Hally 1994; Hudson et al. 1985; Smith 2000). Based on Spanish accounts and archaeological evidence, it has been proposed that the paramount chiefdom of Coosa was located on the Coosawattee River in northwestern Georgia and extended its political boundaries to include the southern portion of the East Tennessee Valley. Those who support this interpretation often cite De Soto, De Luna, and Pardo's accounts of their *entradas* into the interior where they encountered the chiefdom of Coosa presumably centered in what is today northwestern Georgia. Upon reaching the Chiefdom of Coosa, the De Soto chronicles state that the chief of Coosa was extremely powerful and controlled a vast area of land. The Spanish referred to the area as a province instead of a chiefdom and believed it included towns in an area interpreted as parts of modern-day Tennessee, Georgia, and Alabama (Clayton et al. 1993a,

1993b). When De Luna's men returned to the same area twenty years later, he found that the Coosa chiefdom, while still large, was in a state of decline. As a guest at Coosa, they participated in a raid on the Napochies who were refusing to pay tribute to the paramount chief (Hudson et al. 1989). Based on the description of the two-day trek, archaeologists have argued that the Napochies lived on the Tennessee River near modern-day Chattanooga. When Pardo began his expedition, he had planned to find the famed Coosa but never reached that far into the interior. Nevertheless, Coosa seems the have retained some of its previous power since the Pardo account states that Coosa had influence over the native groups living in Tennessee (Hally 1994; Smith 2000). Smith (2000) goes on to estimate that disease and other internal cultural conflicts led to the downfall of Coosa by the end of the sixteenth century, after which northern Georgia was abandoned and the Coosa people dispersed into Alabama. This process led to the end of the paramount chiefdom and its control over neighboring territories.

The Spanish accounts leave no doubt that Coosa was a powerful political entity, but as Boyd and Schroedl (1987) and Hally (1994) point out, the exact relationship between Coosa and the geographical area of modern-day Alabama, Georgia, and Tennessee, is poorly understood. Boyd and Schroedl (1987) likewise point out that the Spanish accounts are written from a European perspective and the conquistadores, not being historians or anthropologists, may not have completely understood the political organization they saw. Estimates for the distance traveled by De Soto, De Luna, and Pardo are also disputed. They often traveled for a certain number of days in a particular direction measuring the distance in Spanish leagues. Since the interior had never been mapped their directions and distance are more of an estimation. In attempting to map De Soto's route in particular, these estimates have been used to not only identify a probable route, but also match the Native American village names the Spaniards

recorded to archaeological sites. Often this correlation is accompanied by evidence of Spanish trade goods on the site. The issue with this assumption is that there is no way to be sure whether those particular trade items were traded directly to that village or if they were re-traded to other groups. Redistribution of European trade goods was likely a common practice since they would have been seen as prestige goods that could have been passed on to more important members of a group or given as gifts to neighboring village leaders (Boyd and Schroedl 1987; Hally 1994; Hudson et al. 1985).

Archaeological evidence making a connection between Coosa and the East Tennessee Valley has been limited. Material culture in the Southeast during the Late Mississippian period does have regional variation, but some uniformity also is a common occurrence due to the spread of Mississippian culture throughout the region. Artifact types and styles, especially ceramic motifs, are similar and even distinctive ceramic types were traded or influenced other potters over a vast distance. The distinctiveness between Lamar and Dallas ceramics is evident, but Lamar and Dallas ceramics are found throughout the Southeast, indicating trade or interaction of some form. A possible connection between Coosa and East Tennessee is indicated by the presence of rattlesnake Citico style gorgets from burials in the valley. The Citico style gorget is speculated to be associated with lineage lines from Coosa and their presence in the archaeological record suggests kinship or political alliance (Hally1994; Hudson et al. 1985).

Harle (2010) has addressed biological research concerning the creation of cultural identity when she looked at biological similarities among groups in East Tennessee and North Georgia. If the two areas were linked by political alliance and kinship, then there is the expectation that the two groups would be biologically similar. The presence of Citico style gorgets and Dallas style pottery in Barnett phase (A.D. 1450 – 1550) burials in North Georgia

signal a trade network and interaction between the two groups. Harle's biological distance analysis demonstrates a different pattern. Barnett phase sites in North Georgia are biologically distinct from Dallas and Mouse Creek phase sites in East Tennessee. This finding led Harle to suggest that there may have been a cultural barrier that prevented the gene flow between the two populations, which may indicate that Coosa may have not exercised much control or even any over East Tennessee groups (Harle 2010).

There is not sufficient archaeological or bioanthropological evidence to either support or disprove the interpretation that Coosa controlled parts of East Tennessee as proposed by Hudson et al. (1985), Hally (1994a), Little (1981), and Smith (1987, 1994, 2000, 2002, 2006 [1989]). The only certainty is that trade was a major influence in the interior Southeast during the Prehistoric period and led to the distribution of ceramics and gorget types. This finding is not surprising as long distance trade in North America can be traced back to the Paleo-Indian period. Using Harle's (2010) analysis, the biological data does not suggest a biological connection distributed throughout the proposed Coosa chiefdom area. If Coosa were as powerful as the Spanish would lead us to believe, it would stand to reason that political alliances would have been sealed through kinship. What we do know is that the Spanish did encounter a strong political entity known as Coosa, but it is entirely possible that Spanish were misinterpreting the political circumstances they were witnessing either through a cultural bias, a language barrier, or to impress their benefactors. It is also possible that De Soto over exaggerated the prominence of Coosa and that the later Spanish accounts, while noting decline, were actually describing Coosa's normal cultural state. More evidence is needed in order to understand Coosa and its political circumstances, but from the East Tennessee perspective the archaeological material does not seem to support a strong political influence from North Georgia. Interaction was likely, but

to what extent and how far the geographical range of Coosa's power was into East Tennessee, is poorly understood. What is important, especially in the context of the research presented here, is that the Spanish were encountering Mississippian chiefdoms during the sixteenth century and were able to document their slow political decline. By the beginning of the seventeenth century, the political system had collapsed and the Native American populations had to find new ways to organize both culturally and politically in order to survive the consequences of European incursion into the interior.

5.3 The "Forgotten Century" of the Southeast

Until recently research into the Protohistoric period in the Southeast was sparse because scholars focused either on the prehistoric populations or the historic tribes identified in the eighteenth century. Interest in the Protohistoric period has spurred publications such as *The Forgotten Centuries: Indian and Europeans in the American South, 1521 – 1704* (Hudson and Tesser 1994), *Between Contacts and Colonies: Archaeological Perspectives on the Protohistoric Southeast* (Wesson and Rees 2002), and *The Transformation of the Southeastern Indians 1540 – 1760* (Ethridge and Hudson 2002). Titles like these imply that the Protohistoric period was a turbulent time that has been largely ignored (Beck 2013). That begs the question of why was this period ignored? The answer to this question is not a simple one and I argue that the Protohistoric period has been the victim of neglect in our field. This is not to say that researchers intentionally ignored the Protohistoric period, but that unlike the previous centuries of Native American history, the Protohistoric period is difficult to study because it is a time of great change packed into a very limited number of years. In previous cultural periods that have been defined in the Southeast, cultural change could be charted over the course of several centuries. Researchers have had to more finely tune their research methods for the Protohistoric period in order to tease

out the rapid changes that took place over a short time. The purpose of the following section is to summarize current historical understanding of the Protohistoric period.

Mississippian Polities. Mississippian polities were widely dispersed throughout the Southeast. Mississippian culture as a whole had similar characteristics, but regional variation in culture and political structure were common. Rarely did any polities last more than a couple of centuries. Large-scale site abandonments and relocations were common throughout the Late Prehistoric period (Anderson and Sassaman 2012). Research concerning the rise and fall of chiefdoms in the Southeast has been compared to processes of "cycling", "fission-fusion", or competition between regional consolidation and local autonomy in the formation of multicommunity hierarchies (Anderson 1994; Beck2003; Blitz 1999).

The political nature of chiefdom polities made them susceptible to fluctuations in power and structure. Small chiefdoms would rise to power as a result, often through the accumulation of surpluses, warfare, or prestige. As the polity expanded its influence over the area, it could incorporate large portions of a particular region in the Southeast. Polities were often built on systems of redistribution and reciprocity that left them vulnerable to internal struggles among competing lineages. They were also vulnerable to competition that resulted from local communities resisting consolidation. Coupled with uncertain external forces such as climate change, crop yields, and ultimately contact with Europeans, this vulnerability led to political collapse. In terms of "cycling" or "fission-fusion" these processes entail groups rising to power and expanding before a process of decline (Anderson 1994; Anderson and Sassaman 2012; Blitz 1999). In the formation of multicommunity chiefdoms scalar hierarchies come into play where decisions made at any level can affect other levels. Beck (2003) proposes this came in the form of constituent hierarchies. In a constituent hierarchy local chiefs cede part of their authority to a

regional chief and the advantage at the local level comes from those political ties remaining relatively autonomous from the regional hierarchy. In an apical hierarchy the regional chief delegates their authority to lower levels in the hierarchy, choosing local leaders to carry out the chief's will. The local leaders are often highly ranked kin promoting a regional aristocracy and the apical model reduces the local autonomy (Beck 2003:645-646).

The chiefdom model was based on the premise of redistribution as outlined by Service (1975). Since the 1970s the importance of redistribution has lessened, but the chiefdom terminology has remained. Welch's (1991) study of Moundville's economy challenges the idea of redistribution and instead proposes that the control of prestige goods among elites was what fueled economic exchange and distribution in this particular case. Other work has likewise rejected Service's (1975) model of redistribution (see Carneiro 1981; Helms 1979; Pauketat 2007; Peebles and Kuss 1977; Steponaitis 1978; Taylor 1975; Welch 1991). Certainly redistribution does exist in chiefdom level polities, but its significance is no longer regarded as the only driving force in the creation of the chiefdom political system.

By the end of the sixteenth century, Mississippian polities were in a state of decline. This decline did not come in the form of a single cascade event, but was likely compounded by a series of circumstances that affected each area of the Southeast differently. The Spanish incursion into the Southeast during the sixteenth century helped to spur on this political collapse as the possible introduction of disease, depopulation, and the formation of alliances and coalescent societies, became defining factors; added to this was the fact that the period as one of significant climate change, the Little Ice Age. How these processes affected all of the Southeast is not clear, especially in areas in the interior like East Tennessee where the archaeological record is poorly understood, but what we do know is the decline of the Mississippian political

system was a complex process (Anderson et al. 2007; Anderson et al. 2012; Anderson and Sassaman 2012; Beck 2013; Sassaman 2012).

Changes during the Protohistoric Period. European contact during the fifteenth and sixteenth centuries was brief in the interior Southeast. After the initial Spanish entradas, most European contact was relegated to coastal areas. While contact in the interior was sporadic, it had a lasting effect on the native populations in the Southeast. One of the greatest effects was the introduction of European trade goods. Initially, Europeans assumed that the Native Americans wanted the trade items based on their assumed functional superiority. What we find instead in the archaeological record is that the Native Americans repurposed the trade items and incorporated them into their preexisting symbolic culture (Loren 2008; 2010; Wesson 2002).

Trade took on a much different role for Native Americans by the end of the seventeenth century. An interconnected web of trade routes had crisscrossed the North American continent for thousands of years, allowing for the circulation of prestige items. Some native items possessed great political or spiritual power within the Mississippian cultural system because of their rarity. European trade items became more readily available as the seventeenth century progressed especially after the founding of Charles Town, which further contributed to changes in power dynamics for many native groups throughout the Southeast. Native American middlemen became essential not only in the Southeast, but also in the northern fur trade, to expedite the moving of materials between groups. Unfortunately, European trade in the Southeast led to the establishment of the deer skin and slave trade. The establishment of this specific trade network significantly impacted native groups as warfare escalated and the movement of people hastened the spread of disease throughout the Southeast (Kelton 2007; Marcoux 2008, 2010; Martin 1994).

5.4 The Spread of European Diseases

The spread of European diseases throughout North and South America has been extensively researched, but the spread of these diseases is still poorly understood, when they came into contact with Native American populations, and what specific diseases were responsible for population decline. Native American populations had been isolated from the rest of the world since the end of the last Ice Age. Not only were they genetically isolated, but their immune systems were also isolated from Old World pathogens. When Europeans began to explore and conquer the New World they inadvertently spread these pathogens to the Native Americans. Estimating death tolls has been extremely hard because it is unknown how large the population of Native Americans was in both North and South America. Diseases do not always leave evidence in the archaeological record, even in human skeletal remains, which makes their presence and type of disease extremely difficult to identify (Ramenofsky 1987).

Assessing the timing of the introduction of diseases has been a point of contention over the past few decades for researchers. As early as 1493, signs of European disease had begun to spread across Hispaniola. As the Spanish conquest continued, thousands of people and numerous kinds of livestock were introduced into both North and South America, a process that had the potential to spread disease (Kelton 2007). Pathogens easily spread throughout Mesoamerica and South America because of the densely populated cities the Spanish encountered. The diseases ultimately decimated the Aztec and Incan Empires.

Spread of disease throughout North America was somewhat more difficult. Native American villages were not as densely populated like the cities of Mesoamerica and South America and often there were large distances between settlements, especially in the Southeast. Even the De Soto accounts describe vast distances where they did not encounter Native

Americans (Clayton et al. 1993a, 1993b). Dobyns (1981, 1983) has advocated an early date for the introduction of European pathogens. He uses the smallpox epidemic of 1519 in Mexico as the point of initial infection. Dobyns (1981, 1983) then theorizes that smallpox spread through both continents followed by measles in the mid-1520s. When the Spanish established La Florida in the sixteenth century they introduced at least 12 separate pathogens based on Dobyns's projections, including four types of zoonoses (diseases found in animals that can be transmitted to humans), typhus, malaria, plague, unknown types of fevers, smallpox, typhoid fever, mumps, influenza, and measles (Dobyns 1983; Ramenofsky 1987). Kelton (2007) also theorizes that malaria likely survived the trip across the Atlantic and was spread by the Spanish.

Kelton (2007) proposes that malaria may have had a chance to spread slowly throughout North America, but was not as deadly as other pathogens. More deadly pathogens like smallpox typically have a short life span, and "buffer zones" between Native American settlements would have presented large barriers for the spread of the disease. Many of the early European explorers were adult men who were unlikely candidates to be carriers for smallpox because it was typically a childhood disease in Europe (Beck 2013; Kelton 2007). Beck (2013) contends that any diseases the Spanish conquistadores would have been carrying would likely have run their course before they passed into the Carolina Piedmont, and their accounts due not chronicle any type of highly contagious disease among themselves (Beck 2013:6). Diseases that the Spanish could have carried into the interior were less deadly but could have been passed on to native populations, such as influenza. In the case of De Soto's expedition, the pigs he brought with him may have led to the transmission of influenza to the native peoples living in the interior, as influenza that crosses between pigs and humans is fairly common. Even though De Soto, De Luna, and Pardo, ventured into the interior, they did not cover enough area to provide an accurate account of how

disease was spread throughout the interior Southeast. Along the east coast where interaction with the Spanish, French, Dutch, and English, was more direct, the spread of disease did occur more rapidly; however, depopulation was not always the end result as Europeans encountered surviving Native American groups in La Florida throughout the sixteenth century. The consequences of the Columbian Exchange became more evident in the Spanish Missions as the interaction between Native Americans and European missionaries was more intensive and helped to facilitate the spread of disease through native groups living at or near the missions (Kelton 2007).

Other researchers like Ramenofsky (1987) argue for a later introduction for most diseases into North America than Dobyns. In her research, Ramenofsky agrees that smallpox was likely the earliest disease to be transmitted across vast distances beginning in the sixteenth century. The 1519 smallpox epidemic in Mexico in her opinion was as significant as Dobyns theorized, but the extent to which it spread throughout North America is still poorly understood. As for the other vectors of illness which Dobyns (1981; 1983) and Kelton (2007) suggest, Ramenofsky is skeptical and links them to a later seventeenth century introduction. One of the main points of contention is that diseases such as measles, mumps, and influenza, require rapid transmission or large population clusters to be effective in devastating a population and this requirement would not have been possible during the initial contact of the sixteenth century.

Ramenofsky (1987) also points out several discrepancies when it comes to theories of depopulation, political collapse, and the spread of disease in the archaeological record. Populations located further inland would likely have had a much different experience following initial European contact. This difference begs the question as to what would have been the rate of survival for populations living in the interior versus those on the coast of La Florida or near

Mexico. One of De Soto's accounts describes an unknown disease affecting people that were encountered in the Cofitachequi province in what is now modern-day South Carolina. The account states "About this place, from half a league to a league off, were large vacant towns grown up in grass that appeared as if no people had lived in them for a long time. The Indians said that two years before, there had been a pest in the land, and that the inhabitants had moved away to other towns" (Garcilaso de la Vega 1951:325). While it is unknown what this outbreak was, it is likely it was linked to Ayllon's failed colony in South Carolina in 1526 during which time over two-thirds of the colonists died from disease (Alchon 2003). The next recorded epidemic in the Southeast was recorded by a French missionary in Arkansas in 1698. As contact with Europeans became more regular in the eighteenth century, so too did the appearance of smallpox which further devastated native populations. Seventeenth- and eighteenth-century French and English accounts often comment on the depleted populations they encountered in the interior when compared to the Spanish accounts. These accounts have led researchers like Alchon (2007) to assume that the supposed depopulation in the interior, especially in Tennessee, has a direct correlation to the spread of European pathogens and that these diseases made their way into the interior at an early date, likely in the sixteenth century.

Recent work compiled by Cameron et al. (2015) looks at how not only disease but also a variety of factors likely played a part in the depopulation of eastern North America. Jones (2015) points out that many of the disease narratives published over the past few decades have relied heavily on the virgin soil factor, in which diseases that were introduced into the Americas spread quickly because of a lack of immunity. This assumption has mainly been based on the Spanish accounts from Mesoamerica and South America where disease did spread quickly through the Aztec and Incan Empires. The problem with this comparison is that the cultures the Spanish were

encountering in Mesoamerica and South America were state level societies with densely populated cities. Like in Europe, pathogens could more easily spread among these larger groups. Research in North America has put the claims made by Dobyns (1981, 1983) in a new perspective, arguing for a much slower spread. Studies conducted by Crosby (1972) and Livi-Bacci (2003) have shown that even smallpox was slow to spread throughout the Caribbean during the first 25 years of Spanish occupation. Turning attention towards North America, researchers have found delayed epidemics and prolonged stable populations (see Hutchinson 2007, for northern Florida burial contexts; Barrett 2002, for stable Pueblo populations; Warrick 2003, for stable Huron-Petun populations). Kelton (2007) has likewise theorized that the introduction of disease via the Columbian Exchange was not an automatic death sentence for native populations encountering Europeans. Diseases were spread to populations in the interior either through direct European contact or through Native American middlemen, but groups would have reacted differently to the introduction of diseases and were not limited to complete destruction or abandonment. Groups in the interior could have survived the introduction of less deadly diseases like influenza and recovered enough to survive throughout the Protohistoric period.

Jones asks the question: “Does the lack of evidence of epidemics mean that no epidemics took place?” (Jones 2015:27). It is possible and likely that many diseases that came to the New World did not leave a trace in the archaeological record, as some diseases are fast killers and would not have had adequate time to effect the skeleton, our only source of biological data. Furthermore, many of these diseases were not recorded in historical documents. Jones warns that “historians, however, should be cautious before concluding – without evidence – that epidemics did take place” (Jones 2015:27) simply because it is assumed theoretically that disease could

have spread. Jones' (2015) argument spans the entirety of North American and shows a variety of biological and cultural responses. Later European accounts often included descriptions on the spread of disease, but Jones finds these a product of "encounter-induced social disruption" (Jones 2015:28). Livi-Bacci's (2011) work in Hispaniola has shown that native population response to disease was highly affected by their demographic system. If the system was already crippled by other factors such as economic, political, or environmental issues, the introduction of disease further compounded the problem and native populations were less likely to survive the shock. In recent years Ramenofsky's research has been refined to include multiple vectors beyond the pathogens themselves for the decline in population of Native American groups in North America (Ramenofsky et al. 2003; Ramenofsky et al. 2009).

Turning attention back to the interior Southeast, the first recorded outbreak of smallpox did not occur until the 1690s when other native groups were venturing further inland to procure native slaves to be sold in Carolina. Europeans had had very limited direct contact with native populations before this point. This point leads to a model of disease spread that equally weighs both pandemics, which would have killed on a mass scale, and local outbreaks, which would have only killed a few. Diseases like smallpox that are fast killers rely on person to person contact in order to spread. Milner (2015) points out the political organization would have been key to the spread of these diseases. If cultures across the continent were more culturally homogenous, heavily populated, and all had regular contact with one another, then smallpox could have spread quickly through a chain of interconnected groups. Milner (2015) points out that the archaeological record does not support this idea. What we find instead are a variety of cultures dispersed across the continent that did conduct trade, but the trading might have been sporadic in nature. Many of the groups that the Spanish focus on in their accounts were

chiefdoms and thus had larger interconnected populations. It would then make sense that disease would hit these cultures harder, even diseases with short incubation periods. Other areas that were more autonomous would have been at lower risk for infection. Milner goes on to speculate that other reasons like military action and slaving would have caused a series of town or village abandonments. The main take-away from both Jones (2015) and Milner's (2015) work is that disease was present in North America, but its dispersal and resulting cultural catastrophes has to be taken in context with the broader cultural situation, which included the decline of the Mississippian chiefdoms, the influx of trade, European colonialism, and the native slave trade.

Based on the evidence presented by Kelton (2007), the likelihood of adult male explorers transmitting lethal diseases like smallpox into the interior Southeast was low; however, less deadly disease like influenza or malaria could have been transmitted. The greatest pandemics on the eastern coast for which there is evidence are confined to the areas around the Spanish Missions; the Native Americans inhabiting the missions were also suffering from massive cultural changes and other nutritional hardships that may have weakened their immunity. Instead of thinking that European diseases preceded the Spanish into North America, it may be more prudent to assume that disease followed them. This scenario certainly seems to be the case with the Southeastern smallpox epidemic of 1696 that was mainly spread through the English colonies (Kelton 2007).

The Great Smallpox Epidemic. The Great Smallpox Epidemic began in 1696 and became one of the worst pandemics to strike the Southeast. The influx of Europeans had decreased the potential "buffer zones" between native groups by the end of the seventeenth century. The establishment of Charles Town meant increased trade and interaction. While Kelton (2007) has argued against a pandemic in the interior Southeast during the early part of the century, the

barriers he outlines such as Native American "buffer zones" and the absence of European children suffering from the disease, no longer existed after the English expanded deeper into the interior. Larger numbers of people were traversing the trade networks of the Southeast spreading trade goods and disease by the 1690s. The situation came to a head in 1696 when a ship carrying African slaves infected with smallpox landed in Virginia. After spreading through the English colony, the disease worked its way into Carolina and then into the interior as far as the Mississippi Valley and Gulf Coast. Native American populations in the Southeast were decimated as the virus rapidly spread across the landscape (Smith 2014).

5.5 Theories on Depopulation

Spanish accounts from the sixteenth century describe abandoned villages and depopulated areas. For many researchers these accounts have been interpreted as meaning diseases spread throughout the Southeast leaving destruction in their wake. Disease is not the only factor that could have contributed to depopulation or population movement throughout the Protohistoric period, as political collapse and changes in indigenous culture may have led to other population movements. Kelton (2007) uses the example of the decline of Cahokia during the thirteenth century to illustrate that changes in the social or cultural landscape can result in depopulation without the interference of Europeans.

Interpretations have been made about the depopulation of East Tennessee during the seventeenth century (see Dickens 1986; Kneberg 1952; Lewis and Kneberg 1993 [1946]; 1958; Smith 1987; 2000; 2002; 2004/2005). Lewis and Kneberg during the WPA-era saw the archaeological record of the East Tennessee Valley as a series of ethnic group successions in which groups periodically replaced one another. Lewis and Kneberg's replacement model connected the Dallas phase people to the Creeks and the Mouse Creek phase people were then

connected to the Yuchi, who Lewis and Kneberg believed migrated from Middle Tennessee to reside in the East Tennessee Valley. The Cherokee were treated as a separate group living on the Upper Hiwassee River since 1540. Depopulation occurred as the Creek and Yuchi migrated to the south leaving the remainder of the East Tennessee Valley open for Cherokee habitation (Kneberg 1952; Lewis and Kneberg 1993 [1946]:12, 1958; Schroedl 1986). Dickens (1979) went on to conclude that the Cherokee were the indigenous byproduct of cultural interaction between Lamar and Qualla cultures. Dickens revised his hypothesis in 1986 with his article in the *Conference on Cherokee Prehistory,* instead hypothesizing that the Spanish incursion into the Southeast highly affected Native American groups. He proposed that southern East Tennessee had become abandoned after De Soto and Pardo's expeditions and that the Cherokee who had faired far better in the Piedmont region were able to branch out into vacant areas.

After the publication of *The Conference on Cherokee Prehistory*, Marvin Smith was the one researcher to take much interest in East Tennessee during the Protohistoric period. Between the 1980s and early 2000s, Smith published multiple articles, chapters, and books, concerning the Protohistoric period and subsequent depopulation theories. Smith's dissertation work at the University of Florida culminated in his 1987 publication *Archaeology of Aboriginal Culture Change in the Interior Southeast.* Smith argues that European-borne diseases were responsible for the widespread population collapse in the interior Southeast and that acculturation played no part in the creation of modern Historic tribes. The population collapse is attributed to what Smith defines as the Early Historic period that ranges from 1540 to the 1670s. He then further subdivides the Early Historic into smaller sub-periods (Table 5.1). Early in his argument, Smith pulls together an extensive line of evidence to support depopulation including artifact styles, mass burials (those burials containing more than two individuals), multiple burials (those burials

Table 5.1. Smith (1987) Early Historic Sub-Periods

Period Name	Date Range	Origin	Diagnostic Artifact Types
Period A	1525 – 1565	Early Spanish explorers including De Soto, De Luna, and Pardo	Tubular Nueva Cadiz beads, faceted chevron beads, iron chisels and wedges, Clarksdale style bells, sheet brass beads, and military hardware
Period B	1565 – 1600	New villages established after the first epidemics brought by the Spanish and traded with Spanish settlements	Similar to Period A except for a change to spherical blue beads and eyed axes. Cut crystal, silver items, and amber beads are found in Florida but not in the interior
Period C	1600 – 1630	Aboriginal trade with Spanish settlements along the Atlantic coast.	Artifacts are more common and no longer restricted to elite burials. Spherical turquoise blue beads are introduced and chevron beads, eye beads, and compound beads are diagnostic. Brass disks also become common. Flush loop bells are introduced.
Period D	1630 – 1670	Trade expands to the Northeast to include interaction with the English, French, and Dutch to obtain more trade goods. Virginia explorers are also a potential source.	Clarksdale bells, eye beads, chevron beads, and multi layered beads disappear. Brass pendants including animal effigies, crescent gorgets, and brass clips become common. Firearms are likely introduced.

(Historic sub-periods taken from Smith (1987) and based on artifact assemblages)

containing two individuals), site size, the number of sites, mound usage, and population movements (Smith 1987). Using this criteria Smith compares East Tennessee to the circumstances of Coosa, where the chiefdom was abandoned and the population moved downstream to Alabama. Smith speculates that the populations living in Mouse Creek towns on the Hiwassee River abandoned the sites and that surviving populations moved north to the Tennessee River. Sites on the Little Tennessee River were likewise abandoned during the sixteenth century and re-inhabited by immigrating Cherokee populations during the latter part of the seventeenth century (Smith 2006 [1989]). Based on this model, Smith hypothesizes that there is little evidence for early seventeenth-century occupation on the Hiwassee and Little Tennessee Rivers (Smith 1994).

Interpreting his depopulation model from a migration perspective, Smith (2002) proposed a series of pushes and pulls that would have enticed and forced populations to abandon sites and migrate. In terms of push factors, Smith proposes that the devastation of disease, political factionalism, the Iroquois War, and the native slave trade, would have been formidable obstacles for local populations to overcome and likely caused widespread abandonment in order for them to survive. Pull factors for Smith include European settlement and trade, favorable environmental zones, captured territory, elites seeking to form alliances with the Spanish, Spanish Missions, and cultural similarities (Smith 2002).

Interpreting Smith's Evidence. A major source of evidence that Smith uses is the presence of European trades items on sites, especially chronologically distinct glass trade beads. Often these beads are highly diagnostic in either color scheme or style, making them good bench marks for dating features. The most commonly found bead type in Tennessee, especially in early deposits, are plain opaque turquoise blue beads which have a long manufacturing range lasting

for centuries. Focusing on Spanish specific beads, like the Nueva Cadiz styles, offers strong early dates but the likelihood of these beads reaching so far into the interior may have involved issues with the trade network or simply the number of beads available. Other artifacts like brass/copper cones or tinklers, brass/copper gorgets, and European hawk bells have strong temporal patterns, but curation of items by Native Americans, trade item availability, and interior access still remain obstacles for accurately dating sites. Smith (2004/2005) likewise acknowledges this problem. Spanish accounts mention that some European trade items were interred with native elites, but likely this practice did not account for every European trade item that found its way into the interior Southeast. There is truly no way to interpret how long trade items were curated by a certain person or kin group, or whether items were traded to other villages multiple times. Smith (2004/2005) suggests taking into account an entire assemblage in order to create an accurate chronology, but if a particular artifact style or type has a long manufacturing range, visible physical attributes will prove to be a hindrance in creating a chronology.

The other criteria that Smith uses stem mainly from the assumption that early Spanish explorers spread disease throughout the Southeast. Smith (1987) uses multiple archaeological parameters to test Dobyns' hypothesis of early demographic collapse. The first of these is reduced site size. Smith looks at sites like Upper Hampton Farm, DeArmond, Citico, and Toqua, to illustrate the idea of reduced site size over time, a phenomenon he attributes to depopulation from either abandonment or disease. The problem with attributing site size reduction at these specific sites is that Upper Hampton and DeArmond were not fully documented until the 2000s. Further exploration of the sites has revealed a much longer occupation period than previously thought (Dalton-Carriger 2011; Koerner 2005). Analysis of Upper Hampton Farm has shown an

occupation history that extends into the Protohistoric period. While site size is an important field of study in determining population dynamics over time, a reduction in site size may not be a direct correlation with European disease.

Other evidence Smith (1987) uses is the presence of mass or multiple burials. Smith defines mass burials as those containing more than two bodies and multiple burials containing exactly two burials. Smith believes placing multiple bodies in one grave facilitated the demand for quick burials for large numbers of people. It has also been suggested that in some cases the death toll was so extreme in some villages that there was no one left to bury the dead (Smith 1987). While there were certainly areas, especially near the coast and in Spanish Missions, that had mass deaths because of disease, the problem with applying this scenario to the East Tennessee Valley is that there is no evidence of mass graves for this time frame. Multiple burials are common, but multiple or double burials are also found before European contact and have been documented at Upper Hampton Farm (Dalton-Carriger 2011) along with other East Tennessee sites. Other issues encountered in dealing with burials are that there have not been systemic methods developed to date each burial at every site. Protohistoric period or seventeenth-century burials may be present on sites, but have not been identified because not all burials during this early period are likely to contain European trade goods.

Smith (1987) also uses the number of sites that existed during his Early Historic sub-periods as data for his model. For the Tennessee River drainage, Smith identifies 12 sites in Period A, 8 sites in Period B, 10 sites in Period C, and 8 sites in Period D. He also goes on to cite Richard Polhemus in a personal communication that “there is no evidence that populations were living in small hamlets or farmsteads in the Tennessee Valley either in the late prehistoric or early historic periods” (Smith 1987:72). Based on more recent research, the number presented by

Smith and the statement made by Polhemus severely underestimate the habitation of the East Tennessee Valley at this time. One reason for this underestimatin was a lack of understanding of settlement pattern changes from numerous small, dispersed settlements with few residents at mound centers during the Hiwassee Island phase to a consolidation of population at mound centers during the Dallas phase, especially in southeastern Tennessee (Sullivan 2016). Another reason for this underestimation has mainly to do with identification and research of archaeological sites. Most of the East Tennessee sites were excavated during the WPA period of the 1930s and 1940s. The WPA excavators were working on tight schedules as TVA was systematically building dams along the river system that would inundate thousands of acres. Unfortunately, many of the Native American sites were located along these waterways. WPA excavators had to choose which major sites to excavate and which ones to abandon. Additionally, after World War II began many of the materials from WPA sites were shelved and were never reported beyond the original WPA field paperwork (Lyon 1996). As a consequence, we do not have an accurate picture of the number or size of sites that existed in the East Tennessee Valley. Since the 1970s there has been a significant effort to utilize the extant collections from the WPA and Tellico excavations, but these studies have only scratched the surface of the valuable data housed at the McClung Museum of Natural History and Culture.

Population movement is the third line of evidence Smith (1987) uses to support demographic collapse. This idea ties in with his assertions of shrinking site size and decreasing number of sites. The collapse of chiefdoms would certainly have set off population movements throughout the Southeast even without the presence of European disease. Blitz's (1999) study of the Mississippian fission-fusion process certainly demonstrates the rise and fall of political entities, which can result in a reorganization of political structures. Additionally, the

advancement of European traders and settlers into the interior would have set off mass migrations later in the seventeenth century. Smith's (1987, 1994, 2000, 2002, 2006 [1989]) underlying assumption has been that prehistoric populations in East Tennessee were either killed off or migrated and thus freed up area for Cherokee populations to move into at the end of the seventeenth and early eighteenth centuries. His proposal has been mainly based on a lack of Protohistoric period archaeological evidence. The pattern elsewhere in the Appalachians, especially in the Carolina Piedmont, is a continuous uninterrupted cultural sequence. Beck's (2013) work focuses on the coalescence of the Catawba between the fifteenth and eighteenth centuries. Before the arrival of the Spanish Beck argues that the political landscape of the Mississippian towns in the Carolina Piedmont were structured around maize agriculture given as tribute to support the chiefdom system. As the Spanish and later the English came into contact with this area the previous economic system began to fail, but did not result in large scale depopulation. The deer skin and slave trade, which was exacerbated by the Westos, weakened the tribute system and led to its ultimate collapse. After the Westor fail out of favor with the English, the Catawba experienced a major cultural, economic, and political shift that resulted in the formation of a coalescent society (Beck 2013). Kelton (2007) also presents evidence from valleys in Alabama near the Tallapoosa, Coosa, and Alabama Rivers, that do not seem to experience any major disruption in their cultural sequence or habitation frequency, despite being in direct contact with both De Soto and De Luna's expeditions.

5.6 Trade

Prehistoric Trade. Trade has always been an important concept in understanding Native American culture both prehistorically and historically. Native American groups flourished across the continent for thousands of years before European contact, and wove a complex network of

trade routes. Prehistoric trade in the Southeast during the Mississippian period involved prestige goods as well as everyday necessities like salt. Prestige item trade allowed elites in Mississippian societies to obtain objects that likely held supernatural power and reinforced elite status. Common prestige items from this period often had a luster and included crystals, minerals, copper, and shells (Richter 2013). Controlling access to these prestige goods, either by individuals or kinship groups, ensured their position of power in the community (Wesson 2002). Some individuals served as middlemen to transport prestige items across great distances in North America (Richter 2013). Most trade likely took place between local communities united by kinship ties, but trade of exotic materials only obtainable through long distance interactions presented significant dangers as native traders would be leaving the protection of the kin group. Despite the danger, the possibility of bringing exotic materials back to the community produced prestige if successful (Hall 2009).

European Trade. Contact with Europeans in the sixteenth century brought access to new trade items for Native Americans. The Spanish documented that they traded with native groups in the interior and this documentation has led some to assume direct trade between De Soto, De Luna, or Pardo, to the Native Americans individual trade objects were interred with. The problem with this assumption is being able to predict past trade within a group. Trade was an extremely important part of Native American life and it should not be underestimated how far a trade item traveled once it reached native hands. It should come as no surprise that European items were traded along the same routes that were used in the past and made their way into the interior both preceding Europeans and long after contact (Loren 2008).

Instead of being passive observers after contact, Native Americans took on a more active economic role. The fur trade to the north was dominated by the French and Dutch and later the

English. European trade companies relied on Native Americans to bring furs to trading posts and European ships anchored off the coast in exchange for European trade items, instead of sending European trappers far into the interior. Similarly, to the south Europeans traded for native slaves and deer skins. Native American middlemen became an important part of the North American economy as intermediaries between interior groups and Europeans. They generally occupied a region from which they could safely make a one-year trip to European trading posts. Ray (1978) terms the area beyond this one-year zone as the indirect trade area. These groups lived beyond the distance that could be traveled in a single trading season and were less likely to encounter Europeans or obtain large numbers of trade items. Trade items that did make their way into the interior had likely been in circulation in native groups longer as populations closer to European trading posts would have had access to newer items.

Meaning of Trade. Native Americans did not understand trade as Europeans did. Europeans saw trade in the New World as an extension of their economic empires, but they assumed that trade goods would be used in the manner for which they were designed. European traders also saw a lucrative market for supplying Native Americans with the "baubles" they desired. This perspective led to an unrealistic notion that European trade goods were superior and native groups somehow developed an addiction to acquiring these objects (Miller and Hamell 1986). Once European trade items made their way into native hands their use often became ambiguous (Loren 2010). Studying the context in which we find these trade items has shown us how trade items were being incorporated into Native American life and were not simply superior replacements. Exotic trade items have a long history in the Southeast and were used by elites to accumulate and perpetuate their power and position within a group. These items were highly charged with ideological value and played a key role in the spiritual and political

landscape. European trade goods also were used in similar politically and ideologically charged circumstances. “Trade goods were valuable, not for their uniqueness, but for their similarity to native substances. These materials were incorporated with native shells, crystals, and metals into ceremonial objects possessing great ideological and symbolic meaning” (Miller and Hamell 1986:318). Glass beads became a means for divination and were added to personal adornment, stone tools were replaced by iron, and other metal items were flattened and reshaped to form different types of jewelry (Martin 1994). Copper kettles, for example, were regularly traded to Native American groups and instead of being used as a domestic household commodity, the Native Americans broke the kettles apart to be used as raw material for gorgets, tinklers, and other types of jewelry. (Richter 2013).

Changing Trade Relations. The role of European trade goods as elite items began to change by the seventeenth century. The collapse of the Mississippian period chiefdom system meant that elite members of the community no longer had the same standing. Combined with the population movements of the seventeenth century, new political organizations began to form that resembled coalescent societies. European trade items were a scarce resource and elites were able to control their acquisition and distribution during the sixteenth and the early seventeenth centuries, especially in the interior Southeast. But as European trade items became more readily available, they began to lose their appeal. Many different people in the community could acquire trade items during the remainder of the seventeenth and into to the eighteenth centuries, making elite status something that could often be achieved rather than ascribed (Smith 1987).

Despite the influx of European goods into the interior, Europeans themselves were not venturing far into the interior until later in time. One of the ultimate goals of trade with the Native Americans, especially in the Southeast, was to create a geographical buffer between

European colonies. Gift giving on the part of Europeans became an important part of creating alliances with Native American groups. French and English traders often had to compete with each other in acquiring allies (Martin 1994).

Trade in the Mississippian world also involved aspects of power and obligation. Gift giving played an important role in establishing good alliances and produced a system of obligatory reciprocity. Contexts in which gifts were given became a point of contention with the Europeans later in history. When coming from a position of power the items were seen as gifts that solidified alliances, but if the gifts were given in a weakened state then they would have been seen as tribute and it was important for Europeans to remain in the position of power. (Hall 2009). As Europeans pushed further into the interior, officials in Charles Town were able to establish interior trade routes by the end of the seventeenth century. Trade operated along two main routes, the first of which ran in a northwestern direction into Cherokee territory, and the second ran further west through Georgia to intersect with the Mississippi River. These routes allowed the Carolina colony traders to explore from the Appalachian Mountains to the Gulf of Mexico, creating an interconnected trade web. (Wright 1959)

The Gun Trade. The idea of trading guns to Native American populations was controversial during the seventeenth century. The prospect of native allies was a matter of protection from other tribes and other European powers, but introducing guns into the trade network made Europeans more vulnerable to attack. To the north, the French were originally adamant about not trading guns to native groups; however, the Dutch did not hold to the same policy. The inclusion of guns in the trade network became essential in acquiring and maintaining alliances and competing for control of the northern fur trade (Davis 1974).

Guns became especially powerful weapons with the advent of the native slave trade and strengthened the tribes that possessed them. The use of guns also led to the development of a dependent relationship. While the guns may have been a one-time trade, the need for ammunition, gun powder, and flint, created a symbiotic relationship especially in the Carolina colony. The colonists needed slaves and deer skins and the Native Americans needed guns and ammunition. This process incorporated various groups who out of necessity needed to remain level on the technological scale of warfare they were now engaging in, even if they had little desire to do so (Taylor 2001).

5.7 Cherokee Origins

The French, English, Spanish, and Dutch, encountered a large variety of Native American groups as they attempted to colonize Eastern North America. Broad regional traits are found throughout the continent as well as ethnically diverse smaller groups. A description of every Native American ethnic group residing in the Southeast during the Protohistoric and Historic periods is far beyond the scope of this project, instead the focus is on the Historic Cherokee population which resided in the Southern Appalachian region during the Late Protohistoric and Early Historic periods.

Distribution. A clearer picture of the Cherokee emerges with increasing European interaction and resulting records at the end of the seventeenth century. Based on research in the southern Appalachian region, the Cherokee were composed of roughly 60 to 65 communities separated into distinct divisions by the early eighteenth century (Table 5.2). While all of these divisions fell under the overarching umbrella of Cherokee ethnicity, they were culturally divided by dialects and pottery styles (Marcoux 2008; Schroedl 2000).

Table 5.2. Divisions of Historic Cherokee towns.

Division	State	River	Dialect
Lower Towns	Northeastern Georgia to northwestern South Carolina	Savannah River Drainage, Tugaloo River, Chattooga River, Keowee River, and Toxaway River	Elati
Middle Towns	Western North Carolina	Upper Little Tennessee River	Kituhwa
Valley Towns	Southwestern North Carolina	Upper Hiwassee River, Valley River, and Cheoah River	Otali
Out Towns	Western North Carolina	Tuckasegee and Oconaluftee Rivers	Kituhwa
Overhill Towns	East Tennessee	Hiwassee and Little Tennessee Rivers	Otali

(Information adapted from Schroedl 2000)

Origin. European contact in the interior Southeast was sparse, especially in the southern Appalachian region, despite early contact with the Spanish in the sixteenth century. Even with the Virginia slave trade to the north, few Europeans actually ventured very far into the interior. This absence of Europeans allowed for a buffer zone to develop where Mississippian groups had generations to recover from the decline of the Mississippian political and culture systems, and to regroup into a new sustainable form (Martin 1994). Even with the influx of trade goods into the interior, this trade was still done by Native American middlemen and not through direct contact with European traders before 1670. When Charles Town was founded in 1670 the Appalachian frontier became more porous as Europeans and Native Americans freely traveled between the coast and the interior. As the English began to contact the Native American groups of the southern Appalachian region by the end of the seventeenth century, the groups they encountered, especially the Cherokee, were strikingly different from the Spanish accounts of Prehistoric Mississippian people in terms of cultural characteristics and political organization.

Research into the origin of the Cherokee tribes has had a long history in southern Appalachia. Ethnographic data collected by James Mooney (1889, 1900) at the turn of the twentieth century described the Cherokee as linguistically related to northern Iroquois tribes. The Cherokee were thought to have broken away and migrated south during the sixteenth century, and that it was in fact the Cherokee who the Spanish conquistadores had encountered in East Tennessee. Cyrus Thomas (1890, 1894) research focused on the mound builder myth and ultimately conclude that the earthen works were constructed by Native Americans and not a separate people. In East Tennessee he concluded that the mound builders were the Cherokee. In terms of their origin Thomas (1890) proposed a migration theory. Based on linguistic similarities to the Iroquois and the historical accounts made by early explorers placed their ancestral home in the Ohio Valley and they migrated to the Southeast passing through North Carolina before settling in the East Tennessee Valley. By the mid-seventeenth century the Cherokee were fully established in the valley which indicates an earlier date for migration.

Building on Thomas' (1890, 1894) work M.R. Harrington's (1922) analysis of Cherokee material culture from East Tennessee shows a strong influence from the Southern Appalachian region (Harrington 1922:289). In his work he outlines two possible explanations for the origin of the Cherokee. The first theory states that the Cherokee had an early arrival date in Upper East Tennessee and slowly displaced the native Algonkian tribes further in the valley as the Cherokee migrated south. In this theory Harrington thought the Cherokee migrated from the Middle Mississippi Valley and as they encountered tribes in the Southeast they were culturally influenced and over time altered their ceramic and pipe material culture to suit. Harrington's alternative theory proposes that the Cherokee were originally found in the Ohio Valley and migrated south at a much earlier date, than as proposed in the first theory, and upon finding

Upper East Tennessee depopulated, the Cherokee settled in the valley. To account for the material culture Harrington states that the Cherokee would have imported the "eastern modification" of their culture in terms of ceramic and pipe styles. Harrington's conclusion hinges on the identification of the earlier inhabitants of East Tennessee in order to surmise their connection to the Historic Cherokee. This problem was one he hoped would be solved with further research (Harrington 1922:289-293).

Lewis and Kneberg (1993 [1946]) during the WPA-era investigations in East Tennessee speculated that the Cherokee were an intrusive ethnic group that migrated to western North Carolina and East Tennessee during the seventeenth and eighteenth centuries. Lewis and Kneberg proposed that the Cherokee eventually replaced the original Mississippian populations.

Researchers in both Tennessee and North Carolina by the 1960s were carrying out large scale excavations on Cherokee sites. Researchers at the University of North Carolina at Chapel Hill suggested a strikingly different theory than had been previously proposed. Instead of migration or intrusion, they opted for long-term *in situ* development in western North Carolina. The Middle, Valley, and Out Cherokee towns were formed from local prehistoric populations according to these scholars (Coe 1961; Dickens 1976, 1979; Egloff 1967; Keel 1976; Marcoux 2008). Dickens (1979) helped to pioneer the *in situ* idea, favoring a natural cultural evolution from Pisgah and Qualla populations. Dickens retracted his ideas of *in situ* development by the 1980s and instead proposed a multi-causal model. He saw the Cherokee developing from large population movements which caused depopulation and were affected by constraints imposed by the environment (Dickens 1986).

As research in Tennessee progressed during the 1970s with the Tellico Project, new theories were beginning to emerge about the development of Overhill Cherokee culture in the

East Tennessee Valley. Schroedl (1986) presented a counter theory to that of Dickens (1986) concerning the development of the Overhill Cherokee in East Tennessee. Schroedl's new hypothesis preserved the ancestral connection to Prehistoric Mississippian cultures, but with the understanding that the collapse of chiefdoms caused a cultural reorganization in East Tennessee and ultimately created the Overhill Cherokee. But, Schroedl also found fault in his own theory because, there is little evidence from seventeenth-century Overhill populations in East Tennessee to support this idea.

Research conducted in Georgia on Cherokee Lower Towns by Hally (1986) has found similar circumstances to those of an *in situ* development. Hally's investigation of the Cherokee towns along the upper Savannah River compared ceramic vessel forms between the Tugaloo phase of the sixteenth century and the Estatoe phase of the eighteenth century. The ceramic styles remain similar until the Early Historic period, signaling a deep cultural heritage between Prehistoric and Historic Cherokee populations.

Rodning's (2002b, 2004) recent research concerning Cherokee ancestry in the Carolina Piedmont has attempted to bridge the gap between the many origin models of Cherokee culture.

> The greater Cherokee community was a diverse and perhaps multiethnic congeries of towns in the early eighteenth century. This point has significant implications for the archaeological study of community formation and social dynamics in southern Appalachia during the sixteenth and seventeenth centuries. Certainly, the coalescence of native communities in southern Appalachia during these years was guided in some ways by the long-term histories of power within Mississippian chiefdoms. However, the greater Cherokee community formed as such partly as a result of the short-term responses of native groups to the European presence in their midst and the opportunities for trade that came with them (Rodning 2002b:157).

From this perspective Rodning sees merit in Hally's, Dickens', and Schroedl's work. Instead of an invading Iroquoian people, the Cherokee were created by a process of people moving across

the landscape and combining with the local populations of the area in which they settled. This model goes a long way to explain the similarities found between Cherokee ceramics and that of preceding Qualla, Lamar, and Dallas/Mouse Creek styles (Rodning 2002b).

Political Organization. The Overhill Cherokee in the East Tennessee valley lived in politically independent towns, small hamlets, and individual farmsteads. After the collapse of the Mississippian chiefdoms, the Cherokee of the Early Historic period were organized into a more egalitarian society. The towns were made up of individual households organized around seven matrilineal clans and there were no paramount chiefs to control the power dynamic of the groups and demand tribute. Individuals who were leaders within towns did not outrank other town leaders. Those who were members of the town council were representatives of their respective clans, but kin groups did not accumulate prestige and rise to power. Social inequality certainly existed because of the size of the Cherokee towns, as it does in all human societies, but was likely based on gender stratification and achieved status (Rodning 2002b; Schroedl 2000).

Cultural Traits. Overhill Cherokee towns consisted of octagonal townhouses or council houses, rectangular summer townhouses, and a village plaza. Individual houses consisted of both summer and winter structures. Winter homes were typically circular seven to eight meters in diameter, while summer homes were found adjacent to the winter ones, were rectangular, and roughly four by ten meters with open walls. These towns normally contained between 10 and 60 domestic structures housing anywhere from 100 to 600 people. The overall population of the Cherokee is estimated at 20,000 people, which was later reduced to around 12,000 by the end of the eighteenth century. The use of burial mounds stopped before the eighteenth century and the burials were normally placed in pits near the summer houses. Additionally, the palisade fortifications seen at the end of the Mississippian period were gone. Overhill ceramics are

predominantly shell-tempered with a plain surface treatment and folded rims. Ceramics from other Cherokee divisions are normally grit-tempered with abundant complicated stamping (Schroedl 2000).

5.8 Discussion

Cultural formation during the seventeenth century has been difficult to identify in the archaeological record. We know from Spanish accounts that the interior Southeast was a robust area inhabited by multiple Native American ethnic groups and cultural practices corresponded to Mississippian period traits. But at the end of the seventeenth century and during the early eighteenth century the cultural manifestations were quite different. Both internal and external factors played a major role in shaping the Native American cultures of the Protohistoric period, including disease, depopulation, trade, and the emergence of Cherokee culture.

Disease. The introduction of European diseases to the New World has always been a complicated topic. Researchers have debated over the past century the implications of deadly diseases like smallpox being introduced into Native American populations. The virgin soil hypothesis as originally proposed, relied on the idea that smallpox and other infectious diseases were introduced into Native American populations by the Spanish in the sixteenth century and the lack of immunity allowed the diseases to spread rapidly. New research now points to a later introduction of highly infectious diseases into the interior Southeast. Research is ongoing, but new data including population demographics and a more expansive study of the archaeological record have not produced one single explanation, but rather multivariate contexts in which Native American cultures responded to the spread of European diseases.

Focusing on the interior Southeast, it is useful to consider the statistical concept of correlation, in that correlation does not always equal causation. For too long, depopulation has been regarded as a sign of epidemic disease. This concept has become common practice and has permeated through both the historic and archaeological fields to the point where it is mostly taken at face value as being a scientific truth. The archaeological record does not support the idea because mass graves, which we would associate with large epidemics, do not exist in the East Tennessee Valley and there is limited historical documentation of epidemics. New research concerning disease and depopulation shows not a single answer, but favors rather a method of looking at a population in its full context. Rarely is there ever a single factor that destroys an entire culture. Why then are scholars so quick to correlate depopulation or population movement and the coalescence of societies solely with the causality of disease? The exact date of the introduction of smallpox into North America may never be known based on our current level of understanding of the archeological and historical records and our available technology. What we do know is that disease was introduced and larger populations were highly affected, but to what extent and the number of people which died is still poorly understood. If we have learned anything from the reexamination of the archaeological record, it is that populations responded differently to disease between the period of initial contact and the Historic period. While there was dramatic cultural change, not all of it can be attributed to the spread of disease and in order to understand the processes that took place, we have to view it in the context of the entire culture.

Depopulation. There is evidence of population movement during the seventeenth century beyond the effects of disease. The question then becomes was there such a significant population movement that whole areas were depopulated? This issue has been problematic in East Tennessee since there is very little written documentation or archaeological evidence to support

seventeenth-century habitation. Both Rodning (2002b) and Schroedl (2000) remark on the gap in our knowledge concerning the seventeenth century in the East Tennessee Valley. The foregoing sections make an attempt to critique and contradict Marvin Smith's work since the 1980s. This critique does not assert that his assumptions are wrong, but the problem is lack of evidence. How does one prove existence of culture if evidence cannot be found in the archaeological record? One of Smith's (1987:44) significant ideas is that an assemblage must be viewed in its entirety in order to create a chronology. In Chapters 9 and 10, I will show how new evaluations of extant artifacts can bridge the gap in showing seventeenth-century habitation.

Trade. Trade has been an important part of Native American history. The cultural change that took place after European contact was profound in terms of material culture. Instead of taking Europeans goods as objects with predetermined uses, the Native Americans who acquired these objects adopted them to suit different purposes. Native groups became experts at incorporating trade goods into their mental maps of reality and making what seemed unfamiliar familiar again. European trade items held power and imbued their owner with prestige just as exotic trade goods did in the Prehistoric period. As the chiefdom societies of the Mississippian period collapsed, these trade goods helped to create the new political organization of the Historic period, both in elevating individuals and creating alliances with Europeans.

Cherokee Emergence. The origin of the Cherokee has been a long debated topic in the Southeast. Models have ranged from a completely intrusive population to an *in situ* development. One problem has been that the Cherokee are often thought of as a single cohesive ethnic population, but this is not the case. The Cherokee are made up of five, distinctive ethnic divisions and while they do share certain traits, they are culturally distinct enough to warrant the divisions. The question as to how the Cherokee, especially the Overhill Cherokee, emerged in

relation to depopulation, population movement, and coalescent societies remains unanswered. The answer may best fit within Rodning's (2002b) model of using multiple avenues of explanation to reach an answer. The emergence of the Cherokee is not simply a case of intrusive populations onto depopulated land, emerging out of local populations, or a shared history with prehistoric populations. The evidence is instead compatible with a complicated combination of explanations that led to the Cherokee emergence.

Chapter 6: Culture Contact in the Borderlands

6.1 Introduction

The history of Europeans and Native Americans at the time of contact is a complex topic. The transition from the Prehistoric period to the Historic period is not the result of a single event or cause, but several internal and external events occurring between the fourteenth and eighteenth centuries. Explaining the interactions and cultural changes that occurred in East Tennessee is a difficult task because historical and archaeological evidence is limited. Attempting to rectify this problem calls for creating a multivariate theoretical model that explains the external interaction with Europeans and the internal cultural change experienced by the Native Americans.

This chapter explores the theoretical side of culture change at the apex of European contact in the interior Southeast with an emphasis on East Tennessee. The sections below examine four theories including culture contact, borderland, cultural transmission, and shatter zone. These four theories seem to offer the best alternative explanation for what occurred both during and after contact. Additionally, the second part of this chapter provides a critical examination of the Spanish expeditions into the Southeast. I argue that the Spanish impact in the interior has been severely overstated and has caused us to miss key aspects of the archaeological record. The Spanish were not historians or anthropologists and their interpretation of what they saw and experienced in the Southeast cannot always be taken at face value. Biases are common throughout the accounts and the purpose of including this critique is to realign our ideas of early

contact to incorporate more of the archaeological record and also the agency of the Native Americans.

6.2 Culture Contact Theory

History of Culture Contact Theory. Culture contact can simply be defined as "any case of protracted, direct interchanges among members of social units who do not share the same identity" (Shortman and Urban 1998:102). Two very distinct processes take place at the point of contact. First, individuals interact within a community creating a common cultural system. The second process that takes place is contact with the outside group. When these two groups collide there is a period of adjustment where both sides must become accustomed to one another so that they can either get along or tolerate one another. This process is a form of integration because each contact situation is unique as the level or degree of social and cultural integration is varied (Spicer 1961).

The term culture contact came to the forefront of archaeology between the 1930s and 1950s and was used as a means to create an artifact taxonomy associated with acculturation. Because of this work, there has been a long standing debate about links between contact and acculturation. Acculturation was originally defined as a phenomenon where two groups of differing cultures came into contact, which caused changes to either one or both of the cultures (Redfield et al. 1936). Kroeber (1948) further defined acculturation as a process that made the two cultures more similar, although this was more likely to happen to the minority group as they passively accepted the dominant group's traits. "To generalize, the problems with both terms are essentially ties to the same issue: overlooking and simplifying interactions and use of material culture in constituting colonial identities. But each term had a distinct legacy within North American archaeology" (Loren 2008:5).

Edward Spicer and Daniel Rogers used the term culture contact in the 1960s to categorize artifacts in terms of specific cultural contexts (Spicer 1961). Culture contact studies in recent years have explored the interaction between multi-group encounters and exchange, but this association has been mainly seen through the lens of European interaction. Acculturation was used in the literature into the 1970s to describe the dominating effect European culture had over Native Americans, but by the 1980s the term had fallen out of favor while "contact" remained in the literature. Recent research has brought the term culture contact under criticism as it places too much importance on Colonial history. Other terms that have taken its place have included encounter, confrontation, or exchange, to better describe the cultural interaction that did take place (Loren 2008). At the height of the Quincentenary for Spanish contact, Deagan called for a readjustment of how we use the concept of culture contact. Theoretical use of culture contact needs to be reshaped in terms of Native American agency and changes in how we view the archaeological record (Deagan 1998).

Critique of the Theory. Culture contact, like many words and phrases associated with the colonization of North American, has become weighted with negative connotations. The term has been associated with the European perspective implying that they were the driving cause behind Native American culture change. What many studies fail to take into account is Native American agency. Even through periods of disease and depopulation Native American groups and individuals were actively making choices which impacted the world around them and still reverberate today (Mitchell and Scheiber 2010; Silliman 2005). Native American groups were not isolated on the landscape, instead they had an intersecting history that included variation in language, economic systems, political systems, beliefs, and material culture.

> At the heart of these intersections was exchange. By exchange is meant not only the trading of material goods but also exchanges across community lines of marriage partners, resources, labor, ideas, techniques, and religious practices. Longer-distance exchanges frequently crossed cultural and linguistic boundaries as well and ranged from casual encounters to widespread alliances and networks that were economic, political, and religious (Salsisbury 1996:437).

A problem in using the term “contact” relates to time. Can culture contact be a one-time, single event that only happens at the point of initial contact or can it be a more lingering process? Another problem that has been linked to the use of “contact” is the idea that Native Americans were a single cohesive and stable entity at the time of European exploration and that they accepted European culture in a passive way. No culture is ever in a static state and the variation found across Native American cultures in North American is staggering. Using the term “contact” in its most basic form becomes simply the point of encounter (Loren 2008). This usage limits time by isolating it to a certain event, but when used with more nuance it can help to differentiate between the process and historical events that came before and after the point of contact.

Silliman (2005) takes a very critical approach to using the term culture contact. He argues that the term only emphasizes short term encounters and negates the idea of longer term interactions and their repercussions. He also warns that the phrase overstates European focus on trade and downplays the political interactions between radically different groups and the complex system of cultural modification that did take place. Culture contact is an extremely broad term used by archaeologists and historians to describe interactions lasting from days to years. The intensity and duration of the contact, whether it be hostile or amicable, is also covered under the overarching umbrella of the culture contact term. Additionally, the term culture contact

has been used to describe the process of colonialism where a foreign political state exerts control over an indigenous people (Silliman 2005).

Alternative Terms. Alternative terms have been proposed for this process of cultural encounter since the term culture contact has fallen out of favor with some scholars. Silliman (2005) prefers to use the word colonialism as it implies a dual cultural process. Colonialism from the European perspective is a means for the settler population to dominate another culture based on some level of inequality. Conversely, from the Native American side, colonialism is a process of resistance and survival where the European culture was never able to take hold on indigenous cultures. Loren (2008) favors the use of hybridity or creolization instead of using the term acculturation to help explain the complex cultural changes that occurred. Both Native Americans and Europeans had to negotiate their social, racial, and political boundaries, in order to generate new social identities. Others like Ferguson (1992) use the term creolization to explain the results of these interactions which created various cultural forms.

Discussion. Culture contact theory continues to be used, despite the alternative terms that have been used to refashion the idea. The concept is ultimately rooted in the material culture found in the archaeological record. The theory has been criticized because researchers and scholars have often used the term culture contact to focus on the "dominant" European culture (Alexander 1998). One problem with the phrase is that culture contact has focused on various Native American cultures coming into contact with a generalized European force. By incorporating a pluralistic approach, we can now study culture contact in a more complex manner, as a process that not only involved numerous Native American cultures but also "European peoples of varied nationalities and backgrounds, and many 'other' people of color" (Lightfoot 1995:200). The historical summaries in Chapters 2 – 4 show that the type of people

who came to the New World were very dependent on the type of settlement or outpost that was established by Europeans. Depending on the company, the managing population was typically made up of a small number of educated European men who then recruited cheap labor from various places in Europe. Taking into account the various Native American groups and African slaves, settlements, and especially trade outposts, these new settlements were especially multiethnic. Cultural traits were often adopted, modified, and created to fit within the confines of the cultures they were bought into during periods of contact (Lightfoot 1995). Native societies became increasingly dependent upon European ones and were dominated by Europeans because native groups lacked time to develop the human and material resources to compete with Europeans, not because of the inability of native peoples to understand in rational terms what was happening to them (Trigger 1991:1214).

While keeping in mind that cultural identity is complex, applying the concepts of culture contact or acculturation, has to take into account the complexity and variation of interaction that occurred among cultures at both the group and individual level (Alexander 1998). Culture contact theory may still be useful to understand the initial point of interaction. Contact with early Spanish explorers in the interior Southeast was a brief event, but a profound one that set off a series of cultural changes that reverberated for centuries. The initial goal of culture contact theory was not to focus solely on European influence, but to understand how cultures change at the point of contact.

Europeans and Native Americans came into contact and this encounter was a defining point in time. In the interior, especially in East Tennessee, this contact was brief, but important change was the result. Mississippian culture was already in a state of flux at the time, and the introduction of European influence became a contributing factor to that change. Once the

Spanish conquistadores failed to settle the interior, contact became virtually nonexistent throughout the Protohistoric period until Charles Town was established in the late seventeenth century. Responsible use of culture contact theory acknowledges that agency was active on the part of both Native Americans and Europeans. Both groups experienced change to their cultural assumptions and incorporated new cultural themes into their own lives. Culture contact theory in unison with the other theories discussed below will, for the purposes of the research concerning trade objects presented here, help to explain how initial contact can change cultural traits on both sides of the exchange.

6.3 Borderland Theory

Terminology concerning borders and frontiers is a source of contention in the historical record. Terms like “border” and “boundaries” are used to imply a separation in physical space while people on either side retain their individual and distinctive cultures. Terms like “borderlands,” “backcountry,” and/or “frontiers,” imply a permeable line where cultures and identity can be created and contested (Hatfield 2007). Defined simply, a borderland is a zone characterized by a social, political, or cultural divide (Hernández 2011). Adelman and Aron (1999) advocate for dividing the terms frontiers and borderlands because their meanings are often entangled and lose their individual focus. Adelman and Aron (1999) define frontiers as a place where people meet and where geographic and cultural borders are not defined. A frontier in this situation is a borderless land and not clearly defined. Adelman and Aron (1999) then use borderlands to define the contested land between colonial areas. Borders and borderlands are never static entities; they are constantly in a state of flux responding to changes in historical circumstances (Ganster and Lorey 2005).

The Formation of Frontiers and Borderlands. Borders and borderlands are often oddly shaped or shapeless entities that are the result of claims on territory and conflict between powers. The concept of a "natural border" has largely been abandoned by geographers. Natural barriers such as desserts or oceans deter movement, but humans over the past few hundred years have created artificial borders to divide countries and territories. These artificial border lines essentially become political lines that are imbued with a form of sanctity that few tend to challenge unless they wish to engage in war (Diener and Hagen 2010). Possession of the land was one of the main goals of European powers in the Americas. Various European groups created symbolic ceremonies, whether planting a flag or reciting a speech, so that the land was essentially claimed in the name of the particular monarchy and an artificial boundary for the colonial territory was drawn to differentiate it from territory claimed by other European powers (Seed 1995). Some territorial lines, especially in the New World, were based on objective guidelines. Rivers, mountain chains, or latitude lines were often chosen to define not only the boundaries between European colonies but also buffer zones between colonies occupied by Native Americans (Diener and Hagen 2010). Early establishment of European colonies in eastern North America created frontier zones dividing the colonies from each other and from Native American groups. European powers on a global scale began a process between the sixteenth and eighteenth centuries to move from frontier lands to more formal borders. It was during this period of time that the idea of using "natural borders" was preferred as it was assumed they would be more stable over time. The Proclamation Line of 1763 is an example of this process in creating a Native American refuge for habitation. However, the problem with using "natural borders" was that it was a subjective idea that varied between individuals (Diener and Hagen 2010)

Frontiers are often fluid permeable zones where ethnic groups interact. Eurocentric perspectives see frontiers as edges of the European world that designate a division between them and the “uncivilized” indigenous populations. But, frontiers can also be seen as a process in which interaction, interdependence, and cultural convergence, play out to create new cultural identities. Often interactions that take place fall under “creative misunderstandings” where multiple groups of people attempt to interpret and often misinterpret the cultures with which they were coming into contact, in an effort to coexist (Cayton and Teute 1998; White 1991).

A major aspect of frontiers is that they are normally the result of larger political entities constructing power in a new area (Cayton and Teute 1998). Borders often come in many forms and Oscar Martínez (1994) has identified four types. The first type is the “alienated borderland”, where exchange between either side is very limited to completely nonexistent. This alienation is the product of animosity towards either one of both sides. The second type is known as “coexistent borderlands” where there is regular contact between both groups and a symbiotic relationship is created based on political alliance. The third form is “interdependent borderlands” where groups of people on both sides engage in trade. The final type is an “integrated borderland” which exists when a hard border is virtually nonexistent and people and goods flow freely from both sides (Ganster and Lorey 2005, Martínez 1994).

Ganster and Lorey (2005) generalize the process of border and borderland formation to follow a simple chronological sequence. The first stage is the frontier period that lasts from the time of first contact until contact becomes more prolonged and cultural mixing begins. The second phase is the establishment of a borderland-era. People interact on a regular to semi-regular basis without any restrictions or acknowledgment from a larger political power. The final period emerges when a fixed border is established with a strictly defined boundary controlled by

a political entity. A final additional segment of the sequence, which inevitably happens over time, is a dissolving of the border.

The Southeast as a Frontier/Borderland. The problem with using borderlands theory in the past has been developing a cohesive picture of the two interacting sides. Different European powers might blur into a single entity and Native Americans are seen as a cohesive groups pushing back against the generalized European force. Additionally, borderlands or frontiers are used to stress any continuity that may emerge and downplay the immense changes that can take place in these contested zones. Many historians in the Southeast favor the term “frontier” because the term conjures up ideas of ongoing contention instead of advancement and retreating, but the interior Southeast was by definition a frontier area during the Protohistoric period as the area was in a constant state of contention (Hatfield 2007). Borders were not fully defined and multiple European and Native American groups were interacting to varying degrees. The frontier was permeable and various Native American groups moved around on the landscape. As the deer skin and slave trade expanded over time, the idea of “in between” lands began to disintegrate as colonial borderlands solidified to form well defined borders (Adelman and Aron 1999).

Issues with using borderland theory have been addressed by Stern (1998) and Haefeli (1999). Stern (1998) contends that one major issue with borderland formation is the marginal people who live within the borderland. Often groups who live within this area are not easily definable in terms of culture or ethnic group. In order to understand this situation, we have to understand that a border is a zone of acculturation operating on multiple levels between groups and individuals. Haefeli (1999) has taken issue with Adelman and Aron’s (1999) use of borderlands in Eastern North America. He critiques their use of borderland theory as far too confined. Adelman and Aron see the formation of frontiers and borderlands as a response to

colonial powers in early Colonial history. Haefeli contends that for Adelman and Aron's model to be fully accepted it needs to be more fully conceptualized. Borders and frontiers can be created without the presence of colonial powers; internal ethnic problems and ecological boundaries can instead form borderlands. Additionally, Adelman and Aron propose that the transition from frontiers to borderlands is a one directional process. In contrast, Haefeli proposes that this process could be multidirectional with borderlands forming and then relapsing into frontiers when cultural circumstances change.

Discussion. The use of the terms borders, frontiers, and borderlands, can often be accompanied by theoretical baggage. Applying borderlands theory to the interior Southeast during the Protohistoric period has merits because this region was a major transitional area. Direct and consistent European contact took centuries to achieve, unlike in coastal areas where contact was quickly established and maintained. Between the time of initial and prolonged contact, a distinct frontier area did form. Ganster and Lorey's (2005) chronological sequence seems to make the most sense for the formation of borders in this area. The initial and brief Spanish contact, and the subsequent time when there was little or no contact, form the first frontier stage. Europeans were not actively venturing into the interior on a regular basis during the Protohistoric Frontier period, but cultural mixing occurred as the fur, deer skin, and slave trade began to build and European trade items made their way into the interior altering Native American material culture. The interior Southeast began to transition into the second stage after the establishment of Charles Town at the end of the seventeenth-century and a formal borderland was established. This borderland became important to both Native Americans, who established trade alliances with Europeans colonies, and Europeans who wished to establish "buffer zones" of safety from other European attacks. The borderland area stayed in place for most of the

eighteenth century. The Proclamation Line of 1763 formed the third stage of the process, creating a well-defined English border with clear political policies. When the Proclamation Line was abolished after the American Revolution, the borderland of the interior Southeast reached its final phase as it dissolved into the political entity of the United States.

The use of the terms frontiers and borderlands may carry a negative connotation of being too Eurocentric, but if the foundation of the theory takes all groups involved into consideration we can begin to understand how cultures interact in a transitional period. Frontiers and borders are never distinctive lines; they are porous zones that are at times arbitrarily established. The early pattern of European trade distribution follows the pattern of a frontier because contact is limited, but culture interaction and change is taking place. This circumstance also illustrates how frontiers can be porous. As the frontier transitioned to a borderland with more prolonged contact, groups on both sides of the cultural divide maintained their ethnic identity, but cultural mixing and interaction was more intense. This interaction unfortunately also included the spread of the slave trade and European diseases. For the purpose of the research presented here, the use of the terms frontiers and borderlands effectively correlate with the available historic documentation and archaeological evidence. It is important to avoid the generality that some researchers often use when talking about frontiers and borderlands and to understand that both European and Native American groups were ethnically diverse, each with their own cultural traits, political agendas, and survival mechanisms.

6.4 Cultural Transmission Theory

Cultural Transmission. Cultures persist through time simply by being transmitted to the next individual, generation, or group. The theory of cultural transmission originated in the field of biology and Darwinism and is based on research of inheritable traits (Eerkens and Lipo 2007).

Culture for humans is a non-genetic form of learning spread by language, teaching, imitation, and/or observation. While we resemble our parents and kin groups through genetic similarities, we too find similarity in culture as culture is the product of the group and is transmitted to us by our peers. Even though cultures are always in a state of flux, we do still see the similarities between generations of people as their culture is transmitted over time (Schönpflug 2009a). Eerkens and Lipo (2007) stress the use of cultural transmission theory in evaluating stylistic changes in material culture over time and space. Boyd and Richerson (1985) speculate that there are typically two types of cultural transmission, vertical and horizontal. Vertical transmission occurs between parents and children and horizontal happens between peer groups. Vertical transmission typically transmits more traditional forms of group/cultural knowledge while horizontal spreads more advantageous and changing cultural traits. Boyd and Richerson (1985) and Cavalli-Sforza and Feldman (1981) have expanded the types of cultural transmission to include three types. Vertical transmission helps to spread cognitive developments including personality traits and attitudes. Horizontal or obliquely transmitted traits can include behavior, rituals, or technology. Genetically or culturally transmitted traits can include beliefs, intelligence, or cerebral dominance (Schönpflug 2009a).

Looking at cultural transmission theory from the perspective of cultural evolution, we are presented with differing types of transmission. Conformist transmission of cultural traits often involves adopting those traits that are most prevalent in order to conform to the society at large. The second category of transmission is the unbiased kind. Traits are offered in an unbiased manner, such as parent to child teaching, a process that results in behaviors or cultural traits that are roughly the same. A variation of a biased transmission is the prestige-biased oblique transmission. Socially lower groups of people in this cultural process will accept new traits or

innovations based solely on the fact that leaders have previously accepted them (Schönpflug 2009c). Henrich's (2001) research shows that individuals who are the "early adopters" or "innovators" in a culture are improved by their social status and social network within their group. The group tends to learn towards the habits of those who already possess prestige. Once the cultural transmission has occurred, assimilation becomes a key factor in incorporating new cultural traits. This process can be divided into stages. First, the individual or group experiences cognitive assimilation when the knowledge of the trait or behavior is acquired. Second, the group or individual undergoes structural assimilation when the new cultural trait is placed within the hierarchy of the society. The third stage known as social assimilation occurs when there is contact with members of the receiving society. Finally, the group experiences identification assimilation when the receiving society identifies and defines the cultural knowledge (Nauck 2009).

Spreading Culture. The process of spreading culture is constant and has existed throughout human history. No matter how slowly a culture changes, change does occur. Cultural transmission of traits often reflects the distribution pattern of a culture. Transmission is not simply transferring information from one person to the next, but is a widely complicated process that extends throughout the entire culture (Schönpflug 2009b). The process of cultural transmission follows a two-part process. The first step is the presence of a cultural change and the awareness of new information by a group or individual. The second step is the decision to accept or reject the change (Eerkens and Lipo 2007; Schönpflug 2009a). Cultures that are well established have achieved a level of persistence. Zucker (1977) outlines the stages a culture experiences in order to perpetuate their culture. The first stage is the transmission of cultural knowledge from one generation to the next, a process that contains a level of uniformity

stemming from institutionalized group knowledge. The second stage involves maintaining the culture. Cultures will either resist or accept new change depending on the cultural conditioning they have perpetuated in their own culture (Schönpflug 2009b). Boyd and Richerson (1985) have proposed that cultures often have the tendency to accept and adopt the most common behaviors and traits from the larger society in order to acquire more adaptive strategies. In cases where an economic element is present, as with the fur, deer skin, and slave trade, the subordinate group is rarely left unaffected by the presence of the more dominant group (Coakley 2003).

Discussion. Internal factors impact the formation of a culture, but in cases where there is an external influence it can have a profound effect. The basic definition of cultural transmission is the process of transferring cultural information from one generation to the next or from one group to another (Coakley 2003; Schönpflug 2009a). When two or more cultures come into contact there is always an intentional or unintentional cultural trade. Initial contact with the Spanish in the interior Southeast was brief and limited. Not all groups living in the interior even came into contact with them, yet their presence had a profound effect on the lives of Native Americans. Once introduced to the outside influence of the Spanish, the process of cultural transmission took over and began to spread a new cultural dynamic throughout the Southeast from generation to generation and group to group. This process helps to explain how European trade items were incorporated into Native American cultures without the direct presence of European traders.

As with Zucker's (1977) cultural transmission sequence, the interior Southeast did go through the stages of transmission of new cultural knowledge and maintaining culture either through rejection or acceptance. First, the new information and material culture was introduced to Native American groups. Native American groups in the interior then reorganized it into new

cultural patterns as they found ways to maintain their culture, a process that follows the second stage. The final stage occurred as European contact became steadier. Native Americans had the choice to resist the change or accept the cultural traits, which ultimately was the choice for many of the groups. While Native American cultures persisted and do to this day, they are different in many important ways from their Late Prehistoric counterparts. As an unfortunate side effect, as Boyd and Richerson (1985) point out, the traits of the dominant group tend to be the ones that persist the most. This result directly relates to Henrich's (2001) proposal that those who adopt new traits early fair better if they have a higher status within the society. The Prehistoric Mississippian cultures were based on a system of prestige and elite power, and although the chiefdom system ultimately collapsed by the end of the Mississippian period, the idea of prestige goods persisted. Incorporating European trade goods into Native American ideas of what constituted a prestige item further helped to transmit European cultural traits to the interior Southeast.

6.5 Shatter Zone Theory

Shatter Zone Theory. The Shatter Zone theory was presented by Robbie Ethridge (2006) as a means to understand the circumstances that arose from the introduction of European capitalism into the Eastern Woodlands. Ethridge defines the shatter zone "as large regions of instability from which shock waves radiate out for sometimes hundreds and hundreds of miles" (Ethridge 2006:208). The Dutch, English, and French, had established footholds in Eastern North America by the 1620s in order to exploit the fur trade to the north. They brought with them trade goods in order to spur the fur trade with local Native American groups. Ethridge proposes that these actions created militaristic slaving societies which actively participated in the Native American slave trade and as a result, caused widespread changes to Native American cultures

and set off mass migrations, depopulation, and amalgamation of cultural groups. Marcoux (2008) has further utilized the concept of shatter zones to illustrate the turbulent political issues which lead to the Yamasee War. Since Ethridge's initial 2006 publication, she and Sheri Shuck-Hall have published a compilation of essays on the colonial Indian slave trade entitled *Mapping the Mississippian Shatter Zone: The Colonial Indian Slave Trade and Regional Instability in the American South* (2009). Shatter zone theory is applied in this volume to a wide range of geographical areas across the eastern Woodlands.

East Tennessee. The shatter zone concept has previously had little application in East Tennessee. Ethridge and Shuck-Hall's (2009) volume and Marcoux (2008) describe the Cherokee in response to the militaristic slaving societies at the end of the seventeenth and the early eighteenth centuries. The remainder of the Protohistoric period is unaccounted for. Early in the seventeenth century the slave trade was not a significant force in the interior Southeast, but there were still major changes taking place. Native American groups living in East Tennessee were witness to Spanish conquistadores traveling through their homeland in the mid-sixteenth century. Previous research concerning this period has identified signs of disease and depopulation across the East Tennessee Valley, but new evidence presented in this dissertation shows that habitation continued into the seventeenth century.

Long term and continued habitation during the Protohistoric period suggests that the concept of the shatter zone could be applied to East Tennessee. Capitalism was certainly a factor affecting the interior Southeast during the seventeenth century, even if indirectly. Trade goods made their way into the interior via Native American middlemen and caused changes to the material culture of declining Mississippian towns. Trade taking place hundreds of miles away also had a profound impact on the material culture. The shatter zone concept may prove helpful

for understanding processes of change over a longer span of the Protohistoric period in the interior Southeast, and specifically the East Tennessee Valley, than previously was thought possible.

6.6 Analysis of the Spanish Conquest of the Southeast

Modern Analysis. Modern analysis of the Spanish influence in the Southeast can be explored from both historical and archaeological points of view. Although there is a rich archaeological record for the Prehistoric Southeast, the written records left by the Spanish not only provide an account of their actions, but also provides the first written accounts of Native American groups. Despite both historical and archaeological evidence, modern analyses are interpretations of the evidence and offer a wide variety of differing opinions. In order to understand the current state of analysis, this section details the problems associated with the evidence and a brief synthesis of current interpretations.

Historical. The historical approach to Spanish influence deals primarily with the written record. The accounts of the entradas offered researchers the first written accounts of Native Americans in North America. Observations made by the Spanish included place names, descriptions of cultures, architecture, and political organization. Historians and archaeologists have relied on these accounts to interpret the expeditions, trace their routes, and understand the cultural landscape.

The three entradas of Hernando de Soto, Tristán de Luna, and Juan Pardo, offered first hand documentation of Native American groups residing in the Southeast. Despite their historical value, the accounts cannot always be taken at face value (Galloway 1997). The men that accompanied De Soto, De Luna, and Pardo, were not trained ethnographers, but soldiers and

missionaries who were motivated by goals other than documenting Native American lifeways. The entrada of Hernando de Soto has received the most attention in the academic world. Instead of a single account, three separate accounts of the expedition have been published. Each offers a slightly different version of the entrada, including André de Burgois's *Elvas*, Gonzalo Fernández de Oviedo y Valdés's *Historia general de las Indias,* and the Inca Garcilaso de la Vega's *Florida* (Galloway 1997).

There are two schools of thought surrounding the De Soto narratives: (1) they are independent records that provide clear information about the expedition, and (2) that the narratives are interdependent of one another. Charles Hudson (1997) and colleagues contend that the three narratives provide enough evidence in addition to European trade goods found at archaeological sites to identify the route for De Soto, as well as to make inferences about political organization in the interior. Research conducted by DePratter, Hudson, and Smith (1985), Hudson et al. (1985), and Hudson (1997) have argued that the three accounts are independent of one another, are taken at face value, and can help establish a relatively certain route for De Soto.

Contrary to DePratter, Hudson, and Smith (1985), Hudson et al. (1985), and Hudson (1997), other researchers are increasingly questioning the uniqueness and accuracy of each account. Galloway's (1997) interpretation of the narratives looks at both similarities and differences in the textual structure. She finds similarities in the way things are described and argues that it is more than a coincidence. Furthermore, she argues that the accounts are incestuous, with Oviedo giving rise to Burgos and then to Garcilaso's account. From this perspective, the accounts cannot be treated as truly primary sources (Galloway 1997).

Another aspect of the written record to consider is the structure of the conquest narratives. Documentation and presentation of the conquest of the Americas was a common occurrence in Spain. Because of this exposure, the evolution of the conquest narrative took on specific aspects that dictated how they were presented to a wider audience and what information was included. The Spanish monarchy was adamant about legitimizing their claim on the Americas and justifying the conquest. The conquest narratives became a mechanism to perpetuate these goals and they were crafted to show not only the conquistadores in a specific light, but also the native groups they encountered. In this way, the accounts became fictionalized (Davis 1987; Weiner 2009). This transformation does not imply that the accounts are not accurate, but they are crafted to fit a specific form and the act of conquest and colonization became very standardized. The story that was crafted after the conquest became a means of justification (Krippner-Martinez 2001; Restall 2003; Weiner 2009).

Recent historical scholarship (see Cañizares-Esguerra 2006; Jennings 2011; Krippner-Martinez 2001; Restall 2003; Seed 1995; Weiner 2009) has focused on reevaluating the conquest narratives and challenging long-held perceptions. Their work has mainly focused on a few key subjects, including myth making, understanding violence, document analysis, and frontier/borderland theory. One of the major short falls of the original documents is that the Native Americans were viewed as unwilling bystanders during the conquest instead of actual participants. The new historical method strives to include the decisions and actions of the Native Americans and gives them a voice in the historical record. This process is changing the way that we view the cultural landscape of the Contact period and offers a fuller picture of interactions between Native American groups and the Spanish, and how those interactions shaped the Colonial period in the Southeast.

Archaeological. Interpretation of the Protohistoric period does not have to rely solely on the surviving written record. The archaeological record of the Southeast contains the cultural record of both the Native Americans and the Spanish. The artifacts that remain show not only interaction between the two groups, but also an amalgamation of cultural traits in Native American deposits. In order to understand the archaeological aspect of the Spanish influence in the Southeast, this section focuses on the sixteenth-century archaeological remains and connections to the ethnohistorical accounts.

Spanish trade items dating to the sixteenth century have been found throughout the Southeast, although they have been sparse. While De Soto, De Luna, and Pardo, all carried trade items with them into the Southeast, pre-established Native American trade routes likely brought trade items into the Southeast from La Florida. Records from Spanish ship manifests and excavations of Contact period sites have revealed trade items including copper objects, cloth, bells, mirrors, knives, iron tools, ceramics, kettles, and glass beads (Deagan 1987; Loren 2008; Smith 1987). Upon meeting chiefs during the entradas De Soto, De Luna, and Pardo, each exchanged trade items. These early items were treated as exotic materials and became associated with chiefly power (DePratter and Smith 1980; Smith 1987). The distribution of these artifacts by the conquistadores is difficult to track and many researchers have used the presence of artifacts in the interior to speculate on possible routes for the entradas (see Brian 1985; DePratter and Smith1980; Smith 1987, Hudson et al various references). Several issues are associated with using artifacts to propose routes. First, where the artifacts are recovered does not necessarily mean that the Spanish visited that site. There is no way to tell how far the artifacts travelled once they were in Native American hands as items may have been repeatedly traded to other groups. Second, a continent-wide trade network was established thousands of years before the Spanish

set foot on North America. There is no definitive way to determine which specific artifacts were traded directly to Native Americans at specific sites. Internal native trade could have brought many exotic trade items from the coast of La Florida into the interior without direct Spanish involvement. Finally, there is also an issue of dating the deposits the artifacts are recovered from. If native groups passed down European items from one generation to the next before they were interred, then the context would have a much earlier date than the artifacts (Brian 1985; Loren 2008; Smith 1987). The presence of European artifacts in the Southeast coupled with the problems outlined above make the archaeological record of the sixteenth century difficult to identify, track, and interpret.

Beyond the physical presence of European artifacts, the archaeological record also helps researchers interpret the ethnohistorical accounts of the Spanish conquest. Recorded in the Spanish accounts are elements of political organization, cultural patterns, depopulation, and political collapse over time. While these accounts provide invaluable information, they are also limiting. Often the Native American groups the Spanish encountered were described in a stylized manner as nature-based pagans living a static way of life on the landscape (Wesson and Rees 2002:4). Reliance on these records alone often leads to misconceptions about the active role Native Americans played in their own lives (Wesson and Rees 2002). Despite inaccuracies in the descriptions, the accounts do provide information about populations. Between De Soto and Pardo's expeditions the Spanish made observations about the size of the settlements they encountered. Both De Luna and Pardo's accounts indicate that populations had declined sharply after the De Soto expedition (Hudson 1990, 1994; Hudson et al. 1989). Using these accounts, archaeologists have been able to analyze the archaeological record in terms of population decline and movement.

6.7 Discussion

Applying Theory. The complexity of the Protohistoric period cannot be confined to a single theoretical model. In this chapter, four theories were discussed to help explain the historical circumstances that developed out of the Protohistoric period. Many of the theories have been critiqued negatively, because of their Eurocentric nature. An important point is that all four theories have merit when used in accordance with historical events and evidence from the archaeological record.

During the period between the initial Spanish conquest and the founding of Charles Town in the Carolina Colony, Native American groups living in the interior Southeast had nearly a hundred years to recover from initial contact. While this period has not been clearly defined, the use of the Protohistoric as a designating term makes sense because this time frame is neither the Prehistoric nor Historic period. A significant cultural change took place during this period, which resulted in the Historic tribes of the eighteenth century and in East Tennessee this change ultimately resulted in the creation of the Cherokee tribe. Cultural contact theory and cultural transmission theory help to explain these patterns. While culture contact theory has some significant issues in its application as well as inherent difficulties, Native Americans and Europeans did come into contact. As the Spanish moved through the Southeast they contacted multiple towns and ethnic groups, ultimately forming a specific movement of contact which set off a series of historical events. This scenario also has relevance in cultural transmission theory as groups were presented with new cultural information which they either rejected or accepted and then perpetuated from generation to generation and from group to group. The presence of Europeans on the landscape, no matter how remote or indirect, scattered parts of European cultures into Eastern North America, actions which had an effect on Native American groups.

Cultures changed, trade patterns shifted and expanded, and new materials were incorporated into ideologies and political systems.

While Native American cultures were changing internally, a political landscape was also changing in the interior Southeast. A combination of borderland and shatter zone theories may help to illuminate these circumstances. The interior was sheltered for a time from direct European contact and areas like the East Tennessee Valley were especially cut off from direct contact because of their distance from the coast and the physical barrier of the Appalachian Mountains. The geographical area became a frontier zone early in the Protohistoric period. Initial contact had been made and cultural changes had begun. Later in the Historic period, the interior Southeast transitioned to a borderland with formal recognition as Europeans powers like the Spanish, French, and English needed native allies and physical buffer zones between colonies. Unfortunately, this theory does not account for internal political issues. The use of shatter zone theory helps bridge this divide (Ethridge 2006; Ethridge and Shuck-Hall 2009; Marcoux 2008). The collapse of the Mississippian period chiefdom system left a significant political void in the Southeast. While political change is common throughout human history, Native Americans were not afforded the time to organically recover because of the external influence of the Europeans who were pushing their own political agendas. This situation created a shatter zone where groups in the interior were affected by cultural shock waves radiating out from European colonies in the Northeast and along the Atlantic coast. As a means of survival, many groups in the Southeast formed coalescent societies that preserved some of their Prehistoric cultural traits, but also formed new cultural and political organizations that helped them to survive into the Historic period. In order to fully understand the Protohistoric period all four theories are required to understand the historical circumstances.

Spanish Issues. The preceding section outlined many of the problems that surround research into the Spanish conquest. Recent years have seen a major reverse in research concerning the sixteenth century and the Spanish incursion into the Southeast (see Cañizares-Esguerra 2006; Davis 1987; Galloway 1997; Jennings 2011; Krippner-Martinez 2001; Restall 2003; Seed 1995; Weiner 2009). Because evidence for actual Spanish sites is limited, most research has relied on the Spanish accounts. Although there are many issues concerning the use of these accounts, the main problem generally revolves around who was writing the account and why. The Spanish who ventured into the Southeast were adventurers seeking fortune or missionaries attempting to convert natives to Christianity. The accounts were often written to impress monarchies and secure governorships in the New World and therefore are written to gain favor and not to be historically accurate.

Archaeological research has also been problematic. Models concerning proposed routes, disease introduction, trade item distribution, and overall European influence, have been put forth by many scholars over the past several decades. This work has often led to many taking Spanish accounts at face value and attempting to match archaeological evidence to the *entradas.* While research into the Spanish conquest is an important endeavor, it is important to realize that cultural contact and change are neither obvious nor self-evident. The Spanish were only part of the conquest of North America. Other European powers ventured into North America, bringing their own cultural traits and political, economic, and religious agendas. Additionally, the Native American groups living on the landscape were not a single ethic group passively surrendering to European change. All of these groups constituted a complex system of cultural actors who engaged with one another on various levels and produced new cultural systems resulting in the Historical tribes recognized today. New methods and theories also should be employed to

interpret the Contact period. Building on the research of others, new interpretations of the archaeological and historical record should take into account the complex historical circumstances that took place instead of inserting groups of people into preformed ideas about how the historical or archaeological record should look.

Chapter 7: Methods

7.1 Introduction

In order to test the hypotheses outlined in Chapter 1, this study employs two methods of archaeological analyses, including chemical and ceramic analysis from 40 different sites located across eastern North America. Chemical analysis has shown that glass trade beads have a temporal variation (see Blair 2015, Dalton-Carriger 2011; Dalton-Carriger and Blair 2013, 2014, 2015; Hancock 2005, 2013; Hancock et al. 1996; Hancock et al. 1994; Hancock et al. 2000; Hancock et al. 1997; Hancock et al. 1999; Karklins et al. 2002; Karklins et al. 2001; Kenyon et al. 1995; Moreau 2006; Moreau et al. 1997; Moretti and Hreglich 2005, 2013). This approach applied to sites in the interior Southeast, especially in East Tennessee, is used to date archaeological materials and determine if European trade goods can be dated to the Protohistoric period. Previous studies on ceramics have focused on stylistic traits in ceramic collections and little attention has been paid to metrics. Metric trends in ceramic types are both culturally and temporally sensitive in East Tennessee and the use of both attribute and metric analyses may help to define a transitional Protohistoric period potting tradition. (Dalton-Carriger 2011; Koerner 2005; Lewis and Kneberg 1993 [1946]; Sullivan 1986, 1995). As East Tennessee is the focus of this study, the majority of the sites are located in the East Tennessee Valley and sites from other states were chosen in order to provide comparative samples to (1) anchor temporal group ranges generated by this study to previously dated sites and (2) provide a more comprehensive dataset incorporating sites throughout eastern North America. The criteria for site selection as well as a description of the methods used are detailed in the following sections.

7.2 Glass Trade Beads

Chemical Analysis. The technique used to analyze the glass trade beads used a Portable X-Ray Fluorescence Spectroscopy (pXRF) and Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) machines to determine their chemical composition, focusing on the opacifiers added to the glass. This project originated with my Master's thesis research (Dalton-Carriger. 2011), for which several beads were tested using pXRF by Elliot Blair. This analysis was conducted to see if glass beads from Upper Hampton Farm (40RH41) could be dated, because suitable radiocarbon samples were not available. After receiving promising seventeenth-century dates from Upper Hampton Farm, Blair and I began a project to test and subsequently date other glass beads from the interior Southeast in an effort to identify Protohistoric sites in the interior. For his doctoral research, Blair (2015) analyzed a glass bead dating seriation from Mission *Santa Catalina de Guale*. Blair's work hinged on the publication of glass bead recipe books. Venetian glass-making houses were controlled through guilds, and recipe books were kept secret. Historic preservation of these books and subsequent publication since the sixteenth and seventeenth centuries has allowed researchers access to this information (see McCray 1999; Moretti and Hreglich 2005, 2013; Moretti and Toninato 2001; Neri 1612; Toninato and Moretti 1992; Watts and Moretti 2011; Zecchin 1986). Records were kept by the guilds on the changes in opacifiers and the processes the glass-making houses used to opacify the beads. Blair's analysis of a significant number of glass beads from Mission *Santa Catalina de Guale* in unison with the recipe books has allowed him to identify elemental trends that can be dated. Blair's sample serves as a calibrated dataset that can be used for comparison for glass bead samples (Blair 2015).

The original goal for this project was to build a database for the East Tennessee Valley, but over the course of this project, other sites and areas in eastern North American were included to increase the sample size and anchor the dates as many of the comparative sites have been accurately dated using other methods. Using Blair's (2015) research as a starting point for identifying patterns in the elemental analysis, samples were incorporated to expand the dating method to the interior Southeast.

Site Selection. The primary criterion for site selection was the presence of opaque monochrome blue or white European glass trade beads. Opaque blue and white glass beads are commonly found at Contact and Historic period archaeological sites in North America and they generally have long production dates. Since these beads are so common, are stylistically indistinct, and were produced over a long period of time, they are often ignored as chronological markers. Blair's (2015) work has shown that chemical analysis of these beads produces the best chronological markers or opacifier change over time. As a result, it was essential to select sites that possessed these particular types of beads. Using this criterion, I was able to procure 283 glass beads from 40 different sites, each of which are discussed in Chapter 8. Additionally, beads were predominantly chosen from closed features such as burials, pits, and houses, in order to potentially date specific archaeological features.

7.3 Ceramics.

Methods. A goal of this study was to determine if a transitional Protohistoric period potting tradition exists between Late Mississippian and Historic Overhill Cherokee ceramics in East Tennessee. This method corresponds to Eerkens and Lipo's (2007) analysis of the use of cultural transmission theory to trace stylistic changes over time. To trace these potential changes, the ceramic analysis focused mainly on measurements of a suite of attributes related to vessel

morphology. While attribute analysis is important for identifying ceramic types, the most common ceramic wares for both Late Mississippian and Historic Overhill Cherokee assemblages are plain and shell-tempered. However, it has been observed that Late Mississippian ceramic jar rims show temporal trends, straightening from excurvate to vertical over time. Overhill Cherokee ceramics, on the other hand, tend to be more excurvate (Baden 1983; Bates 1986; Dalton-Carriger 2011; Egloff 1967; King 1977; Koerner 2005; Lewis and Kneberg 1993 [1946]; Marcoux 2008; Russ and Chapman 1983; Sullivan 1986, 1995).

Microseriation. Microseriation identifies fine chronological patterns from sites or assemblages that have short time ranges (see Duff 1996; LeBlanc 1975). This method differs from standard serration methods, which focus on broader trends in an assemblage, by looking for minute, subtle changes in the ceramic style or structure. LeBlanc (1975) first proposed the use of microseriation in the 1970s to study ceramics from the Cibola region of New Mexico. Using factor scores and multidimensional scaling, LeBlanc was able to establish the chronological range of ceramic attributes in terms of decades.

Duff (1996) has expanded on the idea of using microseriation methods based on ceramics from the *Pueblo de los Muertos* in New Mexico. Duff's study of the ceramic assemblage resulted in a fine-grained seriation, determined through the microseriation of ceramic style frequencies. Prehistoric ceramic styles in East Tennessee change over time, especially during the Mississippian period, so it is likely that ceramic styles during the Protohistoric period also varied in some way from earlier and later styles (Dalton-Carriger; Koerner 2005; Sullivan 1986, 1995).

Site Selection. Site selection for the ceramic study was based on whether the site in East Tennessee possessed suitable glass trade beads. Of the 40 sites chosen for bead analysis, 15 of those sites were deemed suitable for ceramic analysis. As East Tennessee was the focus of this

study the ceramic analysis was not expanded beyond sites in the East Tennessee Valley, but sites outside of this region may be the subject of later research. Like the glass beads, closed features were predominantly favored for analysis, but some concessions had to be made depending on the state of the collections. Descriptions of the site collections and sample sizes are outlined in Chapter 10.

7.4 Tying Analyses to Theory

The purpose of using the elemental and microseriation analyses in combination with the four theoretical models outlined in Chapter 6 is to either accept or reject the three hypotheses proposed in Chapter 1. Because the hypotheses are mainly focused on habitation patterns, the goal of the glass bead and ceramic analyses is to determine if there are viable temporal patterns in the archaeological record that have not been previously determined. Interpretation of the results of these analyses relies upon the concepts of the theoretical models including culture contact, borderland, cultural transmission, and shatter zone theory because these models reflect processes working within the complex cultural and political landscape of the Protohistoric period. I expected that the chronological data from the beads and the ceramics would support one of the following explanations for habitation patterns in East Tennessee.

Hypothesis 1. East Tennessee became depopulated during the Protohistoric period mainly because of European contact and the spread of pathogens. The depopulation would have made is possible for migrating Overhill Cherokee populations to occupy abandoned parts of East Tennessee. If this scenario was the case, then one would expect so see a clear break in the glass bead and ceramic data. The glass beads should fall into either early temporal groups that can be attributed to early Spanish contact or to later Historic components indicative of the late seventeenth or early eighteenth centuries. Likewise, the ceramics should show a very clear break

in potting traditions as the Late Mississippian traditions faded out and Overhill Cherokee traditions were introduced.

Hypothesis 2. East Tennessee remained populated by Mississippian populations into the seventeenth century, but these people remained separate from Historic Overhill Cherokee populations until the Mississippian populations ultimately were replaced. If the data support this hypothesis, one would expect to see two, clearly definable cultures living separately in the East Tennessee Valley. For the glass beads, there should be a continuous distribution of beads across both space and time, as all groups likely would have had access to trade goods throughout the Protohistoric period. The ceramic data, on the other hand, should show a division in potting traditions that is site specific; the sites that are identified as being Late Mississippian should exhibit one potting tradition that dies out over time, while a second potting tradition should be found at Overhill Cherokee sites.

Hypothesis 3. East Tennessee remained populated by Mississippian populations into the seventeenth century and over time, a transitional Native American culture emerged that resulted in the formation of the Historic Overhill Cherokee culture. If the data support this hypothesis, then one would expect to see a continuity in occupation in the East Tennessee Valley, but a transition in cultural characteristics. The glass trade beads should be distributed over a wide area and have temporal continuity throughout the valley, therefore supporting continued occupation of East Tennessee by native peoples throughout the entire Protohistoric period. The ceramic data should show a transition, as opposed to a break, from the characteristic Late Mississippian potting traditions to the Historic Overhill Cherokee types of the eighteenth century, which can be identified as a transitional Protohistoric period potting tradition.

Chapter 8: Archaeological Sites

8.1 Introduction

Forty sites were chosen for this study and received varying degrees of scrutiny and analysis depending on the availability of, and access to, both glass trade bead and ceramic assemblages (Table 8.1, Figures 8.1, 8.2). The basic criterion for site selection was the presence of monochrome turquoise blue or white glass beads that could potentially be tested via chemical analysis. Since many of the beads were found in burial contexts, compliance with NAGPRA regulations and permissions for access and testing from certain sites had to be obtained from each institution. Most of the institutions found Portable X-Ray Fluorescence Spectroscopy (pXRF) testing acceptable since it is a completely non-destructive process. It was necessary to utilize beads that were not from burial contexts for the Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) testing since it causes very minimal damage to the artifact. In the case of the McClung Museum and University of North Carolina, sample beads were chosen from alternative features in order to respect the wishes of the local Native American tribes that the artifacts not be subjected to any type of testing that may result in damage. The second criterion for site selection was the availability of ceramic assemblages from the East Tennessee Valley that could be studied as a complementary analysis for the bead study. For the purpose, of this chapter, the following sections are divided by the institutional sources of the collections that were studied. Each subsection provides a brief description of each site.

Table 8.1. Sites with corresponding map reference numbers.

Map Number	Site Number	Site Name	State
1	16WF25	Trudeau Landing	Louisiana
2	1CE308	Polecat Ford	Alabama
3	1CE73	Bradford Ferry	Alabama
4	31BK22	Berry	North Carolina
5	31SK1a	Upper Saratown	North Carolina
6	36LA3	Strickler	Pennsylvania
7	36LA4	Keller	Pennsylvania
8	36LA52	Conestoga	Pennsylvania
9	36LA7	Shultz	Pennsylvania
10	36LA9	Funk	Pennsylvania
11	38BK202	Daniels Island	South Carolina
12	38DR83	Lord Ashley	South Carolina
13	40BT7	Chilhowee	Tennessee
14	40BT8	Tallassee	Tennessee
15	40GN9	N/A	Tennessee
16	40HA63	Moccasin Bend	Tennessee
17	40MG31	Hiwassee Island	Tennessee
18	40MN3	Mouse Creeks	Tennessee
19	40MR1	Fort Loudoun	Tennessee
20	40MR2	Chota	Tennessee
21	40MR5	Tomotley	Tennessee
22	40MR50	Tellico Blockhouse	Tennessee
23	40MR6	Toqua	Tennessee
24	40MR62	Tanassee	Tennessee
25	40MR7	Citico	Tennessee
26	40PK1	Ocoee	Tennessee
27	40PK3	Hiwassee Old Town	Tennessee
28	40RE12	DeArmond	Tennessee
29	40RH41	Upper Hampton Farm	Tennessee
30	40WG143	Cane Notch	Tennessee
31	40WG17	Plum Grove	Tennessee
32	44MY3	Trigg	Virginia
33	8CO1	Fig Springs	Florida
34	8HQ4	Goodnow Mound	Florida
35	8LE1	Mission San Luis de Talimali	Florida
36	8SU65	Baptizing Springs	Florida
37	9LI13	Wamassee Head	Georgia
38	9MG28	Joe Bell	Georgia
39	Scr 4-4	Silverheels	New York
40	Williams Island	N/A	Tennessee

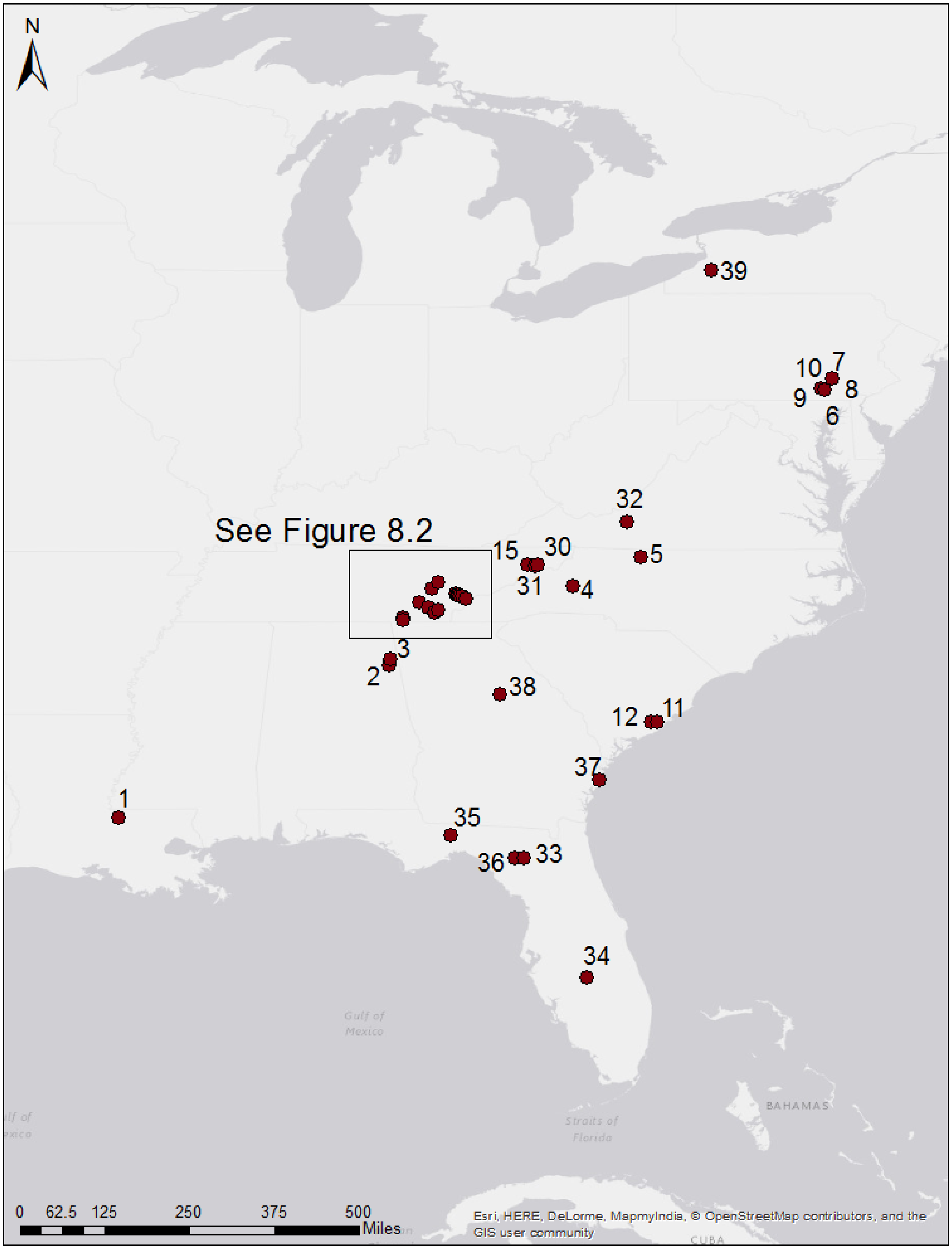

Figure 8.1. Geographical distribution of archaeological sites labeled by number see Table 8.1.

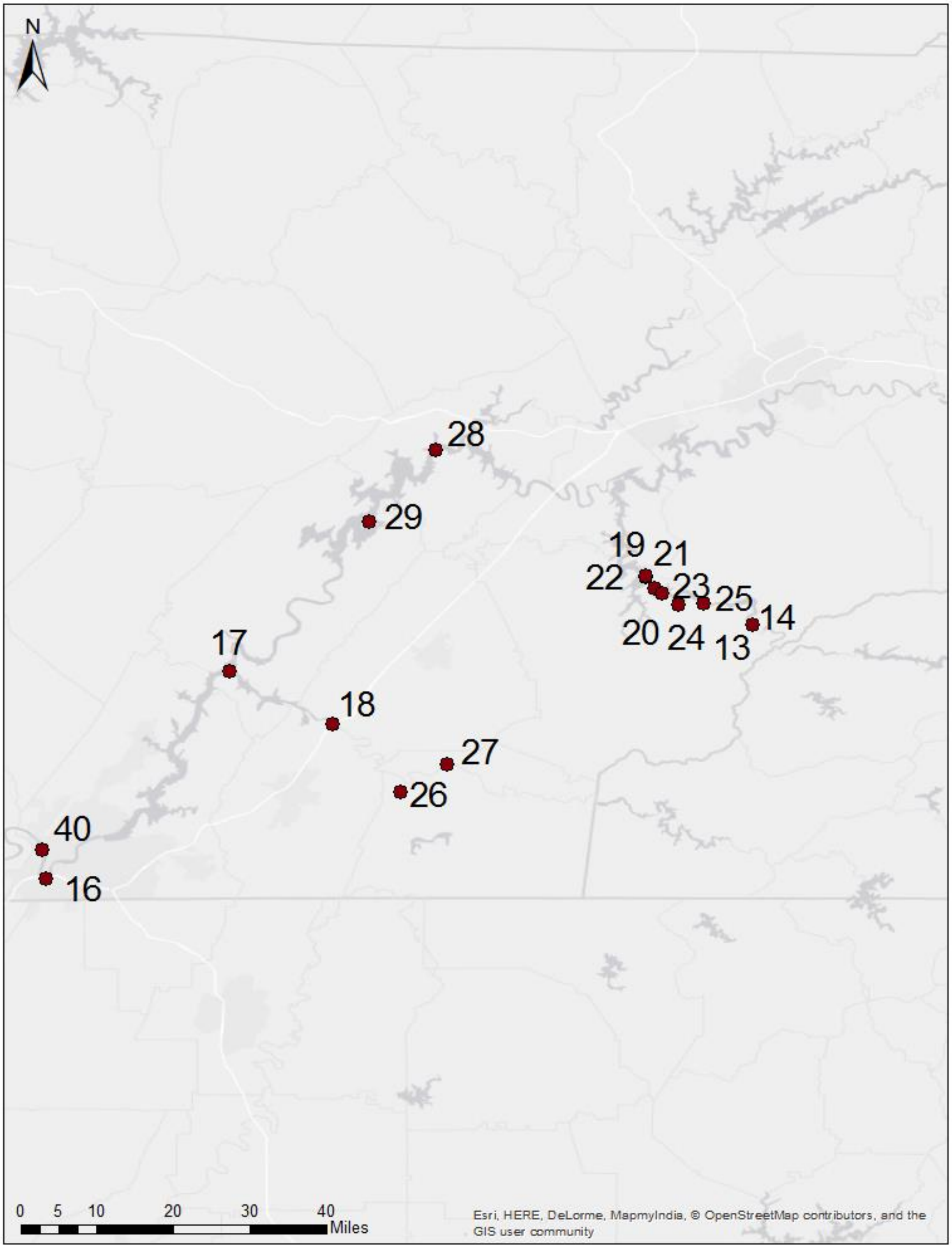

Figure 8.2. Geographical distribution of archaeological sites in Tennessee labeled by number see Table 8.1.

8.2 McClung Museum of Natural History and Culture

The McClung Collection. Extant archaeological collections from multiple sites across Tennessee are held for curation and research at the McClung Museum of Natural History and Culture, at the University of Tennessee in Knoxville. In East Tennessee the majority of the collections were made as a result of excavations conducted in conjunction with the Works Progress Administration (WPA)/Tennessee Valley Authority (TVA) and TVA's Tellico reservoir projects. The quantity of artifacts in these collections numbers in the hundreds of thousands, and provide a wealth of information and research potential. Distribution of sites used from the McClung collection is shown in Figure 8.3.

WPA/Tellico Archaeology. The Works Progress Administration (WPA) was a New Deal initiative during the Great Depression to put the unemployed back to work. The Tennessee Valley Authority (TVA) was likewise formed during the New Deal era to construct dams along major rivers in parts of the Southeast to control erosion and to harness hydroelectric power. The TVA mission proved troublesome from an archaeological standpoint in terms of site preservation because many archaeological sites were located along the rivers and would be inundated. Archaeologists were assigned local laborers under the WPA to survey and excavate key sites throughout the Tennessee Valley as a means to salvage as much information as possible before inundation began. When the United States entered World War II in 1941 all work ceased, resources were reallocated, and project collections were shelved for curation without analysis (Lyon 1996). Renewed interest in the extant collections at the McClung Museum of Natural History and Culture has resulted in new interpretations of Tennessee collections (see Bissett 2014; Braly 2010; Dalton-Carriger 2011; Harle 2003, 2010; Kelso 2013; Koerner 2005; McCarthy 2011; Sullivan 1986, 1989, 1995, 2016; Sullivan and Harle 2010).

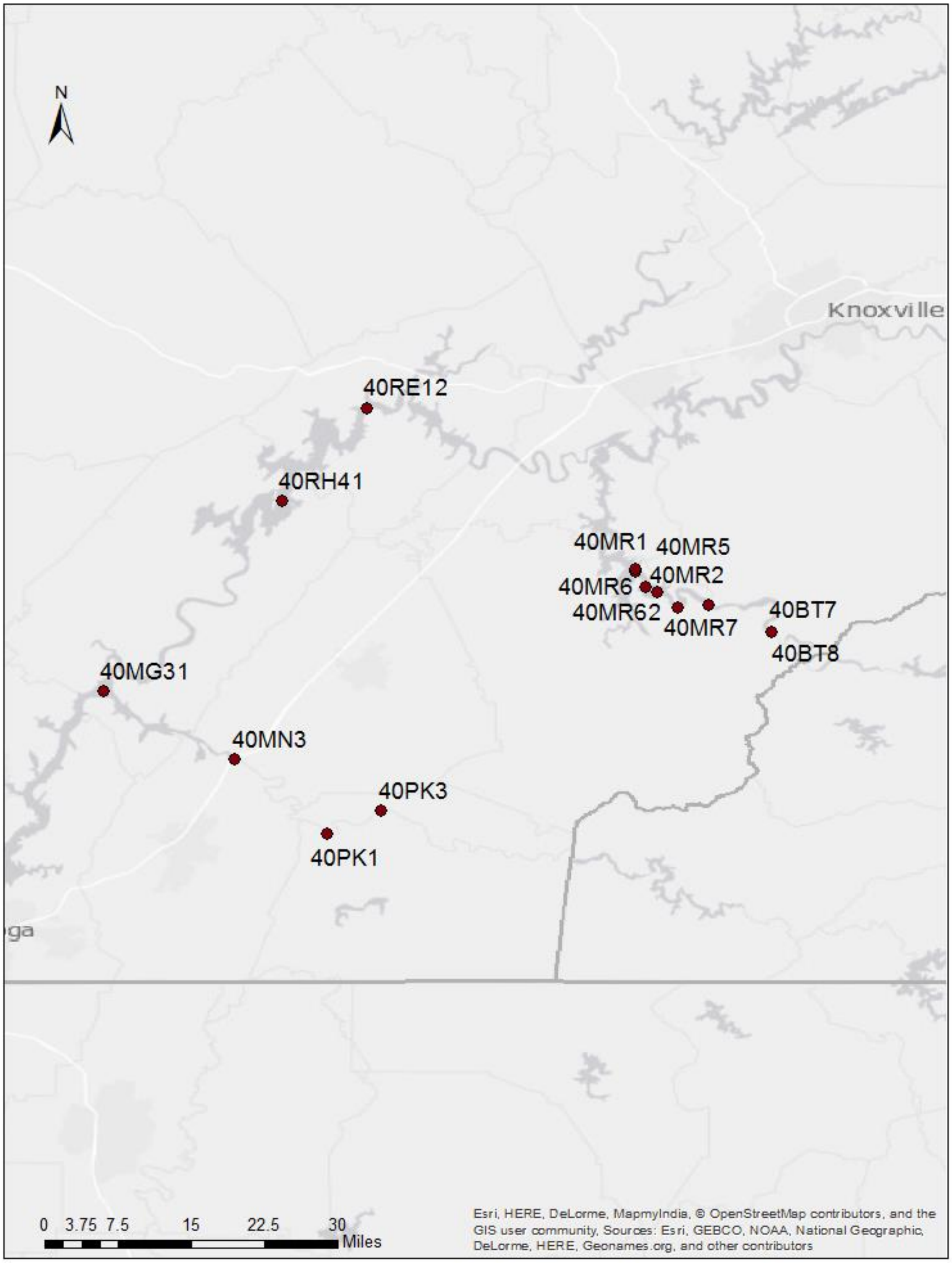

Figure 8.3. Distribution of McClung Collection sites with site numbers.

Interest in East Tennessee archaeology was renewed in the 1960s as a result of the construction of the Tellico Dam. Impoundment of the Little Tennessee River had the potential to flood many prehistoric and historic sites located along the river. University of Tennessee archaeologists conducted salvage excavations in the area throughout the 1960s and 1970s in order to understand the cultural chronology of the Tellico Reservoir (Chapman 2001; Kimball 1985a; Polhemus 1987; Schroedl 2009).

Chota (40MR2) and Tanasee (40MR62). Chota and Tanasee both represent eighteenth-century Overhill Cherokee towns. Tanasee's importance seems to have predated Chota, according to records from the Carolina colony that indicate a strong economic status for Tanasee during the 1720s and 1730s. The area that comprised Chota was occupied between 1710 and 1745 and may have been a smaller part of the overall town of Tanasee or could have been recognized as a separate town. Chota became a major center of political influence for the Cherokee during the 1740s. Hostilities between the Cherokee and Creek destabilized Cherokee politics, and by 1753 the seat of Cherokee influence was shifted from Great Tellico to Chota. Tanasee had become less important by this period and Chota became politically strong and remained so for the remainder of the eighteenth century (Schroedl and Russ 1986).

The sites of Chota and Tanasee were adjacent on the banks of the Little Tennessee River in Monroe County, Tennessee. The location of the sites is approximately seven miles southeast of Vonore, Tennessee, and seven miles above the confluence of the Tellico and Little Tennessee Rivers (Schroedl and Russ 1986:1). Chota was designated as 2M2, 3M2, and 4M2 during the WPA-era to signify the three excavation areas investigated during this period. When excavations resumed in the 1960s the site was re-designated as 40MR2 to correspond with the Smithsonian archaeological numbering system. The artifacts produced from the 1969 field season are labeled

as 40MR2a. When excavations resumed in 1970, the site designation of 40MR2 was used for all remaining areas of the site (Schroedl and Russ 1986).

The 1970 excavations regarded the entire site as Chota (40MR2). The site included excavation Areas H, J, and K, all located further to the south of the main Chota village. Henry Timberlake’s 1762 map shows a stream that bisected the area and served as a dividing boundary between Chota and Tanasee (Lewis and Kneberg 1993 [1946]; Gleeson 1970, 1971; Schroedl and Russ 1986). Analysis conducted by Gleeson (1971) found that the artifacts from Chota and Tanasee could not be distinguished from one another based on the limited size of the excavations. Schroedl’s (1986a) conclusions on the division of Chota and Tanasee state that the issue outlined by Gleeson may have been the result of misinterpretation of the ethnohistoric and archaeological records. The lack of a clear archaeological division between the artifacts, structures, or features may signal “that at different times the Chota and Tanasee place names were applied to a single archaeological settlement” (Schroedl 1986a:548). Tanasee was officially separated from Chota during the 1972 excavation designating it as 40MR62 and using the fence on the property line of Robert W. Newman’s farm as the bisecting line. The area does not line up exactly with Timberlake’s map since the use of the fence line was an arbitrary decision made by the excavation crew to clearly delineate a break between the two sites.

Citico (40MR7). The Citico Site is characterized by a Late Mississippian and eighteenth-century Overhill Cherokee village. The site is located north of Citico Creek on the Little Tennessee River in Monroe County, Tennessee. Excavations were conducted from 1967 to 1968 and in 1978 as part of the Tellico Reservoir Project. The Dallas phase characterizes the prehistoric components and is associated with a large, palisaded village with a platform mound. Previous artifact analysis conducted by Tellico archaeologists revealed earlier Woodland

components as well, indicating a long history of occupation at the site into the Historic period (Chapman 1979; Chapman and Newman 1979; Salo 1969).

Ocoee (2PK1). The Ocoee site is located in Polk County, Tennessee, on the east bank of the Ocoee River about a mile above the confluence of the Hiwassee River. While Ocoee is comprised of both excavation units 1PK1 and 2PK1, only 2PK1 was analyzed for this study. The site was excavated by the WPA between September and December of 1938. William Beatty, Earl Loyster, and John H. Ray were the supervisors. The Ocoee site is composed of three components: (1) Woodland Period, Candy Creek phase, (2) Late Mississippian, Mouse Creek phase, and (3) Historic Cherokee. Excavation unit 2PK1 consists of a stockaded village with Candy Creek and Mouse Creek phase deposits. Historic material was relegated to a single burial which was associated with European trade goods. The historic component of Ocoee is thought to have been late based on historical documents that indicate a founding of 1799 (Lewis et al. 1995b).

Hiwassee Island (40MG31). The Hiwassee Island site is located in Meigs County, Tennessee, on the Tennessee River. Cultural components at the site consist of Late Woodland, the Early Mississippian Hiwassee Island phase, and Late Mississippian Dallas and possibly Mouse Creek components. The Historic component burials and trade items were attributed to an eighteenth-century Cherokee occupation; however, it is possible some of the Historic period burials could have been attributed to the Dallas component and represent an earlier Protohistoric occupation (Lewis and Kneberg 1993 [1946]).

For the purpose of this project, study of the excavation units was limited to 37, 38, 42, and 63MG31. Units 37MG31 and 42MG31 were characterized by a substructure platform mound and a Hamilton burial mound, while units 38MG31 and 63MG31 comprised part of a palisaded

Native American village. While the site had been identified early in the twentieth century by Cyrus Thomas (1891) and Mark Harrington (1922), the main excavation came during the WPA period under the direction of Thomas Lewis at the University of Tennessee. The WPA excavation lasted from April of 1937 to April of 1939 with field archaeologists Charles H. Nash, Wendell Walker, and Charles Fairbanks supervising (Lewis and Kneberg 1993 [1946]).

Tomotley (40MR5). The Cherokee town of Tomotley was identified on Henry Timberlake's 1762 map as being downstream from Ball Play (Toqua) Creek in Monroe County, Tennessee. The site was surveyed in August of 1967 as part of the Tellico Project and excavated in 1976. Excavation at the site indicated a dispersed Cherokee occupation with artifacts that were typical of ca. 1670. Based on the limited excavation and sparse occupation, the site was probably not inhabited into the later part of the eighteenth century (Baden 1983; Salo 1969).

Upper Hampton Farm (40RH41). Upper Hampton Farm is located in Rhea County, Tennessee, on what was the west bank of the Tennessee River, but the site now partially lies under the Watts Bar Reservoir. The cultural components at the site include early Archaic and Woodland deposits with several Late Woodland burial mounds. The later component is a contemporaneous Late Mississippian Dallas and Mouse Creek phase village. While European trade goods are present at the site, there is no evidence for a Historic Cherokee component. Upper Hampton Farm was excavated by WPA work crews between 1940 and 1941 under the supervision of Charles Nash, Wendell Walker, and Alden Hayes (Dalton-Carriger 2011).

While Upper Hampton Farm is composed of 14 excavation units, only 85RH41 and 85VT1RH41 were used in this study because glass trade beads were recovered from these units. 85RH41 is comprised of the main village area surround by a moat/ditch and 85VT1RH41 was an extension of the village excavation in an attempt to map the remainder of the moat/ditch.

Sections of the moat/ditch as well as a highly modified Late Woodland Hamilton burial mound were uncovered within the confines of the excavation unit (Dalton-Carriger 2011).

Mouse Creeks (40MN3). The Mouse Creeks site is located on the north bank of the Hiwassee River in McMinn County, Tennessee. The site is composed of two excavation units 3MN3 and 4MN3. Mouse Creeks was excavated between February and May of 1938 by WPA field crews led by Stuart Neitzel and Charles Fairbanks. The site consists of a Late Woodland Hamilton mound, a Hiwassee Island phase palisaded village, and a Mouse Creek Late Mississippian village (Lewis et al. 1995b; Sullivan 1989, 2016). Lewis et al. (1995b) reported that all of the historic material recovered postdated the Native American occupation and was associated with the Surrat family who occupied the site in the 1800s (Sullivan 1986).

Chilhowee (40BT7). Chilhowee is located on the Little Tennessee River in Blount County, Tennessee. The site was excavated by the Tennessee Archaeology Society under J.H. Polhemus from 1956 to 1957. During the excavation, both Mississippian and Contact period components were uncovered (Polhemus 1955-1956). Unfortunately, field records for the site are limited.

Tallassee (40BT8). Like Chilhowee, Tallassee is located on the Little Tennessee River in Blount County, Tennessee. The site was excavated by the Tennessee Archaeology Society under J.H. Polhemus from 1955 to 1957. During the excavation, both Mississippian and Contact period components were uncovered. Additionally, a cellar-like feature with a hearth and limestone blocks were uncovered. This component may signal either an early nineteenth-century settlers cabin or a late Historic Cherokee cabin (Cornett 1976; Polhemus 1955-1956). Unfortunately, field records for this site are also limited.

Toqua (40MR6). The Toqua site is located in Monroe County, Tennessee, on the Little Tennessee River. The site consists of a large Late Mississippian and Overhill Cherokee town. The site was excavated between 1975 and 1978 as part of the salvage excavations of what would become the Tellico Reservoir (Polhemus 1987). The Late Mississippian component is comprised of a large, Dallas phase, palisaded village with two platform mounds. Based on recent archaeomagnetic dating by Lengyel et al. (1999) the main habitation of the site is believed to date between A.D. 1200 and 1500. Reassessment by Koerner et al. (2011) using new AMS dates places the occupation of Mound A between A.D. 1170 and 1440. An eighteenth-century Overhill Cherokee village, with loosely organized households and two townhouses, was excavated in the overlying stratum (Polhemus 1987). Koerner et al.'s (2011) AMS dating of Mound A places the Cherokee artifacts between the 1730s and 1830s.

Fort Loudoun (40MR1). Fort Loudoun is located on the south bank of the Little Tennessee River in Monroe County, Tennessee. The British built Fort Loudoun during the French and Indian War (1754 – 1763). There was increased tension with Native American tribes with whom the British traded, especially the Cherokee during this time period. The Cherokee captured the fort in 1770 after relations broke down and the British were forced to abandon the fort, which was then burned (Kuttruff 2010; Tennessee State Parks 2015).

The site of Fort Loudoun is situated on the second terrace of the Little Tennessee River and is surrounded by both Cherokee villages (Tuckegee to the south) and prehistoric sites. Excavation of the site began under the WPA and was supervised by Hobart S. Cooper between 1936 and 1937. During this excavation, one unit was established and designated as 1MR1. Excavations continued under Elsworth Brown between 1955 and 1957 and Peter H. Kunkel between 1958 and 1959. Brown's excavation focused on a small number of test pits in order to

test the limits of the site because of impeding construction, while Kunkel conducted excavations both inside and outside of the fort. He identified many key areas including the Southeast Bastion, the barracks area, the Southwest Bastion, the Northwest Bastion, and the Fort Glen area. Richard Myers and James E. Polhemus in 1966 continued Kunkel's excavations into the Southeast Bastion until 1967. The final excavation of the site was carried out between 1973 and 1975 by John Broster, Richard Polhemus, and Carl Kuttruff (Kuttruff 2010).

Hiwassee Old Town (40PK3). Hiwassee Old Town is located on the north bank of the Hiwassee River between river mile markers 41 and 43 in Polk County, Tennessee. The area was purchased in 1986 by the Tennessee State Division of Forestry for the purpose of creating a tree seedling nursery. The Tennessee Division of Archaeology then purchased 37.5 acres, which were deemed the core area of a large Historic Cherokee and prehistoric Mississippian site (Riggs et al. 1988).

The main occupation of the site occurred during the eighteenth and early nineteenth centuries. The Overhill Cherokee population participated actively in the deer skin trade with both English and French traders during the eighteenth century. The site was abandoned prior to 1756 likely because of a smallpox epidemic and was then reoccupied by anti-English Cherokee after 1756. The site was then destroyed by American militia during the 1780s. Excavation of the site was conducted between October of 1986 and September of 1987. In conjunction with a University of Tennessee Field School in the summer of 1987, the Tennessee Division of Archaeology field crew focused on 200 acres of river bottom that would be the most highly impacted by the tree nursery (Riggs et al. 1988).

DeArmond (40RE12). The DeArmond site is located in the Watts Bar Reservoir in Rhea County, Tennessee. Before inundation of the Tennessee River, the Mississippian town site was

comprised of five excavation units including three Hamilton burial mounds, one platform mound, and an adjacent village (Koerner 2005). Excavation unit 2RE12 which corresponds to the village component was the focus of this project, as this was the only context to contain glass trade beads. The site was excavated by the WPA between February of 1940 and March of 1941 under the supervision of John Alden. Research conducted on the site by Koerner (2005) revealed an extensive Mississippian period occupation with underlying Middle and Late Woodland levels, as indicated by ceramic types. With the completion of the Watts Bar Dam and the inundation of the surrounding area, no further field research is likely to be conducted at DeArmond, but research is still ongoing with the extant collections housed at the McClung Museum of Natural History and Culture.

Tellico Blockhouse (40MR50). The Tellico Blockhouse site is located on the Little Tennessee River in Monroe County, Tennessee. The site sits opposite Fort Loudoun and was occupied as a Federal period military and trade post from 1794 to 1807. Underlying deposits include Archaic, Woodland, and Mississippian period occupations (Polhemus 1979).

Excavations at Tellico Blockhouse conducted by the University of Tennessee began in 1972 in conjunction with the building of the Tellico Dam. Richard Polhemus supervised the excavation crew. A second field season was conducted in 1973 in order to fully understand and record the European and Overhill Cherokee interaction that took place at the site (Polhemus 1979).

8.3 Valdosta State University (Marvin Smith)

The glass beads from Valdosta State University were, for the past few decades, curated by Marvin Smith. Smith's (Smith 1987, 1994, 2000, 2002, 2004/2005, 2006[1989]; Smith and

Good 1982; Smith and Hally (1992) research has predominantly focused on the Protohistoric and Early Historic periods in the interior Southeast. In the past, Smith's research on glass trade beads has been limited to stylistic differences. Smith had kept a sample of glass beads because he knew that eventually new technology would be developed that could analyze them further. As Smith was nearing retirement, he provided the samples for this study. The sample has since been donated to the McClung Museum of Natural History and Culture. Distribution of sites from Smith's collection are shown in Figure 8.4.

Fig Springs (8CO1). The Fig Spring mission site is located in the Ichetucknee Springs State Park, Florida, and was excavated between 1988 and 1989 under the direction of the Florida Department of Natural Resources. The site is situated on a terrace approximately eight meters above Fig Springs and the Ichetucknee River (Weisman 1992).

The Fig Springs Mission is a multicomponent site spanning the Paleo-Indian to the Historic periods. The mission is thought to be Mission *San Martín*, but a definitive identification has yet to be made because no written descriptions or drawings of the mission were made by the Spanish. Dating of the site has relied on artifact and ceramic analyses which are characteristic of a complex aboriginal/European occupation. Based on the ceramic evidence, the site ranges from 1490 to the 1640s (Weisman 1992:37).

Wamassee Head (9LI13). The Wamassee Head site is located on St. Catherines Island off the coast of Georgia and was identified as the location for Mission *Santa Catalina de Guale* (Thomas 1987; Worth 1995). The mission was founded by Franciscan Friars who were sent from St. Augustine to establish missions along the coast of La Florida. The aboriginal habitation of the site stretches back to the Archaic period, but at Spanish contact the site was inhabited by the

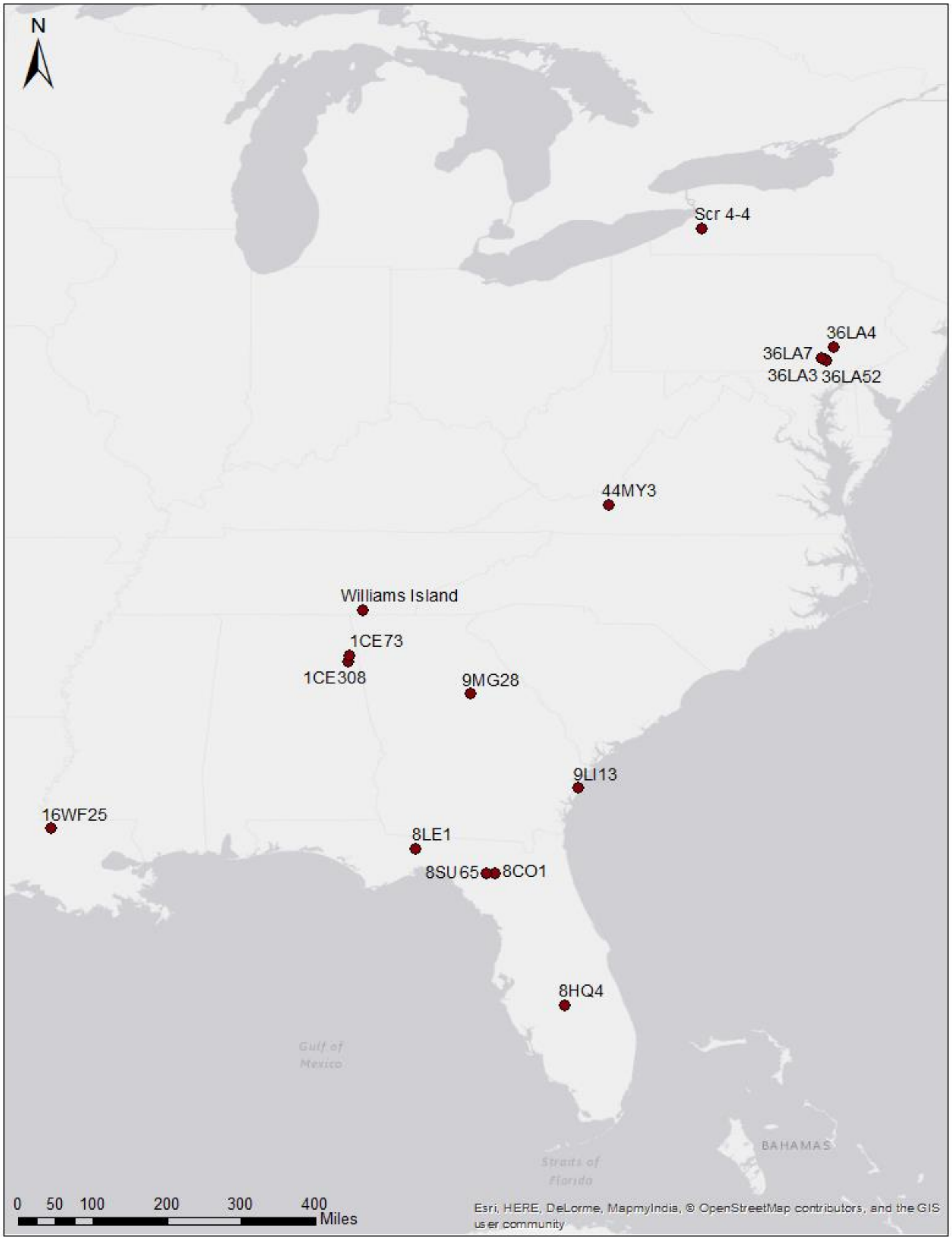

Figure 8.4. Distribution of sites from Smith's collection with site numbers.

Guale Indians (Hurst 1987; 1988). Mission *Santa Catalina* was founded in 1587 and was destroyed in 1680 after an attack by English-allied Indians who burned the mission (Thomas 1987; Worth 1995). The site was rediscovered in 1981 by David Hurst Thomas and excavations at the site continue to this day under the American Museum of Natural History (Hurst 1987; 1988).

Mission San Luis de Talimali (8LE1). During the late seventeenth century, Mission *San Luis de Talimali* was the Franciscan capital of the Apalachee Province in northwestern Florida. The mission site was founded in 1656 and was destroyed in 1704 following a military incursion by British and Creek forces. The mission itself consisted of an Apalachee village, a Spanish fort and settlement, and a mission church. The land was acquired by the State of Florida in the early 1980s and excavations have been ongoing at the site since 1984 (Mitchem 1993).

Baptizing Springs (8SU65). The Baptizing Springs site is located near the Suwannee River in northern Florida in the original mission province of Timucua. The site was excavated in 1976 and 1978 by the University of Florida (Weisman 1992). Originally the site was identified as the *Utina mission of San Agustín de Urica* which was occupied in 1655 at the latest, but Spanish ceramics date the longest occupation to the beginning of the seventeenth century. The identification of the site as *San Agustín de Urica* has mainly centered on the low frequency of trade goods that would have been valuable as material wealth. Based on the lack of wealth present at the site the site was likely a mission rather than a *visita*, which would have been much wealthier. While there was an aboriginal occupation area within the mission site, the density of the Native American population remained low. European trade items found on the site have been interpreted as prestige items intended to solidify the political and economic positions of select members of the community (Loucks 1993).

Goodnow Mound (8HQ4). The Goodnow Mound site is located in Highlands County, Florida, on the north shore of Lake Josephine six miles south of the city of Sebring (Griffin and Smith 1948). Permission to excavate was granted to the Florida Park Service in February of 1947. The Park Service's decision to excavate the site was based on reports of historic materials found in the vicinity that were possibly associated with the Calusa tribe. It is possible the Calusa's political territory reached Lake Okeechobee during the Historic period. During the excavation, over 6,200 glass beads were discovered along with other historic materials including bells, brass buttons, copper discs, iron tools, and Spanish pottery. Taking into account the historic artifacts, a sixteenth-century date is often attributed to Goodnow Mound. Griffin and Smith (1948) thought that the associated artifacts were salvaged from a Spanish ship wreck or evidence for early trade in Florida preceding the missions and settlements in northern Florida.

Trudeau Landing (16WF25). The Trudeau Landing site (also referenced as the Trudeau site or Tunica Village) is located in West Feliciana Parish in Louisiana near the mouth of the Red River. Excavations at Trudeau Landing were conducted by Jeffery Brain several times between 1972 and 1981. The excavations revealed a Tunica Indian village and cemetery dated between 1731 and 1764 (Brian 2004; Hoffman1992; Mann 2010).

Silverheels (Scr 4-4; U.B. 787, New York State Museum #2471). The Silverheels site is a sixteenth- and seventeenth-century Seneca cemetery located in upstate New York in southern Erie County on the north side of Cattaraugus Creek. The site was excavated by Arthur C. Parker and Raymond Harrington in 1903 under the Harvard Peabody Museum. Ceramic analysis conducted by William Engelbrecht (1983) identified the Silverheels site as part of the Niagara Frontier where local native groups and Seneca Indians were engaged in a complex cultural system of trade resulting in both Seneca and Cayuga ceramics at Silverheels and other

surrounding sites (Engelbrecht 1983). In 2001, a *Federal Register* notice was published for the site and in 2002, multiple burials and grave goods were repatriated and reburied (Loren 2008).

Shultz-Funk (36LA7 & 36LA9). Some of the glass beads in Marvin Smith's collection were designated as Shultz-Funk and were not segregated into discrete site groups. Consequently, it cannot be determined which site the beads came from. As a result, both sites are described here because they were originally part of the same excavation area.

The Shultz site is located on the Susquehanna River in Manor Township, Lancaster County, Pennsylvania and is characterized by a mixed ethnic Susquehannock town. The geography of the area is composed of a gravel knoll running along the Susquehanna River that descends sharply into the Witmers Run on the north section of the site. To the south is a second knoll that was originally designated as the Funk Shenks Ferry village. Excavations at the site began in 1931 under the Pennsylvania Historical Commission and were later assessed by James B. Griffin for Iroquoian affiliation. Small excavations continued into the 1940s under the Museum of the American Indian and the Heye Foundation. The first knoll which came to be associated with the Susquehannock Indians was designated as the Shultz Site (36LA7) in 1947 and the Shenks Ferry portion was designated as the Funk Site (36LA9) (Kent 2001:319-320).

Several other small scale excavations were conducted at both sites between 1947 and the late 1960s, mainly in response to Pennsylvania Power and Light Company's intention to purchase and build on the land in the vicinity of the sites. John Witthoft conducted research at the sites during the 1950s excavations and contended "that the Funk-phase Shenks Ferry village here was a contemporary of the Schultz Susquehannock town, and that the two groups actually lived there in separate villages, the Shenks Ferry being captives of the Susquehannocks" (Kent 2001:320). Witthoft's conclusion was based primarily on ceramic styles he identified as

hybridized from the two groups. Later research conducted by Samuel Casselberry in 1971 and Ira Smith III in 1970 disproved Witthoft's original contemporary habitation theory and instead illustrated that the two sites were not contemporaneous, although Smith did find evidence to support Witthoft's hybridized ceramics interpretation that he attributed to culture contact (Kent 2001).

The Pennsylvania Historical and Museum Commission began new excavations at both sites in 1974. The crews uncovered two separate Shenks Ferry occupations as well as two Susquehannock cemeteries. Based on available evidence, the Shultz site has been dated to between 1575 and 1600. Evidence from the 1974 excavations concludes that the Funk-phase Shenks Ferry component predated the Susquehannock town at the Shultz Site and is mainly corroborated by the presence of a Susquehannock stockade overlapping the Shenks Ferry component and the lack of European trade goods. Subsequent evidence from the Shultz Site demonstrates that some Shenks Ferry people were living on the later site as part of the Susquehannock town and may have been "adopted" members of the community (Kent 2001).

Keller (36LA4). The Keller site also known as the Keller Cemetery was originally part of the Washington Boro Site (36LA8) located in Lancaster County, Pennsylvania. Captain John Smith described five Susquehannock towns in 1612 located in present day Lancaster County. Based on current research the consensus is that one of the towns that Smith described was located at Washington Boro ca. 1600 to 1625 (Kent 2001:333).

John Keller excavated multiple graves while laying the foundation for his new home between 1925 and 1927. Several different individuals excavated other graves in the vicinity of Keller's home that resulted in multiple private archaeological collections. Much of Keller's original collection was purchased by Gerald B. Fenstermaker and then later sold to the

Pennsylvania State Museum in 1929. Donald Cadzow conducted a larger excavation in 1931 uncovering 79 burials adjacent to the Keller property. Keller's property and the surrounding area were designated at the Keller Site (36LA4) (Kent 2001).

Strickler (36LA3). The Strickler site is located 500 yards south of the Shultz site (36LA7) in Lancaster County, Pennsylvania. Current research identifies the Strickler Site as "Fort Demolished" from the Benjamin Chambers survey in 1688. It was likewise identified as "Fort" on Jacob Taylor's 1717 survey of the Conestoga Manor area (Kent 2001:348). Kent concludes that the Strickler site was the "location at which the Susuquehannocks coalesced in about 1645, and where they continued to prosper and grow in population until about 1660" (Kent 2001:248). Chambers recorded the remains of what he perceived as a demolished Indian fort by 1688.

Excavations as the site began in 1931 under the Pennsylvania Historical Commission on what was at the time property belonging to Charles Strickler. A second excavation was conducted in 1959 by the Conestoga Chapter of the Society for Pennsylvania Archaeology. The plan by the Pennsylvania Power and Light Company to buy land in Lancaster Country prompted further excavation of the area in 1967 since the Stickler site would be directly impacted. Digging continued for 10 years under the Pennsylvania Historical and Museum Commission in hopes of understanding the cultural changes that occurred with Susquehannock and other related groups living in the area. The Commission archaeologists decided that the site would benefit from large-scale excavations via bulldozer-stripping. While this method has obvious drawbacks in terms of feature origin identification, the Commission was able to map over 60,000 square feet of the Susquehannock village located at the site including pits, longhouses, and portions of a stockade (Kent 2001:322, 349).

Conestoga (36LA52). The Conestoga site is located on an inland hilltop known as Indian Round Top, far removed from any major waterway in Lancaster County, Pennsylvania. Conestoga Town or Quanistagua is recorded in the lower Susquehanna Valley in colonial records by 1696. Kent (2001) suggests that an arbitrary date of 1690 for the founding of the town is an acceptable benchmark. The first official colonial visit to the site occurred in 1700 by William Penn and in 1717 the Pennsylvania Land Commission ordered the Surveyor General to survey and define the manor of Conestoga Town. Today the site is in Manor Township, Lancaster County (Kent 2001).

Beyond a commemorative monument for the Native American village erected in 1924, little attention was paid to the site until the 1950s when Sam Farver and John Witthoft began excavations and designated the site as 36LA52. An amateur archaeologist began excavating burials with the permission of the landowners by the 1960s and by 1972 a formal excavation was begun by the Pennsylvania Historical and Museum Commission. A bulldozer crew was used to clear 32,000 square feet of the site exposing storage pits, three houses, and five small cemeteries. Current research describes Conestoga Town as a refugee site where both Seneca and Susquehannocks settled in order to have access to European trade. When the colonial frontier shifted farther west, Conestoga town declined in its importance in Pennsylvania and by the beginning of the eighteenth century it fell into decline. While many Native Americans opted to remain at the village because of government-financed welfare programs that emerged out of the Quaker tradition of "fair play," the village never fully recovered its political and trade significance (Kent 2001).

Bradford Ferry (1CE73). The Bradford Ferry site is located on the Coosa River in what is now Weiss Lake in northeast Alabama. Before the site was inundated by Weiss Lake, two

excavation units were dug and reported by David DeJarnette, David Edward, and Bennie Keel, in 1973. Based on the ceramic assemblages, the two components excavated are associated with the Late Woodland Coker Ford and Late Mississippian Weiss phases. Portions of the site were looted over time, as a result of periods of low lake levels. Consequently, many of the European trade goods discovered now reside with private collectors (DeJarnette et al. 1973; Little 2008:166-167). Based on the European artifacts, Smith places the occupation range for the Bradford Ferry site between 1600 and 1630 (Smith 1987:29)

Williams Island. Williams Island is located in the Tennessee River northwest of Chattanooga, Tennessee. Marvin Smith did not indicate where on Williams Island the bead came from or indicate a specific site number and as a result only a general description of the island is presented here. The island is the location of multiple sites and has been associated with Mississippian period occupation and evidence of European interaction because of the trade goods found in burial contexts. Petticord (2013) and Smith (1987) report that Steve Hunter documented a child's burial containing European trade goods from a village component on the island. An absolute date obtained by James B. Griffin (1963) places habitation of Williams Island between cal. A.D. 1450 and 1650 (Sullivan 2016). The site has been excavated for most of the twentieth century and has now been designated as the Williams Island State Archaeological Park (Petticord 2013; Smith 1987).

Trigg (44MY3). The Trigg site is located on the southeast bank of the New River in southwestern Virginia near the city of Radford. C. G. Holland recorded and surveyed the site between 1963 and 1964. Construction in the area in the 1970s prompted further excavation by the Virginia State Library, the Archaeological Society of Virginia, and the City of Radford under the supervision of Howard MacCord, Sr. and William Buchanan. Radiocarbon dates for the

Trigg site place the occupation between the fifteenth and seventeenth centuries during the Late Woodland period (Lapham 2005; Meyers 2002). Study of the recovered glass bead assemblages have led researchers to estimate the seventeenth-century habitation between 1630 and 1670, based on Boyd's (1993) research or between the 1620s and 1650s by Lapham (2005).

Polecat Ford (Terrapin Creek, 1CE308). Smith records the bead samples for this site as Terrapin Creek. Subsequent research of site forms show that the actual name of the site is Polecat Ford and it is located in the Terrapin Creek watershed in northeastern Alabama. Specifically, the site lies at the confluence of Terrapin and Nances Creeks (Little 2008). Analysis performed by Little and Curren (1981) documented multiple types of Lamar plain, stamped, and incised ceramics, as well as grog-tempered specimens which Little attributes to interaction with Kymulga phase (a Coosa sub-tradition) inhabitants further to the south (Hally 1994b; Little 2008). Examination of the European trade items by Smith (1987) places the Protohistoric occupation at the site between 1570 and 1600.

Joe Bell (9MG28). The Joe Bell site is located in Morgan County, Georgia, and was originally on the western bank of the Oconee River before impoundment of Lake Oconee. The site was excavated in 1977 by Mark Williams for the University of Georgia. Williams believes the site dates to the seventeenth century, and it exhibits Lamar cultural characteristics ranging from the Duvall to Bell phases ranging from 1375 to possibly 1670 (Williams 1983; Williams and Shapiro 1990).

8.4 Western Carolina University

The Plum Grove site was the only site sampled from Western Carolina University. The site has had a complicated history as the collections have been moved several times since Roy

Dickens, Jr's death. The collection ended up at Western Carolina because Ann Rogers was the curator of the archaeology lab at the time and was to conduct a lithic analysis for the site. While the most of the site remains unstudied, only the glass beads that could be located were analyzed.

Plum Grove (40WG17). The Plum Grove site is located on the south bank of the Nolichucky River in Washington County, Tennessee, in the Cherokee National Forest (Figure 8.5). Sporadic excavations were conducted between 1977 and 1986 and unpublished manuscripts have been written by Howard Earnest, Jr. (n.d.), Roy Dickens, Jr. (1976), and C. Clifford Boyd, Jr. (1987). Based on the Late Pisgah phase ceramics, estimates for the habitation of the site range from 1300 to 1600 and the presence of European trade items dates the Historic component from 1550 or 1600 to the early 1700s (Boyd 1987).

Unfortunately, no formal report has ever been published. Additionally, repatriation of many of the artifacts including all of the glass trade beads occurred in 2015. These problems with the collections will likely result in no formal report ever being published on this important site.

8.5 The Charleston Museum

Samples from the Charleston Museum were provided by Martha Zierden, Curator of Historical Archaeology. During a visit to the McClung Museum of Natural History and Culture Zierden became interested in this project and offered samples from both the Daniels Island and Lord Ashely sites, both sites are shown in Figure 8.4. At the time Zierden was completing a

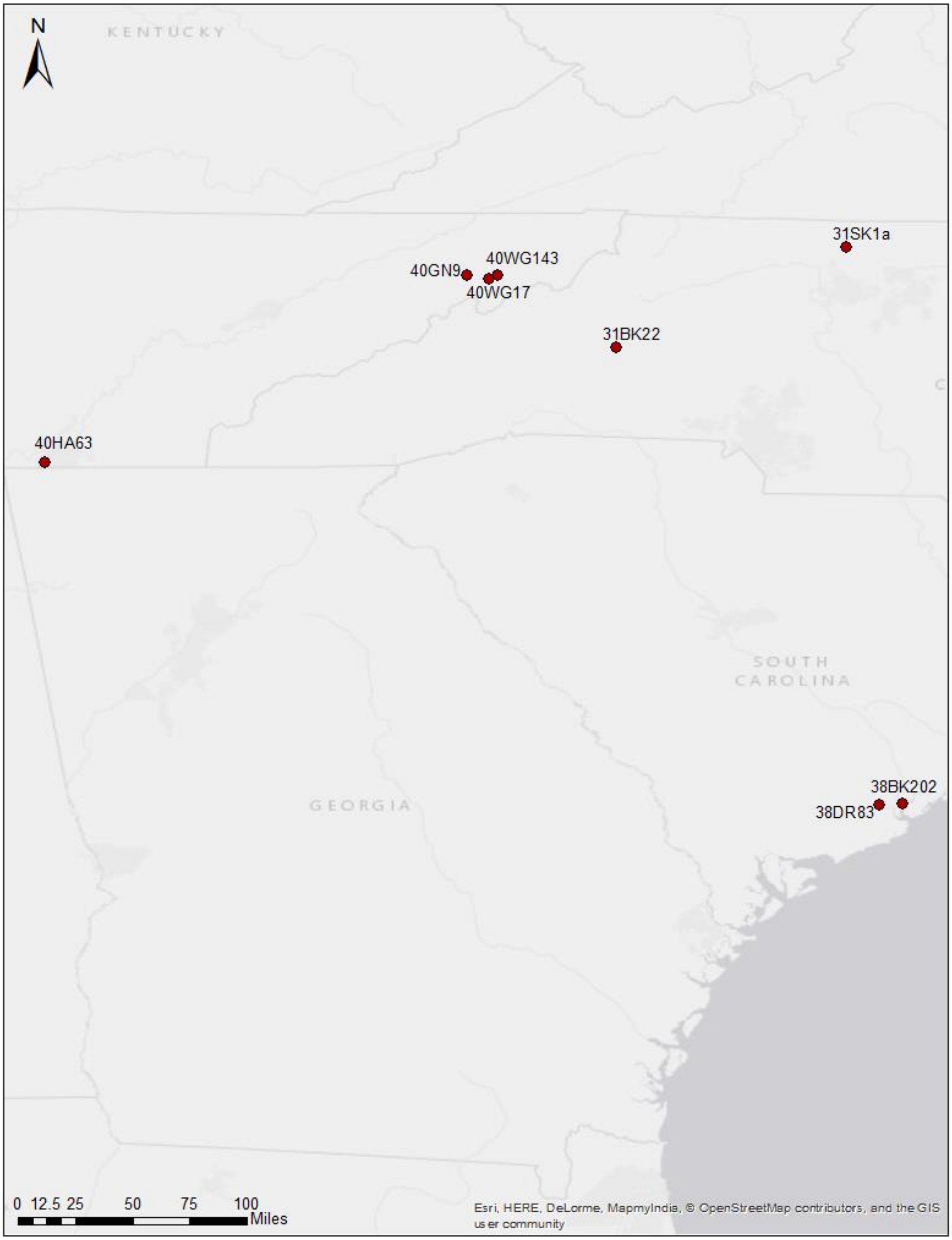

Figure 8.5. Distribution of sites from Western Carolina University, Warren Wilson College, the Charleston Museum, University of North Carolina, East Tennessee State University, the University of Tennessee, Chattanooga, and Illinois State University with site numbers.

monograph of the Lord Ashley site and wished to include more glass bead analysis. From my perspective, the Lord Ashley site was a prime comparative site for the temporal accuracy of the project as the site was occupied for such a short time.

Daniels Island Feature 115 (38BK202). The Daniels Island Feature 115 is part of the Lesesne Plantation site on Daniel Island in South Carolina. The main plantation site and brick foundation date to the 1690s. Feature 115 has been associated with a slave site and has been used extensively in research concerning South Carolina Colonoware (Agha 2012; Espenshade 1999).

Lord Ashley (38DR83). The Lord Ashley site was the Charleston plantation of Lord Anthony Ashley Cooper, the First Earl of Shaftesbury during the 1670s. The site is located on the Ashley River approximately 30 miles from Charleston, South Carolina. Excavations at the site were begun in 2007 by the Historic Charleston Foundation and Brockington Investigations, and continued in 2009 in conjunction with the College of Charleston/The Charleston Museum Field School. Before Lord Ashley's health declined in 1683, the fortified plantation served as a Carolina frontier trading post (Agha 2012).

8.6 University of North Carolina at Chapel Hill Research Laboratories of Archaeology

The Research Laboratories of Archaeology (RLA) at the University of North Carolina at Chapel Hill houses collections from all over the Southeast with special attention to North Carolina. Steven Davis, the Associate Director, was contacted in order to obtain glass beads from North Carolina to increase the sample size for this study since North Carolina was omitted from the original sample.

Upper Saratown (31SK1a). The Upper Saratown site is located on the west bank of the Dan River in the interior piedmont area in Stokes County, North Carolina (Figure 8.5). The site

was excavated between 1972 and 1981 by RLA at the University of North Carolina at Chapel Hill and revealed a late seventeenth-century palisaded village. Eastman (1999) connects Upper Saratown to the Early and Middle Contact periods (1607 – 1670) and based on associated artifacts, there is evidence for contact with southwestern Virginia and ties to Lamar culture and the Ridge and Valley Provinces of Tennessee, Georgia, and Alabama (Eastman 1999).

8.7 East Tennessee State University

Cane Notch (40WG143). The Cane Notch site was originally designated as part of Jacob Brown's Settlement site (40WG124). After a preliminary survey of the area it was decided by Jay Franklin at the East Tennessee State University that the Native American component be designated as a separate archaeological site. The Cane Notch site is located on the north side of the Nolichucky River at Cherokee Creek and north of Dedrick Island in upper East Tennessee (Figure 8.5). Franklin, along with undergraduate crews form East Tennessee State University, has been conducting excavations at the site since 2015. Erosion at the site into the Nolichucky River has produced a considerable amount of ceramics and several glass trade beads (Jay Franklin, personal communication 2014; Nance 2003). Analysis and excavation of the site are ongoing, but the preliminary work indicates European interaction in the area during the sixteenth and seventeenth centuries.

8.8 University of Tennessee, Chattanooga

The Jeffrey L. Brown Institute of Archaeology is located on the University of Tennessee, Chattanooga campus. Nicholas Honerkamp serves as the Director of the Institute. While the lab has a limited number of European trade goods, inclusion of the Moccasin Bend site in the sample

allowed for comparisons of the overall East Tennessee Valley with a site located to the south of a majority of the sites tested.

Moccasin Bend (40HA63). The Moccasin Bend site is located on the Tennessee River in Hamilton County, Tennessee, and initially was excavated by J.B. Graham in 1964 as part of the Nickajack Reservoir Project (Figure 8.5). Excavations at the Moccasin Bend site revealed long term occupation of the area dating back to the Archaic period, but the primary occupation occurred during the Mississippian period (Graham 1964; The Jaeger Company 2014).

The term Moccasin Bend also refers to a large bend in the Tennessee River in Hamilton County, Tennessee. The adjacent site of Hampton Place (40HA146) has produced the majority of the historic artifacts for the Moccasin Bend area; however, they were not available for analysis. Hampton Place was excavated by McCollough in the 1980s. New calibration of radiocarbon dates obtained by McCollough from the Hampton Place site show dates between cal. A.D. 1400 and 1650 (Sullivan 2016). While the routes taken by the Spanish through Tennessee are still poorly understood, Hampton Place and several other sites near Chattanooga including Williams Island discussed above have produced European trade items indicating either direct or indirect interaction during the Contact period (Alexander et al. 2010; Graham 1964; The Jaeger Company 2014; McCollough and Bass 1983a, 1983b).

8.9 Warren Wilson College

The Warren Wilson College runs a Field School at the Berry Site in North Carolina, which includes the first identified inland Spanish fort. It was imperative to this study to include known, early Spanish beads from the Berry site. David Moore at Warren Wilson graciously arranged to a research loan.

Berry (31BK22). The Berry site is located on Upper Creek, which is a tributary of the upper Catawba River, in Burke County near the city of Morganton, North Carolina (Figure 8.5). The site has been identified as the site of Joara and Fort San Juan which was established by Juan Pardo in 1567. When Pardo retuned to Santa Elena he stationed Spanish soldiers at Fort *San Juan* which was later attached by Native Americans and burned in 1568. The site was extensively studied in 1986 and since 2001, Warren Wilson College has conducted a field school at the site every summer under the supervision of David Moore, Robin Beck, and Chris Rodning. To date, the Spanish "compound" which consisted of five burned buildings as well as the adjacent Native American mound have been partially excavated, although the mound was mostly destroyed by plowing. Based on the nature of the Spanish artifacts, as well as Pardo's description of the area, the researchers at the Berry site are confident in its identification as Joara; however, a Native American village has yet to be discovered (Beck 1997; Beck et al. 2006; Beck et al. 2016).

8.10 Illinois State University

A loan for the glass bead sample from Illinois State University came from Kathryn Sampeck. In recent years she and her colleagues Jonathan Thayn and Howard H. Earnest, Jr. have been conducting research on determining the route the Spanish took through the Appalachian Mountains in the sixteenth century (Sampeck et al. 2015). Over the course of their investigations 40GN9 was one of the sites they surveyed in upper East Tennessee.

40GN9. 40GN9 is located on the Nolichucky river near Greenville, Tennessee (Figure 8.5). Recent excavations by the Illinois State University under the direction of Sampeck have revealed a large Native American settlement with Spanish trade items. The ceramics are consistent with the Middle Qualla phase ca. 1500 to 1700. The presence of wire wound and

Nueva Cadiz glass beads also hint to a sixteenth- through seventeenth-century occupation for the site (Sampeck et al. 2015). Further analysis of the site is still ongoing, but research and GIS modeling may suggest this was the Native American town of Canasahaqui visited by De Soto (Beck 1997; Sampeck et al. 2015).

Chapter 9: Glass Bead Analysis

9.1 Introduction

Glass trade beads are often among the most abundant European artifacts recovered from Contact period sites across North America. Analysis of this artifact group has mainly been limited to stylistic traits. Researchers have published many reference books dividing bead types by shape, color, manufacturing method, and/or decoration. The Kidd and Kidd (1983) bead typology has become a staple for identifying glass beads commonly found in North America. While the Kidd and Kidd typology can be beneficial in identifying different bead types, the complex coding scheme of this type analysis is most useful for identifying the more unique ones. Beads with complex color patterns, layers, and/or decoration are well identified using this typology and often have a well-defined time range for manufacturing and distribution. What is poorly represented in this typology is the simple monochrome beads that have long manufacturing time ranges. The question then becomes; how does one accurately date glass beads that have long time ranges?

The answer to this question comes in the form of an elemental analysis compared with the glass recipe books from the Venetian glass-making houses. Researchers have for decades had the ability to measure the elemental composition of artifacts, but the testing methods were not easily accessible. The development of portable XRF machines has made this possible. The glass trade beads analyzed in this study were predominantly tested using pXRF, at the University of Tennessee, Knoxville. Additional testing on a limited number of glass beads was conducted at the Field Museum of Natural History Elemental Analysis Facility using LA-ICP-MS. This chapter is dedicated to summarizing the work conducted by Elliot Blair and myself using pXRF

and LA-ICP-MS analyses to test the elemental composition of glass trade beads in the interior Southeast and the formation of a dating method.

9.2 Methods

pXRF Analysis. Two hundred and fifty-three glass trade beads were analyzed using a Bruker Tracer-III-SD portable XRF machine. Each bead was analyzed twice, once for low-z elements using a 0.001" Ti filter at 15 kV and 35 μA for 180 seconds under vacuum. The second testing analyzed for high-z elements using a 0.006" Cu, 0.001" Ti, 0.012" Al filter at 40 kV and 26 μA for 180 seconds. The raw spectral data were then manually sorted into elemental groups based on the presence and/or absence of specific elements correlating to sixteenth- and seventeenth-century European glass recipe books (Dalton-Carriger and Blair 2013, 2014, 2015).

LA-ICP-MS Analysis. The LA-ICP-MS analysis was sponsored by a research grant from the Tennessee Council for Professional Archaeologists (TCPA). The analysis was conducted at the Field Museum of Natural History Elemental Analysis Facility in Chicago, Illinois, by Laure Dussubieux. The Elemental Analysis Facility used an Analytik Jena Inductively Coupled Plasma – Mass Spectrometer (ICP-MS) along with a New Wave UP213 laser, which allowed for direct introduction of solid samples. Helium gas was carried to the laser during the process, which was set to an 80mm beam for single point analysis. The beam was operated at 70% of the laser energy (02. mj) with a pulse frequency of 15 Hz. This method is designated as Laser Ablation and is used for testing vaporized solid samples. As the pulsed laser is applied to the sample, minute amounts of the sample are removed and carried into the plasma by the helium gas. This process damages the sample, but at the microscopic level. The damage is not visible to the naked eye, nor does it compromise the integrity of the sample in any way. Each sample was tested for 20 seconds in order to eliminate the transient part of the signal and to ensure that surface

contaminations or corrosion did not affect the analysis (Dussubieux 2015; Dussubieux et al. 2009; Gratuze 1999).

Testing Method Comparison. The spectrum produced by both pXRF and LA-ICP-MS measure the amount of each elemental peak present in the sample. The use of the pXRF has become much more commonplace in the field of archaeology in recent years because of the machine's portability and the ability for academic departments and independent researchers to acquire their own machines. This accessibility has increased the use of the pXRF for data analysis because large samples can be analyzed quickly and relatively cheaply. Despite its ease of use, there are several limitations in the use of the pXRF. First, the machine is limited to surface analysis and beads that are corroded or multicolored cannot be tested. A second issue stems from the calibration of the pXRF machine. Generally, Bruker provides obsidian samples to properly calibrate the system. As of now, glass bead calibration standards do not exist, but these standards are needed to reliably quantify data produced by the pXRF. Final issues come from the analysis of the low-z elements. The pXRF does not reliably read the presence of elements on this end of the spectrum, making it difficult to accurately break down the composition of the samples (Dalton-Carriger and Blair 2015).

In order to mitigate the problems associated with the pXRF process, LA-ICP-MS was employed to gather more precise quantitative data on a small sub-set of the bead samples. During the process, a direct sample is taken from the glass bead allowing for further elemental examination, especially in the low-z element range not easily detected by the pXRF. This second method also allowed for comparison with other quantitative techniques such as Instrumental Neutron Activation Analysis (INAA) and other LA-ICP-MS (see Blair 2015, Dalton-Carriger 2011; Dalton-Carriger and Blair 2013, 2014, 2015; Hancock 2005, 2013; Hancock et al. 1996;

Hancock et al. 1994; Hancock et al. 2000; Hancock et al. 1997; Hancock et al. 1999; Karklins et al. 2002; Karklins et al. 2001; Kenyon et al. 1995; Moreau 2006; Moreau et al. 1997; Moretti and Hreglich 2005, 2013). Analysis of the direct sample enables a more exact measurement of the amount of each element present, which can then be quantified. Because this analysis produces more precise quantitative data, the glass beads which were analyzed using only pXRF could be compared to the LA-ICP-MS results, a process which allows for empirical calibration. The cost and laboratory time required to analyze each sample meant that LA-ICP-MS could only be used to test a limited number of glass beads (Blair 2015; Dalton-Carriger and Blair 2015).

9.3 Samples

Of the 253 glass beads chosen for the pXRF analysis, 50 were reanalyzed using LA-ICP-MS testing. An additional 30 were chosen solely for LA-ICP-MS analysis. Testing for this project was limited becauase access to the University of Tennessee's pXRF was restricted to a much smaller sample than would have been preferred because many students use the machine for analysis. Proveniences selected for this project often contained multiple bead samples and future testing of these glass beads may reveal more temporal information on specific site features. Despite these issues the sample presented here is significant enough to produce a preliminary database for East Tennessee glass beads trends. Appendix I of this study contains images of each of the glass beads with accompanying information, including feature types where the beads were found and associated artifacts. Appendix II is an Excel sheet of all the data derived from the glass beads. Bead selection was restricted to monochrome beads, as the pXRF cannot differentiate between color layers. This selection limited the sample to mainly opaque white and blue beads with a small selection of black and translucent blue bead samples.

East Tennessee Samples. Two hundred and twenty-two samples were analyzed from 21 sites from East Tennessee (Table 9.1). The samples were provided by The McClung Museum of Natural History and Culture at the University of Tennessee in Knoxville, East Tennessee State University (ETSU), the University of Tennessee at Chattanooga, Western Carolina University, Illinois State University, and by Marvin Smith at Valdosta State University. Sample selection was based on: (1) the occurrence of white or blue opaque glass beads, (2) the presence of beads in well-defined contexts such as burials, pits, or house floors, and (3) willingness of facilities to loan beads for testing. The majority of the bead samples came from the McClung Museum since samples were readily available from multiple sites. The museum allowed testing of any bead in its collection using pXRF and the Eastern Band of the Cherokee did not have an issue with this manner of testing. Beads from burial contexts were not used for LA-ICP-MS testing since the testing methods causes microscopic damage. To rectify this, samples for LA-ICP-MS analysis were chosen based on non-burial contexts such as house floors, pits, and unassociated contexts from sites that were already tested using pXRF. Samples from institutions other than the McClung were selected because they held collections relevant to this study that the McClung did not have. Obtaining samples from multiple institutions allowed for a broader examination of sites in the East Tennessee Valley.

Comparative Samples. Comparative samples were obtained from The Charleston Museum, The University of North Carolina at Chapel Hill Research Laboratories of Archaeology, Warren Wilson College, and a collection held by Marvin Smith at Valdosta State University. The samples provided by Martha Zierden from the Charleston Museum were the first comparative samples to be acquired. At the time, the museum was writing a report on the Lord Ashley site and these samples provided a good benchmark for accurately dating other sites

because the relatively short occupation span of the site was known. The samples from Chapel Hill and Warren Wilson were acquired specifically to expand the comparative sample into North Carolina. Table 9.2 shows the counts of samples by state.

The collection provided by Smith ultimately turned out to the best benchmark for anchoring the chronological sequence. Smith had accumulated beads from multiple sites across eastern North America over several years, with the hope of establishing a chronological sequence. Many of the sites are well documented and occupation spans have been dated using other methods. Using these data along with the elemental analyses resulted in anchor dates for the overall analysis (Dalton-Carriger and Blair 2014, 2015).

9.4 Results of Analysis

Most beads were opaque white (n=74) and turquoise blue (n=182). Blair’s (2015) sample showed that at Mission *Santa Catalina* opaque white and blue opaque beads were temporally diagnostic; however, for this analysis the white beads did not prove to be as temporally useful. Blair found that white beads opacified with a tin-lead mixture dated to the sixteenth and early seventeenth centuries. A second group of opaque white beads with a calcium-antimonate opacifier belong to the eighteenth century. Only two white beads for the interior Southeast sample contained the tin-lead mixture, making the remainder of the beads later in date and not very useful in determining the temporal patterns of the Protohistoric period (Blair 2015; Dalton-Carriger and Blair 2015).

The most significant chronological results for this project were found in the opaque turquoise blue beads. Results of the pXRF and LA-ICP-MS analyses permit the creation of 10 elemental groups ranging from ca. 1570 to the late eighteenth century (Table 9.3). The groupings

Table 9.1. Tennessee glass bead sample sites with counts.

Site Number	Site Name	Number of Samples
N/A	Williams Island	1
N/A	Barnes Collection	3
40BT7	Chilhowee	2
40BT8	Tallassee	11
40GN9	N/A	1
40HA63	Moccasin Bend	5
40MG31	Hiwassee Island	13
40MN3	Mouse Creeks	3
40MR1	Fort Loudoun	2
40MR2	Chota	47
40MR5	Tomotley	10
40MR6	Toqua	23
40MR7	Citico	19
40MR50	Tellico Block House	1
40MR62	Tanasee	20
40PK1	Ocoee	28
40PK3	Hiwassee Old Town	2
40RE12	DeArmond	2
40RH41	Upper Hampton Farm	8
40WG17	Plum Grove	18
40WG143	Cane Notch	3
Total		222

Table 9.2. Non-Tennessee comparative bead samples with counts.

State	Site Name	Site Number	Count
Alabama	Polecat Ford	1CE308	1
	Bradford Ferry	1CE73	2
Florida	Fig Springs	8CO1	3
	Goodnow Mound	8HQ4	1
	Mission San Luis de Talimali	8LE1	1
	Baptizing Springs	8SU65	1
Georgia	Wamassee Head	9LI13	2
	Joe Bell	9MG28	1
Louisiana	Tudeau Landing	16WF25	1
New York	Silverheels	Scr 4-4, U.B. 787	1
North Carolina	Berry	31BK22	5
	Upper Saratown	31SK1a	5
Pennsylvania	Strickler	36LA3	1
	Keller	36LA4	1
	Conestoga	36LA52	1
	Shultz-Funk	36LA7/36LA9	1
South Carolina	Daniels Island	38BK202	12
	Lord Ashley	38DR83a	20
Virginia	Trigg	44MY3	1
Total			61

Table 9.3. Elemental groups divided by East Tennessee and comparative state sites.

Elemental Group Number	Sub-group	Date Range	East Tennessee Sites	Comparative State Sites
Group 1	Sub-Group 1A	ca. 1570 – 1630	40MR5, 40RH41, 40WG17, 40WG143	1CE308, 36LA3, 9LI13
	Sub-Group 1B	ca. 1600 – 1640	40BT8, 40HA63, 40MR2, 40MR6, 40MR7, 40WG17, Williams Island	1CE73, 9LI13, Scr 4-4
	Sub-Group 1C	ca. 1640 – 1680	40BT7, 40BT8, 40GN9, 40HA63, 40MR5, 40MR6, 40PK1, 40RH41, 40WG17	8CO1, 8LE1
Group 2		Late 16th to Early 17th Centuries	40HA63, 40MR2, 40MR7, 40MR62, 40RH41, 40WG17	8CO1, 38DR83a, 8HQ4, 36LA4, 36LA7, 36LA9, 9MG28, 44MY3
Group 3		Post ca. 1680	40BT8, 40MR2, 40MR5, 40MR7, 40MR62, 40PK1, 40PK3, 40RH41	
Group 4		ca. 1680 – Mid 18th Century	40MG31, 40MR2, 40MR7, 40MR62, 40PK1, 40RH41	38BK202, 38DR83a, 16WF25
Group 5		Mid to Late 18th Century	40BT7, 40MG31, 40MR2, 40MR5, 40MR6, 40MR7, 40MR62, 40PK1, 40RH41	38BK202, 38DR83a, 36LA52
Group 6		Mid to Late 18th Century	40MR2, 40PK1	
Group 7		17th Century?	40HA63, 40MR2, 40MR6	
Group 8		Late 17th Century?	40MG31	38DR83a, 8SU65
Group 9		17th Century?	40BT8, 40MG31, 40MR2, 40MR6	
Group 10		Late 18th Century	40BT8, 40MG31, 40MR7	

are listed below with a breakdown of the defining elemental traits, maps for Tennessee samples, and spectra showing the major elemental peaks. Each spectrum was produced using Artax 7.0 to conduct a Bayesian deconvolution of each spectrum to generate the net area under the peak values for each element. This procedure produces a quantitative measure of each element present in the sample. Data were then normalized to rhodium and log transformed (Dalton-Carriger and Blair 2013, 2014, 2015).

Group 1. Group 1 includes all of the beads opacified with only a lead-tin mixture. The group was then subdivided into three subgroups designated as Sub-Groups 1A, 1B, and 1C. These subgroups are differentiated by the amount of lead and tin that decline through time, as was observed in Hancock's (2013) study. Sub-Group 1A ranges from ca. 1570 to 1630 and is characterized by high amounts of lead and tin (Figure 9.1). Sub-Group 1B ranges from ca. 1600 to 1640 and has moderate amounts of lead and tin (Figure 9.2). Sub-Group 1C ranges from ca. 1640 to 1680 and has the lowest mixture of lead and tin in the Group 1 category (Figure 9.3) (Dalton-Carriger and Blair 2013, 2014, 2015). Figures 9.4 – 9.6 show the comparison of Sub-Group 1A, 1B, 1C spectra overlaid for comparison of lead and tin.

Group 2. Group 2 also dates to the late sixteenth and early seventeenth centuries and sites represented are shown in Figure 9.7. The compositional group is opacified with lead-tin, but contains noticeable quantities of manganese and arsenic. The difference between Groups 1 and 2 may be caused by a variation in glass-making houses or variation in raw materials. Figure 9.8 shows a comparison of Sub-Group 1C and Group 2 spectra in terms of tin.

Group 3. Group 3 dates to post ca. 1680 and sites represented in this group are shown in Figure 9.9. The beads from this group are opacified with a combination of lead-tin and calcium-antimonate. A post 1680 date is derived from Blair's (2015) analysis where beads from the pre-

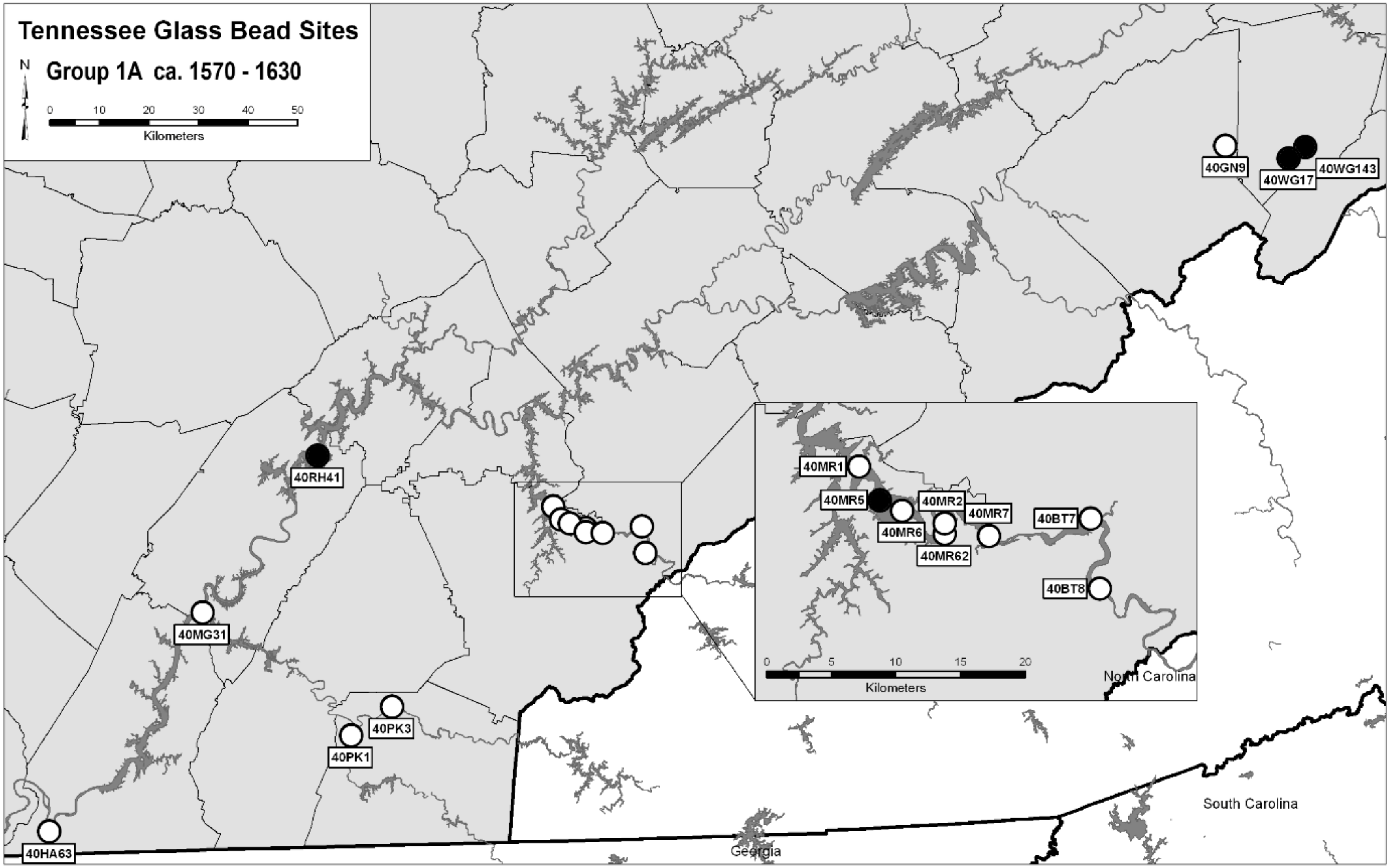

Figure 9.1. Compositional Group 1A sites from Tennessee, illustrated by black dots.

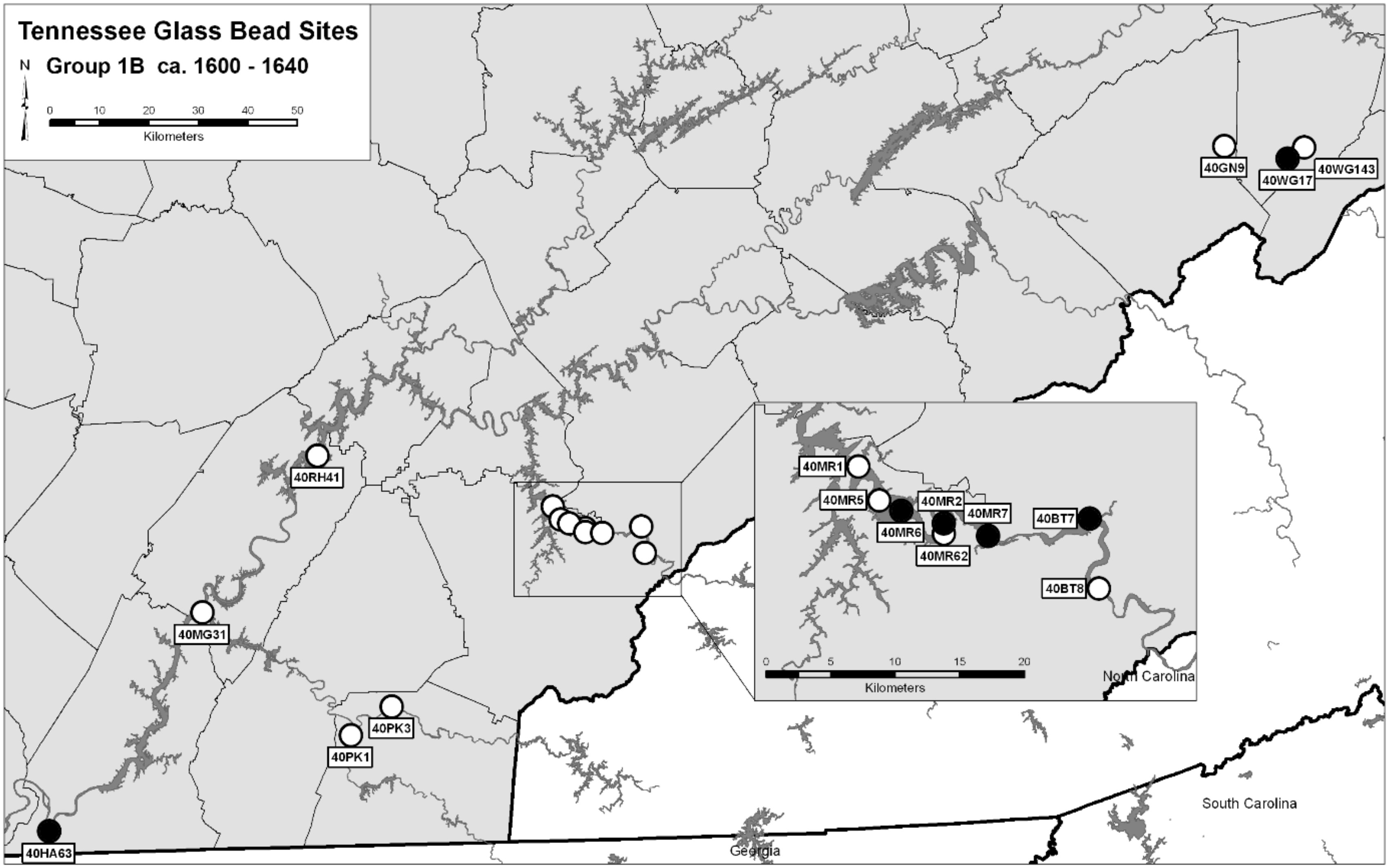

Figure 9.2. Compositional Group 1B sites from Tennessee, illustrated by black dots.

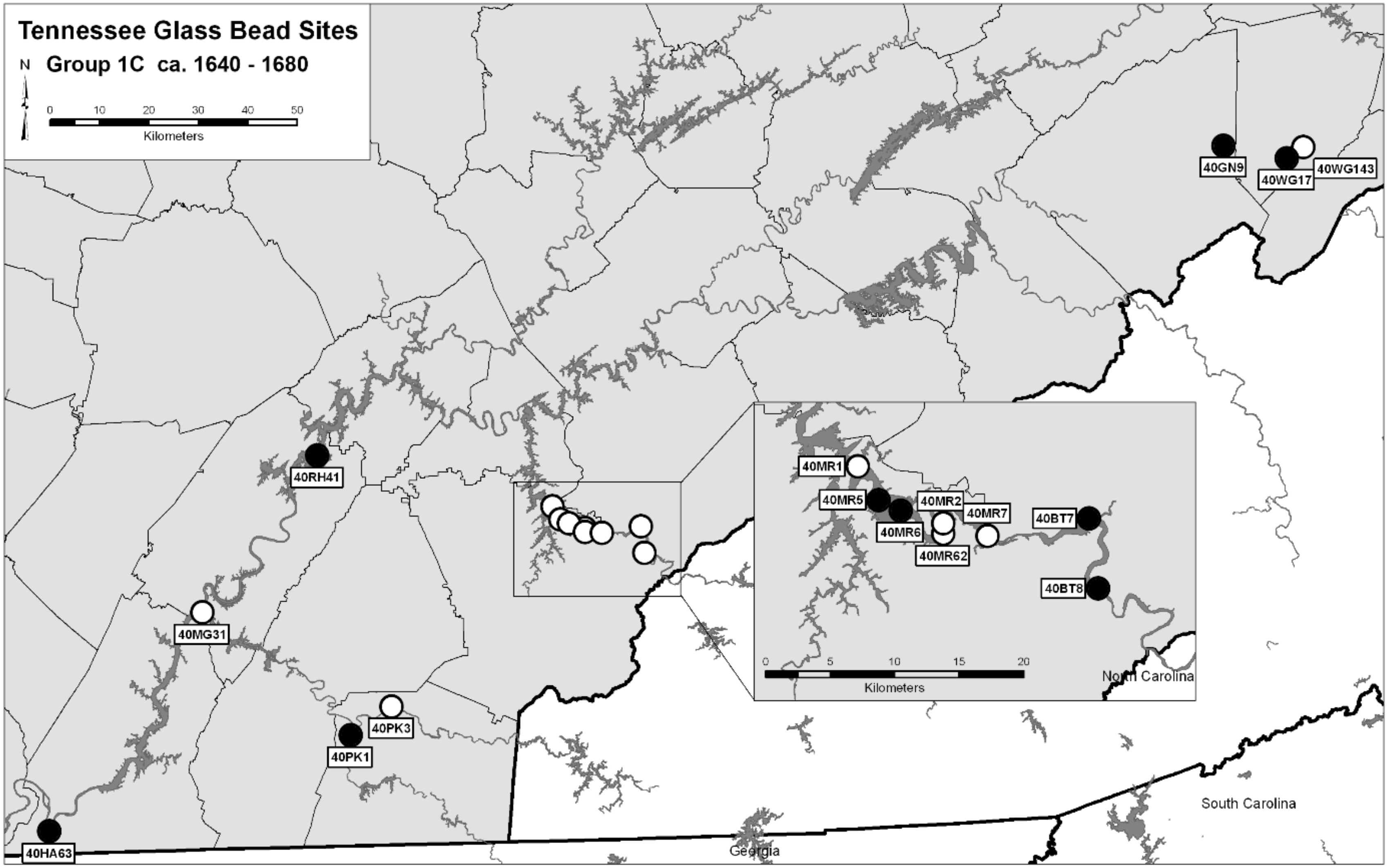

Figure 9.3. Compositional Group 1C sites from Tennessee, illustrated by black dots.

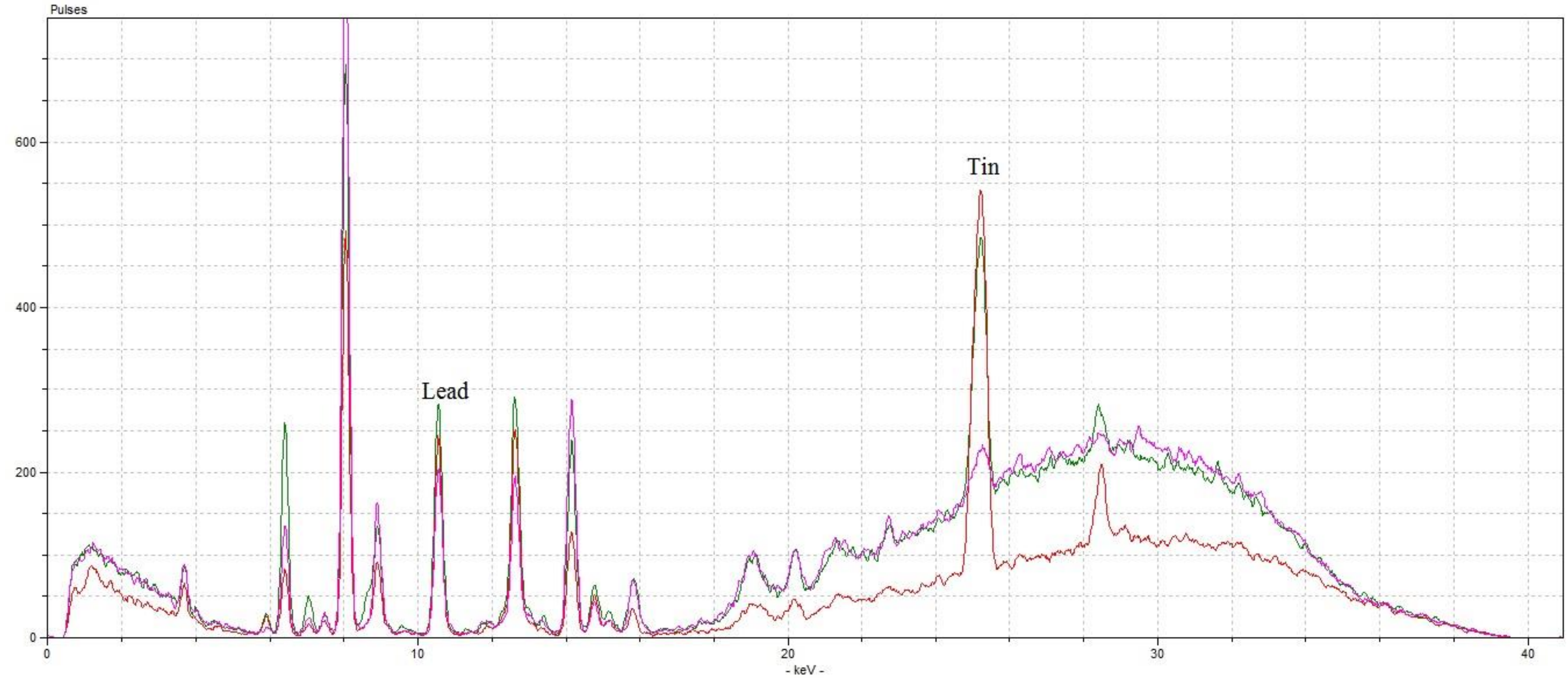

Figure 9.4. High-z spectrum of Groups 1A (Red Line, pXRF #0051, B18/85RH41), 1B (Green Line, pXRF #0205, B-80(2)/40MR7), and 1C (Purple Line, pXRF #0096, a2342/250/40WG17).

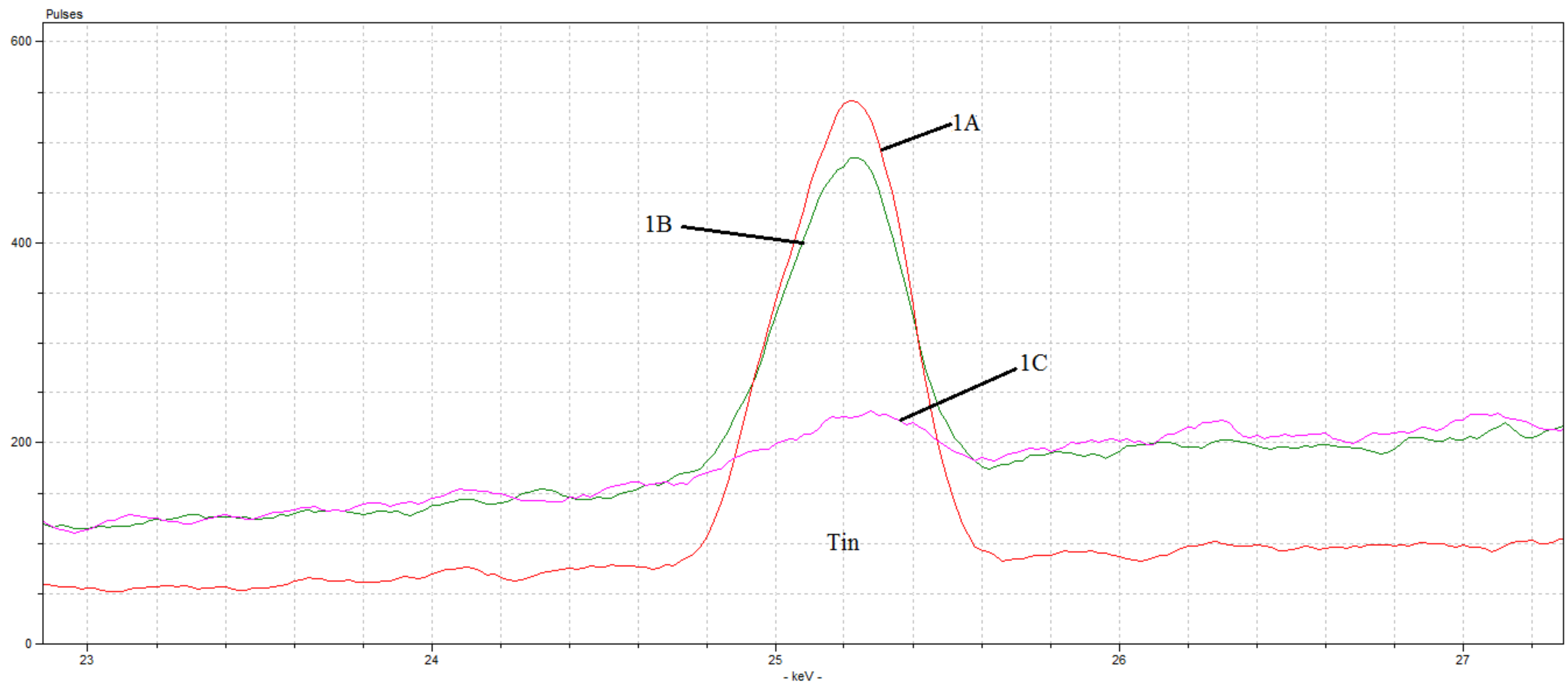

Figure 9.5. Tin Comparison of Groups 1A (red line, pXRF #0051, B18/85RH41), 1B (green line, pXRF #0205, B-80(2)/40MR7), and 1C (purple line, pXRF #0096, a2342/250/40WG17).

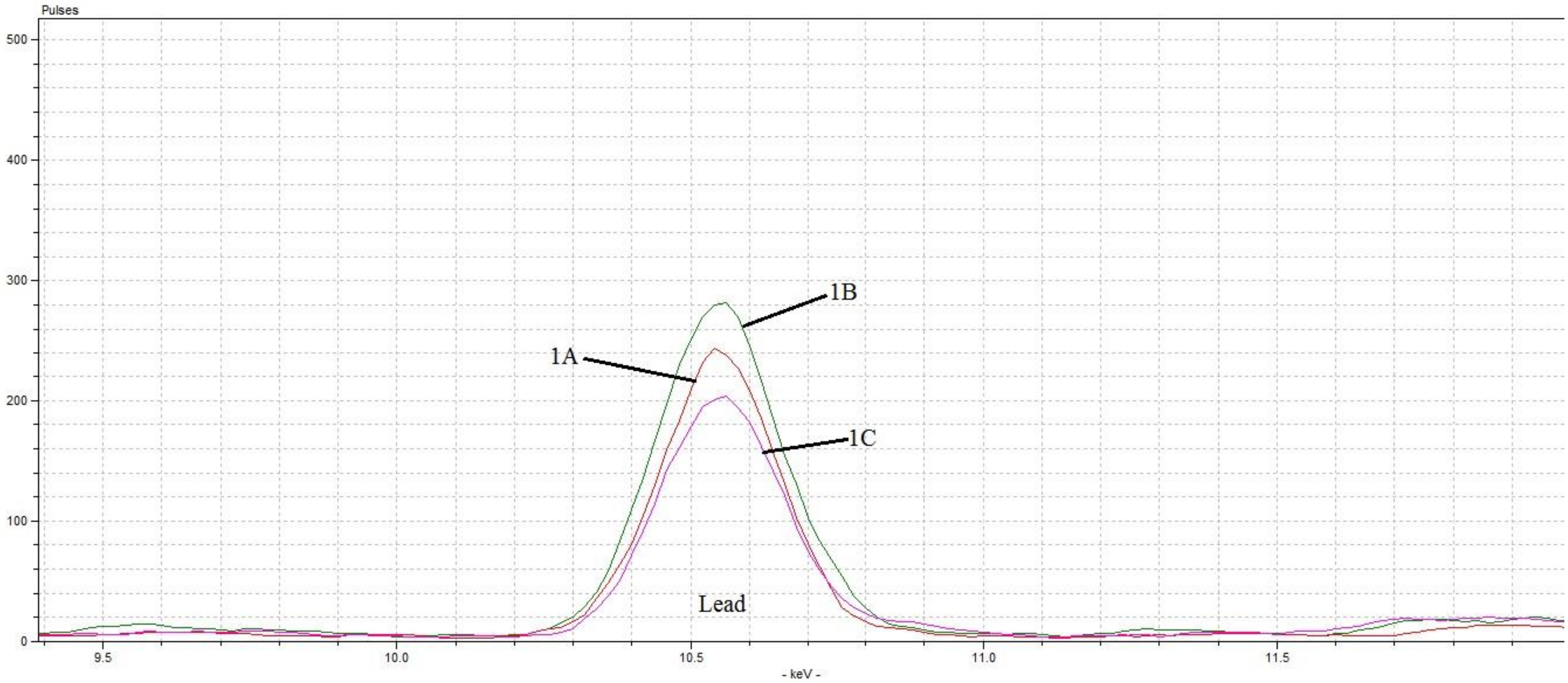

Figure 9.6. Lead Comparison of Groups 1A (red line, pXRF #0051, B18/85RH41), 1B (green line, pXRF #0205, B-80(2)/40MR7), and 1C (purple line, pXRF #0096, a2342/250/40WG17).

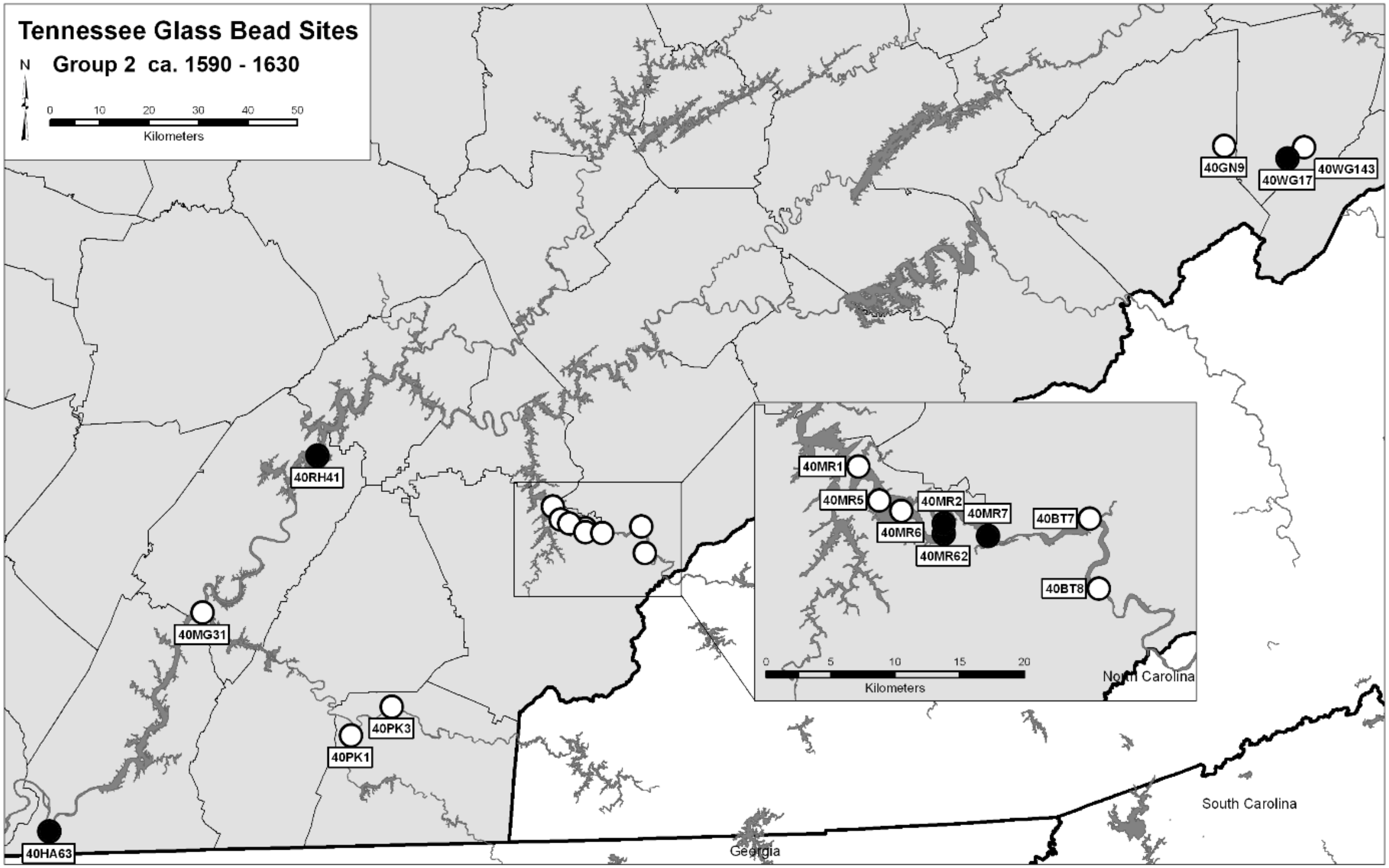

Figure 9.7. Compositional Group 2 sites in East Tennessee, illustrated by black dots.

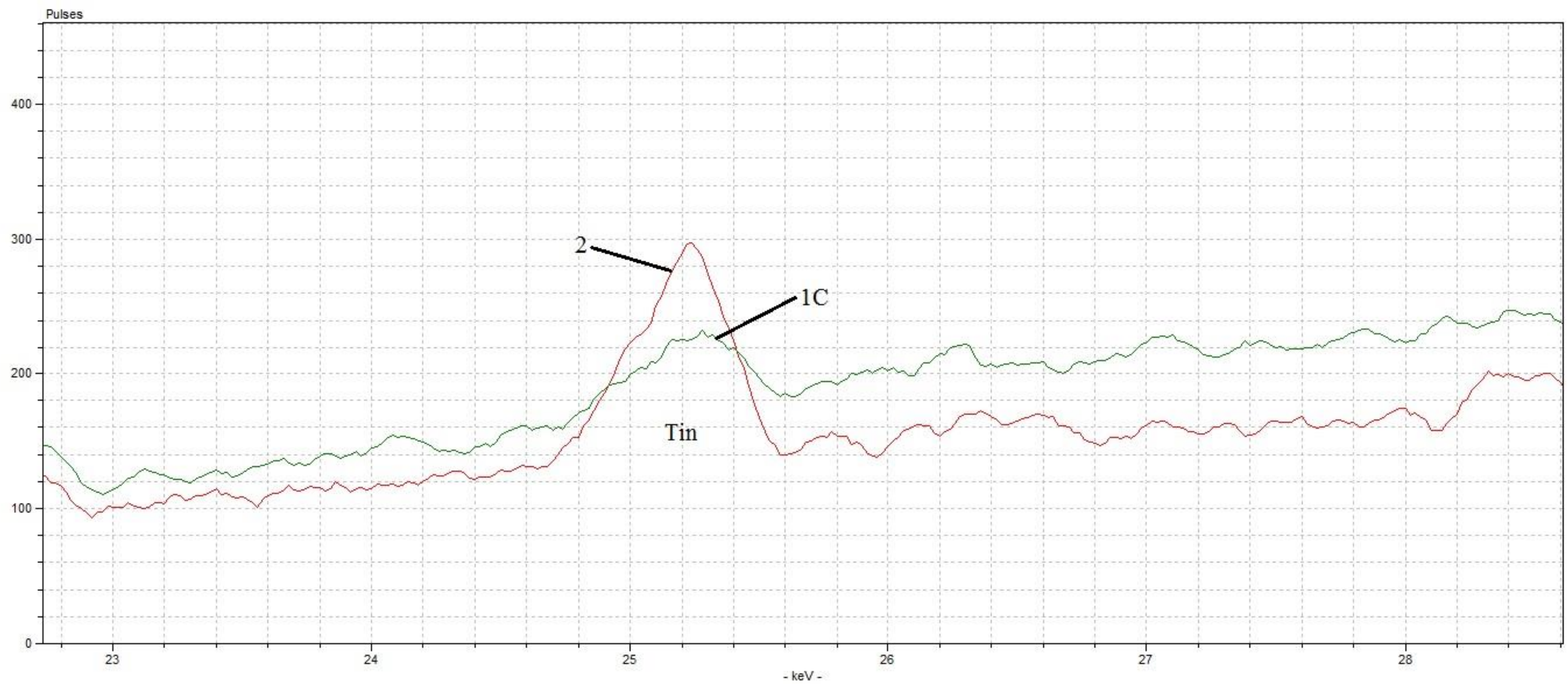

Figure 9.8. Comparison of Tin between Sub-Group 1C (pXRF #0096, green line) and Group 2 (pXRF #0094, 82-99-214/4-HA63, red line).

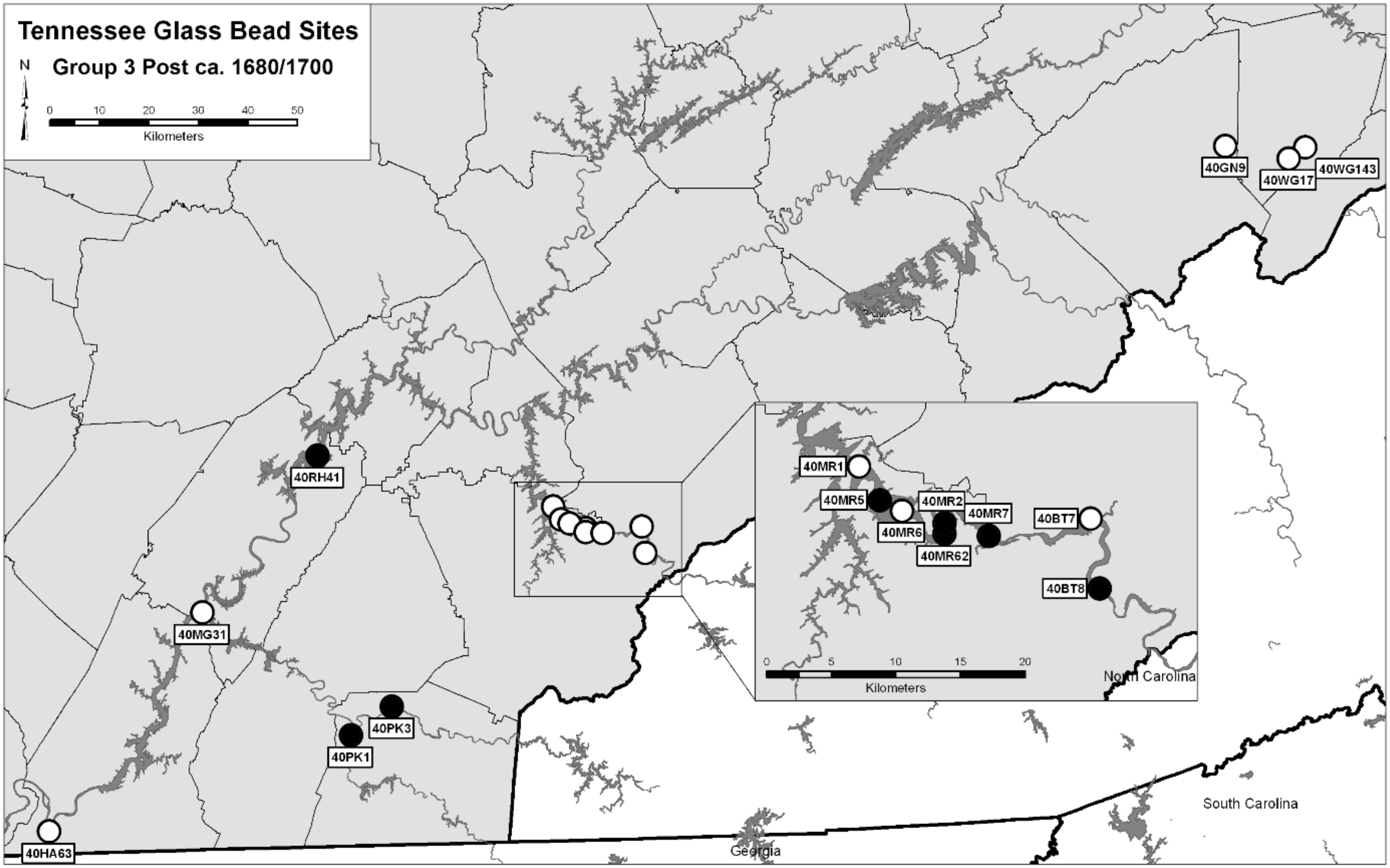

Figure 9.9. Compositional Group 3 sites in East Tennessee, illustrated by black dots.

1680 site of Mission *Santa Catalina* do not contain this opacifier combination. Based on the combination of lead-tin and calcium-antimonate, this finding may represent a transitional composition or the effects of older recycled glass beads being added to new glass beads manufactured with calcium-antimony (Dalton-Carriger and Blair 2014). A terminal date for Group 3 has yet to be established and requires further analysis. Figure 9.10 shows the comparison of Sub-Group 1B and Group 3 in terms of differing tin and antimony levels, so as to compare opacifier type.

Group 4. Group 4 is opacified mainly with calcium-antimonate with trace amounts of tin present in some of the samples. The group has been dated from ca. 1680 to the mid-eighteenth century (Figure 9.11). A sample from the Trudeau site independently dated to ca. 1731 – 1764 and makes this compositional group an important mid-eighteenth-century marker. Samples from Mission *Santa Catalina* as well as the Lord Ashley site date this group to post 1680. Figure 9.12 shows a comparison of Groups 3 and 4 in terms of differing tin and antimony levels.

Group 5. Group 5 is dated to the mid- to late eighteenth century and is primarily opacified with calcium-antimonate with traces of arsenic (Figure 9.13). This compositional group also contains higher quantities of bismuth, but the inclusion of bismuth may be linked to a specific raw material source. Figure 9.14 compares Groups 4 and 5.

Groups 6 – 10. Groups 6 through 10 were not as reliable for dating as the others. Group 6 was mainly opacified with calcium-antimonate, with high concentrations of arsenic and bismuth. This combination may represent a mid- to late eighteenth-century elemental pattern (Figure 9.15). Group 7 was a lead-tin mixture with arsenic and bismuth. This elemental combination is unclear, but may represent a seventeenth-century composition (Figure 9.16). Group 8 was composed of tin and arsenic, but was devoid of lead, antimonite, and bismuth. This uncommon

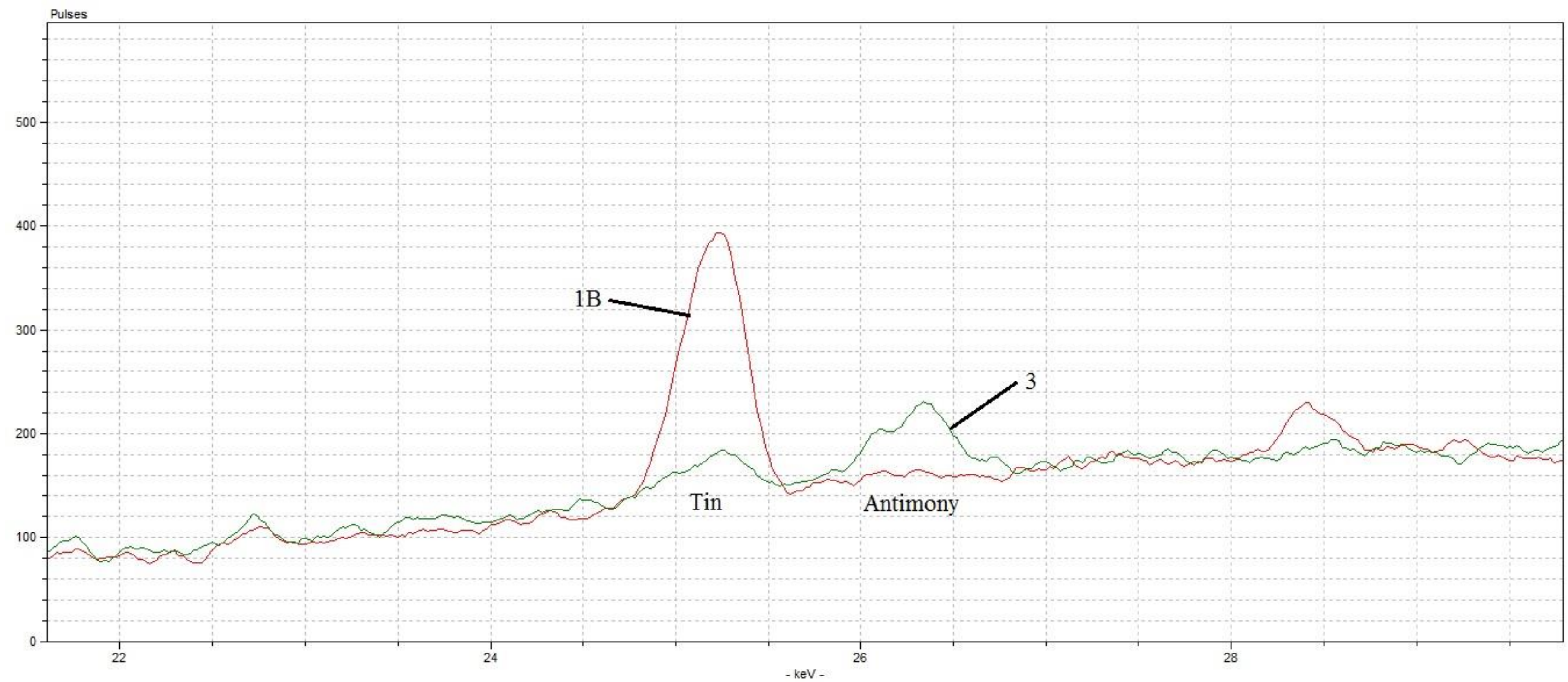

Figure 9.10. Comparison tin and antimony in Sub-Group 1B (pXRF 0205, B-80(2)/40MR7, red line) and Group 3 (pXRF 0022, B42 (18)/40MR2, green line).

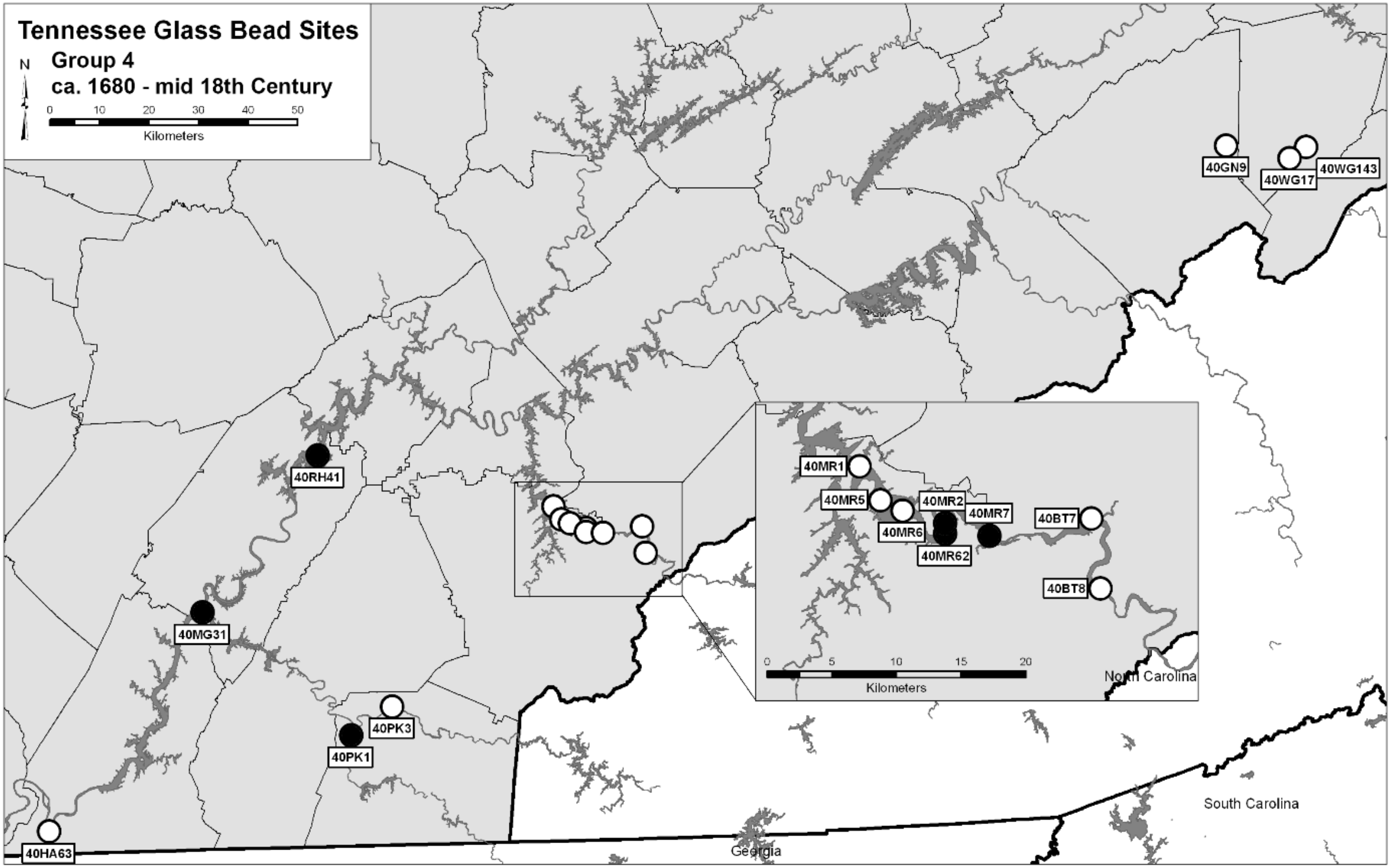

Figure 9.11. Compositional Group 4 sites in East Tennessee, illustrated by black dots.

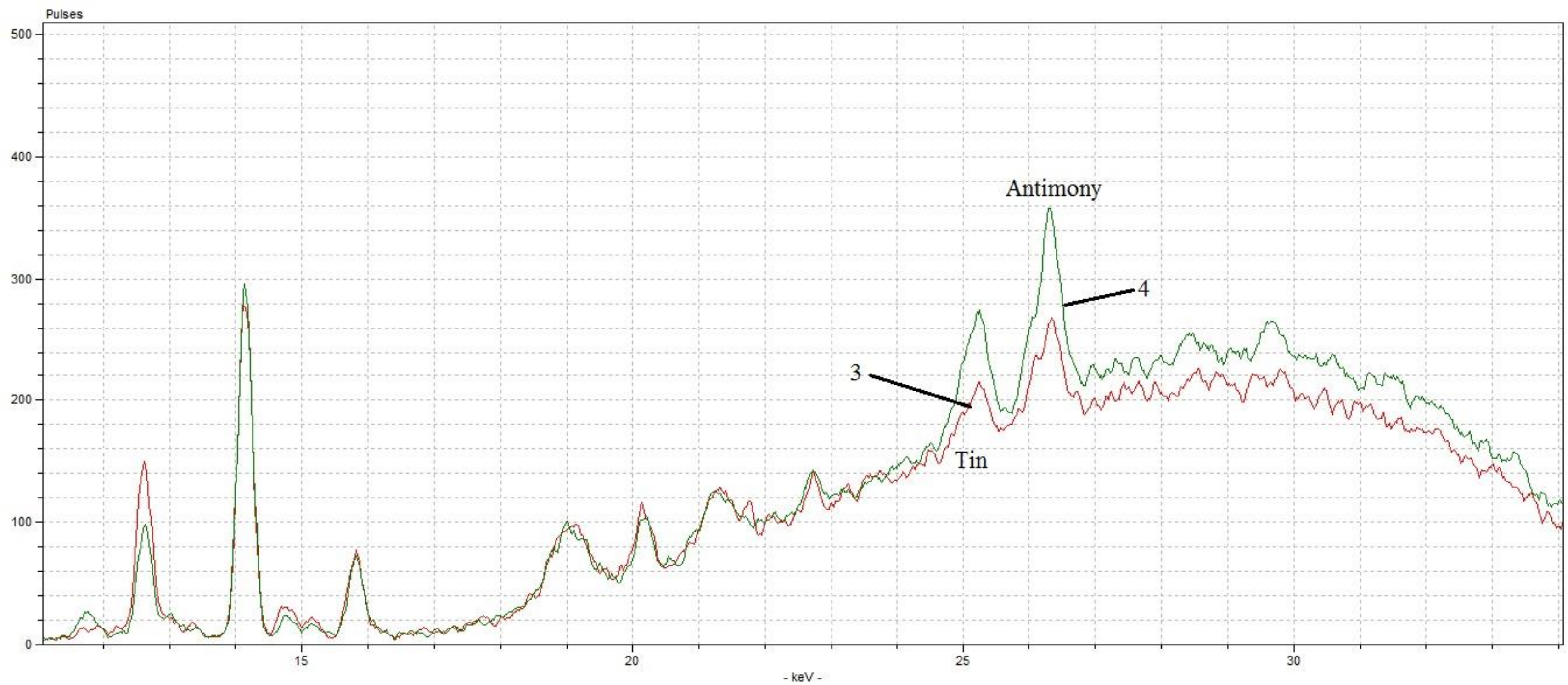

Figure 9.12. Comparison of tin and antimony between Group 3 (pXRF 0022, B42 (18)/40MR2, red line) and Group 4 (pXRF 0126, 211.1:3/38DR83a, green line).

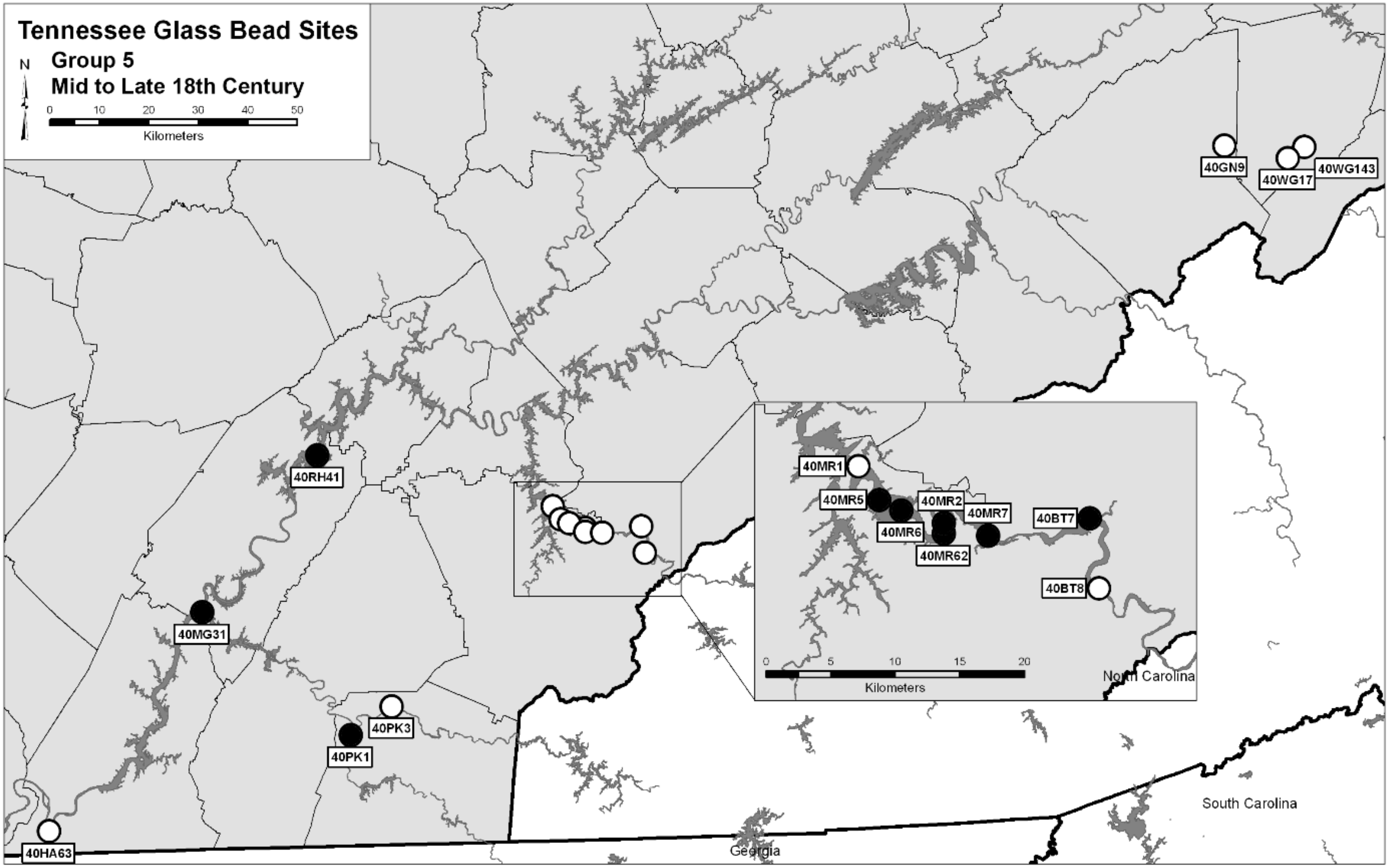

Figure 9.13. Compositional Group 5 sites in East Tennessee, illustrated by black dots.

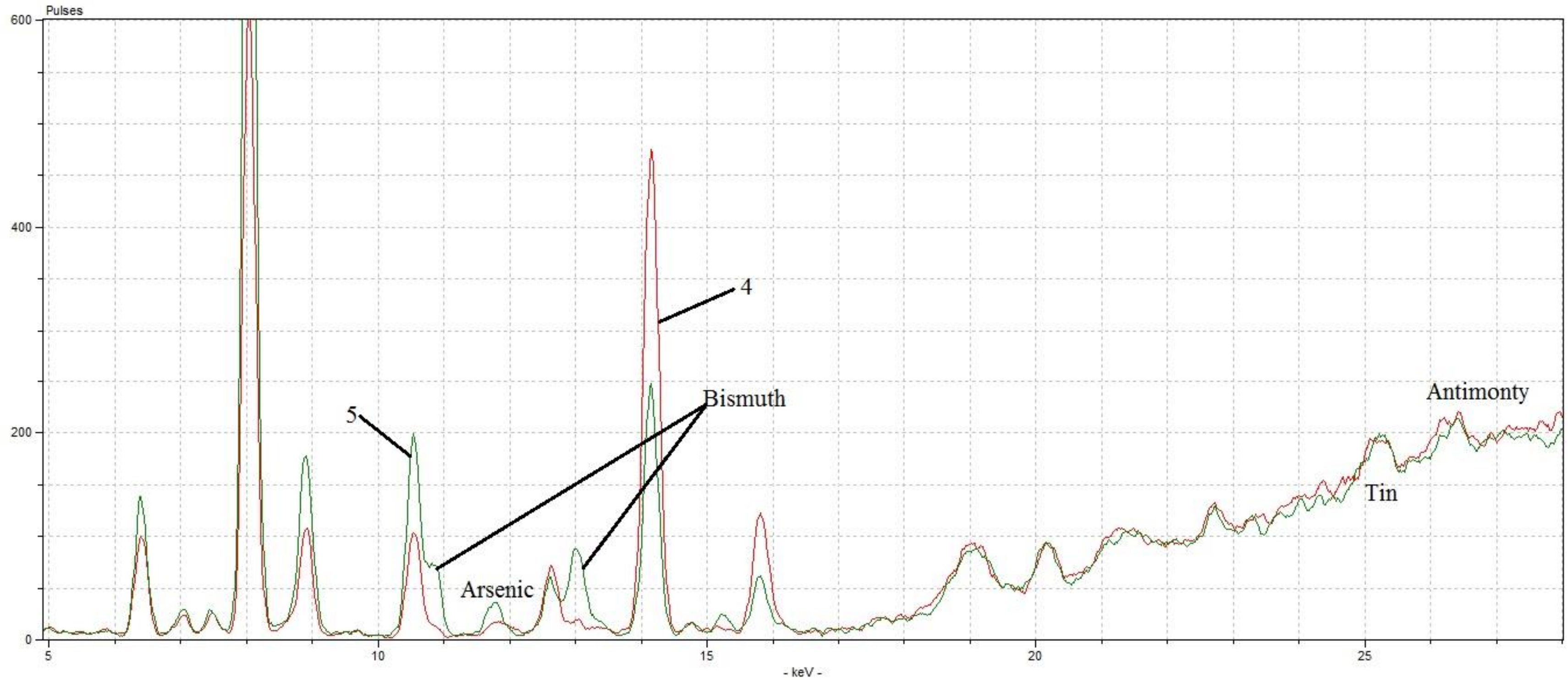

Figure 9.14. Comparison of Group 4 (pXRF 0153, Trudeau Site, red line) and Group 5 (pXRF 0011, B38 (1)/40MR2, green line) in terms of tin, antimony, bismuth, and arsenic levels.

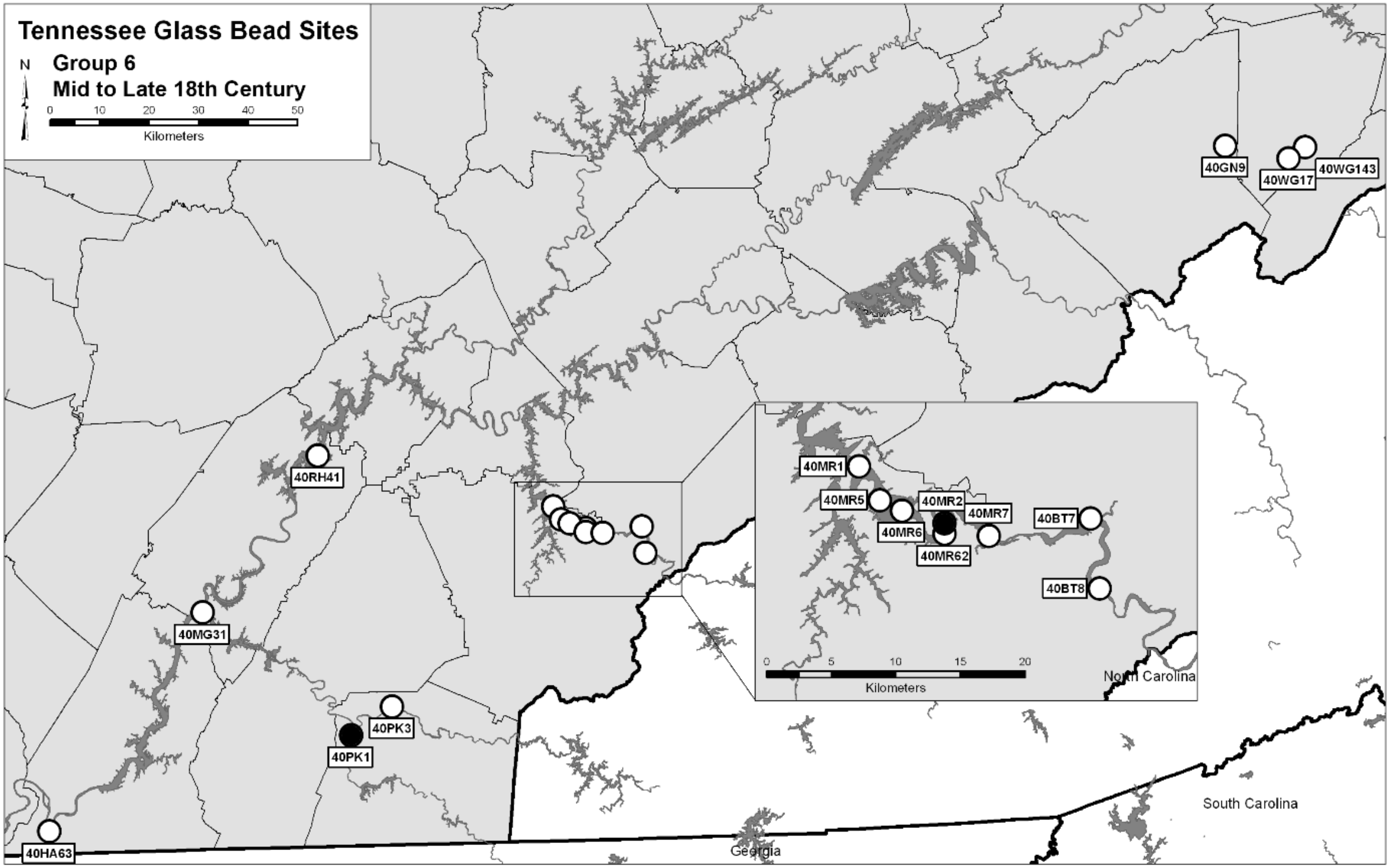

Figure 9.15. Compositional Group 6 sites in East Tennessee, illustrated by black dots.

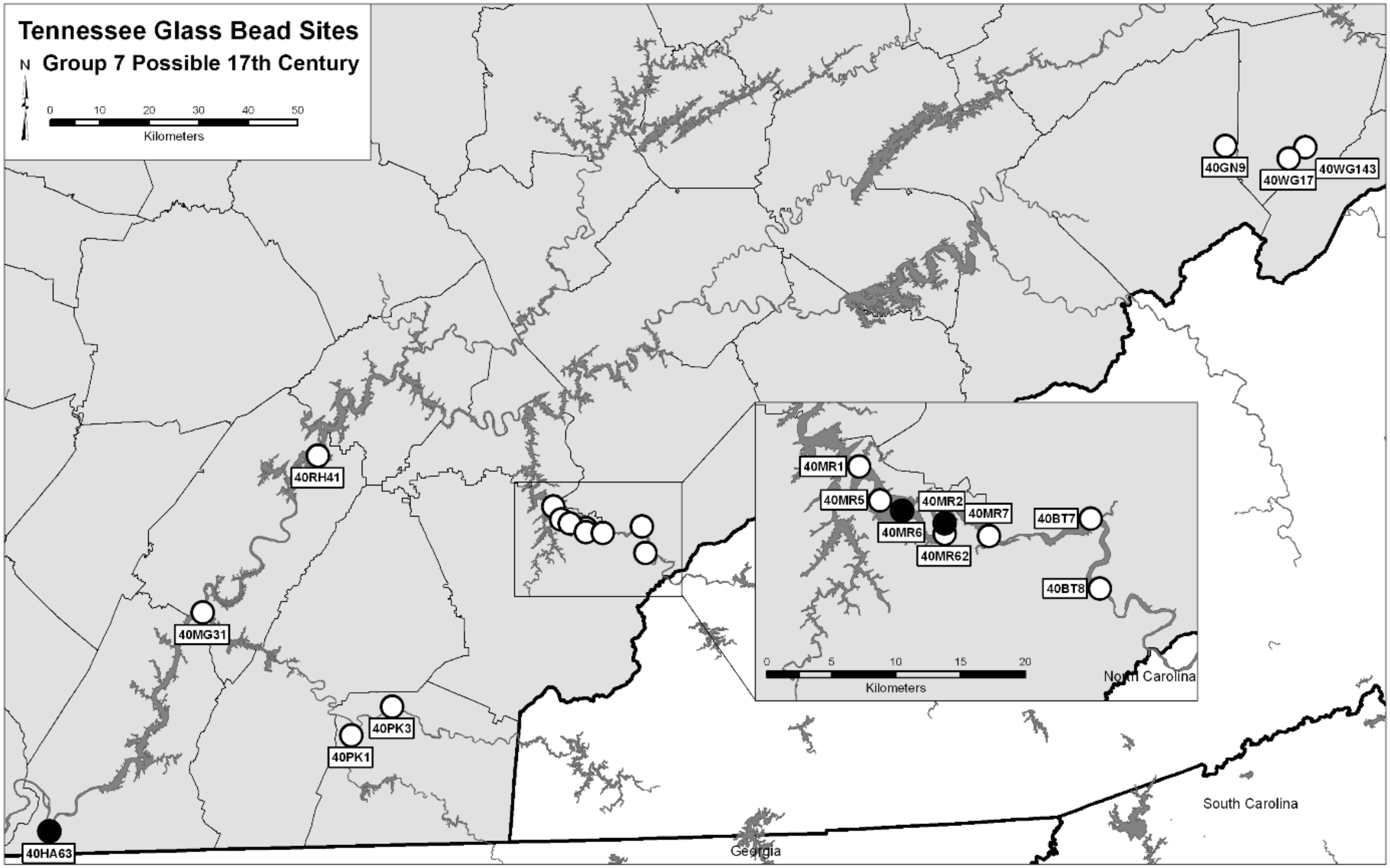

Figure 9.16. Compositional Group 7 sites in East Tennessee, illustrated by black dots.

combination may represent a late seventeenth-century pattern (Figure 9.17). Group 9 was composed of arsenic, lead, and bismuth, and may signify a seventeenth-century composition (Figure 9.18). Group 10 was composed of arsenic and bismuth and may be categorized as a late eighteenth-century group (Figure 9.19) (Dalton-Carriger and Blair 2013). The reason for the uncertainty for these five categories may be the result of many factors including chronology issues, differences between glass bead source factors, or recycling of old glass into the mixture of new beads. For now, these categories remain somewhat ambiguous, but may be clarified by testing of additional bead samples (Dalton-Carriger and Blair 2014).

9.5 Broader Habitation Trends in East Tennessee

The goal of this analysis was to see if seventeenth-century habitation patterns could be derived from the archaeological record using elemental trace analysis on European glass trade beads. A majority of beads on the European market were Venetian and the glass-making houses there kept recipe books to standardize their methods. Opacification was an important part of the bead production process and over time, opacifiers were altered. Extensive testing of archaeological bead samples has established that chemical analysis of blue and white glass beads is a reliable dating method for glass trade beads. Applying Blair's (2015) Mission *Santa Catalina de Guale* research to the interior Southeast has allowed expansion of the method to include this region. This project has grown to include many sites throughout eastern North America, but the results for the East Tennessee samples are the main focus of this study.

Analysis of the elemental trends of archaeologically-recovered glass trade beads makes it possible to propose a rough outline of habitation patterns in the East Tennessee Valley during the early years of European contact. The habitation pattern presented here is based solely on the

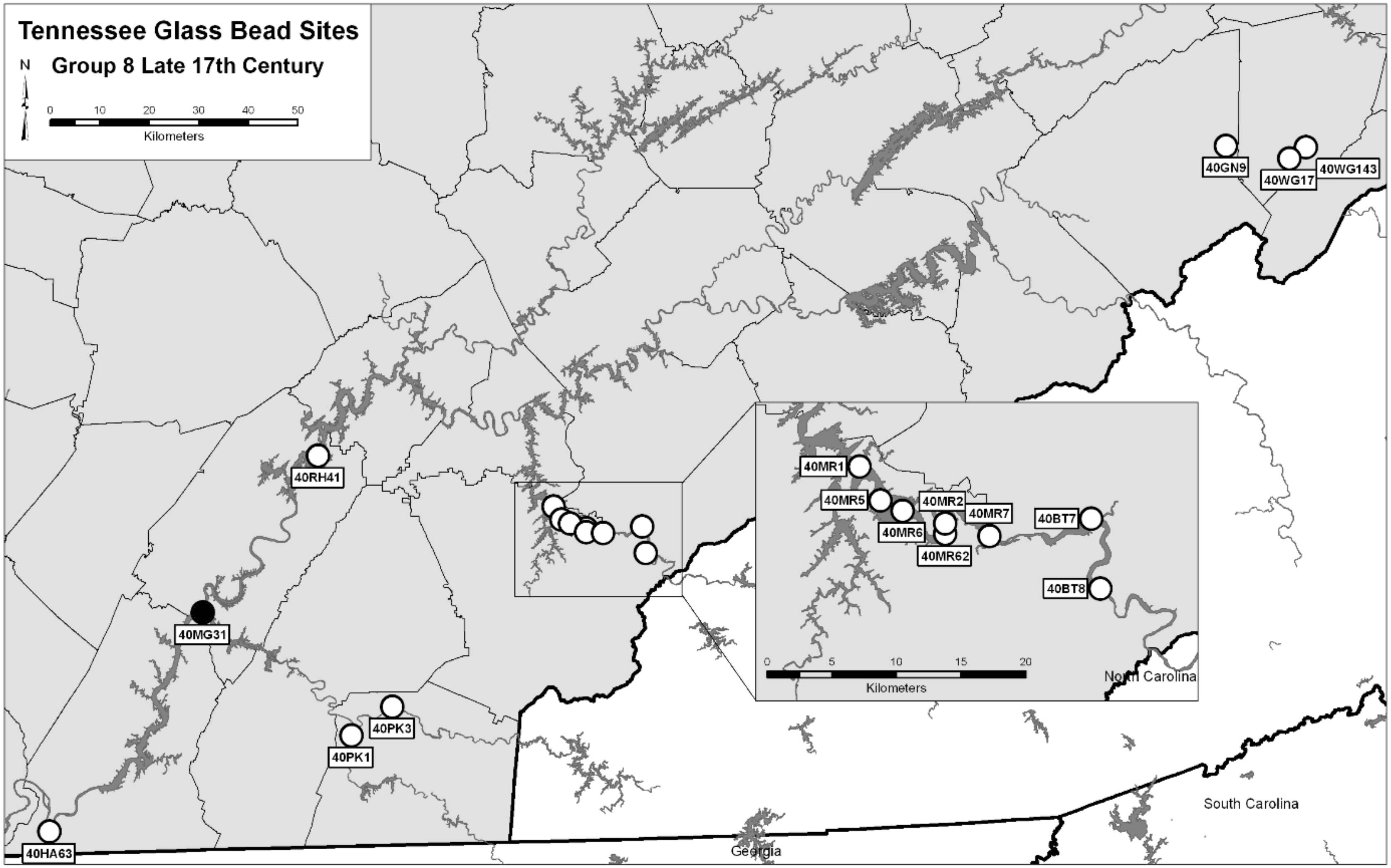

Figure 9.17. Compositional Group 8 sites in East Tennessee, illustrated by black dots.

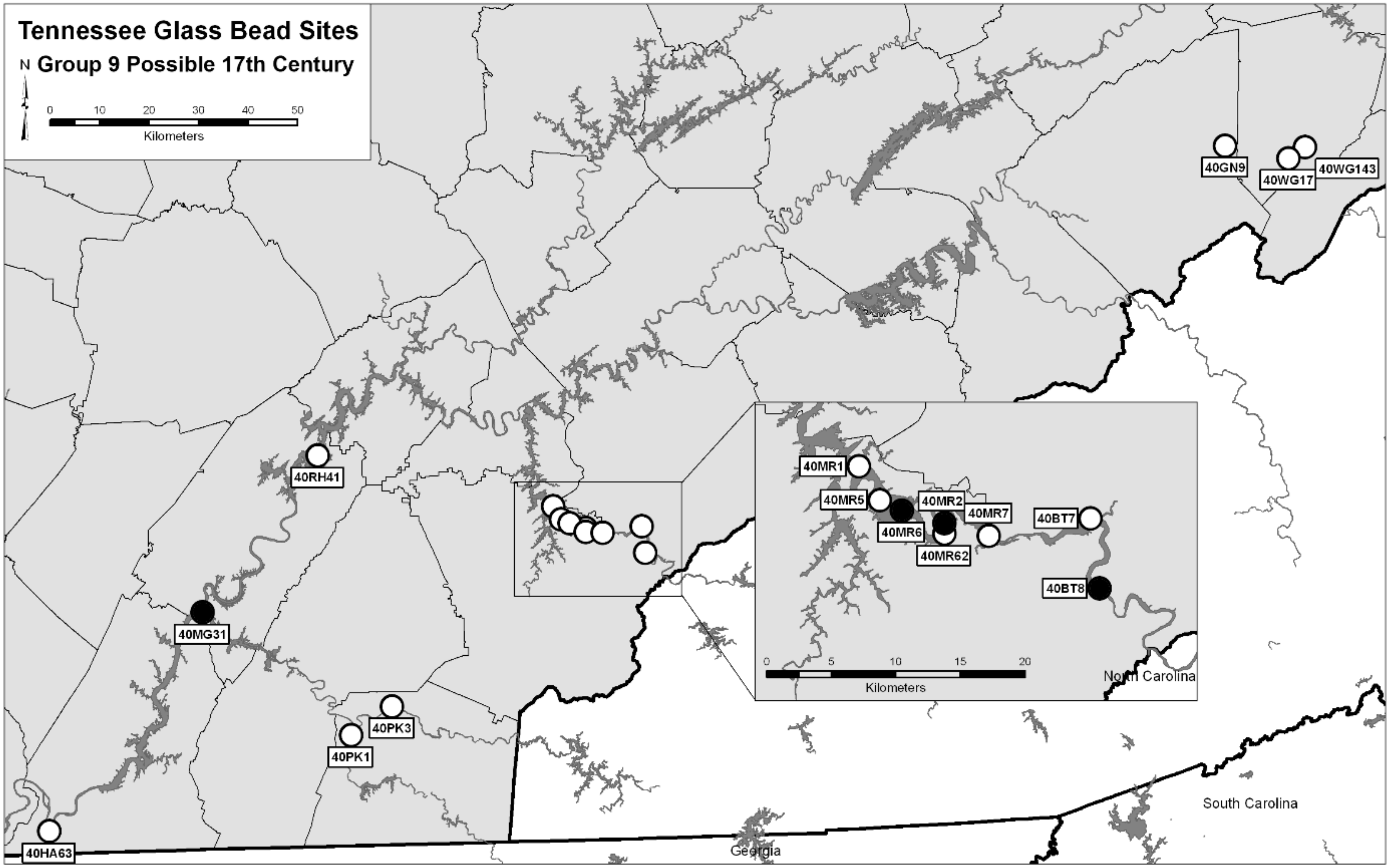

Figure 9.18. Compositional Group 9 sites in East Tennessee, illustrated by black dots.

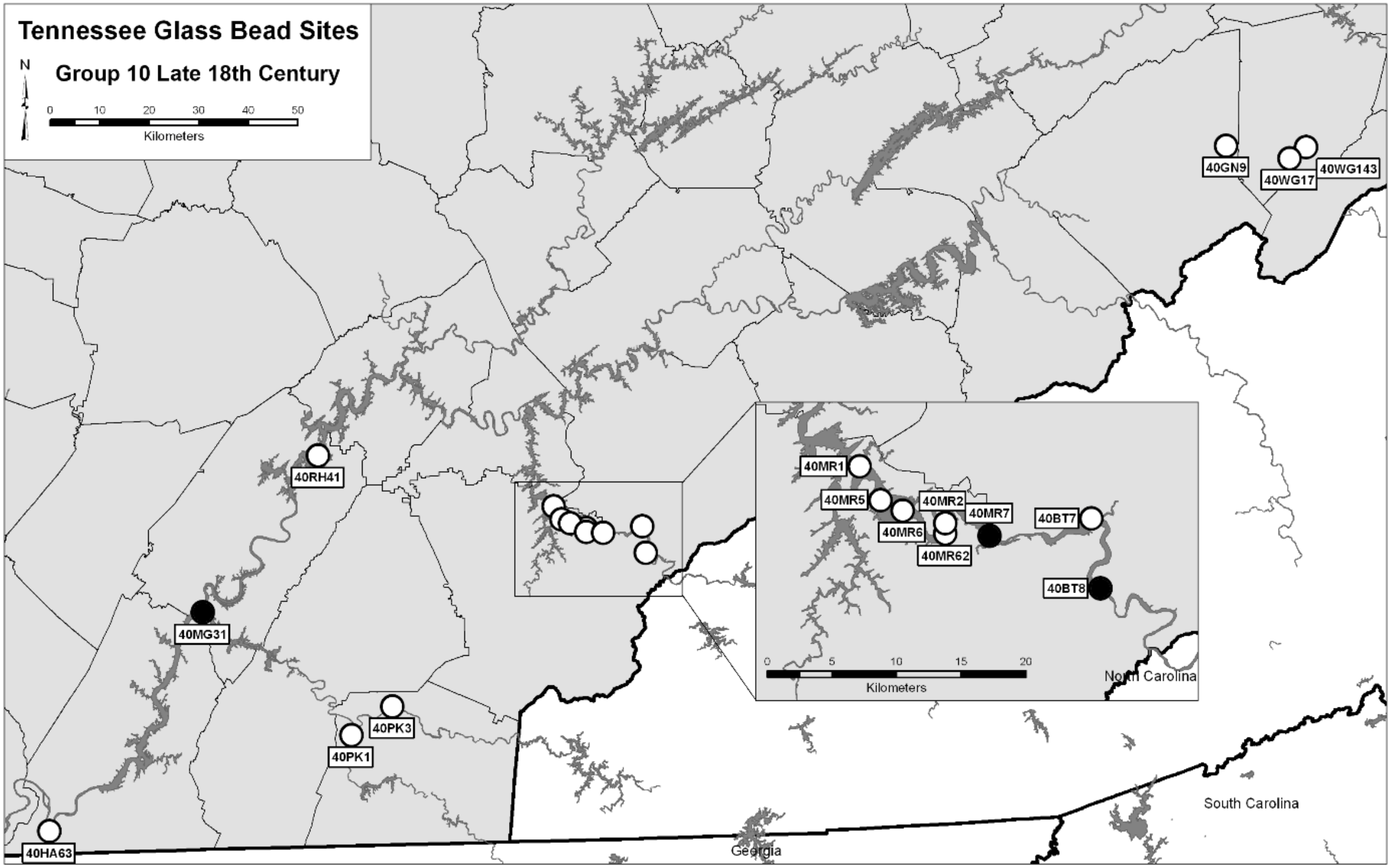

Figure 9.19. Compositional Group 10 sites in East Tennessee, illustrated by black dots.

dates of the bead categories, meaning that the dates presented here are the approximate ranges that the beads could have been produced and distributed to North America. Native Americans likely curated trade items for a time before these items either were interred or traded. A major flaw of this study is that the data presented here cannot compensate for this process as it can never be known. One could argue that native peoples living on the coast would have had easier access to trade goods and curation time likely would not have been as long. As for the interior, curation of trade items could potentially have been longer, but assuming this time frame was on the scale of over a hundred years seems unlikely. The following sections present a basic outline of the proposed time periods based on the bead dating, as well as a discussion on how the sites in East Tennessee fit into this overall chronology.

The temporal boundaries for the Protohistoric period in the interior Southeast range from 1600 to 1700 (see Chapter 3). This encompasses both the end of the Mississippian period and the founding of Charles Town at 1670. The terminal end of the Mississippian period at 1600 is an arbitrary date and the Mississippian way of life did not experience a sudden and abrupt end in 1600, but the consensus in the field is to use this conventional terminal date (Anderson and Sassaman 2012; Kimball 1985; Sullivan and Harle 2010). Smith's extension of the Protohistoric period further back to 1513 is also applicable because contact with European explorers began in the region at this time. The three temporal ranges for the Protohistoric period that I propose below are based on the results from the glass bead analysis and are only applicable to the East Tennessee Valley. Other areas of the Southeast had varying levels and timing of European interactions which could potentially alter these temporal ranges.

The first category can be termed the Early Protohistoric period. It ranges from 1570 to 1630. This range is earlier than the arbitrary end of the Mississippian period at 1600, but the

elemental groupings of the glass beads indicate that trade goods could have been making their way into the interior as early as 1570. This is an important date as it is later than the expeditions of De Soto or De Luna, which implies that not all of the early European trade goods can be attributed to these early entradas. Pardo's final entrada into the Southeast occurred in 1568 and the date presented here occurs slightly after when direct contact with East Tennessee would have ceased and the Protohistoric period would have begun in the valley. Sites associated with this category of beads include a wide range of sites with early dates. Figure 9.20 shows that early sites are not confined to a specific area nor are they few in number. Instead, there are multiple sites that likely correspond to Late Prehistoric populations that survived into the beginning of the Protohistoric period. This map shows that trade goods were making their way into the interior to multiple sites early on, before European contact became more extensive (Dalton-Carriger and Blair 2014, 2015).

The second category I have designated as the Middle Protohistoric period and ranges from 1630 to 1680 (Figure 9.21). The habitation pattern seen in this category is very similar to the Late Prehistoric to Early Protohistoric period sites. Sites corresponding to the Middle Protohistoric period range across the East Tennessee Valley, although there is a slight decline along the Little Tennessee River (see Figure 9.21 magnification box). Additionally, sites in southern East Tennessee are present for this time period, showing an extension of trade goods into other parts of the Tennessee Valley (Dalton-Carriger and Blair 2014, 2015).

The third category is termed the Late Protohistoric to Historic period and ranges from 1680 to the late eighteenth century (Figure 9.22). The changes at this time are the most significant. Sites in Upper East Tennessee do not show evidence for late habitation. This change may be a sign that Upper East Tennessee was depopulated by the end of the Protohistoric period,

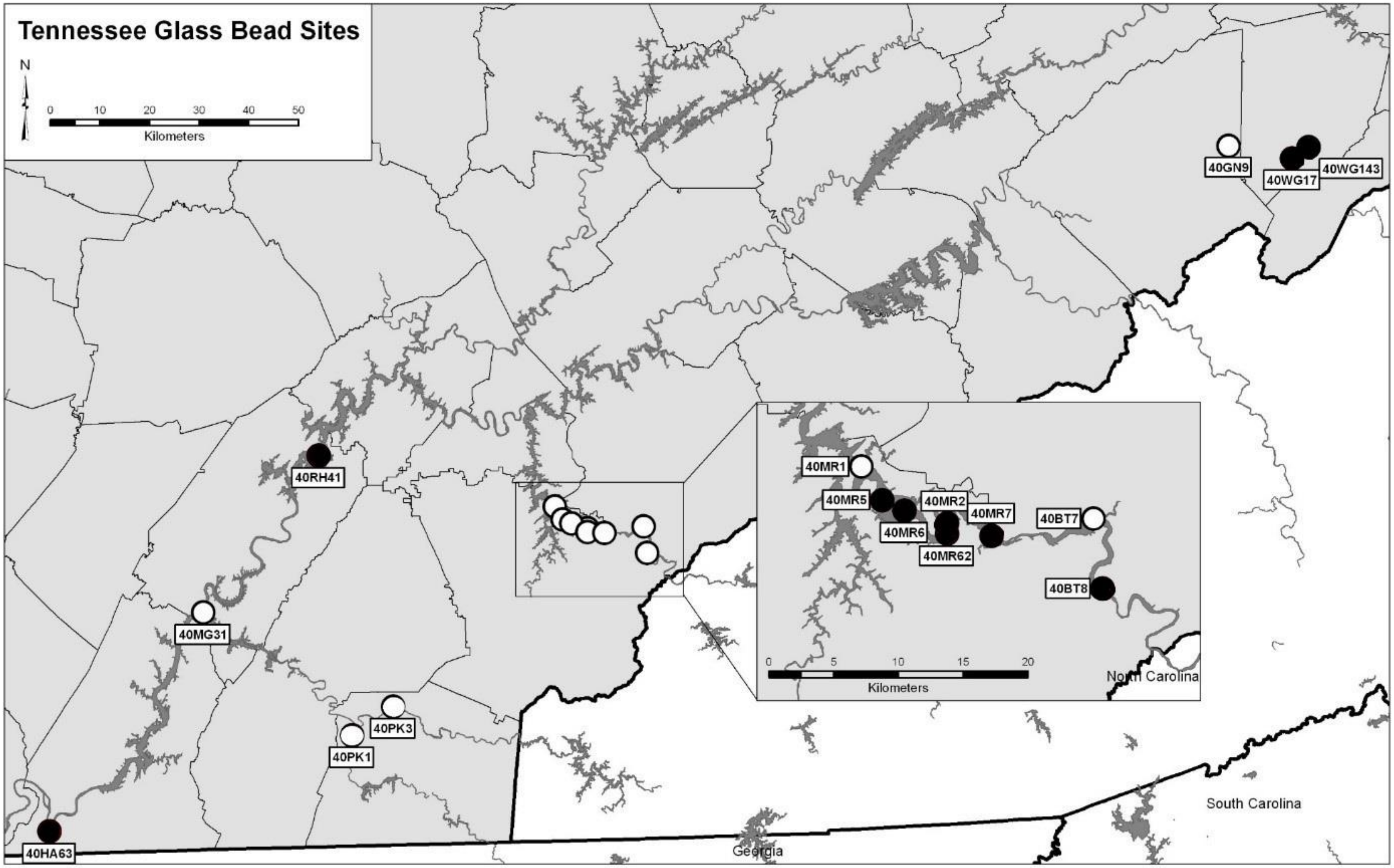

Figure 9.20. Early Protohistoric sites, A.D. 1570 – 1630, illustrated by black dots.

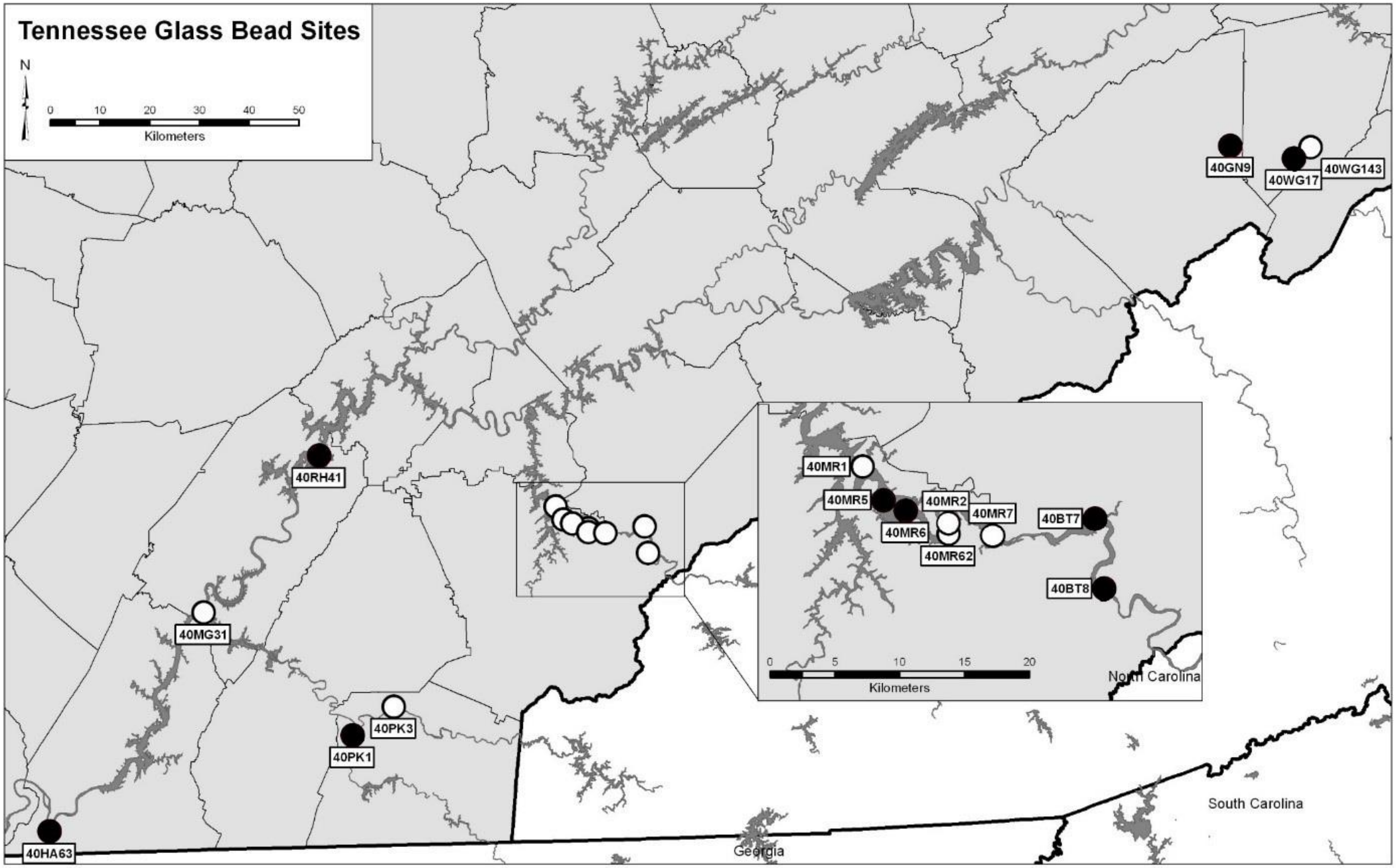

Figure 9.21. Middle Protohistoric sites, A.D. 1630 – 1680, illustrated by black dots.

or that trade goods were not easily obtained in this area and were therefore curated for longer periods. Another issue with making conclusions about Upper East Tennessee is that not many late Prehistoric or Protohistoric sites have been excavated or even located. Jay Franklin is currently working on excavating 40WG143 and his investigations may shed more light on the habitation sequence of Upper East Tennessee. Other trends present on the map are increased number of sites in the southern part of East Tennessee, especially along the Little Tennessee River (see Figure 9.22). This trend is not surprising as a majority of Historic Cherokee sites are within this area and date after 1680. When Cherokee culture emerged in East Tennessee, it was in a very confined area, which helps to explain ethnic similarities among Overhill Cherokee towns. Based on this pattern, one could make a case that the Overhill Cherokee took over the East Tennessee Valley; however, Upper Hampton Farm (40RH41) is also identified in this category and does not show any signs of Cherokee cultural traits. The dating for this site indicates that the Overhill Cherokee were not the only ethnic group to inhabit East Tennessee between the Late Protohistoric and Historic periods (Dalton-Carriger and Blair 2014, 2015).

Site Interpretation. Based on the above categories, the East Tennessee sites follow a temporal trend that corresponds to known occupation periods, as outlined in Chapter 8, and show evidence for Protohistoric period habitation (Table 9.4). The first pattern that emerges from the site interpretation is the number of sites that correspond to the Late Prehistoric to Early Protohistoric category. Sites like 40RH41, 40HA63, and 40WG17 are not surprising assignments to this early time frame as they are mainly identified as Late Mississippian sites. Since these sites do not have Historic Cherokee components, they offer the best evidence for early acquisition of trade goods. Other sites like 40MR2, 40MR5, and 40MR62 are more puzzling in terms of early dates. These are classically identified Historic Cherokee sites. Based on the burial contexts of

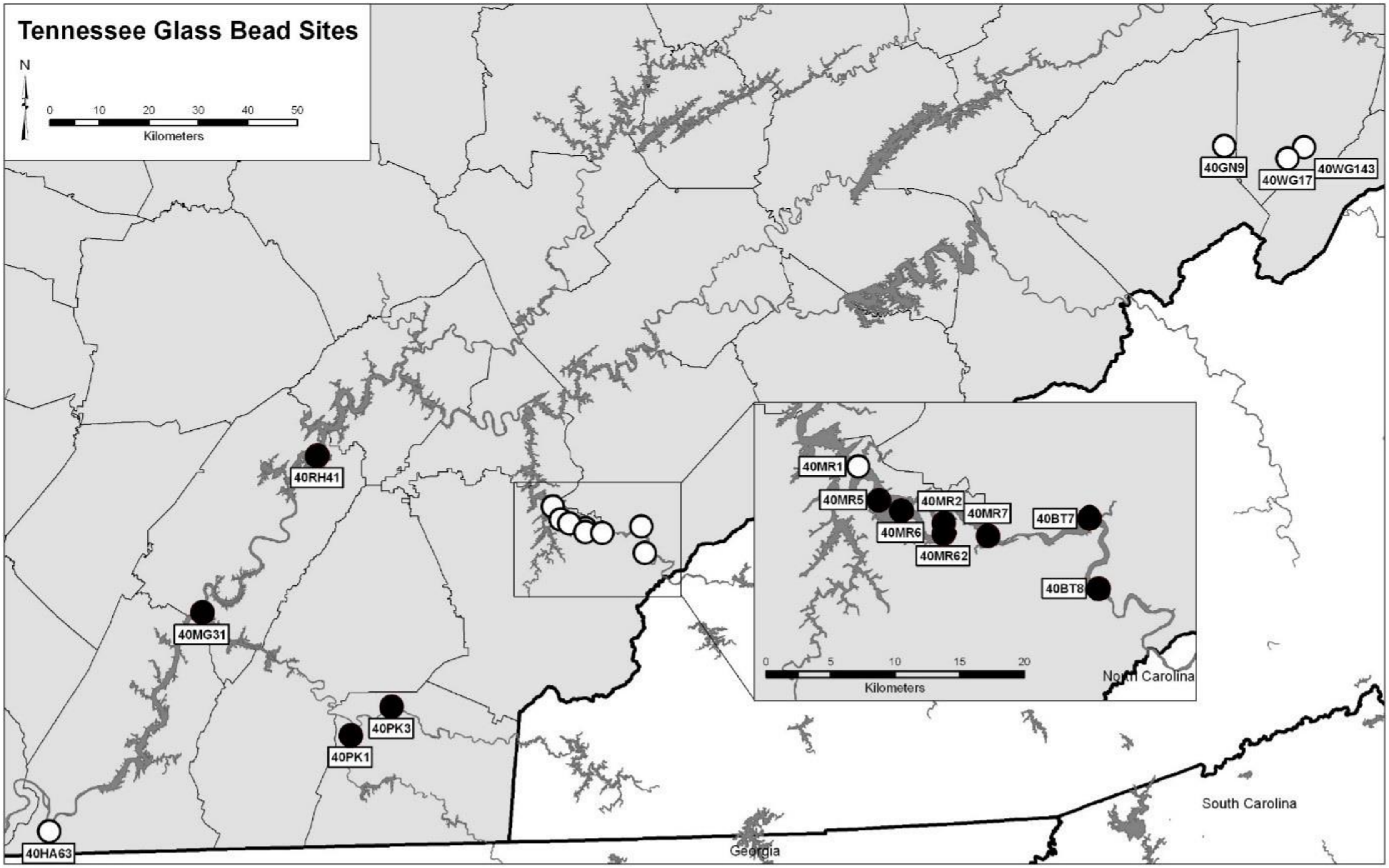

Figure 9.22. Late Protohistoric to Historic Period sites, A.D. 1680 to Late 18th Century, illustrated by black dots.

many of the beads, which contain other European artifacts that would be indicative of the eighteenth century, there is likely an indication of curation of glass beads over time or a reception of earlier produced beads from an outside trade source.

The Middle Protohistoric period is firmly anchored by 40GN9, which has been identified as a Middle Qualla site. Rodning (2004) places the Middle Qualla between 1500 and 1650 and this pattern overlaps the Middle Protohistoric range of 1630 to 1680. Other sites that are included in the Middle Protohistoric period fall into one of three categories. (1) The occupations begin in the Middle Protohistoric, like 40BT7 and 40PK1. Both of these sites have a Late Mississippian occupation. The bead dating could signal later acquisition of trade items further into the Protohistoric period, but also is potential evidence for Late Mississippian groups existing into the seventeenth century. (2) The occupations end either during or before the Middle Protohistoric period. 40HA63 and 40WG17 date to the Early to the Middle time periods, but do not extend further into the Historic period. This time frame may indicate that either trade goods were not available later in the seventeenth century or that habitation declined. The pattern seen at 40WG143 places occupation much earlier at this site. This dating corresponds to that of 40WG17 and 40GN9. These sites are near each other, and the fact that none of them date to the Late Protohistoric period may signal a significant decrease in trade or more likely depopulation of Upper East Tennessee. (3) The third pattern seen in the bead dating is that 40BT8, 40MR6, and 40MR5 all have beads that correspond to the Early, Middle, and Late Protohistoric periods. This suggests a more continuous occupation and access to trade goods throughout the entire seventeenth century at these sites.

Sites that correspond to the Late Protohistoric to Historic period show the most surprising trends, as not all of the sites are identified as Historic Cherokee. By the eighteenth century, trade

Table 9.4. East Tennessee sites with known occupation periods and habitation categories.

Site Number	Site Name	Occupation Period	Early Protohistoric 1570 – 1630	Middle Protohistoric 1630 – 1680	Late Protohistoric to Historic 1680 – Late 18th Century
40RH41	Upper Hampton Farm	LM	X	X	X
40HA63	Moccasin Bend	LM	X	X	
40BT7	Chilhowee	LM, CP		X	X
40BT8	Tallassee	LM, CP	X	X	X
40WG17	Plum Grove	LM, HP	X	X	
40GN9	N/A	MQ		X	
40MG31	Hiwassee Island	LM, HC			X
40MR6	Toqua	LM, HC	X	X	X
40MR7	Citico	LM, HC	X		X
40PK1	Ocoee	LM, HC		X	X
40PK3	Hiwassee Old Town	LM, HC			X
40MR2	Chota	HC	X		X
40MR5	Tomotley	HC	X	X	X
40MR62	Tenasee	HC	X		X
40WG143	Cane Notch	Indeterminate	X		

(Occupation period abbreviations: LM = Late Mississippian; CP = Contact Period; HP = Historic Period; MQ = Middle Qualla; HC = Historic Cherokee).

goods would have been more readably available. Sites that have been identified as having a Historic Cherokee occupation, including, 40MR6, 40MR7, 40PK1, 40PK3, 40MR2, 40MR5, and 40MR62, are expected to have beads that correspond to this time period. This time period aligns nicely with the emergence of Overhill Cherokee culture in the East Tennessee Valley. Sites like 40RH41, 40BT7, and 40BT8 are more surprising, as they typically do not have Cherokee characteristics. The presence of later trade beads at these sites, especially 40RH41, may signal non-Cherokee populations surviving into the late Protohistoric period.

Discussion. These dates show that a substantial population survived into the Protohistoric period in East Tennessee and that groups were gaining access to European trade goods early on. Some of the earlier artifacts have been attributed to the Spanish conquistadores. That is not to say that De Soto and De Luna did not trade items to the native groups they encountered, but the sampled glass beads from East Tennessee cannot be attributed to these expeditions. This evidence shows the extensive nature of the Native American trade network to the interior. The majority of the beads date after the late sixteenth century and this further supports the presence of interior trade networks as well as the survival of Prehistoric populations into the Protohistoric period.

The trade network presented here needs to be explored further with additional elemental research. The distribution of trade goods from Europe to North America and their distribution through the colonies is a major driving factor in the temporal boundaries presented here. As Venetian beads were the subject of this study, it is unclear what their European trade origin was, whether from the Spanish in La Florida, the English in Virginia, or the French in the north or along the Mississippi River and into Louisiana. There would have indeed been multiple trade vectors from which the Native American middlemen could have acquired the beads. The

European colony of origin, their access to trade goods, and the time it took for the beads to reach East Tennessee, could be a factor why early beads are present at sites that are typically dated to the Historic period. Conversely, since so many Europeans were on the landscape during the seventeenth century, Native Americans, even in the interior, could have had faster access to trade goods. In that case the early dates are a signal of populations living on the landscape throughout the Protohistoric period. A next step in this project would be to build on Blair's (2015) research and attempt to connect beads in the interior with samples found on major Atlantic ports, in an attempt to further define the trade networks established by both Native Americans and Europeans.

Chapter 10: Ceramics

10.1 Introduction

The purpose of this ceramic study is twofold: (1) To identify ceramic traits indicative of the Protohistoric period, and (2) to determine if a transition exists from the Late Mississippian to the Historic Cherokee ceramic traditions in East Tennessee using microseriation analysis. Ceramic assemblages were studied from 15 sites in East Tennessee to examine these two lines of inquiry. Data collected for each site were based on both stylistic and metric traits and the results are outlined below.

10.2 Methods

A total of 3,067 ceramic sherds and 238 whole vessels were examined from the 15 sites (see Table 10.1; Appendix III). Ceramic selection was mainly limited to jars because certain variables of jar morphology have been shown to be temporally sensitive in East Tennessee (Braly 2010; Dalton-Carriger 2011; Holley 1989; Koerner 2005; Sullivan 1995). Multiple physical traits were recorded for each sherd including paste, temper type, temper inclusions, vessel form, surface finish, rim form, lip form, and appendage type and decoration where applicable. Metric traits recorded included temper abundance, rim thickness, neck thickness, neck height, body thickness, and orifice diameter. Each sherd and pot was then drawn using a plastic wood gauge to determine rim angle, shoulder angle, and X/Y rim curvature (Figure 10.1).

Table 10.1. Ceramic sherds by site number, name, and count.

Site Number	Site Name	Sherd Count	Occupation	Elemental Bead Date Range
40BT7	Chilhowee	43	Late Mississippian, Contact Period	1630 – 1680, 1680 – late 18th century
40BT8	Tallassee	116	Late Mississippian, Contact Period	1570 – 1630, 1630 – 1680, 1680 – late 18th century
40MG31	Hiwassee Island	351	Late Mississippian, Historic Cherokee	1680 – late 18th century
40MN3	Mouse Creeks	77	Late Mississippian	N/A
40MR1	Fort Loudoun	94	Historic Period, Historic Cherokee	N/A
40MR2	Chota	636	Historic Cherokee	1570 – 1630, 1680 – late 18th century
40MR5	Tomotley	169	Historic Cherokee	1570 – 1630, 1630 – 1680, 1680 – late 18th century
40MR6	Toqua	300	Late Mississippian, Historic Cherokee	1570 – 1630, 1630 – 1680, 1680 – late 18th century
40MR62	Tanasee	121	Historic Cherokee	1570 – 1630, 1680 – late 18th century
40MR7	Citico	326	Late Mississippian, Historic Cherokee	1570 – 1630, 1680 – late 18th century
40PK1	Ocoee	49	Late Mississippian, Historic Cherokee	1630 – 1680, 1680 –late 18th century
40PK3	Hiwassee Old Town	7	Late Mississippian, Historic Cherokee	1680 –late 18th century
40RE12	DeArmond	34	Late Mississippian	17th century
40RH41	Upper Hampton Farm	946	Late Mississippian	1570 – 1630,1630 – 1680, 1680 –late 18th century
40WG143	Cane Notch	35	Unknown	1570 – 1630

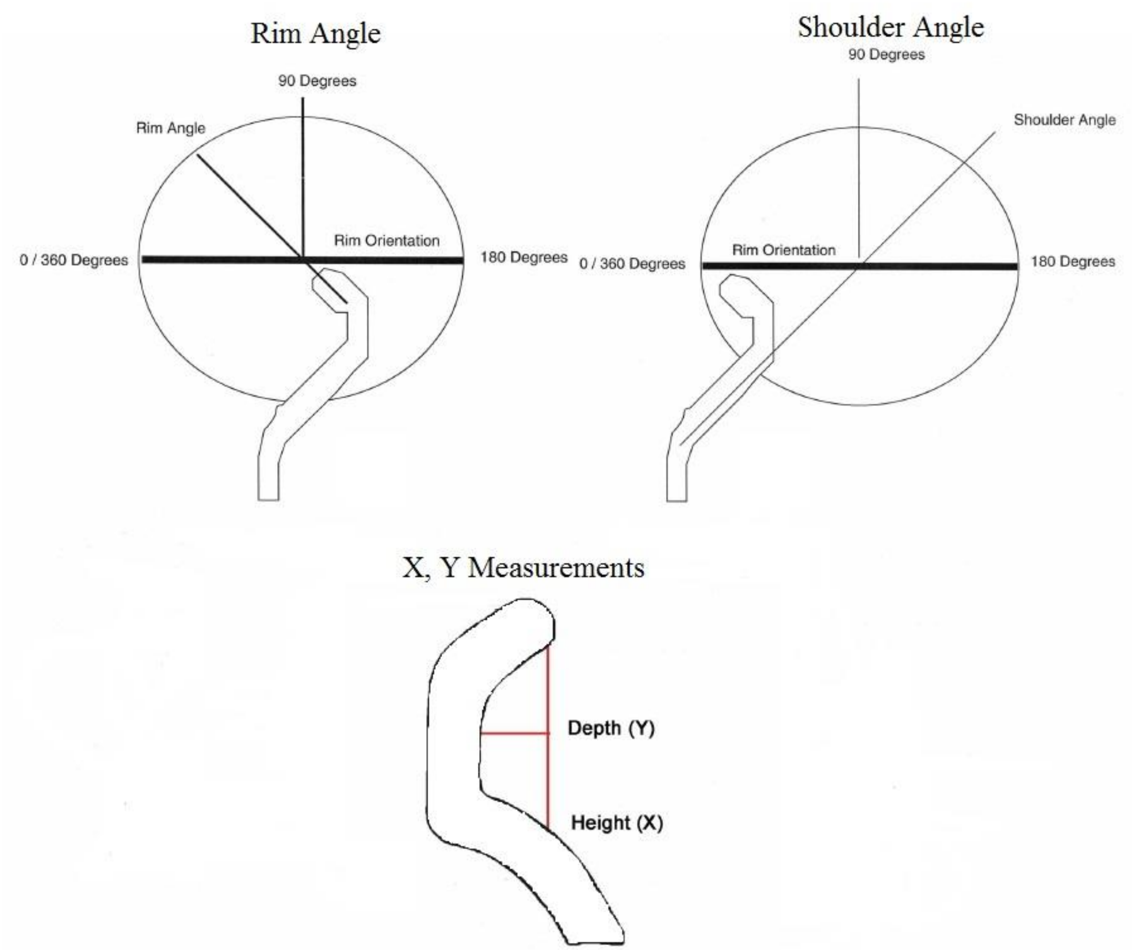

Figure 10.1. Vessel metric measurements (adapted from Koerner 2005).

10.3 Site Selection

During the initial planning of the ceramic analysis, sites and excavation units were selected that corresponded with the glass bead samples used in the elemental analysis reported in Chapter 9. Glass beads were intentionally chosen from closed contexts such as burials, pits, and houses, because these offered the best possibility for deposits with temporally associated materials. This initial sampling strategy presented problems because most of the early glass beads were from burial contexts and associated ceramic sherds/whole vessels were scarce. To increase the sample size, features that had both ceramic sherds and historical artifacts other than glass beads were added to the analysis. The goal was to examine approximately 1,000 sherds from sites with features that contained historic trade goods, which would represent a statistically sound data sample. Each site tested presented unique problems that are detailed below.

10.4 WPA and Tennessee Archaeology Society Sites.

Seven sites were selected from WPA and Tennessee Archaeology Society (TAS) excavations. Two sites, 40BT7 and 40BT8, were excavated by TAS. The amateur status of the excavators resulted in the sites not being as well documented as the WPA or Tellico project sites. The sampling strategy for TAS sites involved examining all of the available storage boxes to determine their contents since they did not have an external box label. The majority of the boxes did not contain ceramics and were represented by a comingled sample of different artifacts. In order to maximize the sample, every ceramic sherd that was large enough to provide metric data was chosen.

The WPA samples presented unique problem for sampling. Criteria for box selection were based on three factors: (1) historic trade items were recovered from the excavation unit; (2)

the availability of boxes; and (3) the box label. In the case where the boxes were abundant for a site, only excavation units that had been recorded as possessing European trade items were examined. That selection was further limited by the label of the box. During the WPA period, a ceramic shorthand was developed to label boxes for storage, such as "ShA/P/J" to indicate coarse shell-tempered, plain jars. Box labels that corresponded to shell-tempered rims were selected since they corresponded with known Mississippian and Historic period temper types. For sites that had a limited number of ceramic boxes, the sampling method followed a two-step process. First, all of the boxes were treated as the data sample and were only further selected based on their WPA label corresponding to shell-tempered rims.

Chilhowee (40BT7). Sherds from 19 boxes were analyzed from 40BT7. This site was excavated by the Tennessee Archaeology Society and consisted of boxes filled with different artifact types from surveys. All available ceramic sherds that fit the project criteria were analyzed, totaling 43 sherds.

Tallassee (40BT8). Thirty-two boxes were examined from 40BT8. This site was excavated by the Tennessee Archaeology Society and consisted of boxes filled with different artifact types from surveys. All available ceramic sherds that fit the project criteria were analyzed, totaling 116 sherds.

Hiwassee Island (40MG31). Excavation units 37MG31, 38MG31, and 63MG31 were chosen for ceramic analysis based on the criterion that these specific units contained glass trade beads and would represent the Protohistoric and Historic occupation of the site. All ceramic rim sherds matching the criteria, from 82 out of 101 boxes, were analyzed and totaled 351 sherds.

Mouse Creeks (40MN3). Nineteen boxes were pulled for 40MN3 and included both excavation units 3MN3 and 4MN3. Since the number of ceramic sherds were limited, all possible shell-tempered rim sherds were analyzed from these two excavation units without any further box segregation. While Hiwassee Island sherds were present in the assemblage, all efforts were made to select only the Late Mississippian ceramic sherds. The total sample equaled 77 sherds.

Ocoee (40PK1). Twenty-five boxes were examined from 40PK1. All of the boxes for this site were analyzed because of the low number of sherds available. The total sample for the site was 49 sherds.

DeArmond (40RE12). Seventy-four boxes were examined from 40RE12, but the sample was limited to excavation unit 2RE12 as this unit yielded the glass beads used in the elemental analysis. Further selection was based on box labels corresponding to shell-tempered jars. The site yielded 34 sherds.

Upper Hampton Farm (40RH41). Previously collected ceramic data were available from 40RH41 (Dalton-Carriger 2011). The previous database was subdivided and only the shell-tempered jar rims were examined. The same variables were recorded in 2011 and no further analysis was required for this site. A total of 946 sherds and whole pots were used in this analysis from excavation units 85RH41, 85VT1RH41, and 86RH41.

10.5 Tellico Project Sites.

Choosing the ceramic sample from the Tellico Project sites proved to be the most troublesome for the project. The ceramics fill several hundred boxes which suggested there would be well over 1,000 sherds for each site that met the selection criteria and would constitute

a statistically sound sample size. Actual work with the Tellico boxes proved that this was not be the case. A different excavator typically was in charge of each site and employed their own organizational methods. As a consequence, none of the boxes were uniform in terms of labeling or organization. Additionally, all of the excavated deposits from the Tellico sites were more finely screened than the earlier WPA collection, which meant that most of the ceramic sherds, including rim sherds, were too small to provide accurate measurements.

Fort Loudoun (40MR1). Only seven boxes of ceramics were recovered from 40MR1. An initial sort divided the Native American ceramics from the Historic European ceramics and only the Late Mississippian and Historic Cherokee sherds were examined. After initially sorting the ceramics only 94 sherds met the criteria. It was impossible to choose sherds by feature number because most of the sherds were labeled only with the site number.

Chota (40MR2). Sixty boxes were selected for analysis from 40MR2. The selection was based on two criteria: (1) the box contained features that were reported to have both ceramics and trade goods on the feature forms, and (2) the boxes were labeled as either containing rim strips or partially reconstructed pots. The Tellico Project lab workers had, for the most part, placed the rim strips into separate bags and labeled the bags accordingly. This separation came in the form of separate bags, nested bags within a feature bag, or in three cases, whole boxes which were dedicated to rims only. There was not a large ceramic sample from the features. Consequently, every rim sherd from a feature that met the criteria was included in the analysis. This sampling method yielded at total of 636 usable rim sherds and whole pots.

Tomotley (40MR5). Nineteen boxes were examined from 40MR5. Boxes were chosen based on label description which included features, partially reconstructed vessels, Overhill pottery, and house features. These specific boxes were chosen because they had the highest

probability of rim sherds and the features that correspond to the analyzed glass beads. The sample of sherds studied for this site totaled 169.

Toqua (40MR6). Thirty-three boxes were examined from 40MR6. Ceramic selection for this site was based on box labeling. The selected boxes were labeled “Feature,” “Ceramic Rims and Decorated,” “Cherokee Excavation,” “rims,” “Section 36,” “Vessel Sections,” and “Section 41 Structures.” The resulting sample of 300 rims, including sherds and whole pots, were from closed features or specific stratigraphic deposits.

Citico (40MR7). One-hundred and nine boxes were examined from 40MR7. Sample selection was based on box labels which included features, burials, and features associated with trade goods. The selection resulted in a total of 326 rims.

Tanasee (40MR62). Seventeen boxes were selected from 40MR62. The selected boxes were associated with Area C as this locale would provide the greatest proportion of Cherokee ceramics. A total of 121 rims, including sherds and whole pots, formed the sample from this site.

10.6 Other Sites

Hiwassee Old Town (40PK3). Eight boxes were examined from 40PK3. While these sherds are housed at the McClung Museum, the excavation was conducted by the Tennessee Division of Archaeology. Boxes from Excavation Blocks B and D were chosen as these correspond to the feature excavations for the site. Only seven sherds met the criteria to be included in the analysis.

Cane Notch (40WG143). Ceramics from 40WG143 are curated by the ETSU Valleybrook Archaeological Education and Curation Center. When this ceramic analysis was conducted

during 2015, excavations were still on going and only a small section of the site had been surface collected. A total of 35 rim sherds was analyzed from this site.

10.7 Ceramic Types

Ceramic types from Native American sites in the Southeast have been identified by attributes and surface decorations. This classification system has resulted in a complex set of pottery types with specified terminology and pottery types that often do not account for subtle changes in ceramic technology that may correlate with cultural changes. Late Mississippian period types in Tennessee are typically regarded as Dallas or Mouse Creek phase ceramics, while those found on Native American sites of the Historic period are identified as Overhill Cherokee or Qualla ceramics. Types that could date to the Protohistoric period have not yet been distinguished. The information presented in this section discusses the attributes associated with Late Mississippian, Qualla, and Overhill Cherokee ceramic types.

Late Mississippian Types. Dallas and Mouse Creek phase ceramics make up the Late Mississippian period ceramic assemblages in East Tennessee. Previous research identified subtle changes that differentiate the two phases (Dalton-Carriger 2011; Koerner 2005; Lewis and Kneberg 1993 [1946]; Sullivan 1986, 1995). Late Mississippian ceramics are predominantly shell-tempered, globular jars with vertical rims in both Dallas and Mouse Creek assemblages. This vessel form contrasts with the excurvate rims characteristic of the preceding Early Mississippian, Hiwassee Island phase. Differentiating Late Dallas and Mouse Creeks ceramics based solely on rim angle can be difficult. Major differences between the two phases are the surface finishes of the vessel/sherds. Dallas phase assemblages typically have a higher frequency of cordmarking while the Mouse Creek phase ceramics are mainly plain (Dalton-Carriger 2011; Koerner 2005; Lewis and Kneberg 1993 [1946]; Sullivan 1986, 1995).

Qualla Series. Qualla ceramics are found in assemblages across western North Carolina, typically beginning around 1500 and lasting into the Historic period. Extensive research has been conducted on this ceramic type and has established Qualla ceramics as a distinctive Southern Appalachian potting tradition (see Egloff 1967; Hally 1986, 1994b; Keel 1976; Marcoux 2008; Riggs and Rodning 2002; Riggs 2010; Rodning 2004; Ward and Davis 1999; Wilson and Rodning 2002). Egloff's (1967) original research identified the Qualla series as predominantly grit-tempered with stamped and incised surface decorations, and with either folded or pinched rims. Later research by Keel (1976) expanded the series to include burnished surface treatments. Research conducted since the 1970s has further distinguished the Qualla series to include Early, Middle, and Late phases. The current chronological framework for the Qualla series proposed by Rodning (2004) places Early Qualla between A.D. 1300 to 1500, Middle Qualla between 1500 to 1650, and Late Qualla from 1650 to 1838.

Typically, Early Qualla ceramic assemblages have curvilinear and rectilinear complicated stamping, diamond check stamping, and red filming. Vessels typically have a sandy-grit temper and morphology includes everted jars, tall necked jars, and small, red filmed bowls (Marcoux 2008; Riggs and Rodning 2002; Rodning 2004). During the Middle Qualla phase, the curvilinear stamping shifts towards scrolls, concentric circle, keyhole, and wavy line motifs. Cordmarking, plain, and cob roughening, are introduced as surface treatments during this period, but remain a minority in most assemblages. The introduction of cazuela bowls in the Middle Qualla phase results in an increase in incised motifs, while the diamond check-stamped design of the Early Qualla phase is absent. Vessel morphology also shifts during the Middle Qualla phase to include small, restricted bowls as well as folded and punctated rims (Marcoux 2008; Riggs and Rodning 2002; Rodning 2004; Shumate et al. 2005). Ceramic traditions during the Late Qualla phase are

dominated by panel and line block designs and square check-stamping. Incising and the associated cazuela bowls disappear from the assemblages, and vessel form shifts from everted to excurvate rim jars (Marcoux 2008; Rodning 2004).

Overhill Cherokee Series. Early descriptions of Overhill Cherokee ceramics were done by Lewis and Kneberg during the WPA-era. Their early analysis focused on shell- and grit-tempered ceramics with check or complicated stamping, but plain surfaced Overhill ceramics were not recognized (Lewis and Kneberg 1993 [1946]; Lewis et al. 1995a). This oversight was linked to Lewis and Kneberg's replacement model theory for the origins of the Cherokee. They had postulated that the Cherokee were an intrusive population and that the break from plain, cordmarked, and incised ceramic types, from the Late Mississippian period was evidence for this replacement with check and complicated stamping (Marcoux 2008).

The realization that plain, shell-tempered ceramics belonging to the Historic Cherokee period came from Egloff's (1967) thesis work and helped place the distribution of this ceramic type within a geographical model. His study proved that Overhill Cherokee ceramics were predominantly shell-tempered with a plain surface finish. This distribution was found predominantly west of the Appalachian Summit in the East Tennessee Valley.

By the 1970s, the Tellico Project conducted by the University of Tennessee further expanded the Overhill Cherokee ceramic research by focusing on Cherokee towns located along the Little Tennessee River. Researchers at the time defined the Overhill series as being dominated by shell-tempered ceramics with a high propensity towards plain surface finishes. Other surface decorations such as check stamping, simple stamping, complicated stamping, incising, corn cob impressed, and cordmarked, are present but at much lower frequencies (Baden 1983; Bates 1986; King 1977; Marcoux 2008; Russ and Chapman 1983). King (1977) has produced a systematic

consideration of vessel forms. He defines 10 vessel types, including small and medium bowls; wide shallow bowls with flaring rims; cazuela bowls; small, medium, and large globular jars; and flat bottomed pans (Marcoux 2008). Filleted rimstrips have also been identified as belonging to the Overhill series, with notching being a more prevalent decoration, but these rims also appear in Late Mississippian assemblages.

10.8 Attribute Analysis

An attribute analysis was based on the physical appearance of the sherds and whole pots. Categories for this analysis included temper type, vessel form, surface finish and decoration, rim form, lip form, and appendage type. A brief description of each category along with counts from the study sample are presented below.

Temper Type. Temper type refers to the intentional inclusions added to the clay during the manufacturing process to reduce shrinkage. As this project was designed to identify the similarities and difference between Late Mississippian Dallas/Mouse Creek and Historic Overhill Cherokee ceramics, shell-tempered sherds were predominantly targeted for study. The sample ultimately included shell-tempered (n=3227), grit-tempered (n=67), and sand-tempered (n=11) sherds. Additionally, the texture of the paste was recorded as being coarse, medium, or fine.

Vessel Form. Vessel form is the overall morphology of whole pots or as extrapolated from sherds. Metric variability found in jar forms has been linked to chronological sequences (see Dalton-Carriger 2011; Koerner 2005). As a result, the majority of the sherds and whole pots analyzed were globular jars (n=3276). A few other vessel forms were included including a bottle (n=1), bowls (n=24), an effigy vessel (n=1), and a pinch pot (n=1).

Surface Finish and Decoration. Surface finish is the overall treatment of the exterior surface of a ceramic vessel such as plain or burnished, while the surface decoration is the addition of markings or in some cases modeling to the surface. Second and third categories for surface finish were also recorded in the cases of multiple finishes and/or decorations. The surface finishes and decorations present are compiled in Table 10.2.

Rim Form. Rim form is the morphology of the rim above the vessel neck. Six categories were used to designate rim forms, including collared (n=15), which is characterized by an extra thickening of the rim area creating a collar like appearance on the sherd; everted, (n=26) characterized by an acute sharp outward angle of the rim creating a pinched effect; excurvate, (n=1432) which refers to a rim that curves away from the vessel body; recurvate (n=35), which is the opposite of excurvate as the rim curves inward in relation to the vessel body; and vertical (n=1764) which is typically straight and upright. Thirteen rims were either too broken or degraded to determine a rim form and were designated indeterminate.

Lip Form. The lip form refers to the terminal end of the rim. Nine terms were used to describe this category. Collared lips (n=9), like the collared rim form, refer to an addition of clay to form a collared appearance. Extended (n=1) refers to an extension of the lip away from the rim. Flat rim lips (n=1683) have been intentionally smoothed across the top of the vessel to create a flat appearance at the top of the rim. Folded/Rolled (n=44) rim lips have been slightly pinched in to create an extension that folds away from the rest of the rim. Impressed/Tooled (n=31) lips are ones that have been tooled to produce a decoration. Pinched (n=8) lip forms refer to clay that has been pinched away from the rim. Round (n=1457) lip forms refer to a lip that has a domed appearance. Thirty-two of the rims were missing the lip portion of the rim and remain indeterminate.

Table 10.2. Surface finish and decoration types with counts and percentage of overall assemblage.

Surface Finish	Decoration	Count	Percentage of Assemblage
Burnished		1	<1%
Plain	Curvilinear Incised	1	<1%
Plain	Curvilinear Stamped	1	<1%
Plain	Finger Impressed	1	<1%
Plain	Textile Impressed	1	<1%
Plain	Corn Cob Impressed	2	<1%
Plain	Trailed	3	<1%
Indeterminate		5	<1%
Plain	Hampton Incised	8	<1%
Complicated Stamped		10	<1%
Simple Stamped		10	<1%
Plain	Punctated	12	<1%
Check-Stamped		14	<1%
Smoothed Over Cordmarked		26	<1%
Plain	Effigy	42	1.3%
Cordmarked		103	3.2%
Plain	Incised	258	8%
Plain		2689	84%

Appendage Types. Appendages are clay additions to the ceramic vessel (Table 10.3). Appendage types typical of this assemblage include lugs, fillets, loop handles, nodes, strap handles, effigies, and tabs. The most common form of appendage were the fillets. Typically, the fillets are decorated with one of four surface decorations. Pyramidal fillets are characterized by a series of raised triangles. Impressed fillets are defined by a kind of impression, typically fingers were used to create concave impressions in the clay. Pinched fillets were formed as raised edges where the potter pinched the clay together. Notched fillets were typically made by the potter using a stylus to create a series of notches in the clay.

10.9 Metric Analyses

The main purposes of this ceramic study was to determine if there was a temporal trend in the rim angles corresponding to the Protohistoric period. Research conducted on extant WPA

Table 10.3. Appendage types including description, count, and decoration variation.

Appendage Type	Description	Count	Variation
Lugs	Elongated and round protrusion of clay.	127	Cardinal points, bifurcated, filleted
Fillet	Strip of additional clay	1299	Pyramidal, impressed, pinched, notched, diagonal, double fillet
Loop Handle	Rounded Handle	9	Bifurcated
Node	Small round protrusion of clay	39	Bifurcated
Strap Handle	Flattened Handle	290	Incised, fillet addition
Effigy	Modeled clay figure	2	Winged figure, lizard
Tab	Horizontal flat protrusion	4	On Handle

collections have shown that there was a strong correlation between rim angles and chronology during the Mississippian period (Dalton-Carriger 2011 and Koerner 2005). As the period progressed, the rims became straighter. The possibility that metric attributes in the vessel morphology could be seriated within the ceramic assemblage had the potential to help identify ceramics of the Protohistoric period and the vessel changes could signal either an abrupt change or a slow transition from Late Mississippian to Overhill Cherokee ceramic types.

Rim Angle Analysis. The rim angle analysis was limited to jars based on a sample size of n=2578. Distribution of the rim angles by count revealed a wide distribution of angle types (Figure 10.2). Based on the counts of all of the jar rims, the greatest occurrence is found between 75° and 100°. Limiting the data range to 75° and 100° to view this distribution in more detail reduced the sample size to n=2211. This segregation is based on the vertical rims of the Mississippian period and the excurvate rims of the Historic period. As the rim angles did not show a major trend beyond 75° this proved to be a plausible range. The range is presented in a boxplot in Figure 10.3 and divided by identified occupation period. Boxplots for the rim angles as well as the other measurements presented below were chosen in order to define the range of the data and allow for comparison between sites to produce easily readable graphs.

The number of rim angles between 75° and 100° shows a wide distribution across the metric range with no apparent abrupt breaks in the angle trend distribution. Sites such as 40MR6, 40MR2, and 40RH41, have larger quantities of European trade goods, which may indicate longer habitation periods. At these sites, the rim angles show a wide distribution moving from the Late Mississippian vertical rims to the more excurvate rims of the Historic period. Sites like 40MN3 and 40RE12 have very low numbers of trade goods and their rim distribution analyses

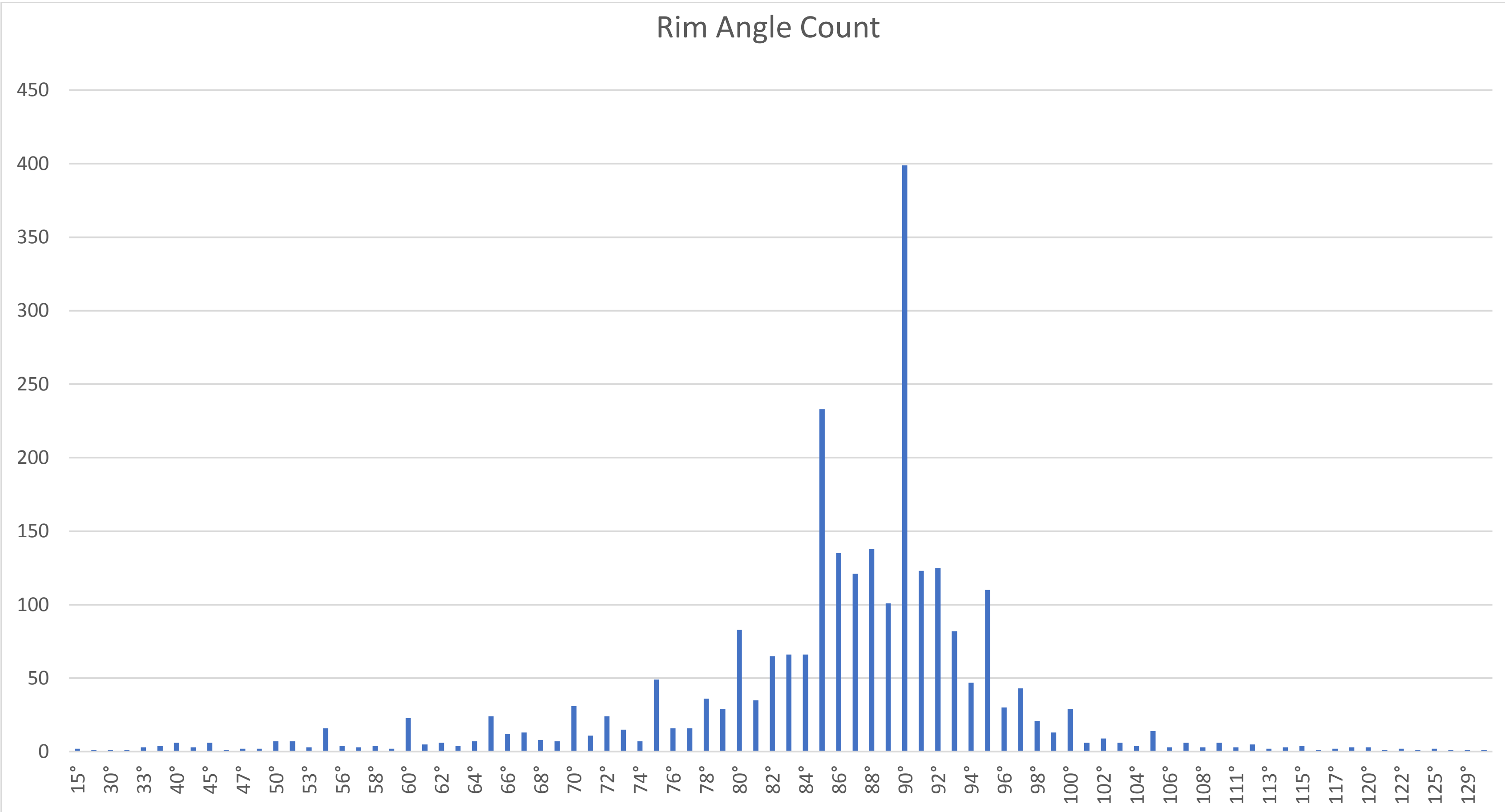

Figure 10.2. All jar rim angles by count.

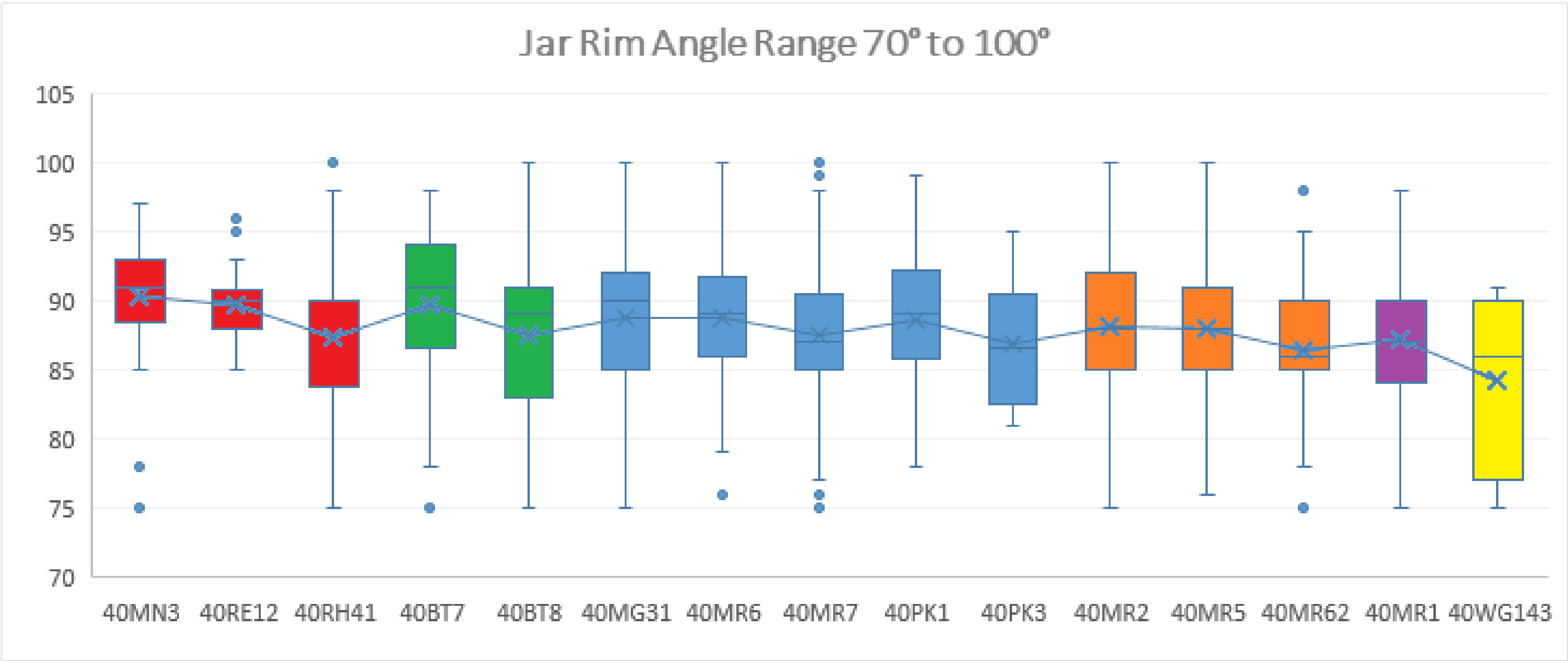

Figure 10.3. Boxplot showing the distribution of rim angles between 70° and 100° (red boxes = Late Mississippian; green boxes = Late Mississippian, Contact Period; blue boxes = Late Mississippian, Historic Cherokee; orange boxes = Historic Cherokee; purple box = Historic Period, Historic Cherokee; and yellow box = unknown).

are skewed more toward vertical which likely indicates an earlier habitation. The most surprising distribution is 40WG143 where rims are much more excurvate than the rest of the assemblage. This pattern is surprising because the glass beads analysis places habitation at this site early in the Protohistoric period. This trend towards excurvate rims may have more to do with geography than chronology. 40WG143 is the northern most site sampled for ceramics and the site is situated in Upper East Tennessee near the Tennessee/North Carolina border. This trend is likely linked to more direct interaction with Qualla ceramic traditions.

Shoulder Angle Analysis. The shoulder analysis was limited to jars with enough of the ceramic body present to measure the shoulder in relation to the rim (Figure 10.1). After separating the jars from the overall assemblage, the sample count was n=1859. The distribution of shoulder angles is presented in a boxplot in Figure 10.4 and divided by identified occupation periods.

The distribution of jar shoulder angles, like the rim angles, does not show an abrupt shift from one potting tradition to another in terms of shoulder morphology. Instead, what the boxplot shows is a rather uniform angle distribution. A subtle trend can be seen in sites 40MR2,40MR62, and 40WG143, which show shoulder angles on the lower end of the distribution. For 40MR2 and 40MR62, this trend may be chronological because the sites were predominantly inhabited during the Historic period and are identified as Overhill Cherokee towns. The pattern for 40WG143, like the trend in the rim angles analysis, is likely linked to the location of the site, which may indicate Qualla influence.

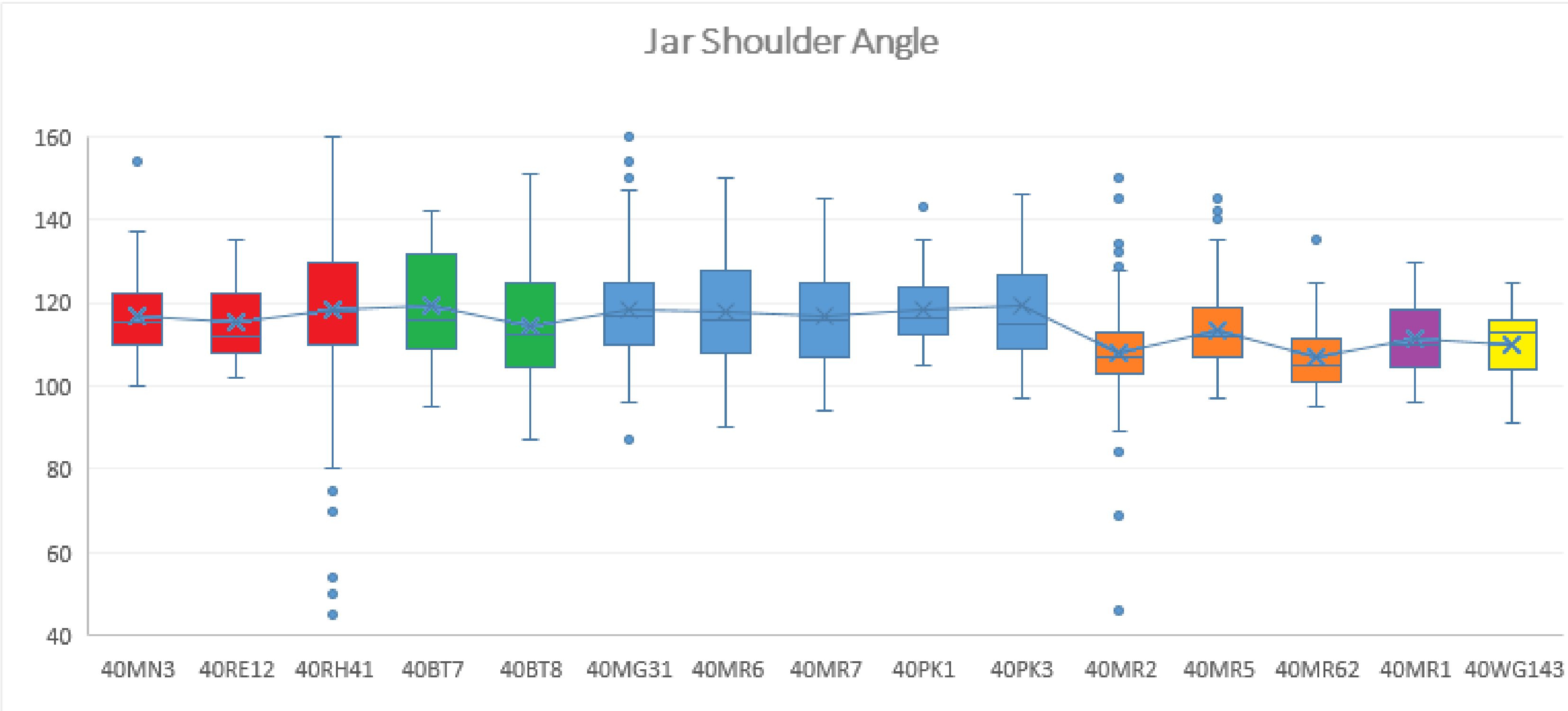

Figure 10.4. Boxplot showing the distribution of jar shoulder angles (red boxes = Late Mississippian; green boxes = Late Mississippian, Contact Period; blue boxes = Late Mississippian, Historic Cherokee; orange boxes = Historic Cherokee; purple box = Historic Period, Historic Cherokee; and yellow box = unknown).

X/Y Ratio Analysis. The curvature of the rim was recorded based on two measurements labeled X and Y (Figure 10.1). The X measurement indicates the curvature height and was measured from the lip of the rim to the point where the shoulder meets the body of the vessel. The depth of the curvature is the Y measurement and was measured by dividing X in half and measuring from that point to the vessel wall. The depth (Y) was then divided by the height (X) to yield the curvature ratio (Dalton-Carriger 2011; Holley 1989; Koerner 2005). Because the two measurements require a significant amount of the shoulder and body of the vessel to be present only n=571 measurements could be made. These are presented in a boxplot in Figure 10.5 and divided by identified occupation period.

The plotted distribution of the X/Y ratio reveals a very steady curvature across the majority of the sites. Ceramics from 40PK3 show a strong trend towards a deeper rim curve, but this difference cannot be easily accounted for because the ceramics from the neighboring site of 40PK1 do not show the same trend. What this analysis may reveal is that rim curvature may have remained relatively stable from the Late Mississippian to the Historic Cherokee period.

10.10 Results

Duff (1996) contends that microseriation can be successfully used across cultural regions spanning several hundred years. Both he and LeBlanc (1975) have shown the value of using microseriation on Southwestern sites in New Mexico. This work presented in this chapter examined whether microseriation could be usefully applied to multiple sites in the East Tennessee Valley as a method for identifying ceramics dating to the Protohistoric period. This procedure was also used to examine the possibility that a transitional Protohistoric period

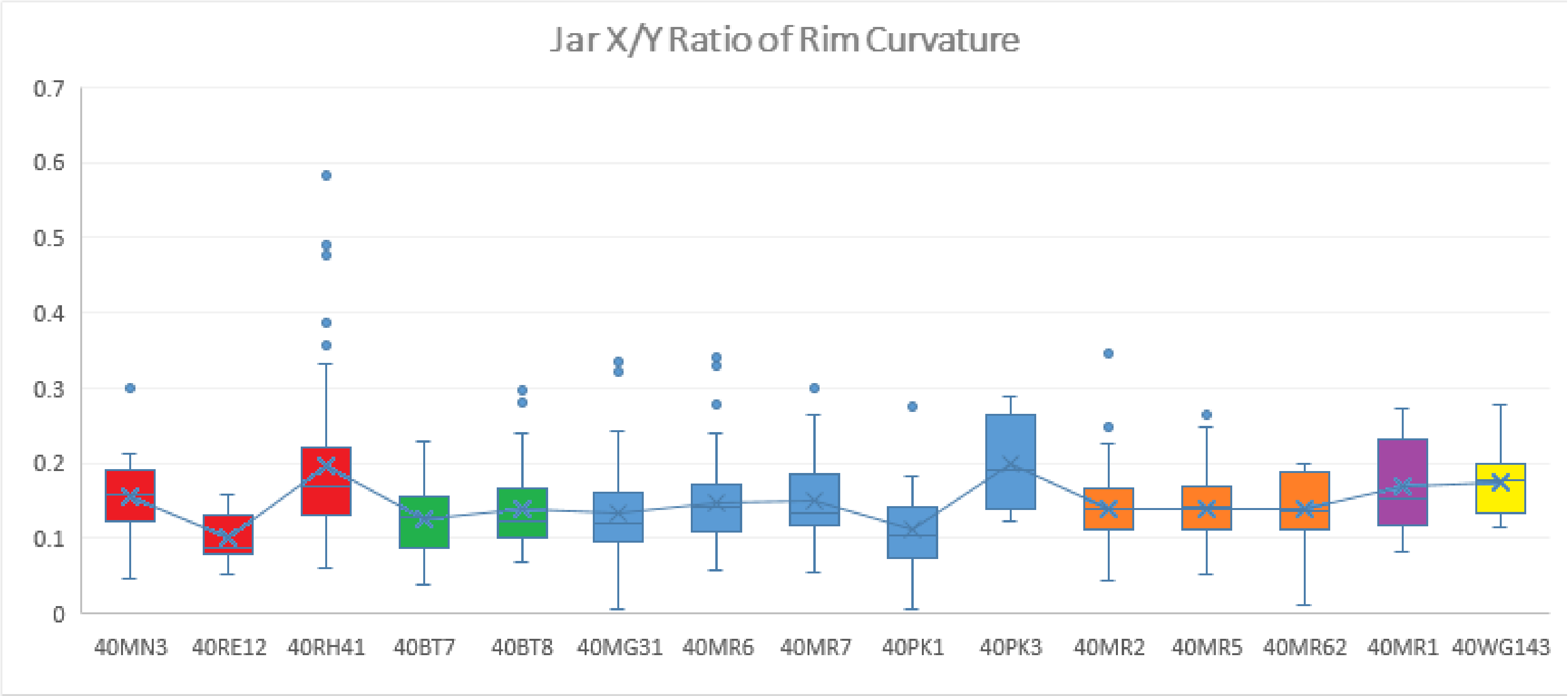

Figure 10.5. Boxplot show the distribution of rim curvature based on the X/Y ratio (red boxes = Late Mississippian; green boxes = Late Mississippian, Contact Period; blue boxes = Late Mississippian, Historic Cherokee; orange boxes = Historic Cherokee; purple box = Historic Period, Historic Cherokee; and yellow box = unknown).

ceramic assemblage existed in East Tennessee between the Late Mississippian and Historic Overhill Cherokee periods. While there is variation in both Late Mississippian Dallas/Mouse Creek and Historic Overhill Cherokee ceramics, the most dominant type is plain shell-tempered vessels. Using these two physical attributes as a base, the focus became metric data from jars, which are chronologically sensitive in the East Tennessee Valley; however plain shell-tempered jars fall into a broad ceramic typology. By using finer metric analyses within the type that is present in both Prehistoric and Historic contexts it may be possible to detect subtle microseriation changes over time. The sample assemblage was chosen to reflect the time frame of the Protohistoric period and does not show the entire range of the ceramic assemblages present at each of the sampled sites. The results of the assemblage analysis were not straight forward, but an analysis based mainly on metric attributes with this particular assemblage had never been attempted and as such, any new information adds to our understanding of East Tennessee ceramic typology. Interpretations of the results are presented below.

Based on the metric analyses, patterning in the occurrence of some attributes can be seen in the overall assemblage, but the patterning is not strong. The rim angle, shoulder angle, and X/Y ratio analyses all show two things. First, the metric distributions show certain tendencies that correspond to temporal trends, but these trends are very subtle and at times do not correspond to the assumed habitation periods of the sites in question. The second pattern, and possibly the most important, is that there is no discernable break in any of the metric analyses. There is consistency among metric attributes of Late Mississippian Dallas/Mouse Creek and Historic Overhill Cherokee ceramics, so much so that it is difficult to tease out the two temporal types into discrete categories.

The first hypothesis proposed for this study was centered on the idea of replacement. That is, Overhill Cherokee populations replaced the earlier Mississippian period population at some point during the Protohistoric period. If this was indeed the case, one would expect to see a break in the data, indicating the introduction of a new potting tradition into the East Tennessee Valley and the abrupt end of the previous one. The data suggest that the earlier potting traditions of the Prehistoric period are indistinguishable from the Historic period Cherokee potting traditions, since there are no abrupt changes in ceramic styles. This trend likewise negates the second hypothesis. If the two populations were living on the landscape together, but remained separate, then there should also be a visible break between the two ceramic traditions during the Protohistoric period.

The ceramic analysis supports the third hypothesis. Prehistoric populations survived into the Protohistoric period and the introduction of a new set of people resulted in a new cultural formation that ultimately became the Overhill Cherokee. This scenario would explain a continuation of ceramic traditions coupled with the introduction of new potting traditions. An aspect of the third hypothesis that the ceramic analysis does not support is the presence of a transitional potting tradition. There are subtle changes in the metric analyses, but nothing that could be identified as being a chronological pattern. Instead, what the data show is more of an amalgamation of attributes that are characteristic of a coalescent culture. This pattern may prove an early introduction for migrating Cherokee into the East Tennessee Valley. The term Proto Cherokee might be applicable here as the Historic Overhill culture of the eighteenth century would not have been fully formed in the early part of the seventeenth century, but an intrusive Cherokee like culture may be plausible. One particularly interesting finding of the metric analysis is the uniqueness of 40WG143, which is located in Upper East Tennessee. This site

shows the strongest trend towards excurvate rims, and this site is closer in proximity to the Qualla culture in present-day North Carolina. Like classic Overhill Cherokee sherds, Late Qualla phase ceramics tend to be excurvate. This trend, coupled with the ceramic trends from the other sites, suggests that other Cherokee towns in the Southeast share common attributes among ceramic assemblages, indicating that ceramic traditions are being perpetuated by a similar group of people. As these people migrated throughout parts of the Southeast, who could have potentially been Proto Cherokee groups, they came into contact with Mississippian groups who possessed their own potting traditions. Incorporating the processes that occur during culture contact and the shatter zone, the two groups appear to have fused their potting traditions which resulted in the Overhill assemblage of the Historic period. This ceramic amalgamation is characteristic of the Protohistoric period sites in East Tennessee and is not a clear transition from one potting tradition to another.

Chapter 11: Conclusions

11.1 Defining the Problem

The Protohistoric period is a neglected aspect of the archaeological record in East Tennessee. The seventeenth century was turbulent with the decline of the Mississippian period and the beginning of the Historic period. The influx of Europeans trade goods and the establishment of colonies in North America altered the cultural dynamics of the Native American groups living in the Southeast. The goal of this study was to determine if any new information concerning the habitation of East Tennessee during the Protohistoric period could be established, especially in regard to identifying archaeological sites that date to this period, and if so what cultural trends could be identified in the archaeological record.

Review of Hypotheses. Chapter 1 presented three hypotheses that could account for habitation in East Tennessee during the Protohistoric period. The first stated that because of Mississippian political collapse and the devastation by European pathogens, East Tennessee was depopulated during the seventeenth century and was then repopulated by Historic Overhill Cherokee populations in the early eighteenth century. The second hypothesis stated that East Tennessee remained populated by Prehistoric Mississippian populations into the seventeenth century, but these people remained separate from Historic Cherokee populations until the Mississippian populations were ultimately replaced. The final hypothesis states that East Tennessee remained populated by Prehistoric Mississippian populations into the seventeenth century and over time, a transitional Native American culture emerged that resulted in the formation of the Historic Overhill Cherokee culture.

Each of these hypotheses focuses on different circumstances that could have led to the Historic period. The first two are centered on the idea of replacement. The replacement model is by no means a new idea and has been circulating in the literature since the WPA-era (Dickens Jr. 1986; Kneberg 1952; Lewis and Kneberg 1993 [1946]; 1958; Smith 1987; 2000; 2002; 2004/2005). The first two hypotheses also present degrees of replacement. The first focuses on total depopulation while the second suggests cultural decline leading to replacement by Cherokee populations. The third hypothesis takes a much different approach in arguing for the evolution of culture as two Native American cultural groups came together during the seventeenth century. The ultimate goal of this study was to test the validity of these three hypotheses and determine if archaeological trends for the Protohistoric period can be determined.

11.2 Linking Theory to History: Interpreting the Archaeological Record

Historical Backdrop. The historical backdrop of the Protohistoric period is composed of a complicated, global set of cultural, economic, and political issues. As outlined in Chapters 2 through 5, the arrival of Europeans on the North American landscape had a profound effect on shaping the Historic period. With the arrival of the Spanish in the fifteenth century, a set of colonial processes began to take shape that eventually included the Dutch, French, and English, all vying for control of land and resources in eastern North America.

As European explorers, traders, and colonists came into contact with differing Native American groups, they responded to this contact with varying degrees of success and failure. The introduction of European trade goods into the Native American societies reshaped trade relations, alliance formations, and cultural concepts of material objects. Since trade was one of the primary reasons for European interest in North America, trade items, including furs, deer skins, and human slaves, became a driving force for expanding European influence, forming

alliances with stronger Native American groups, and establishing trade posts and settlements throughout the continent.

Political Landscape. The Europeans who made their way to North America were far from a cohesive group. The political and economic rivalries that plagued Europe between the fifteenth and eighteenth centuries emerged in Spanish, Dutch, French, and English colonies (Adelman and Aron 1999; Lightfoot 1995). Consequently, Native American groups became entangled in the political landscape that emerged after initial contact with the Spanish. The formation of cultural "buffer zones" became an essential part of the safety of European colonies. Alliances with nearby native groups afforded colonists a sense of safety as their native allies helped to fend off attacks from tribes aligned with other European powers, and to help conduct raids on other colonies to weaken the influence of the other European powers (Diener and Hagen 2010; Ganster and Lorey 2005; Marcoux 2008, 2010; Pickett and Pickett 2011).

Influence on the Southeast. Early European influence on the interior Southeast is still poorly understood. The Spanish were the first to arrive in the South in the sixteenth century and conducted three entradas into the interior, lead by De Soto, De Luna, and Pardo, all of which ultimately ended in failure, as the Spanish were never able to successfully colonize the interior Southeast (Clayton, Knight, and Moore 1993; Hudson 1990, 1994; Hudson, Smith, and DePratter 1984; Hudson et al. 1989). The Late Mississippian groups the Spanish encountered at the time were in a state of political decline and the introduction of European influence helped to spur on changes that would emerge in the following centuries. While the prehistoric archaeological record is extensive in the Southeast, the seventeenth-century Protohistoric period is poorly understood. The Spanish entradas provide a written snapshot of the Late Mississippian cultures,

but once the Spanish abandoned their attempts to secure a foothold in the interior, little attempt was made to make contact with native groups living there.

The time between the Spanish entradas and more sustained European contact in the seventeenth century has been termed the Protohistoric period because there are few accompanying historic records after the Spanish accounts (Smith 2004/2005). It was not until the founding of Charles Town in 1670 that the English were able to explore and exert more influence over the interior Southeast. By this time, the cultural landscape in the interior was dramatically different than the Spanish had encountered a century earlier. The native groups in the interior had almost a century to culturally rearrange themselves and adapt to the new historical circumstances.

Disease. While economic motives drove European expansion, the introduction of contagious Old World pathogens became a defining aspect of the colonial process. Being geographically cutoff from the rest of the world for thousands of years had not afforded Native Americans with an immune resistance to Old World diseases. Though unintentional, European explorers and colonists often spread diseases such as smallpox, malaria, flu, typhoid fever, mumps, and measles, to the native people they encountered (Dobyns 1981, 1983; Kelton 2007; Ramenofsky 1987). As the pathogens, spread Native American groups became weakened and some were completely wiped out. This devastation set off a series of mass population movements, depopulation of areas, and helped to spread the Indian slave trade, as weakened tribes were often preyed upon. The introduction of these diseases is a major point of contention for researchers (see Beck 2013; Cameron et al 2015; Dobyns 1981, 1983; Jones 2015; Kelton 2007; Milner 2015; Ramenofsky 1987) as some propose an earlier date, while others argue for a much later introduction. This problem is outlined extensively in Chapter 5, but based on the

available data and current research, a later introduction, likely during the late seventeenth century, for highly contagious diseases such as smallpox into the interior Southeast is the most probable scenario.

Theoretical Models. The use of four theoretical models is proposed for the Protohistoric period to discuss the research presented in this study in a historical and cultural framework. Borderland, culture contact, shatter zone, and cultural transmission theories, when used in unison, account for much of the cultural change taking place in the interior Southeast. While each of these theories has its own weaknesses and has been heavily critiqued, the use of the broad aspects of each helps to form a holistic framework for the Protohistoric period.

No matter how brief the contact, influence from Europeans reverberated throughout the Southeast. These influences elicited cultural changes which are consistent with Ethridge's (2006) concept of the shatter zone effect, and the consequences that can arise from culture contact. As this process was taking place, the Southeast formed into a frontier or buffer zone into which Europeans rarely ventured. As time continued, the frontier transitioned to a borderland area or buffer zone where contact was more intense on both sides. While the political boundaries of the Southeast were coalescing and being redefined, influences of European culture still continued to be transmitted. Native Americans of the interior were not living in a static cultural bubble as middlemen carried exotic European trade items into the interior. While these trade goods were by no means intended to surpass native made goods, their meanings and uses were reimagined and incorporated into Native American cultures and transmitted from person to person, generation to generation, and group to group, ultimately creating many of the Historic period cultural norms throughout the Southeast.

Archaeological Evidence. The test of the hypotheses concerning the Protohistoric period focused on two sets of artifacts, European glass trade beads from sites across the Southeast and Native American ceramics from East Tennessee. The chemical compositions of the glass beads were analyzed using pXRF and LA-ICP-MS, to determine the temporally sensitive opacifiers used in the glass-making process (Dalton-Carriger and Blair 2013, 2014, 2015). The results provide the most promising chronological markers to date in East Tennessee for the Protohistoric period.

The beads were divided into 10 chronologically relevant groupings, ranging from ca. 1570 to the late eighteenth century. These groupings are anchored in time by multiple bead samples from 40 different sites with known dates across eastern North America in addition to new samples tested from the East Tennessee Valley. The end results of the analysis have enabled a proposed Protohistoric habitation sequence for East Tennessee. The analysis is not fine-tuned enough to completely date an entire context, but the dates for the beads themselves are accurate when placed against the comparative samples from outside of Tennessee. Based on the data, three sub-periods for the Protohistoric period can be proposed for East Tennessee. The Early Protohistoric period ranges from 1570 to 1630, the Middle Protohistoric period ranges from 1630 to 1680, and the Late Protohistoric to Historic period ranges from 1680 to the late eighteenth century. The chemical analyses of the glass beads that helped define these sub-periods show that trade items in East Tennessee date as early at 1570 and as late as 1680. The distributions of sites corresponding to the sub-periods, as outlined in Chapter 9, rewrite our understanding of habitation patterns between the Prehistoric and Historic periods.

A study of ceramic data from sites in East Tennessee was undertaken in hopes of identifying Protohistoric ceramic types that could be used to identify sites dating to this time

period. Data were collected from 15 sites in East Tennessee. The main focus was measurements of jar forms, as jar morphology has been shown to be temporally sensitive (Dalton-Carriger 2011; Koerner 2005; Sullivan 1986, 1995). The data show that there is little variation among Late Mississippian Dallas/Mouse Creek phase and Historic Overhill Cherokee jar forms. This pattern suggests that the Native American potting traditions in East Tennessee at this time link Prehistoric and Historic cultures because no clear transitional Protohistoric potting tradition can be determined.

11.3 Habitation Trends in East Tennessee

A synthesis of the results of this study provides the most chronologically accurate and detailed overview of Native American habitation during the Protohistoric period in East Tennessee to date. The sections below present a synopsis of sequential segments of this dynamic time period.

The Beginning of the Protohistoric Period. Research concerning the Late Mississippian period in East Tennessee has been conducted for over a hundred years (for example Bauxar 1957; Bissett 2014; Braly 2010; Dalton-Carriger 2011; Faulkner 1975; Harle 2003, 2010; Harrington 1922; Kelso 2013; Kimball 1985; Koerner 2005; Lewis and Kneberg 1993 [1946]; Lewis et al. 1995a, 1995b; Polhemus 1987; Schroedl et al. 1985, Sullivan 1986, 1989, 1995, 2016; Sullivan and Harle 2010; Thomas 1891). During this time, the East Tennessee Valley was densely populated and available farmland was exploited. Mississippian culture throughout the Southeast had common cultural characteristics, but with regional variations. In the years preceding the seventeenth century, Mississippian political systems became less hierarchical and new political groupings formed. This cultural transition was coupled with the arrival of the Spanish which helped to spur other changes (Anderson 1994; Anderson and Sassaman 2012;

Blitz 1999; Hudson 1976; Pauketat 2004). While the accounts from the Spanish *entradas* may not be entirely accurate, they do provide the first written descriptions of Native American lifeways in the region (Clayton, Knight, and Moore 1993; Hudson 1990, 1994; Hudson, Smith, and DePratter 1984; Hudson et al. 1989).

The end of the Mississippian period in East Tennessee is arbitrarily set at A.D. 1600, after the Spanish entradas (Anderson and Sassaman 2012; Kimball 1985; Sullivan and Harle 2010). This date is not the end of Native American habitation, but an indication that the Mississippian period had come to an end with the beginnings of European contact. The beginning of the Historic period is typically designated as the eighteenth century when there was sustained contact with Europeans, especially the British. The almost century-long gap of direct contact between Europeans and native peoples in the interior during the Protohistoric seventeenth century is likely one of the most dynamic, but least understood time periods in North America (Smith 2004/2005).

Cultural Adaptation during the Protohistoric Period. After 1600, European influence and trade began to intensify, especially along the Atlantic coast. As Europeans were not willing to travel to the interior, a gap emerged in the historical record. Additionally, since the time frame under study is roughly 100 years, it has been difficult to establish Protohistoric cultural patterns in the interior, especially in East Tennessee. This problem has led researchers to assume that depopulation was significant, that East Tennessee was ultimately abandoned, and that European trade goods found on Prehistoric-identified sites were associated almost exclusively with the Spanish conquistadores (see Dickens Jr. 1986; Kneberg 1952; Lewis and Kneberg 1993 [1946]; 1958; Smith 1987; 2000; 2002; 2004/2005). Based on the glass bead patterns established by this study, there is now support for sites remaining inhabited during the seventeenth century because

the glass beads indicate later dates for manufacturing and habitation and could not have come from the early entradas.

The Protohistoric period was certainly a turbulent time as people and peoples were moving on the landscape. Coalescent societies likely became the norm in response to the changing political patterns and European influence. Whatever the exact circumstances occurring in East Tennessee, preexisting Prehistoric populations survived into the Protohistoric period. Native American middlemen, even during the early part of the Protohistoric period, were able to obtain European trade goods and transport them into the interior. These trading interactions altered the material culture of the Southeast.

Cultural Shifts to the Historic Period. The ceramic study suggests that East Tennessee remained inhabited into the Historic period, but not only by Overhill Cherokee groups. The data suggest that external cultural influences, likely an amalgamation of people with differing traditions, filtered their way into East Tennessee as people migrated further into the interior. As these traditions were introduced to surviving prehistoric populations, people and potting traditions coalesced to form a new cultural entity which ultimately became known as the Overhill Cherokee. This evidence may support an earlier date for the introduction of the Cherokee into the East Tennessee Valley than was proposed by Thomas (1890, 1894) and Harrington (1922).

Based on this interpretation, the first two hypotheses concerning replacement are not supported because the beads show an extended time range and the ceramics show no abrupt transition from one potting tradition to the next. The third hypothesis requires revision. Based on the bead data, prehistoric Mississippian cultures survived into the Protohistoric period; however, the ceramic data do not indicate a clear transitional phase to the Historic period. Instead of a new tradition, a melding of cultural traditions and people occurred in East Tennessee as at least two

groups came together and the cultural transmission that occurred resulted in the formation of the Overhill Cherokee who were met by the British in the eighteenth century. This hypothesis aligns well with Harrington's (1922) first theory that cultural traits already present in the East Tennessee Valley impacted the migrating Cherokee's material culture. The question then becomes which culture would this represent? The term Proto Cherokee could be used to define this transitional period as the Historic Overhill Cherokee of the eighteenth century would not have been fully formed in a cultural sense and Mississippian populations would still have been present on the landscape.

11.4 Future Studies

This study serves as a starting point for creating a dialog about the Protohistoric period in East Tennessee. The turbulent nature of this time period, both culturally and historically, left many gaps in the archaeological record that need to be addressed in the future. Increasing the radius of this study to include surrounding states in the Southeast would further our understanding of Spanish contact and the Historic period. The concept of tracing glass bead trade routes through the Southeast is also a worthwhile endeavor. Being able to source beads back to known ports of trade would not only help to further understand the dates of contexts in which the beads are discovered, but also to identify trade networks into the interior. Additionally, this study only reveals a fraction of the potential of the work that could be completed with glass beads. With the advancements in elemental testing, it may now be possible to create a nationwide glass bead database that can be used to help accurately date sites with trade beads.

The ceramic analysis presented here also is far from complete. The trends identified in the study sample suggest that the Protohistoric period potting traditions in East Tennessee were a product of the cultural circumstances of the time period. The next step would be to expand the

ceramic project to contemporaneous sites in northern Georgia and western North Carolina, and assess the utility of metric analysis for identifying and describing ceramic traditions of the Protohistoric period in these other regions of the interior Southeast.

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Appendices

Appendix I

Glass Bead Descriptions

Section 1: pXRF and Blair LA-ICP-MS Glass Beads

1.1

- pXRF Number: 0001
- Bead Description:
    - Color: White, Opaque
    - Shape: Oblong
- Artifact Number: B42(25)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 42
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, brass wire "C" bracelets, brass buttons, and a pewter button.
- Elemental Group: Sb
- Date Range: Late 17th to Early 18th Century

Figure Appendix 1:1.1. pXRF 0001

1.2

- pXRF Number: 0002
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Artifact Number: B22
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 22
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed

  Associated Artifacts: Conch columellae bead, chipped stone projectile points, a square stem steatite pipe, glass trade beads, clasp knife blades, a brass button, and strike-a-light fragment.
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

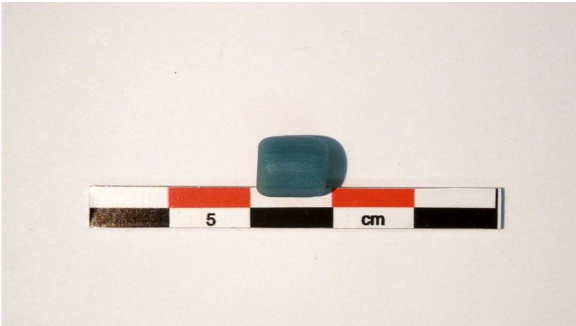

Figure Appendix 1:1.2. pXRF 0002

1.3

- pXRF Number: 0003
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B37(7)
- Site Number: 40MR7
- Site Name: Chilhowee
- State: Tennessee
- Feature Type: Burial 37
  - Sex: Unknown (Burial Data Form Missing)
  - Age: Unknown (Burial Data Form Missing)
  - Burial Position: Unknown (Burial Data Form Missing)
- Associated Artifacts: Unknown (Burial Data Form Missing)
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

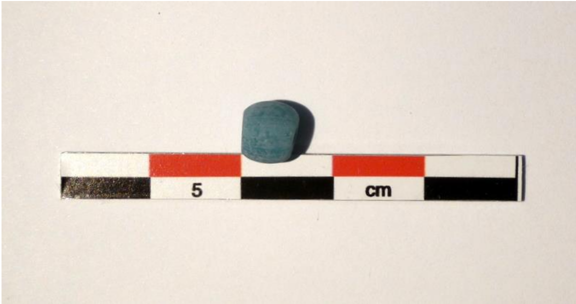

Figure Appendix 1:1.3. pXRF 0003

1.4

- pXRF Number: 0004
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 626(2)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Feature 1 – Palisade
- Associated Artifacts: Sherds and glass beads
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.4. pXRF 0004

1.5

- pXRF and LA-ICP-MS Number: 0005
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: 247(1)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Fill of Burial 6
    - Sex: Female
    - Age: Adult
    - Burial Position: Extended
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, brass artifacts, projectile points, polished stone, sherds, and animal bones
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

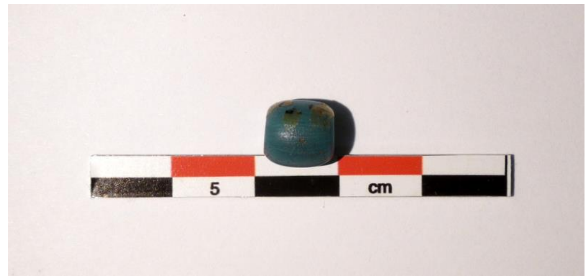

Figure Appendix 1:1.5. pXRF 0005

1.6

- pXRF Number: 0006
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B9(5)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type:
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, a brass button, and a brass rumbler bell.
- Elemental Group: 2
- Date Range: ca. 1590 - 1630

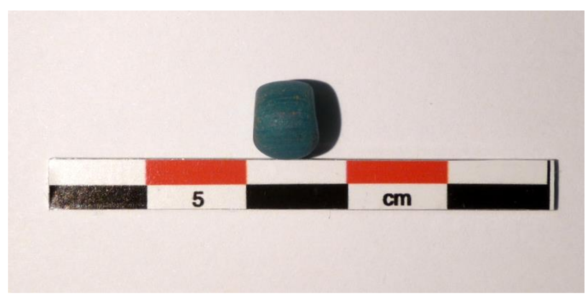

Figure Appendix 1:1.6. pXRF 0006

1.7

- pXRF Number: 0007
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: 247(2)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Fill of Burial 6
    - Sex: Female
    - Age: Adult
    - Burial Position: Extended
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, brass artifacts, projectile points, polished stone, sherds, and animal bones
- Elemental Group: Sb
- Date Range: N/A

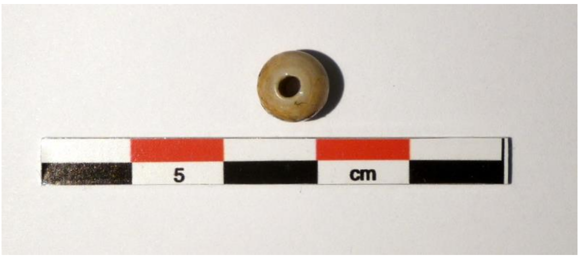

Figure Appendix 1:1.7. pXRF 0007

1.8

- pXRF Number: 0008
- Bead Description:
    - Color: Cobalt Blue, Opaque
    - Shape: Oblong
- Artifact Number: 626(1)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Feature 1 – Palisade
- Associated Artifacts: Sherds and glass beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.8. pXRF 0008

1.9

- pXRF Number: 0009
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B22(7)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 22
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Conch columellae bead, chipped stone projectile points, a square stem steatite pipe, glass trade beads, clasp knife blades, a brass button, and strike-a-light fragment.
- Elemental Group: Sb
- Date Range: Late 17th to Early 18th Century

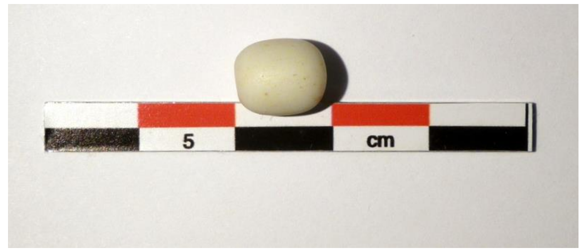

Figure Appendix 1:1.9. pXRF 0009

1.10

- pXRF Number: 0010
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B32(8)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 32
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Indeterminate
- Associated Artifacts: Glass beads and scissors half used as knife
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

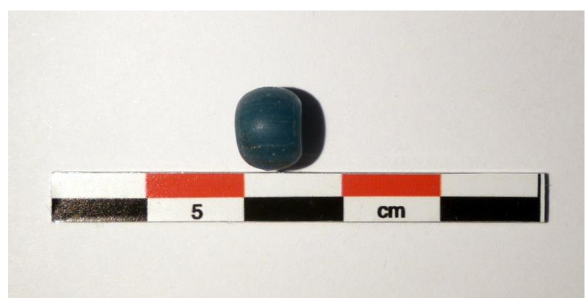

Figure Appendix 1:1.10. pXRF 0010

1.11

- pXRF Number: 0011
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B38(1)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 38
    - Sex: Female
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.11. pXRF 0011

1.12

- pXRF Number: 0012
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B66(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 66
    - Sex: Female
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: A square stem steatite pipe and glass beads
- Elemental Group: Sb
- Date Range: Late 17th to Early 18th Century

Figure Appendix 1:1.12. pXRF 0012

1.13

- pXRF Number: 0013
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B66(9)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 66
    - Sex: Female
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: A square stem steatite pipe and glass beads
- Elemental Group: 6
- Date Range: Mid to Late 18th Century

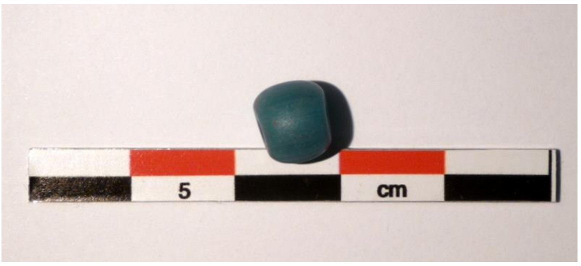

Figure Appendix 1:1.13. pXRF 0013

1.14

- pXRF Number: 0014
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Oblong
- Artifact Number: B221(6)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 221
    - Sex: Female
    - Age: Adult
    - Burial Position: Partially Flexed
- Associated Artifacts: Iron “C” bracelets, iron wire rings, glass beads, and copper beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.14. pXRF 0014

1.15

- pXRF Number: 0015
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: 835
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 21
    - Sex: Indeterminate
    - Ag: Child
    - Burial Position: Flexed
- Associated Artifacts: Copper artifacts, glass beads, and sherds
- Elemental Group: Sb
- Date Range: N/A

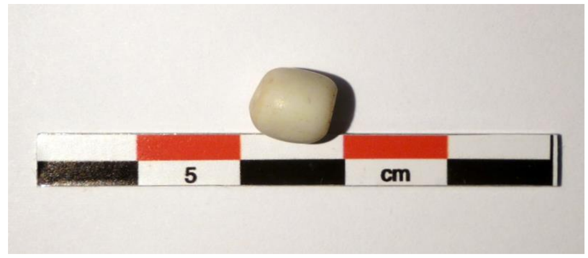

Figure Appendix 1:1.15. pXRF 0015

1.16

- pXRF Number: 0016
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: 881
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 17
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Fragmented
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

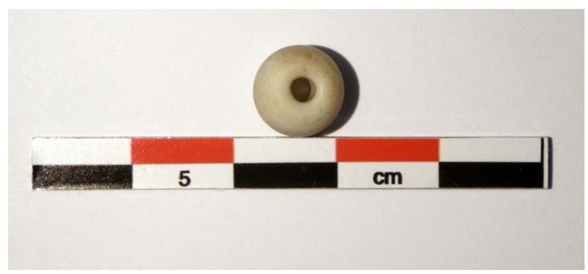

Figure Appendix 1:1.16. pXRF 0016

1.17

- pXRF Number: 0017
- Bead Description:
  - Color: White, Opaque
  - Shape: Fragment
- Artifact Number: B6(8)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 6
  - Sex: Male
  - Age: Adult
  - Burial Position: Tightly Flexed
- Associated Artifacts: Chipped stone projectile points, glass beads, a brass button, iron sheath knife, iron clasp knife, iron fragment, and vermillion.
- Elemental Group: Sb
- Date Range: Late 17th to Early 18th Century

Figure Appendix 1:1.17. pXRF 0017

1.18

- pXRF Number: 0018
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Seed
- Artifact Number: B33(2)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 33
  - Sex: Indeterminate
  - Age: Adult
  - Burial Position: Semi-Flexed
- Associated Artifacts: Iron bracelets and glass beads
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

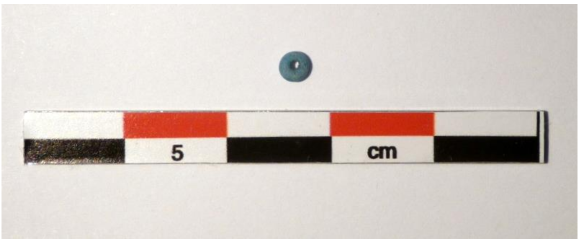

Figure Appendix 1:1.18. pXRF 0018

1.19

- pXRF Number: 0019
- Bead Description:
  - Color: Cobalt Blue, Opaque
  - Shape: Oblong
- Artifact Number: 66
- Site Number: 63MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: N/A
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

Figure Appendix 1:1.19. pXRF 0019

1.20

- pXRF Number: 0020
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 58
- Site Number: 37MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Feature 2 (Burnt Area)
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

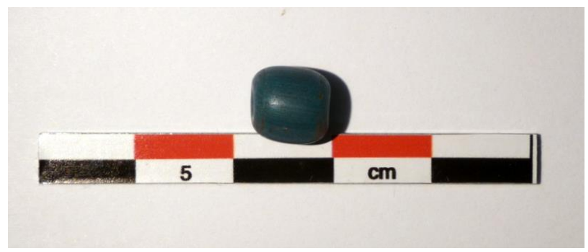

Figure Appendix 1:1.20. pXRF 0020

1.21

- pXRF Number: 0021
- Bead Description:
  - Color: Blue, Opaque
  - Shape: Round
- Artifact Number: B403(2)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 403
  - Sex: Data Missing
  - Age: Data Missing
  - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

Figure Appendix 1:1.21. pXRF 0021

1.22

- pXRF Number: 0022
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B42(18)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 42
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, brass wire “C” bracelets, brass buttons, and a pewter button
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

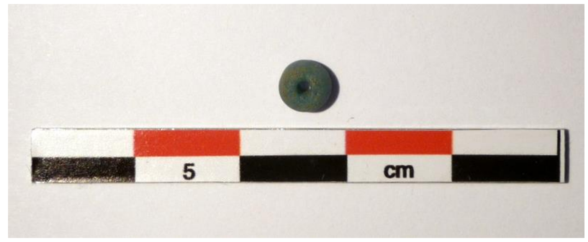

Figure Appendix 1:1.22. pXRF 0022

1.23

- pXRF Number: 0023
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: B32(9)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 32
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Indeterminate
- Associated Artifacts: Glass beads and scissors half used as knife
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

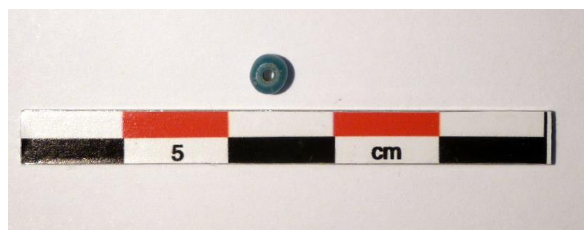

Figure Appendix 1:1.23. pXRF 0023

1.24

- pXRF Number: 0024
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B6
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 6
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, projectile points, brass button, iron knife, iron fragment, and vermillion
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.24. pXRF 0024

1.25

- pXRF Number: 0025
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B86(2)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 86
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

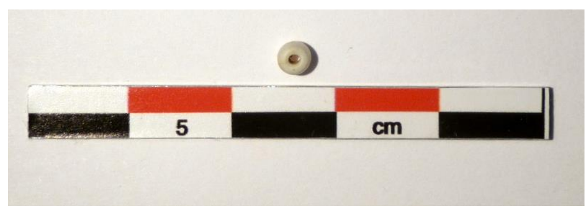

Figure Appendix 1:1.25. pXRF 0025

1.26

- pXRF Number: 0026
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B21
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 21
  - Sex: Male
  - Age: Adult
  - Burial Position: Partly Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.26. pXRF 0026

1.27

- pXRF Number: 0027
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B38(5)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 38
  - Sex: Female
  - Age: Child
  - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.27. pXRF 0027

1.28

- pXRF Number: 0028
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B383(6)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 383
  - Sex: Data Missing
  - Age: Data Missing
  - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.28. pXRF 0028

1.29

- pXRF Number: 0029
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B6(7)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 6
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Flexed
- Associated Artifacts: Glass beads, iron tinklers, and brass tinklers
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.29. pXRF 0029

1.30

- pXRF Number: 0030
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B15(3)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 15
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Indeterminate
- Associated Artifacts: Glass Beads
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.30. pXRF 0030

1.31

- pXRF Number: 0031
- Bead Description:
  - Color: White, Opaque
  - Shape: Fragment
- Artifact Number: B80(3)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 80
  - Sex: Female
  - Age: Child
  - Burial Position: Flexed
- Associated Artifacts: Glass beads and iron knife
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.31. pXRF 0031

1.32

- pXRF Number: 0032
- Bead Description:
    - Color: White, Opaque
    - Shape: Tube
- Artifact Number: B24(2)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 24
    - Sex: Male?
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Pewter buttons, brass buttons, and glass beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.32. pXRF 0032

1.33

- pXRF Number: 0033
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B80(2)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 80
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Indeterminate
- Associated Artifacts: Glass beads and copper dangles
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

Figure Appendix 1:1.33. pXRF 0033

1.34

- pXRF Number: 0034
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: 426(2)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 4
    - Sex: Indeterminate
    - Age: Adult?
    - Burial Position: Fragmentary
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, and textiles
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.34. pXRF 0034

1.35

- pXRF and LA-ICP-MS Number: 0035
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Seed
- Artifact Number: B43(5)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 43
    - Sex: Female?
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Ceramic vessels, turtle shell rattles, shell ear pins, shell beads, glass beads, and shell gorget
- Elemental Group: 10
- Date Range: Late 18th Century

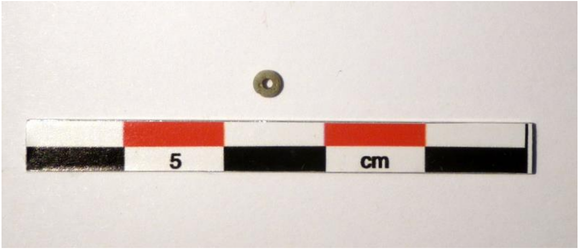

Figure Appendix 1:1.35. pXRF 0035

1.36

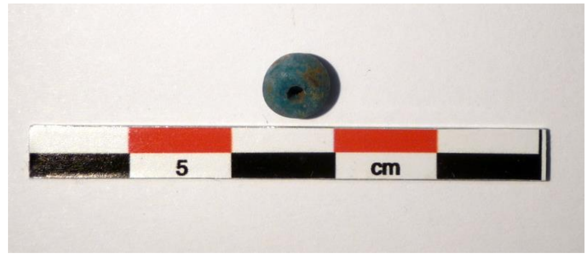

Figure Appendix 1:1.36. pXRF 0036

- pXRF Number: 0036
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B116(3)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 116
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

1.37

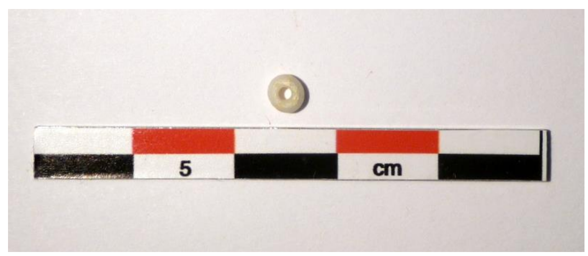

Figure Appendix 1:1.37. pXRF 0037

- pXRF Number: 0037
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: 717
- Site Number: 38MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 119
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Flexed
- Associated Artifacts: Copper beads, glass beads, brass bells, and iron bracelets
- Elemental Group: Sb
- Date Range: N/A

1.38

- pXRF Number: 0038
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Oblong
- Artifact Number: 214
- Site Number: 42MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 14
  - Sex: Male
  - Age: Adult
  - Burial Position: Pit Reburial
- Associated Artifacts: Shell gorget, lead shot, flint, copper artifact, copper cones, iron wire, glass trade beads, shell beads, and brass bells
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.38. pXRF 0038

1.39

- pXRF Number: 0039
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Oblong
- Artifact Number: 426
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 4
  - Sex: Indeterminate
  - Age: Adult?
  - Burial Position: Fragmentary
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, and textiles
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

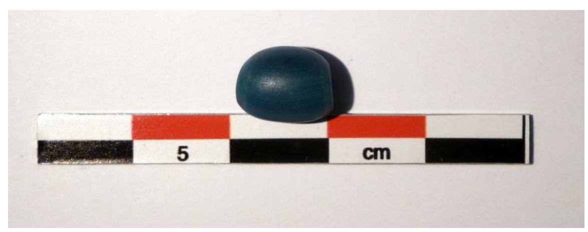

Figure Appendix 1:1.39. pXRF 0039

1.40

- pXRF Number: 0040
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: 4
- Site Number: 63MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 1
    - Sex: Indeterminate
    - Age: Unknown
    - Burial Position: Reburial, Scattered Remains
- Associated Artifacts: Glass Beads
- Elemental Group: 9
- Date Range: 17th Century?

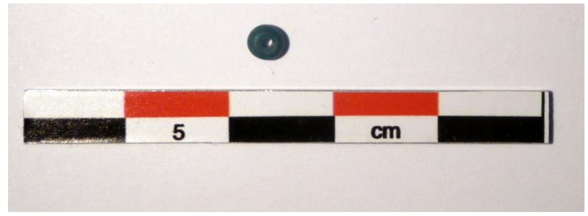

Figure Appendix 1:1.40. pXRF 0040

1.41

- pXRF Number: 0041
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B73(3)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 73
    - Sex: Indeterminate
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, brass buttons, silver brooches, brass finger rings
- Elemental Group: Sb
- Date Range: N/A

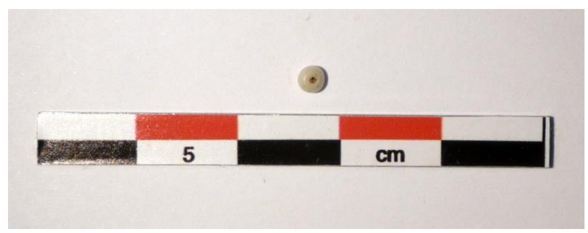

Figure Appendix 1:1.41. pXRF 0041

1.42

- pXRF Number: 0042
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: B96(1)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 96
  - Sex: Indeterminate
  - Age: Indeterminate
  - Burial Position: Indeterminate
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

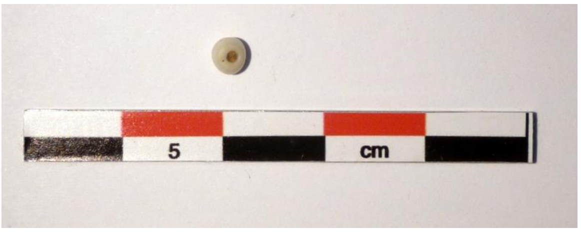

Figure Appendix 1:1.42. pXRF 0042

1.43

- pXRF Number: 0043
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: B38(6)
- Site Number: 38MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 38
  - Sex: Adult
  - Age: Male
  - Burial Position: Partly Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

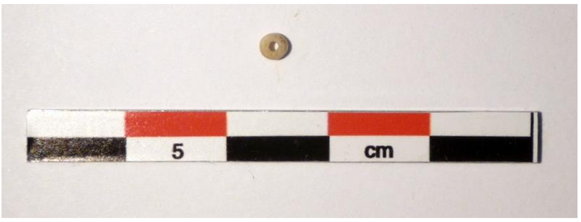

Figure Appendix 1:1.43. pXRF 0043

1.44

- pXRF Number: 0044
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B7(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 7
    - Sex: Female
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

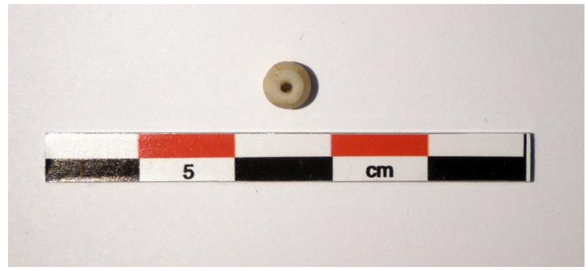

Figure Appendix 1:1.44. pXRF 0044

1.45

- pXRF Number: 0045
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: 638(2)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 11
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Extended
- Associated Artifacts: Copper artifacts, bronze artifacts, glass beads, and shell beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

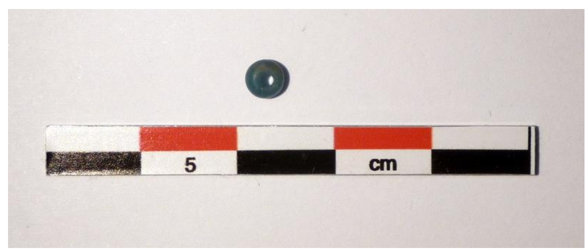

Figure Appendix 1:1.45. pXRF 0045

1.46

- pXRF Number: 0046
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Artifact Number: 1080
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 8
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, copper artifact, and shell
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.46. pXRF 0046

1.47

- pXRF Number: 0047
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: 426
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 4
    - Sex: Indeterminate
    - Age: Juvenile/Adult?
    - Burial Position: Extended
- Associated Artifacts: Glass beads, copper artifact, iron artifact, and cane matting
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.47. pXRF 0047

1.48

- pXRF and LA-ICP-MS Number: 0048
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Artifact Number: 638
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 11
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Extended
- Associated Artifacts: Copper artifacts, bronze artifacts, glass beads, and shell Beads Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.48. pXRF 0048

1.49

- pXRF and LA-ICP-MS Number: 0049
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: 836(2)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 21
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, and sherds
- Elemental Group: 1C
- Date Range: ca. 1640/1680

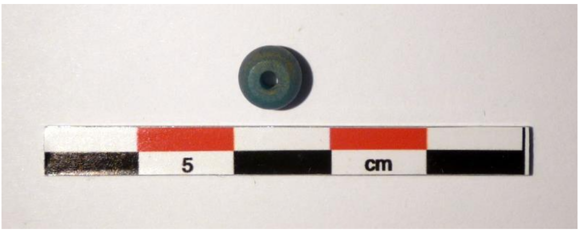

Figure Appendix 1:1.49. pXRF 0049

1.50

- pXRF Number: 0050
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: 69
- Site Number: 63MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 10
    - Sex: Female
    - Age: Adult
    - Burial Position: Extended
- Associated Artifacts: Glass beads, iron snuff box, red ochre, whetstone, and an iron nail
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.50. pXRF 0050

1.51

- pXRF and LA-ICP-MS Number: 0051
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Round
- Artifact Number: B18
- Site Number: 85RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: Burial 18
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Extended
- Associated Artifacts: Shell beads, glass beads, and copper beads
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

Figure Appendix 1:1.51. pXRF 0051

1.52

- pXRF Number: 0052
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B2
- Site Number: 85VT1RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: Burial 2
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Disturbed
- Associated Artifacts: Glass Beads
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

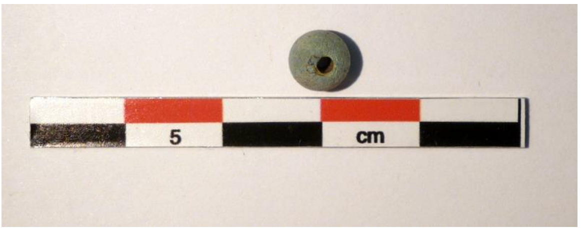

Figure Appendix 1:1.52. pXRF 0052

1.53

- pXRF Number: 0053
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: 31(2)
- Site Number: 38MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 6
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Partly Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

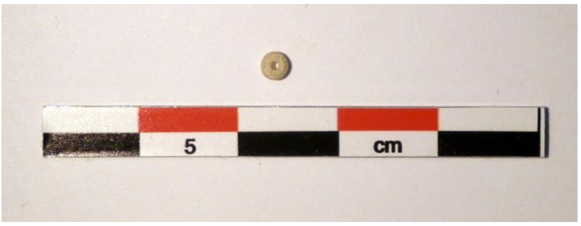

Figure Appendix 1:1.53. pXRF 0053

1.54

- pXRF Number: 0054
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B19(1)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial
    - Sex: Indeterminate
    - Age: Indeterminate
    - Burial Position: Indeterminate
- Associated Artifacts: Glass beads, pewter buttons, and a brass button.
- Elemental Group: 6
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.54. pXRF 0054

1.55

- pXRF Number: 0055
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: 1084
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 1
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Fragmentary
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, sherds, and textiles
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

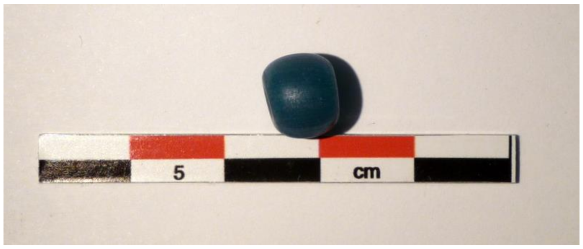

Figure Appendix 1:1.55. pXRF 0055

1.56

- pXRF Number: 0056
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: 881
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 17
  - Sex: Indeterminate
  - Age: Child
  - Burial Position: Fragmentary
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.56. pXRF 0056

1.57

- pXRF Number: 0057
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Seed
- Artifact Number: 836(1)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 21
  - Sex: Indeterminate
  - Age: Child
  - Burial Position: Flexed
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, and sherds
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

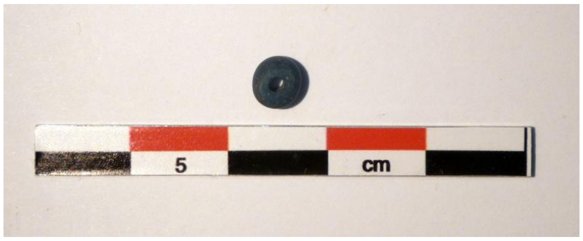

Figure Appendix 1:1.57. pXRF 0057

1.58

- pXRF Number: 0058
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B37(3)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 37
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, brass tinkler, brass “C” bracelet, and vermillion
- Elemental Group: Sb
- Date Range: N/A

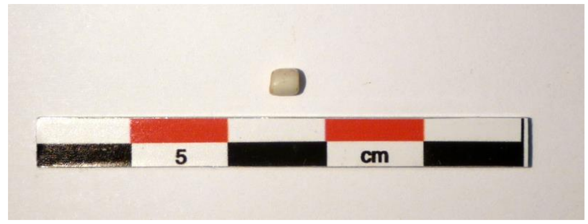

Figure Appendix 1:1.58. pXRF 0058

1.59

- pXRF Number: 0059
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: B1(3)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 1
    - Sex: Female
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass beads and brass sheet armlet
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18^{th} Century

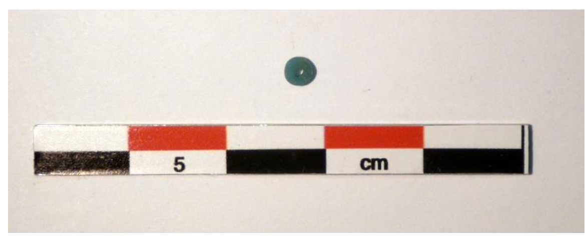

Figure Appendix 1:1.59. pXRF 0059

1.60

- pXRF Number: 0060
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B418
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 418
    - Sex: Female?
    - Age: Adult
    - Burial Position Flexed
- Associated Artifacts: Mink skin bag, brass tinklers, glass beads, glass pendant, and quartz crystal
- Elemental Group: Sb
- Date Range: N/A

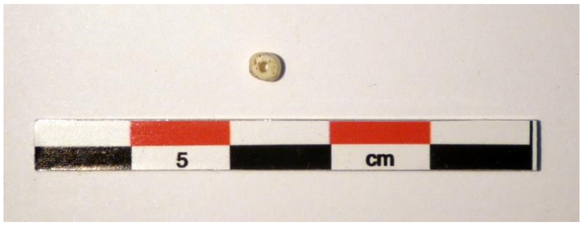

Figure Appendix 1:1.60. pXRF 0060

1.61

- pXRF Number: 0061
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Round
- Artifact Number: B403(3)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 403
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1B
- Date Range: ca. 1600 – 1680

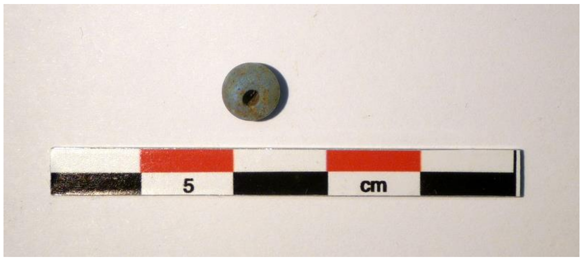

Figure Appendix 1:1.61. pXRF 0061

1.62

- pXRF Number: 0062
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: B19(1)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 19
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

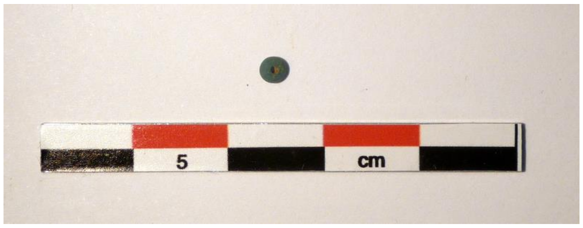

Figure Appendix 1:1.62. pXRF 0062

1.63

- pXRF Number: 0063
- Bead Description:
    - Color: Blue, Translucent
    - Shape: Round
- Artifact Number: B47(3)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 47
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Flexed
- Associated Artifacts: Brass plates, brass beads, and glass beads
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.63. pXRF 0063

1.64

- pXRF Number: 0064
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: 199(2)
- Site Number: 42MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial (B 3-7, 9-12)
    - Burial 3: Adult, Male
    - Burial 4: Child, Indeterminate
    - Burial 5: Infant, Indeterminate
    - Burial 6: Child, Indeterminate
    - Burial 7: Child, Indeterminate
    - Burial 9: Juvenile, Indeterminate
    - Burial 10: Infant, Indeterminate
    - Burial 11: Child, Indeterminate
    - Burial 12: Infant, Indeterminate
    - Burial Position: Bundle Burial
- Associated Artifacts: glass beads, brass disc, brass spoon, iron wire, copper wire, and a shell hairpin
- Elemental Group: 8
- Date Range: Late 17th Century

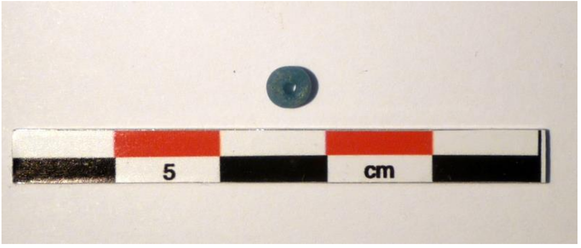

Figure Appendix 1:1.64. pXRF 0064

1.65

- pXRF Number: 0065
- Bead Description:
    - Color: Black, Opaque
    - Shape: Round
- Artifact Number: 638
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 11
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Extended
- Associated Artifacts: Copper artifacts, glass beads, bronze artifacts, and shell beads
- Elemental Group: N/A
- Date Range: N/A

Figure Appendix 1:1.65. pXRF 0065

1.66

- pXRF Number: 0066
- Bead Description:
    - Color: Black, Opaque
    - Shape: Oblong
- Artifact Number: 319(11)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Elemental Group: N/A
- Date Range: N/A

Figure Appendix 1:1.66. pXRF 0066

1.67

- pXRF Number: 0067
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B8(4)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 8
    - Sex: Male
    - Age: Juvenile
    - Burial Position: Semi-Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

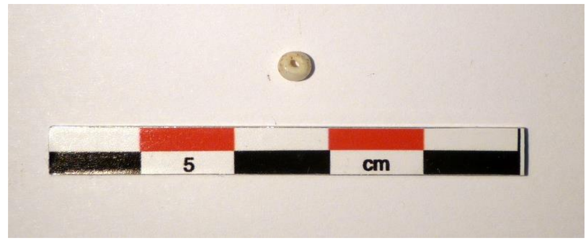

Figure Appendix 1:1.67. pXRF 0067

1.68

- pXRF Number: 0068
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: 641
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 2
    - Sex: Male
    - Age: Mature
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

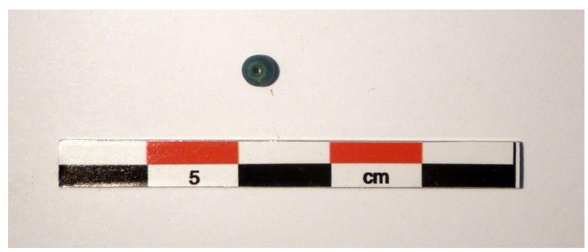

Figure Appendix 1:1.68. pXRF 0068

1.69

- pXRF Number: 0069
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Oblong
- Artifact Number: B81(27)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 81
  - Sex: Indeterminate
  - Age: Indeterminate
  - Burial Position: Indeterminate
- Associated Artifacts: Glass Beads
- Elemental Group: 5
- Date Range: Mid to Late 18^{th} Century

Figure Appendix 1:1.69. pXRF 0069

1.70

- pXRF Number: 0070
- Bead Description:
  - Color: Blue, Translucent
  - Shape: Round
- Artifact Number: 69(2)
- Site Number: 63MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 10
  - Sex: Female
  - Age: Adult
  - Burial Position: Extended
- Associated Artifacts: Glass beads, ochre, iron nail, and whetstone
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18^{th} Century

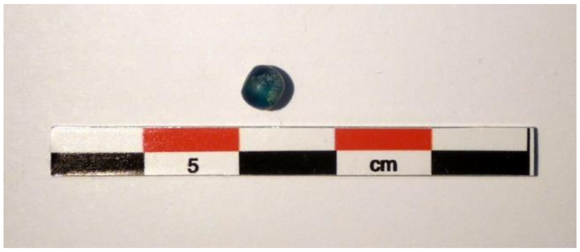

Figure Appendix 1:1.70. pXRF 0070

1.71

- pXRF Number: 0071
- Bead Description:
  - Color: White, Opaque
  - Shape: Oblong
- Artifact Number: B65(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 65
  - Sex: Female
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Steatite pipe and glass beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.71. pXRF 0071

1.72

- pXRF Number: 0072
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 1085
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 5
  - Sex: Male
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Glass beads and sherds
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.72. pXRF 0072

1.73

- pXRF Number: 0073
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: 86
- Site Number: 4MN3
- Site Name: Mouse Creeks
- State: Tennessee
- Feature Type: Sq. 8L2
- Associated Artifacts: Sherds and glass beads
- Elemental Group: Sb
- Date Range: N/A

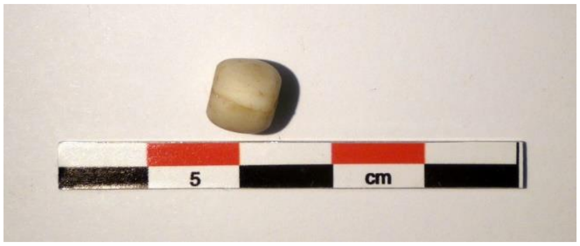

Figure Appendix 1:1.73. pXRF 0073

1.74

- pXRF Number: 0074
- Bead Description:
    - Color: Blue, Translucent
    - Shape: Round
- Artifact Number: B80(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 80
    - Sex: Female
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass beads and iron knife
- Elemental Group: N/A
- Date Range: N/A

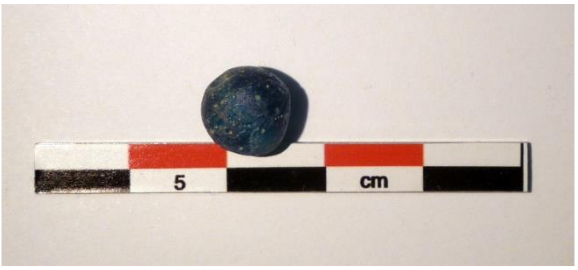

Figure Appendix 1:1.74. pXRF 0074

1.75

- pXRF Number: 0075
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: B5(12)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 5
  - Sex: Male
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Projectile point, glass beads, lead scrap, brass tacks, lead bullets, Strike-a-Light, brass tinklers, brass “C” bracelets, vermillion, brass buttons, and triangular brass arrow points
- Elemental Group: Mixed
- Date Range: N/A

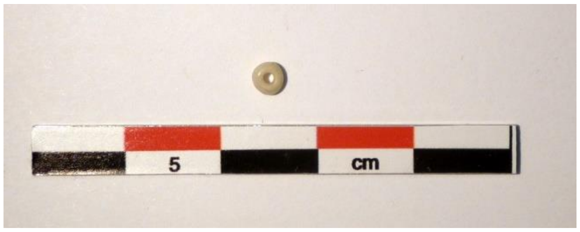

Figure Appendix 1:1.75. pXRF 0075

1.76

- pXRF Number: 0076
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B6(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 6
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Flexed
- Associated Artifacts: Glass beads, iron tinklers, and brass tinklers
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

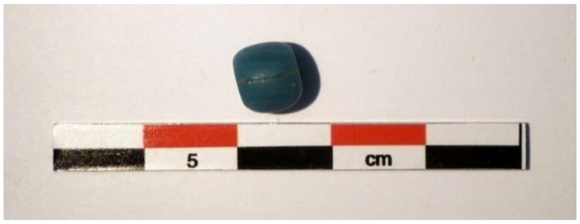

Figure Appendix 1:1.76. pXRF 0076

1.77

- pXRF Number: 0077
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B13(6)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial
    - Sex: Indeterminate
    - Age: Indeterminate
    - Burial Position: Flexed
- Associated Artifacts: Shell ear pins, iron and brass “C” bracelets, and glass beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.77. pXRF 0077

1.78

- pXRF Number: 0078
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: B8(2)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 8
    - Sex: Male
    - Age: Juvenile
    - Burial Position: Semi-Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

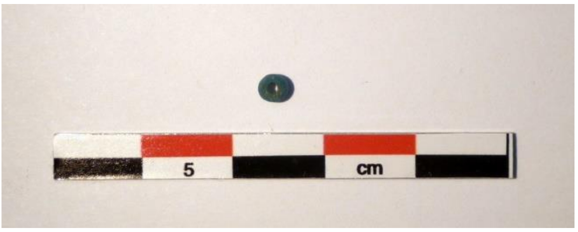

Figure Appendix 1:1.78. pXRF 0078

1.79

- pXRF Number: 0079
- Bead Description:
  - Color: Blue, Opaque
  - Shape: Seed
- Artifact Number: 316
- Site Number: 37MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial (B-12,13,14)
  - Burial 12: Adult, Male
  - Burial 13: Juvenile, Indeterminate
  - Burial 14: Infant, Indeterminate
  - Burial Position: Disturbed Burial
- Associated Artifacts: Glass Beads
- Elemental Group: 10
- Date Range: late 18th Century

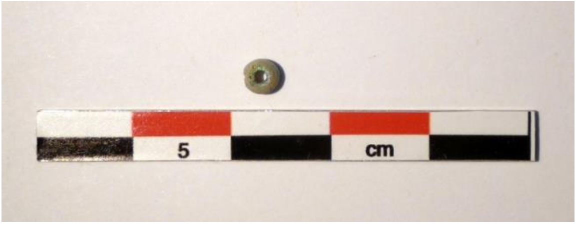

Figure Appendix 1:1.79. pXRF 0079

1.80

- pXRF Number: 0080
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B17(2)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 17
  - Sex: Indeterminate
  - Age: Child
  - Burial Position: Flexed
- Associated Artifacts: Shell beads and glass beads
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.80. pXRF 0080

1.81

- pXRF Number: 0081
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B53(2)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Steatite pipe, glass beads, silver earing fragment, and gunflint
- Elemental Group: Mixed
- Date Range: N/A

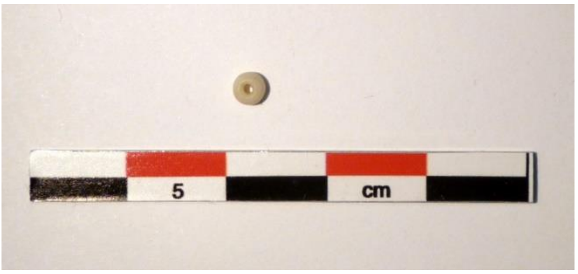

Figure Appendix 1:1.81. pXRF 0081

1.82

- pXRF Number: 0082
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B21(1)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Indeterminate
- Associated Artifacts: Shell beads, glass beads, pewter buttons, a brass button, rumbler bells, and a small farm bell.
- Elemental Group: Sb
- Date Range: Late 17^{th} to Early 18^{th} Century

Figure Appendix 1:1.82. pXRF 0082

1.83

- pXRF Number: 0083
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B1(8)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 1
    - Sex: Indeterminate
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Razors, whetstone, and glass beads
- Elemental Group: Sb
- Date Range: N/A

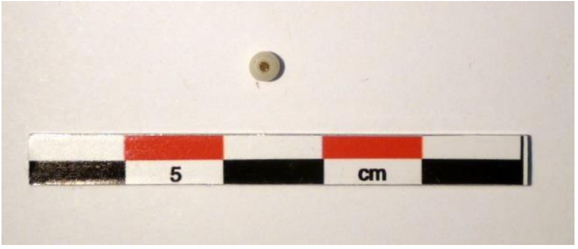

Figure Appendix 1:1.83. pXRF 0083

1.84

- pXRF Number: 0084
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: B55(14)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 55
    - Sex: Male
    - Age: Adult
    - Burial Position: Extended
- Associated Artifacts: Projectile point, ground hematite, catlinite pipe, steatite pipe, glass beads, brass finger ring, gunflints, hand mirror, clasp knives, sheath knife, iron awl, iron sewing needle, iron spontoon, brass wire necklaces, iron ring, wire springs, brass hair pluckers, brass "C" bracelets, and vermillion
- Elemental Group: Sb
- Date Range: N/A

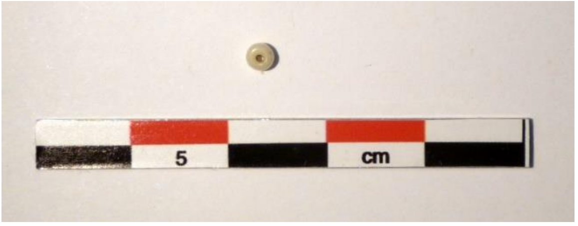

Figure Appendix 1:1.84. pXRF 0084

1.85

- pXRF Number: 0085
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Fragment
- Artifact Number: B19(2)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 19
    - Sex: Female
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

Figure Appendix 1:1.85. pXRF 0085

1.86

- pXRF Number: 0086
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B7(3)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 7
    - Sex: Female
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 9
- Date Range: 17th Century?

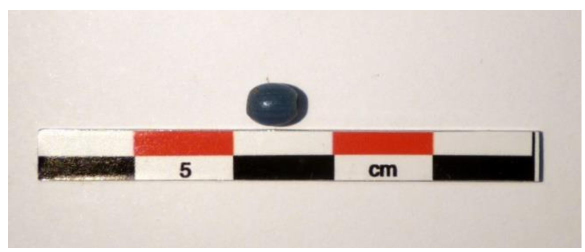

Figure Appendix 1:1.86. pXRF 0086

1.87

- pXRF Number: 0087
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: B1(9)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 1
  - Sex: Female
  - Age: Mature Adult
  - Burial Position: Flexed
- Associated Artifacts: A square stem steatite pipe, glass beads, pewter buttons, brass buttons, hand mirror, vermillion, and red ochre.
- Elemental Group: Sb
- Date Range: Late 17th to Early 18th Century

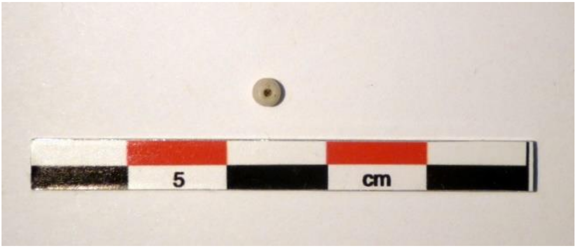

Figure Appendix 1:1.87. pXRF 0087

1.88

- pXRF Number: 0088
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: B20(7)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial
  - Sex: Indeterminate
  - Age: Child
  - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

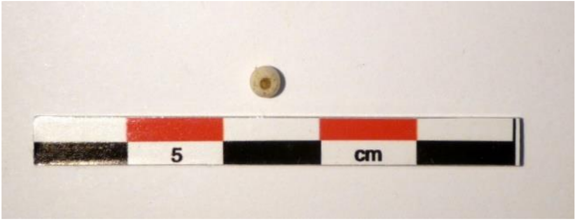

Figure Appendix 1:1.88. pXRF 0088

1.89

- pXRF Number: 0089
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Oblong
- Artifact Number: B65
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 65
  - Sex: Female
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Steatite pipe and glass beads
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.89. pXRF 0089

1.90

- pXRF and LA-ICP-MS Number: 0090
- Bead Description:
  - Color: Blue, Opaque
  - Shape: Seed
- Artifact Number: 82-99
- Site Number: 40HA63
- Site Name: Moccasin Bend
- State: Tennessee
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

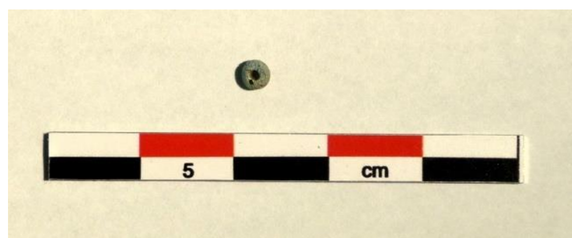

Figure Appendix 1:1.90. pXRF 0090

1.91

- pXRF, LA-ICP-MS Number: 0091
- Bead Description:
  - Color: Blue, Opaque
  - Shape: Seed
- Artifact Number: 82-99
- Site Number: 40HA63
- Site Name: Moccasin Bend
- State: Tennessee
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

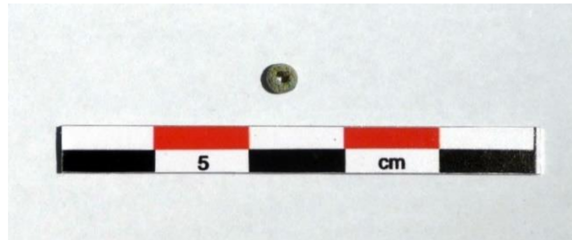

Figure Appendix 1:1.91. pXRF 0091

1.92

- pXRF and LA-ICP-MS Number: 0092
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 82-99-11
- Site Number: 40HA63
- Site Name: Moccasin Bend
- State: Tennessee
- Feature Type: Pit (65A)
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

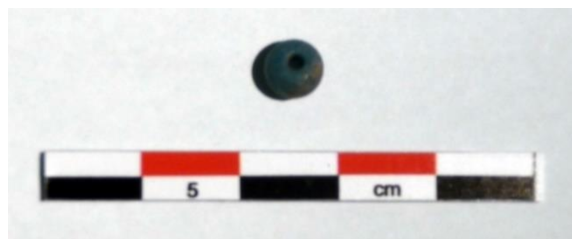

Figure Appendix 1:1.92. pXRF 0092

1.93

- pXRF and LA-ICP-MS Number: 0093
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 82-99-325
- Site Number: 40HA63
- Site Name: Moccasin Bend
- State: Tennessee
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 7
- Date Range: 17th Century?

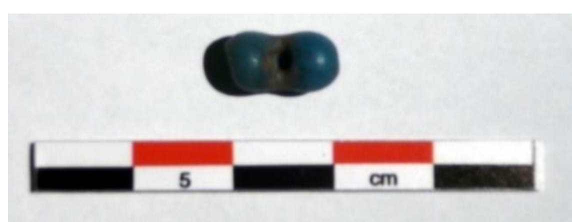

Figure Appendix 1:1.93. pXRF 0093

1.94

- pXRF Number: 0094
- Bead Description:
  - Color: Blue, Opaque
  - Shape: Seed
- Artifact Number: 82-99-214
- Site Number: 40HA63
- Site Name: Moccasin Bend
- State: Tennessee
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

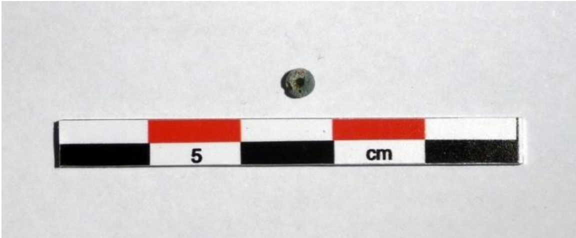

Figure Appendix 1:1.94. pXRF 0094

1.95

- pXRF Number: 0095
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: a2342/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
  - Sex: Unknown Paperwork Lost
  - Age: Unknown Paperwork Lost
  - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

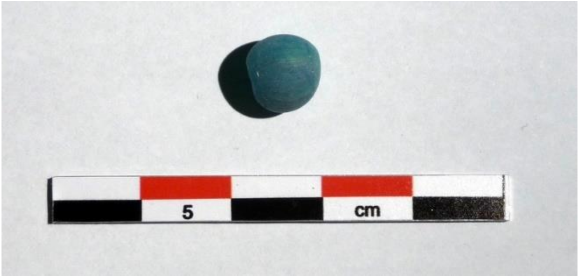

Figure Appendix 1:1.95. pXRF 0095

1.96

- pXRF Number: 0096
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: 40WG17
- Site Number: a2342/250
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 - 1680

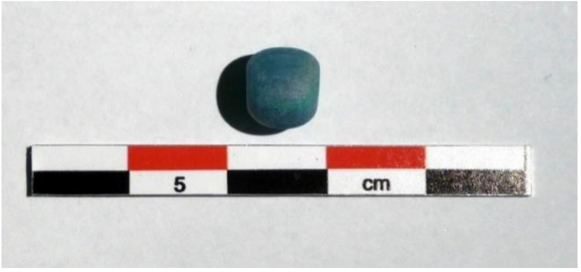

Figure Appendix 1:1.96. pXRF 0096

1.97

- pXRF Number: 0097
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: a2342/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 - 1680

Figure Appendix 1:1.97. pXRF 0097

1.98

- pXRF Number: 0098
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: a2342/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

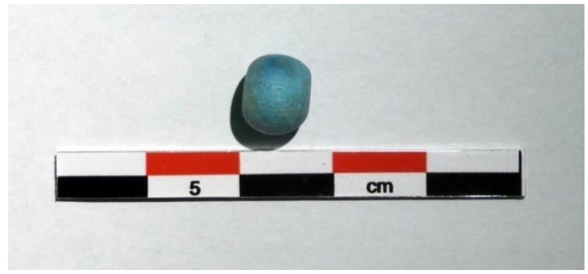

Figure Appendix 1:1.98. pXRF 0098

1.99

- pXRF Number: 0099
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: a2342/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

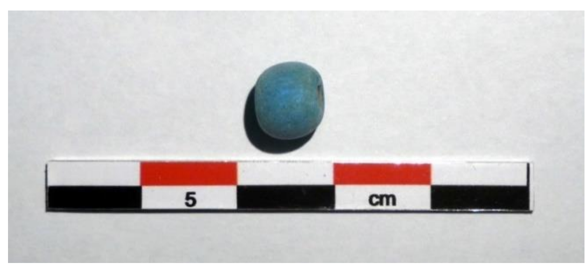

Figure Appendix 1:1.99. pXRF 0099

1.100

- pXRF Number: 0100
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: a2342/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

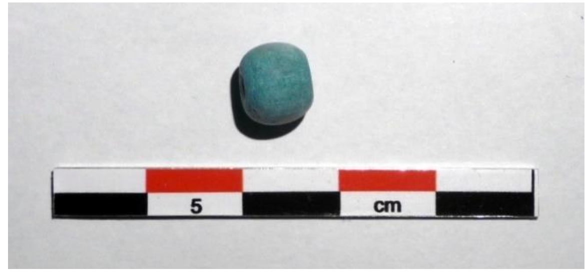

Figure Appendix 1:1.100. pXRF 0100

1.101

- pXRF Number: 0101
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: a2342/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

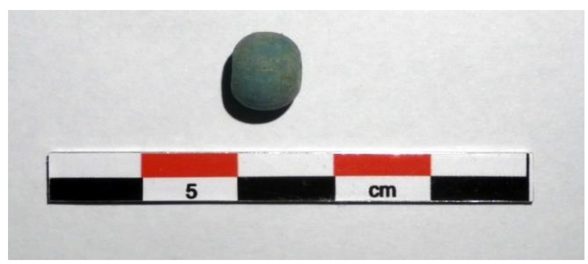

Figure Appendix 1:1.101. pXRF 0101

1.102

- pXRF Number: 0102
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: a2342/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
  - Sex: Unknown Paperwork Lost
  - Age: Unknown Paperwork Lost
  - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

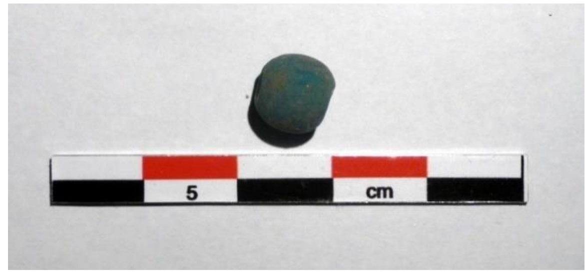

Figure Appendix 1:1.102. pXRF 0102

1.103

- pXRF Number: 0103
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: ARL 37466
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.103. pXRF 0103

1.104

- pXRF Number: 0104
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: ARL 37443
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

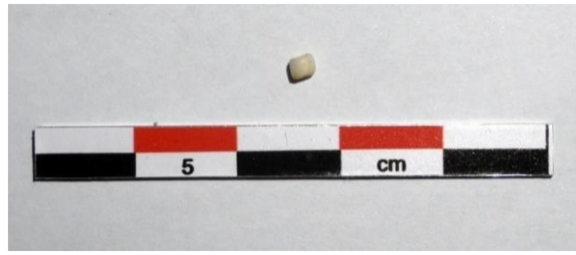

Figure Appendix 1:1.104. pXRF 0104

1.105

- pXRF Number: 0105
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Seed
- Artifact Number: ARL 37443
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

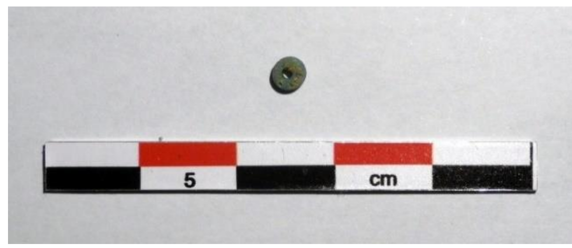

Figure Appendix 1:1.105. pXRF 0105

1.106

- pXRF Number: 0106
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Artifact Number: ARL 37465
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.106. pXRF 0106

1.107

- pXRF Number: 0107
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: ARL 37469
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Feature Type: Feature 115 23
- Elemental Group: Sb
- Date Range: N/A

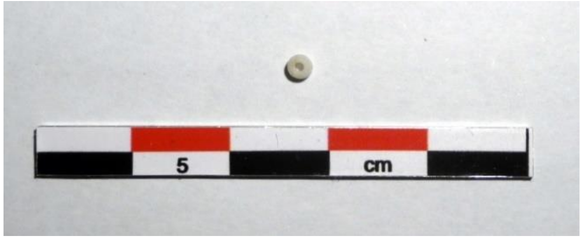

Figure Appendix 1:1.107. pXRF 0107

1.108

- pXRF Number: 0108
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: ARL 38BK202
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Feature Type: Feature 115, 23
- Elemental Group: Sb
- Date Range: N/A

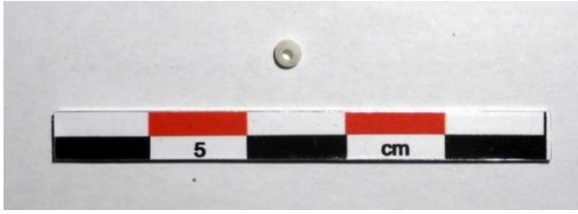

Figure Appendix 1:1.108. pXRF 0108

1.109

- pXRF Number: 0109
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: ARL 37587
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

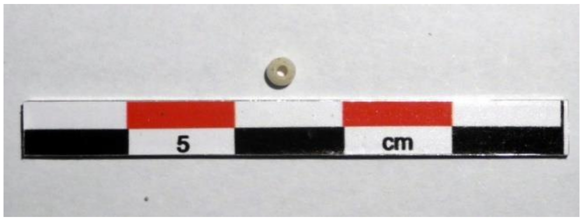

Figure Appendix 1:1.109. pXRF 0109

1.110

- pXRF Number: 0110
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: ARL 37587
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

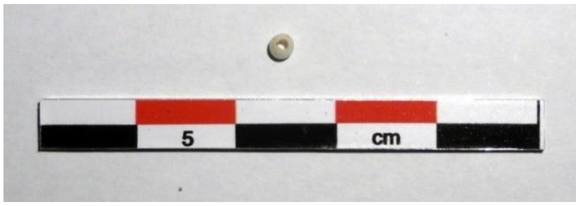

Figure Appendix 1:1.110. pXRF 0110

1.111

- pXRF Number: 0111
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: ARL 37470
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

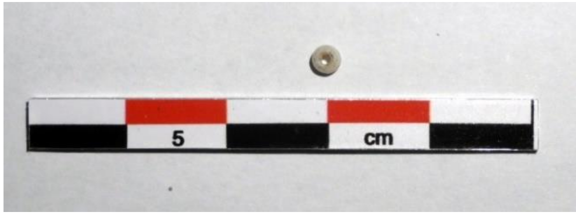

Figure Appendix 1:1.111. pXRF 0111

1.112

- pXRF Number: 0112
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: ARL 37470
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

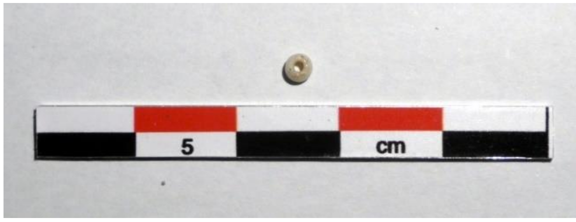

Figure Appendix 1:1.112. pXRF 0112

1.113

- pXRF Number: 0113
- Bead Description:
  - Color: Cobalt Blue, Translucent
  - Shape: Seed
- Artifact Number: ARL 37577
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: N/A
- Date Range: N/A

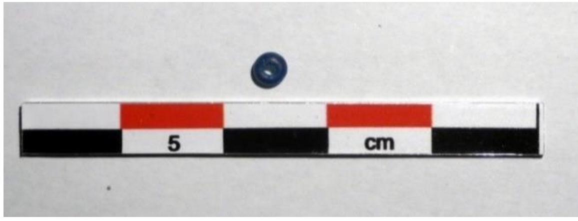

Figure Appendix 1:1.113. pXRF 0113

1.114

- pXRF Number: 0114
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: ARL 37577
- Site Number: 38BK202
- Site Name: Daniels Island
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

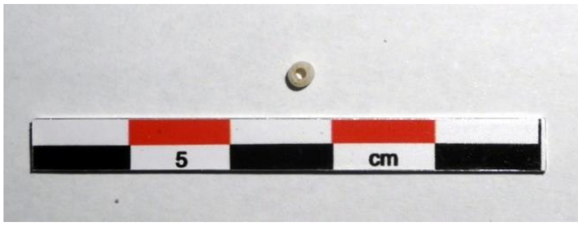

Figure Appendix 1:1.114. pXRF 0114

1.115

- pXRF Number: 0115
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: FS 84
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

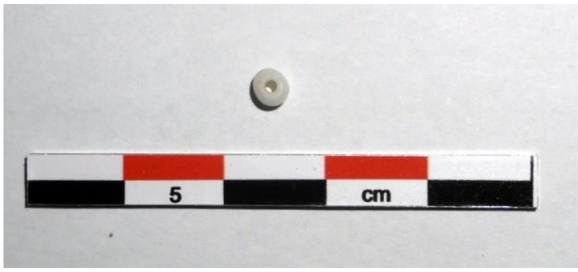

Figure Appendix 1:1.115. pXRF 0115

1.116

- pXRF Number: 0116
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Seed
- Artifact Number: FS 84
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: 8
- Date Range: Late 17th Century

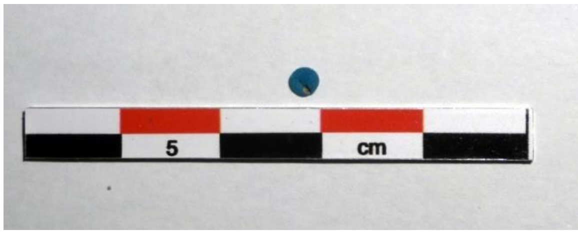

Figure Appendix 1:1.116. pXRF 0116

1.117

- pXRF Number: 0117
- Bead Description:
  - Color: Turquoise Blue, Translucent
  - Shape: Seed
- Artifact Number: FS 42
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Feature Type: Square N955 E950
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.117. pXRF 0117

1.118

- pXRF Number: 0118
- Bead Description:
  - Color: Turquoise Blue, Translucent
  - Shape: Seed
- Artifact Number: FS 42
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Feature Type: Square N955 E950
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

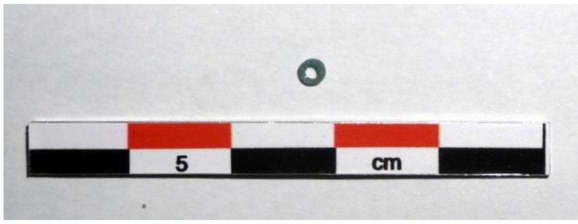

Figure Appendix 1:1.118. pXRF 0118

1.119

- pXRF Number: 0110
- Bead Description:
    - Color: Cobalt Blue, Translucent
    - Shape: Seed
- Artifact Number: FS 42
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Feature Type: Square N955 E950
- Elemental Group: N/A
- Date Range: N/A

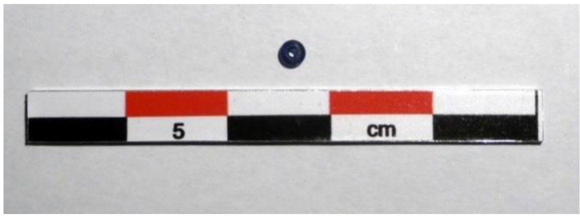

Figure Appendix 1:1.119. pXRF 0119

1.120

- pXRF Number: 0120
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: FS 114
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: 8
- Date Range: Late 17th Century

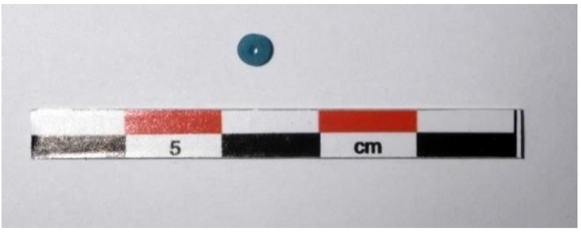

Figure Appendix 1:1.120. pXRF 0120

1.121

- pXRF Number: 0121
- Bead Description:
    - Color: Cobalt Blue, Opaque
    - Shape: Seed
- Artifact Number: FS 114
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: N/A
- Date Range: N/A

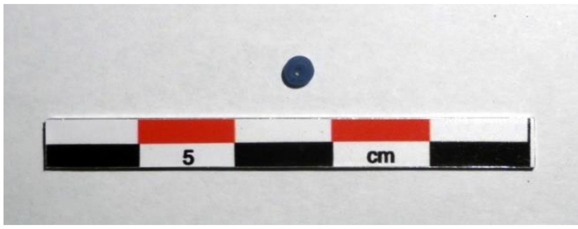

Figure Appendix 1:1.121. pXRF 0121

1.122

- pXRF Number: 0122
- Bead Description:
    - Color: Cobalt Blue, Opaque
    - Shape: Seed
- Artifact Number: FS 32
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: N/A
- Date Range: N/A

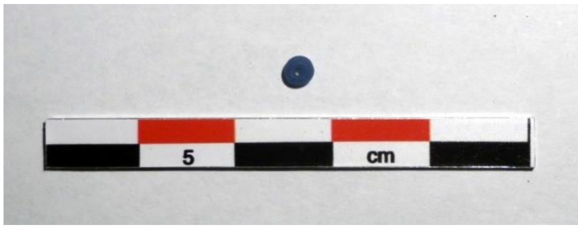

Figure Appendix 1:1.122. pXRF 0122

1.123

- pXRF Number: 0123
- Bead Description:
    - Color: Turquoise Blue, Translucent
    - Shape: Seed
- Artifact Number: FS 32
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: 8
- Date Range: Late 17th Century

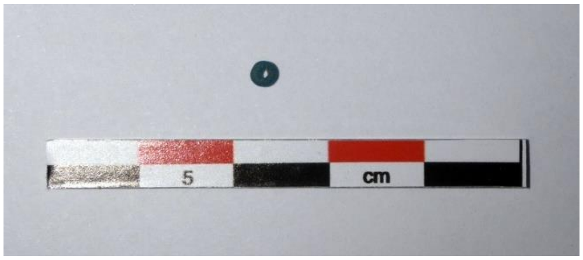

Figure Appendix 1:1.123. pXRF 0123

1.124

- pXRF Number: 0124
- Bead Description:
    - Color: Cobalt Blue, Translucent
    - Shape: Seed
- Artifact Number: FS 45
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: N/A
- Date Range: N/A

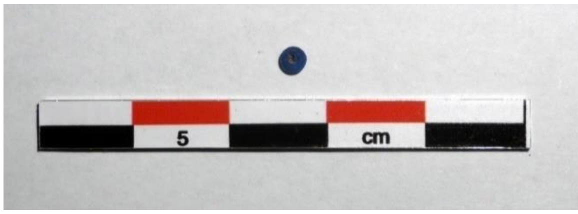

Figure Appendix 1:1.124. pXRF 0124

1.125

- pXRF Number: 0125
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: FS 45
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

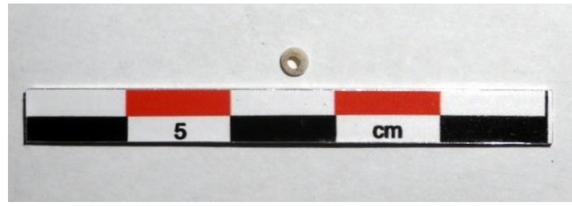

Figure Appendix 1:1.125. pXRF 0125

1.126

- pXRF Number: 0126
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Fragment
- Artifact Number: 211.1:3
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

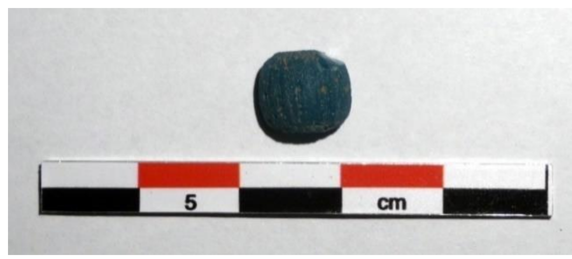

Figure Appendix 1:1.126. pXRF 0126

1.127

- pXRF Number: 0127
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: FS 118
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

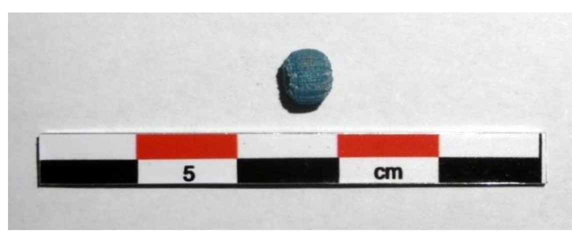

Figure Appendix 1:1.127. pXRF 0127

1.128

- pXRF Number: 0128
- Bead Description:
    - Color: White, Opaque
    - Shape: Fragment
- Artifact Number: FS 106
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

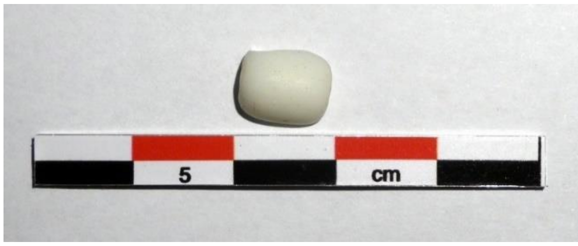

Figure Appendix 1:1.128. pXRF 0128

1.129

- pXRF Number: 0129
- Bead Description:
    - Color: White, Opaque
    - Shape: Fragment
- Artifact Number: FS 39
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.129. pXRF 0129

1.130

- pXRF Number: 0130
- Bead Description:
    - Color: White, Opaque
    - Shape: Fragment
- Artifact Number: FS 70
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.130. pXRF 0130

1.131

- pXRF Number: 0131
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: FS 8
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: 4
- Date Range: ca 1680 – Mid 18th Century

Figure Appendix 1:1.131. pXRF 0131

1.132

- pXRF Number: 0132
- Bead Description:
    - Color: Cobalt Blue, Opaque
    - Shape: Seed
- Artifact Number: FS 8
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: N/A
- Date Range: N/A

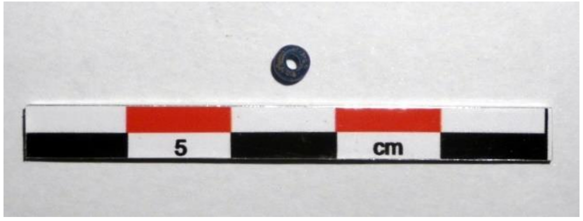

Figure Appendix 1:1.132. pXRF 0132

1.133

- pXRF Number: 0133
- Bead Description:
    - Color: Cobalt Blue, Translucent
    - Shape: Round
- Artifact Number: FS 4
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: N/A
- Date Range: N/A

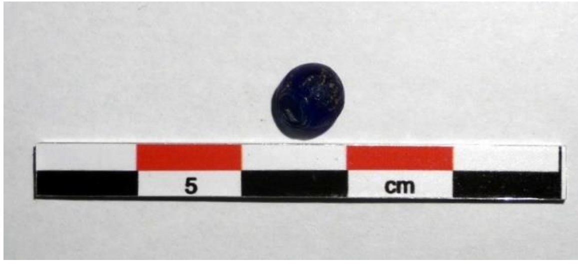

Figure Appendix 1:1.133. pXRF 0133

1.134

- pXRF Number: 0134
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: FS 4
- Site Number: 38DR83a
- Site Name: Lord Ashley Settlement Site
- State: South Carolina
- Elemental Group: 4
- Date Range: ca 1680 – 18th Century

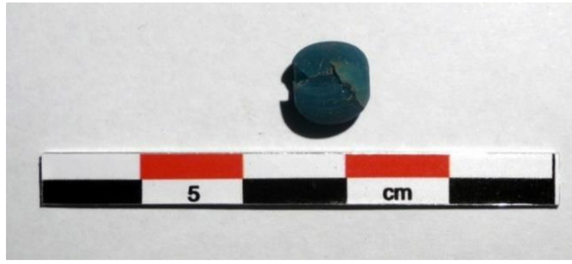

Figure Appendix 1:1.134. pXRF 0134

1.135

- pXRF Number: 0135
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: a2354/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

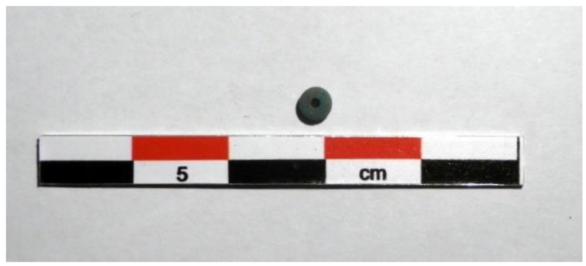

Figure Appendix 1:1.135. pXRF 0135

1.136

- pXRF Number: 0136
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: a2354/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
  - Sex: Unknown Paperwork Lost
  - Age: Unknown Paperwork Lost
  - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: Sn
- Date Range: N/A

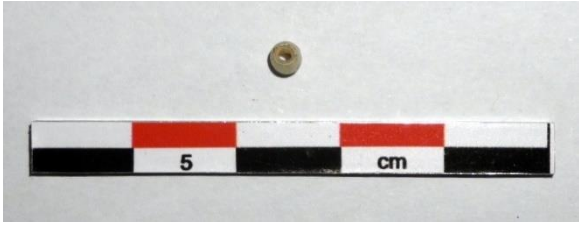

Figure Appendix 1:1.136. pXRF 0136

1.137

- pXRF Number: 0137
- Bead Description:
  - Color: Cobalt Blue, Translucent
  - Shape: Seed
- Artifact Number:
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (B-114)
  - Sex: Unknown Paperwork Lost
  - Age: Unknown Paperwork Lost
  - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: N/A
- Date Range: N/A

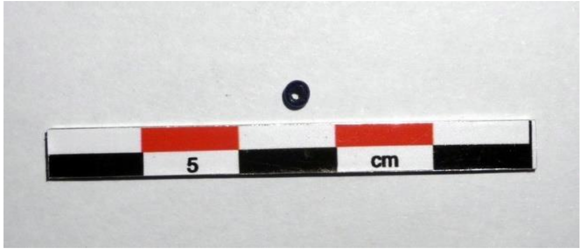

Figure Appendix 1:1.137. pXRF 0137

1.138

- pXRF Number: 0138
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number:
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 25, B-14)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

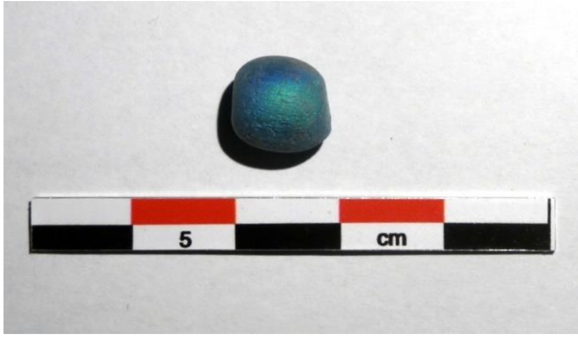

Figure Appendix 1:1.138. pXRF 0138

1.139

- pXRF Number: 0139
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number:
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 25, B-14)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

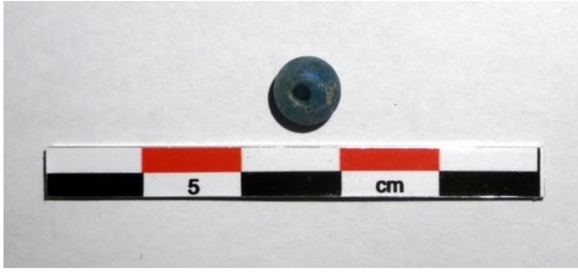

Figure Appendix 1:1.139. pXRF 0139

1.140

- pXRF Number: 0140
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: a2341/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

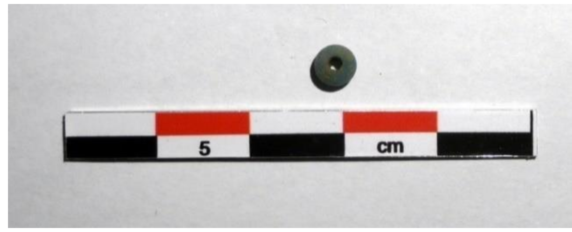

Figure Appendix 1:1.140. pXRF 0140

1.141

- pXRF Number: 0141
- Bead Description:
    - Color: Cobalt Blue, Opaque
    - Shape: Seed
- Artifact Number: a2341/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: N/A
- Date Range: N/A

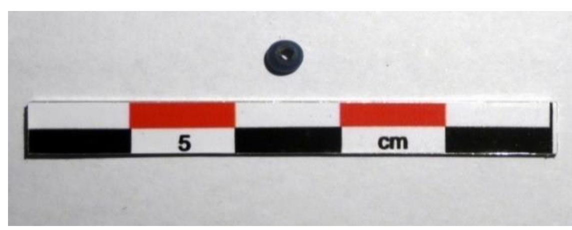

Figure Appendix 1:1.141. pXRF 0141

1.142

- pXRF Number: 0142
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: a2341/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
  - Sex: Unknown Paperwork Lost
  - Age: Unknown Paperwork Lost
  - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

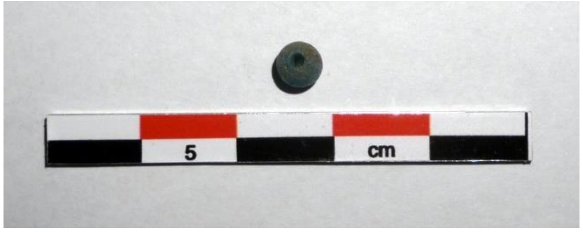

Figure Appendix 1:1.142. pXRF 0142

1.143

- pXRF Number: 0143
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number:
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
  - Sex: Unknown Paperwork Lost
  - Age: Unknown Paperwork Lost
  - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 - 1680

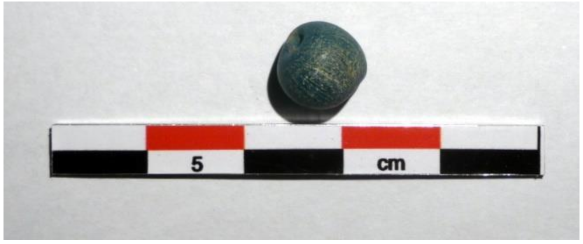

Figure Appendix 1:1.143. pXRF 0143

1.144

- pXRF Number: 0144
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: a2354/250
- Site Number: 40WG17
- Site Name: Plum Grove
- State: Tennessee
- Feature Type: Burial (Feature 49, B-33)
    - Sex: Unknown Paperwork Lost
    - Age: Unknown Paperwork Lost
    - Burial Position: Unknown Paperwork Lost
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

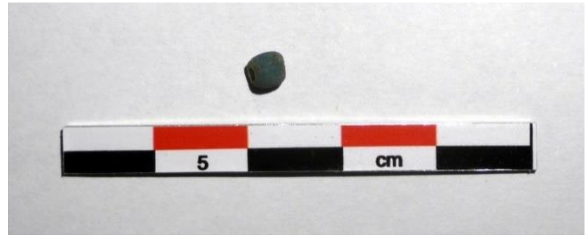

Figure Appendix 1:1.144. pXRF 0144

1.145

- pXRF Number: 0145
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Site Number: 8CO1
- Site Name: Fig Spring
- State: Florida
- Marvin Smith Collection Number: 1
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

Figure Appendix 1:1.145. pXRF 0145

1.146

- pXRF and LA-ICP-MS Number: 0146
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Site Number: 8CO1
- Site Name: Fig Spring
- State: Florida
- Marvin Smith Collection Number: 2
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.146. pXRF 0146

1.147

- pXRF Number: 0147
- Bead Description:
    - Color: Blue, Translucent
    - Shape: Round
- Site Number: 8CO1
- Site Name: Fig Spring
- State: Florida
- Marvin Smith Collection Number: 3
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

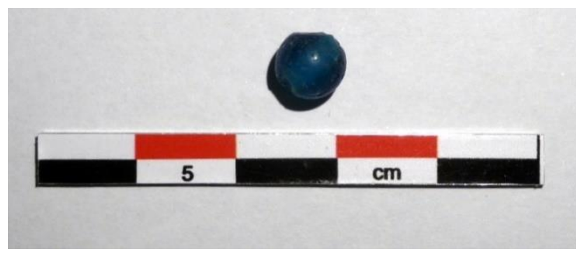

Figure Appendix 1:1.147. pXRF 0147

1.148

- pXRF Number: 0148
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Site Number: 9LI13
- Site Name: Wamassee Head
- State: Georgia
- Marvin Smith Collection Number: 6
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

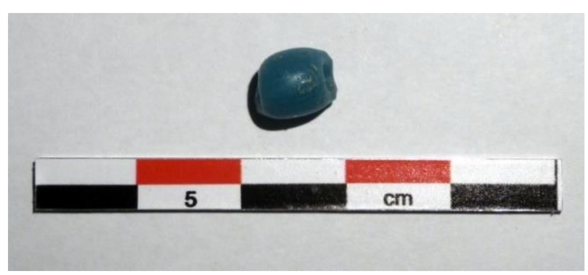

Figure Appendix 1:1.148. pXRF 0148

1.149

- pXRF Number: 0149
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Fragment
- Site Number: 9LI13
- Site Name: Wamassee Head
- State: Georgia
- Marvin Smith Collection Number: 7
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

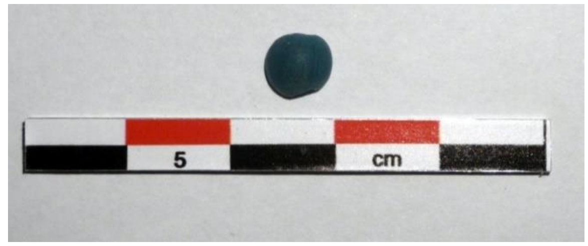

Figure Appendix 1:1.149. pXRF 0149

1.150

- pXRF and LA-ICP-MS Number: 0150
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Site Number: 8LE1
- Site Name: Mission San Luis de Talimali
- State: Florida
- Marvin Smith Collection Number: 9
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

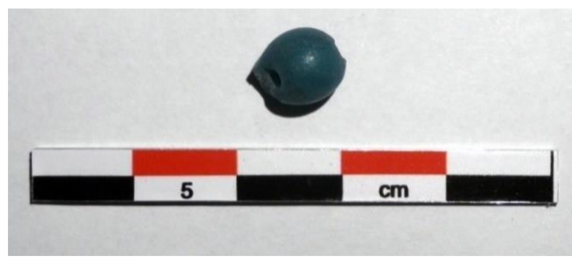

Figure Appendix 1:1.150. pXRF 0150

1.151

- pXRF and LA-ICP-MS Number: 0151
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Site Number: 8SU65
- Site Name: Baptizing Spring Site
- State: Florida
- Marvin Smith Collection Number: 10
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 8
- Date Range: late 17th Century

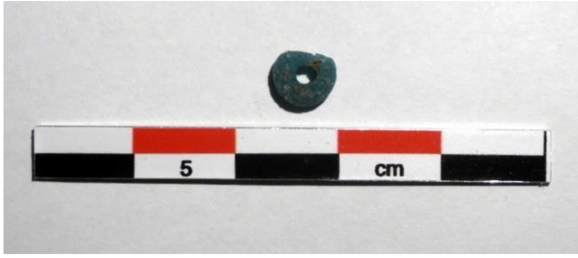

Figure Appendix 1:1.151. pXRF 0151

1.152

- pXRF and LA-ICP-MS Number: 0152
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Site Number: 8HQ4
- Site Name: Goodnow Mound
- State: Florida
- Marvin Smith Collection Number: 11
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

Figure Appendix 1:1.152. pXRF 0152

1.153

- pXRF and LA-ICP-MS Number: 0153
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Fragment
- Site Number: 16WF25
- Site Name: Trudeau Site
- State: Louisiana
- Marvin Smith Collection Number: 12
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 4
- Date Range: ca. 1680 – mid 18th Century

Figure Appendix 1:1.153. pXRF 0153

1.154

- pXRF and LA-ICP-MS Number: 0154
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Fragment
- Site Number: Scr 4-4, U.B. 787, New York State Museum #2471
- Site Name: Silverheels
- State: New York
- Marvin Smith Collection Number: 13
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

Figure Appendix 1:1.154. pXRF 0154

1.155

- pXRF Number: 0155
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Site Number: 36LA7/36LA9
- Site Name: Shultz-Funk
- State: Pennsylvania
- Marvin Smith Collection Number: 14
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

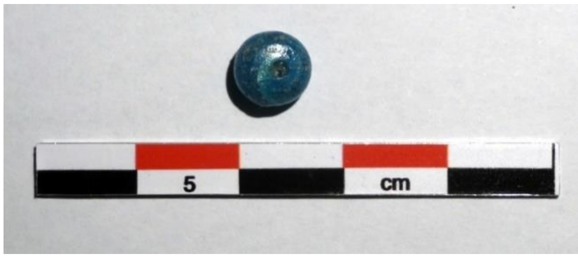

Figure Appendix 1:1.155. pXRF 0155

1.156

- pXRF and LA-ICP-MS Number: 0156
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Site Number: 36LA4
- Site Name: Kellar
- State: Pennsylvania
- Marvin Smith Collection Number: 15
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

Figure Appendix 1:1.156. pXRF 0156

1.157

- pXRF and LA-ICP-MS Number: 0157
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Site Number: 36LA3
- Site Name: Strickler
- State: Pennsylvania
- Marvin Smith Collection Number: 19
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

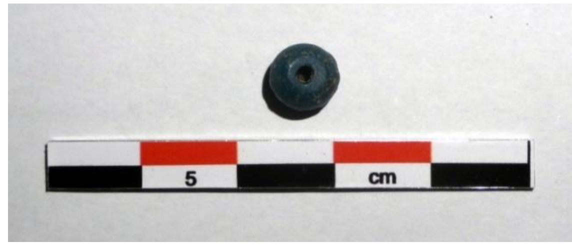

Figure Appendix 1:1.157. pXRF 0157

1.158

- pXRF and LA-ICP-MS Number: 0158
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Site Number: 36LA52
- Site Name: Conestoga Town
- State: Pennsylvania
- Marvin Smith Collection Number: 21
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

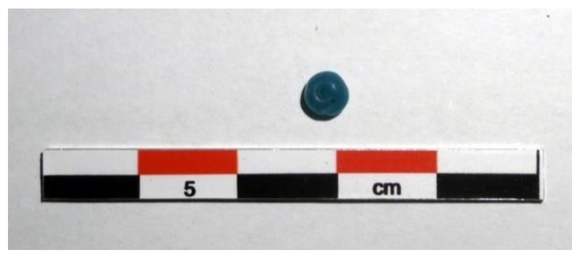

Figure Appendix 1:1.158. pXRF 0158

1.159

- pXRF and LA-ICP-MS Number: 0159
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Fragment
- Site Number: 1CE73
- Site Name: Bradford Ferry
- State: Alabama
- Marvin Smith Collection Number: 25
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

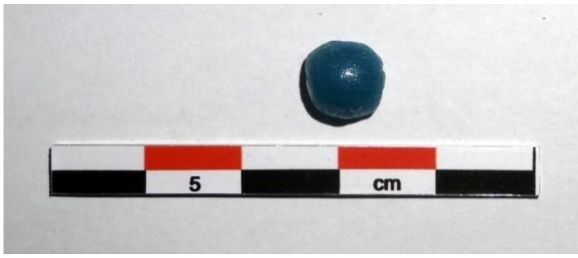

Figure Appendix 1:1.159. pXRF 0159

1.160

- pXRF and LA-ICP-MS Number: 0160
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Fragment
- Site Number: 1CE73
- Site Name: Bradford Ferry
- State: Alabama
- Marvin Smith Collection Number: 26
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

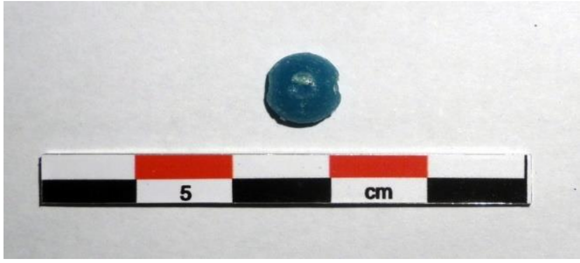

Figure Appendix 1:1.160. pXRF 0160

1.161

- pXRF and LA-ICP-MS Number: 0161
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Fragment
- Site Number: Unknown
- Site Name: Williams Island
- State: Tennessee
- Marvin Smith Collection Number: 28
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

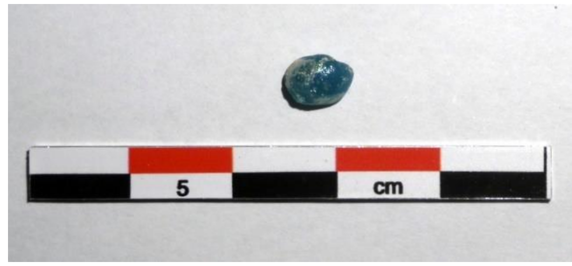

Figure Appendix 1:1.161. pXRF 0161

1.162

- pXRF and LA-ICP-MS Number: 0162
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Fragment
- Site Number: 44MY3
- Site Name: Trigg
- State: Virginia
- Marvin Smith Collection Number: 29
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

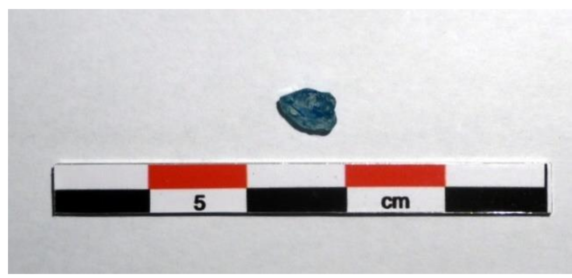

Figure Appendix 1:1.162. pXRF 0162

1.163

- pXRF and LA-ICP-MS Number: 0163
- Bead Description:
    - Color: Blue, Translucent
    - Shape: Fragment
- Site Number: 1CE308
- Site Name: Terrapin Creek (Polecat Ford)
- State: Alabama
- Marvin Smith Collection Number: 33
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

Figure Appendix 1:1.163. pXRF 0163

1.164

- pXRF Number: 0164
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Site Number: 9MG28
- Site Name: Joe Bell
- State: Georgia
- Marvin Smith Collection Number: 50
- Feature Type: Burial (B-3)
    - Sex: Unknown
    - Age: Unknown
    - Burial Position: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

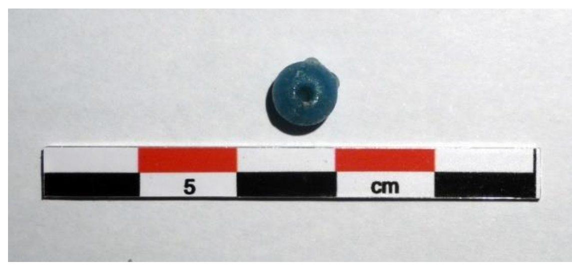

Figure Appendix 1:1.164. pXRF 0164

1.165

- pXRF and LA-ICP-MS Number: 0165
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Round
- Artifact Number: B138(2)
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 138
    - Sex: Male
    - Age: Adult
    - Burial Position: Partly Flexed
- Associated Artifacts: Trade beads and plain shell gorget
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

Figure Appendix 1:1.165. pXRF 0165

1.166

- pXRF Number: 0166
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B138(2)
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 138
    - Sex: Male
    - Age: Adult
    - Burial Position: Partly Flexed
- Associated Artifacts: Glass beads and plain shell gorget
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.166. pXRF 0166

1.167

- pXRF Number: 0167
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B138(2)
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 138
  - Sex: Male
  - Age: Adult
  - Burial Position: Partly Flexed
- Associated Artifacts: Glass Beads and plain shell gorget
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.167. pXRF 0167

1.168

- pXRF and LA-ICP-MS Number: 0168
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Seed
- Artifact Number: B26-3(2)
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 26
  - Sex: Male
  - Age: Juvenile
  - Burial Position: Partly Flexed
- Associated Artifacts: Brass beads, glass beads, iron knife, and flint perforator
- Elemental Group: 10
- Date Range: Late 18th Century

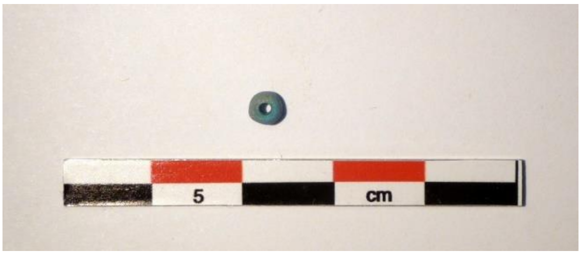

Figure Appendix 1:1.168. pXRF 0168

1.169

- pXRF and LA-ICP-MS Number: 0169
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Seed
- Artifact Number: B26-3(2)
- Site Number: 111BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 26
  - Sex: Male
  - Age: Juvenile
  - Burial Position: Partly Flexed
- Associated Artifacts: Brass beads, glass beads, iron knife, and flint perforator Elemental Group: 10
- Date Range: Late 18th Century

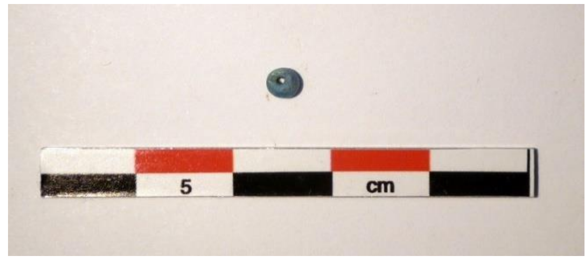

Figure Appendix 1:1.169. pXRF 0169

1.170

- pXRF and LA-ICP-MS Number: 0170
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B135
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 135
  - Sex: Not Recorded
  - Age: Not Recorded
  - Burial Position: Partly Flexed
- Associated Artifacts: Glass beads and yellow ochre
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.170. pXRF 0170

1.171

- pXRF Number: 0171
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B135
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 135
    - Sex: Not Recorded
    - Age: Not Recorded
    - Burial Position: Partly Flexed
- Associated Artifacts: Glass beads and yellow ochre
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.171. pXRF 0171

1.172

- pXRF and LA-ICP-MS Number: 0172
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Round
- Artifact Number: B135
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 135
    - Sex: Not Recorded
    - Age: Not Recorded
    - Burial Position: Partly Flexed
- Associated Artifacts: Glass beads and yellow ochre
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

Figure Appendix 1:1.172. pXRF 0172

1.173

- pXRF Number: 0173
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B39-1
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 39
  - Sex: Female
  - Age: Adult
  - Burial Position: Partly Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

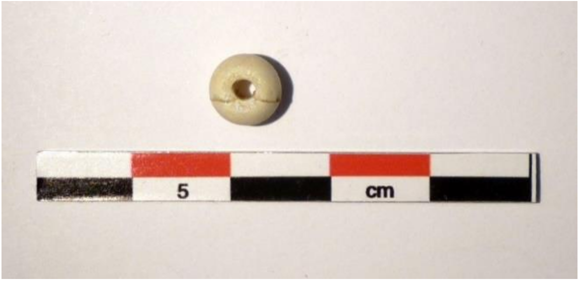

Figure Appendix 1:1.173. pXRF 0173

1.174

- pXRF Number: 0174
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B39-1
- Site Number: 11BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 39
  - Sex: Female
  - Age: Adult
  - Burial Position: Partly Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.174. pXRF 0174

1.175

- pXRF and LA-ICP-MS Number: 0175
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B13
- Site Number: 40BT7
- Site Name: Chilhowee
- State: Tennessee
- Feature Type: Burial 13
    - Sex: Not Recorded
    - Age: Not Recorded
    - Burial Position: Not Recorded
- Associated Artifacts: Glass Beads
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

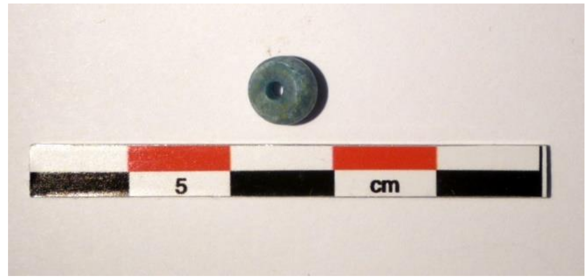

Figure Appendix 1:1.175. pXRF 0175

1.176

- pXRF and LA-ICP-MS Number: 0176
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B13
- Site Number: 40BT7
- Site Name: Chilhowee
- State: Tennessee
- Feature Type: Burial 13
    - Sex: Not Recorded
    - Age: Not Recorded
    - Burial Position: Not Recorded
- Associated Artifacts: Blass Beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

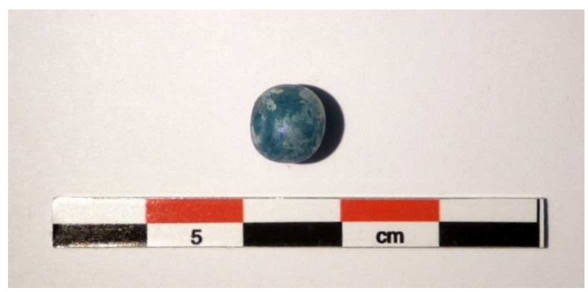

Figure Appendix 1:1.176. pXRF 0176

1.177

- pXRF and LA-ICP-MS Number: 0177
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Seed
- Artifact Number: B13
- Site Number: 40BT8
- Site Name: Tallassee
- State: Tennessee
- Feature Type: Burial 13
    - Sex: Indeterminate
    - Age: Adult
    - Burial Position: Partly Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 9
- Date Range: 17th Century?

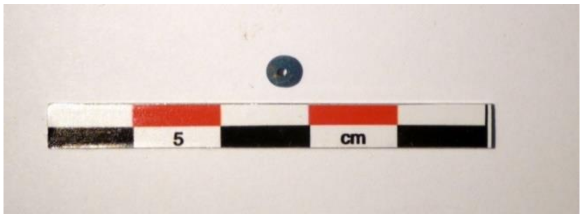

Figure Appendix 1:1.177. pXRF 0177

1.178

- pXRF Number: 0178
- Bead Description:
    - Color: Black, Opaque
    - Shape: Seed
- Artifact Number: B11
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 11
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Extended
- Associated Artifacts: Copper artifacts, glass beads, bronze artifacts, and shell beads
- Elemental Group: N/A
- Date Range: N/A

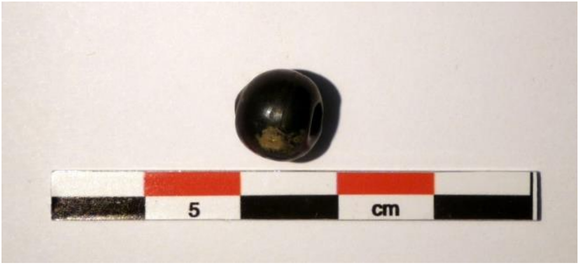

Figure Appendix 1:1.178. pXRF 0178

1.179

- pXRF and LA-ICP-MS Number: 0179
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: 836(1)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 21
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Copper artifacts, glass beads, and sherds
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

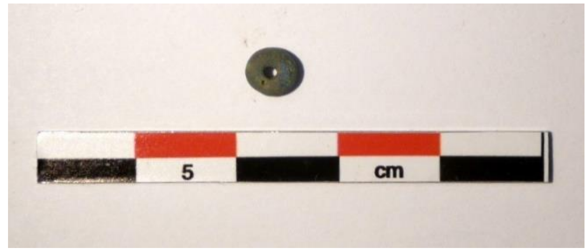

Figure Appendix 1:1.179. pXRF 0179

1.180

- pXRF Number: 0180
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: 1080
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 8
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Copper artifacts, glass beads, and shell
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.180. pXRF 0180

1.181

- pXRF Number: 0181
- Bead Description:
  - Color: Black, Opaque
  - Shape: Round
- Artifact Number: 638
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 11
  - Sex: Indeterminate
  - Age: Child
  - Burial Position: Extended
- Associated Artifacts: Copper artifacts, glass beads, bronze artifacts, and shell beads
- Elemental Group: N/A
- Date Range: N/A

Figure Appendix 1:1.181. pXRF 0181

1.182

- pXRF and LA-ICP-MS Number: 0182
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 426
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 4
  - Sex: Indeterminate
  - Age: Juvenile?
  - Burial Position: Fragmentary
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, and textiles
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

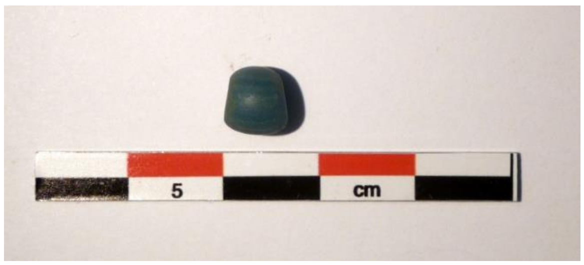

Figure Appendix 1:1.182. pXRF 0182

1.183

- pXRF Number: 0183
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: 426
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 4
  - Sex: Indeterminate
  - Age: Juvenile?
  - Burial Position: Fragmentary
- Associated Artifacts: Copper artifacts, glass beads, iron artifacts, and textiles
- Elemental Group: Sb
- Date Range: N/A

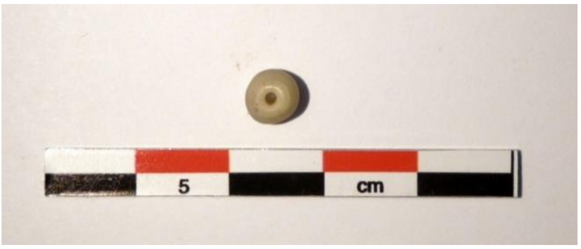

Figure Appendix 1:1.183. pXRF 0183

1.184

- pXRF Number: 0184
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 836(2)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 21
  - Sex: Indeterminate
  - Age: Child
  - Burial Position: Flexed
- Associated Artifacts: Copper artifacts, glass beads, and sherds
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.184. pXRF 0184

1.185

- pXRF and LA-ICP-MS Number: 0185
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Artifact Number: 836(2)
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 21
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Copper artifacts, glass beads, and sherds
- Elemental Group: 6
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.185. pXRF 0185

1.186

- pXRF and LA-ICP-MS Number: 0186
- Bead Description:
    - Color: Blue, Opaque
    - Shape: Round
- Artifact Number: B18
- Site Number: 85RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: Burial 18
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Extended
- Associated Artifacts: Shell beads, glass beads, and copper beads
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

Figure Appendix 1:1.186. pXRF 0186

1.187

- pXRF and LA-ICP-MS Number: 0187
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B3
- Site Number: 85VT1RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: Burial 3
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Extended
- Associated Artifacts: Glass Beads
- Associated Artifacts:
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

Figure Appendix 1:1.187. pXRF 0187

1.188

- pXRF and LA-ICP-MS Number: 0188
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B3
- Site Number: 85VT1RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: Burial 3
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Extended
- Associated Artifacts: Glass Beads
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

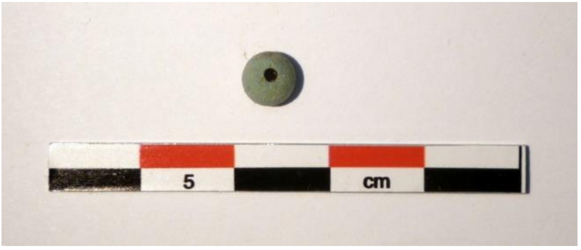

Figure Appendix 1:1.188. pXRF 0188

1.189

- pXRF Number:
- Bead Description: 0189
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B3
- Site Number: 85VT1RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: Burial 3
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Extended
- Associated Artifacts: Glass Beads
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

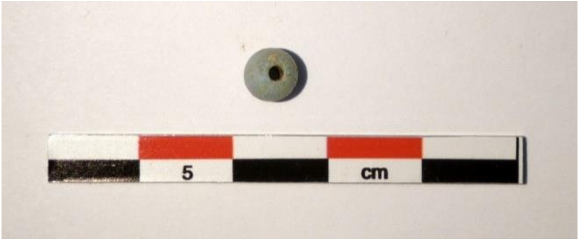

Figure Appendix 1:1.189. pXRF 0189

1.190

- pXRF and LA-ICP-MS Number: 0190
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B3
- Site Number: 85VT1RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: Burial 3
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Extended
- Associated Artifacts: Glass Beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

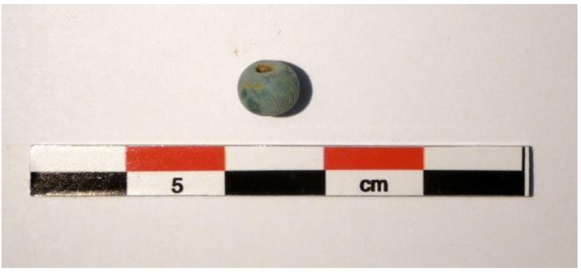

Figure Appendix 1:1.190. pXRF 0190

1.191

- pXRF and LA-ICP-MS Number: 0191
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Fragment
- Artifact Number: H1-38
- Site Number: 85VT1RH41
- Site Name: Upper Hampton Farm
- State: Tennessee
- Feature Type: House 1
- Elemental Group: 3
- Date Range: post ca. 1680/1700

Figure Appendix 1:1.191. pXRF 0191

1.192

- pXRF Number: 0192
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B-15(3)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 15
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Indeterminate
- Associated Artifacts: Glass Beads
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.192. pXRF 0192

1.193

- pXRF Number: 0193
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B-13(6)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 13
    - Sex: Indeterminate
    - Age: Indeterminate
    - Burial Position: Flexed
- Associated Artifacts: Shell ear pins, iron and brass "C" bracelets, and glass beads
- Elemental Group: 3
- Date Range: post ca. 1680/1700

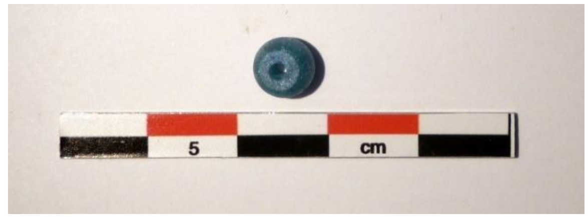

Figure Appendix 1:1.193. pXRF 0193

1.194

- pXRF Number: 0194
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B-13(6)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 13
    - Sex: Indeterminate
    - Age: Indeterminate
    - Burial Position: Flexed
- Associated Artifacts: Shell ear pins, iron and brass "C" bracelets, and glass beads
- Elemental Group: Sb
- Date Range: N/A

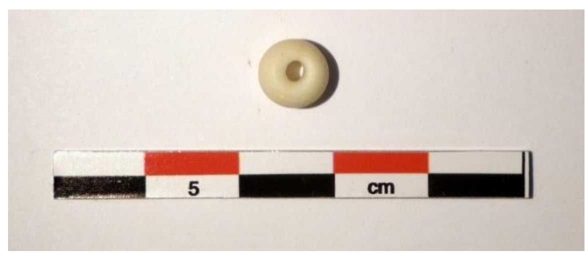

Figure Appendix 1:1.194. pXRF 0194

1.195

- pXRF Number: 0195
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: 1085
- Site Number: 2PK1
- Site Name: Ocoee
- State: Tennessee
- Feature Type: Burial 5
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Glass beads and sherds
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.195. pXRF 0195

1.196

- pXRF Number: 0196
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Artifact Number: B-66(9)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 66
    - Sex: Female
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Steatite pipe and glass beads
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

Figure Appendix 1:1.196. pXRF 0196

1.197

- pXRF Number: 0197
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B81(27)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 81
    - Sex: Indeterminate
    - Age: Indeterminate
    - Burial Position: Indeterminate
- Associated Artifacts: Glass Beads
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

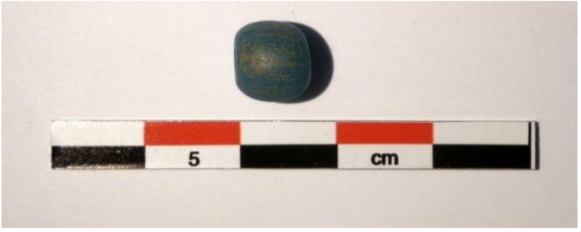

Figure Appendix 1:1.197. pXRF 0197

1.198

- pXRF Number: 0198
- Bead Description:
    - Color: White, Opaque
    - Shape: Fragment
- Artifact Number: B-6(8)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 6
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Projectile points, glass beads, brass button, iron knife, iron fragment, and vermillion.
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.198. pXRF 0198

1.199

- pXRF Number: 0199
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B-7(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 7
    - Sex: Female
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

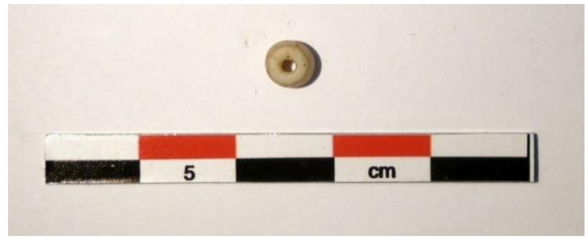

Figure Appendix 1:1.199. pXRF 0199

1.200

- pXRF Number:
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B42(18)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 42
    - Sex: Male
    - Age: Adult
    - Burial Position: Flexed
- Associated Artifacts: Shell beads, glass beads, brass "C" bracelets, brass buttons, and pewter button
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

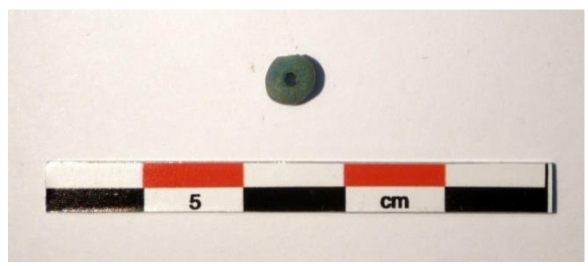

Figure Appendix 1:1.200. pXRF 0200

1.201

- pXRF Number: 0201
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B403(3)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 403
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

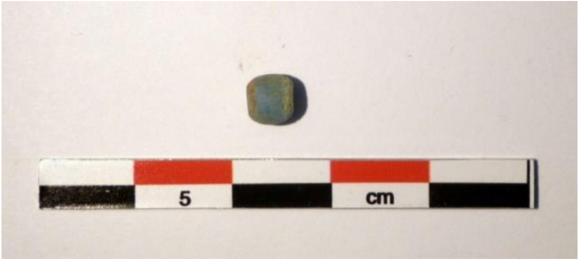

Figure Appendix 1:1.201. pXRF 0201

1.202

- pXRF Number: 0202
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B17(2)
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 17
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Shell beads and glass beads
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

Figure Appendix 1:1.202. pXRF 0202

1.203

- pXRF Number: 0203
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B383(6)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 383
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.203. pXRF 0203

1.204

- pXRF Number: 0204
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B-80(2)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 80
    - Sex: Indeterminate
    - Age: Child
    - Burial Position: Indeterminate
- Associated Artifacts: Glass beads and copper dangles
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

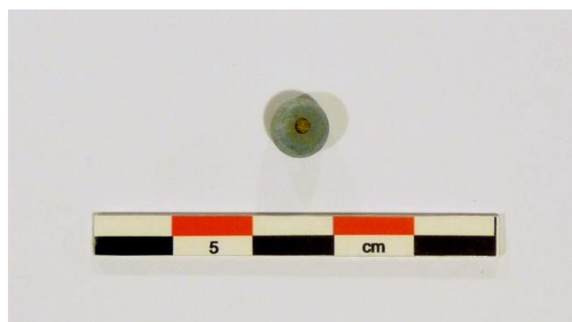

Figure Appendix 1:1.204. pXRF 0204

1.205

- pXRF Number: 0205
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B-80(2)
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Burial 80
  - Sex: Indeterminate
  - Age: Child
  - Burial Position: Indeterminate
- Associated Artifacts: Glass beads and copper dangles
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

Figure Appendix 1:1.205. pXRF 0205

1.206

- pXRF Number: 0206
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: 86
- Site Number: 4MN3
- Site Name: Mouse Creeks
- State: Tennessee
- Feature Type: Sq. 8L2
- Associated Artifacts: Sherds
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.206. pXRF 0206

1.207

- pXRF Number: 0207
- Bead Description:
    - Color: White, Opaque
    - Shape: Fragment
- Artifact Number: 86
- Site Number: 4MN3
- Site Name: Mouse Creeks
- State: Tennessee
- Feature Type: Sq. 8L2
- Associated Artifacts: Sherds
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.207. pXRF 0207

1.208

- pXRF Number: 0208
- Bead Description:
    - Color: Black, Opaque
    - Shape: Round
- Artifact Number: 319(11)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Elemental Group: N/A
- Date Range: N/A

Figure Appendix 1:1.208. pXRF 0208

1.209

- pXRF Number: 0209
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B-116(3)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 116
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

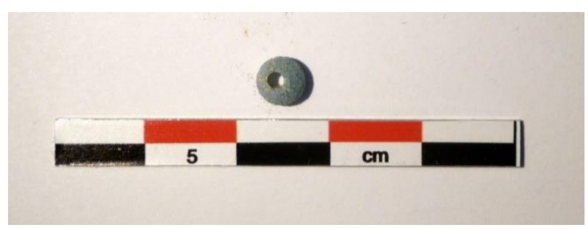

Figure Appendix 1:1.209. pXRF 0209

1.210

- pXRF Number: 0210
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B-116(3)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 116
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 9
- Date Range: 17^{th} Century?

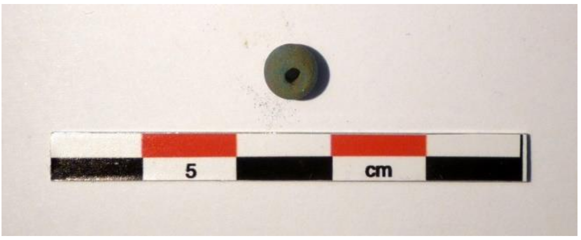

Figure Appendix 1:1.210. pXRF 0210

1.211

- pXRF Number: 0211
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B-116(3)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 116
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.211. pXRF 0211

1.212

- pXRF Number: 0212
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B-31
- Site Number: 40MR7
- Site Name: Tomotley
- State: Tennessee
- Feature Type: Burial 31
  - Sex: Indeterminate
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

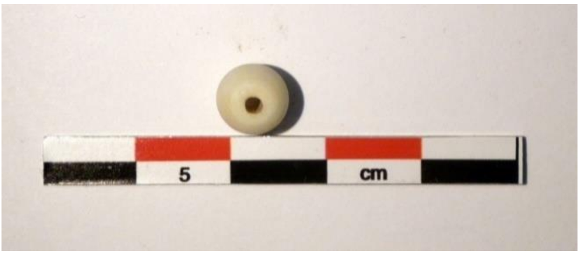

Figure Appendix 1:1.212. pXRF 0212

1.213

- pXRF Number: 0213
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B65
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 65
  - Sex: Female
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Steatite pipe and glass beads
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.213. pXRF 0213

1.214

- pXRF Number: 0214
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B38(1)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 38
  - Sex: Female
  - Age: Child
  - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 1B
- Date Range: ca. 1600 – 1640

Figure Appendix 1:1.214. pXRF 0214

1.215

- pXRF Number: 0215
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B-22(7)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 22
  - Sex: Male
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Shell bead, projectile points, steatite pipe, glass beads, clasp knife, brass button, and Strike-a-Light fragment
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.215. pXRF 0215

1.216

- pXRF Number: 0216
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: B-66(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 66
  - Sex: Female
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Steatite pipe and glass beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.216. pXRF 0216

1.217

- pXRF Number: 0217
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Oblong
- Artifact Number: B-19(2)
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 19
  - Sex: Female
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

Figure Appendix 1:1.217. pXRF 0217

1.218

- pXRF Number: 0218
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B-6(4)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 6
    - Sex: Indeterminate
    - Age: Infant
    - Burial Position: Flexed
- Associated Artifacts: Glass beads, iron tinklers, and brass tinklers
- Elemental Group: 7
- Date Range: 17th Century?

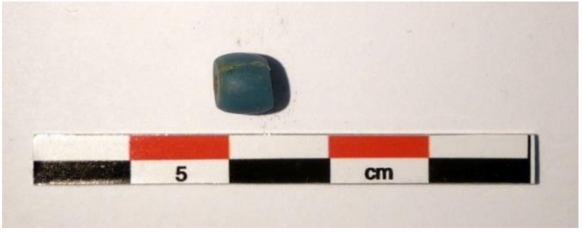

Figure Appendix 1:1.218. pXRF 0218

1.219

- pXRF Number: 0219
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: B38(5)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 38
    - Sex: Female
    - Age: Child
    - Burial Position: Flexed
- Associated Artifacts: Glass Beads
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.219. pXRF 0219

1.220

- pXRF Number: 0220
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B-6(7)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Flexed
- Associated Artifacts: Glass beads, iron tinklers, and brass tinklers
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.220. pXRF 0220

1.221

- pXRF Number: 0221
- Bead Description:
  - Color: Blue, Opaque
  - Shape: Round
- Artifact Number: B6
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 6
  - Sex: Male
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Glass beads, brass button, sheath knife, clasp knife, iron fragment, and vermillion
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.221. pXRF 0221

1.222

- pXRF Number: 0222
- Bead Description:
  - Color: Black, Opaque
  - Shape: Round
- Artifact Number: B21(1)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 21
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Indeterminate
- Associated Artifacts: Shell beads, glass beads, pewter buttons, a brass button, rumbler bells, and a small farm bell.
- Elemental Group: N/A
- Date Range: N/A

Figure Appendix 1:1.222. pXRF 0222

1.223

- pXRF Number: 0223
- Bead Description:
  - Color: Black, Opaque
  - Shape: Round
- Artifact Number: B21(1)
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Burial 21
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Indeterminate
- Associated Artifacts: Shell beads, glass beads, pewter buttons, a brass button, rumbler bells, and a small farm bell.
- Elemental Group: N/A
- Date Range: N/A

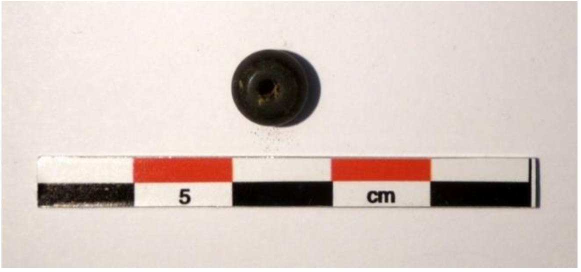

Figure Appendix 1:1.223. pXRF 0223

1.224

- pXRF Number: 0224
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Oblong
- Artifact Number: B-22
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Burial 22
  - Sex: Male
  - Age: Adult
  - Burial Position: Flexed
- Associated Artifacts: Shell bead, projectile points, steatite pipe, glass beads, clasp knife, brass button, and Strike-a-Light fragment
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.224. pXRF 0224

1.225

- pXRF Number: 0225
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: F8
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Feature 8 (Circular-Oval Pit)
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.225. pXRF 0225

1.226

- pXRF Number: 0226
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: F156
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Pit
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.226. pXRF 0226

1.227

- pXRF Number: 0227
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: F637
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Circular-Oval Pit
- Elemental Group: Sb
- Date Range: N/A

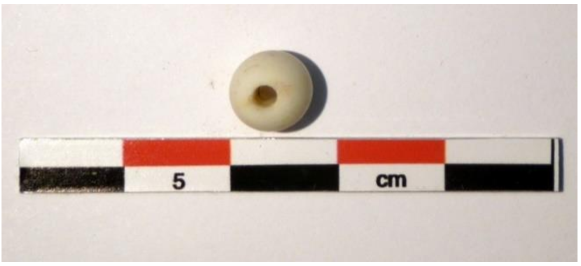

Figure Appendix 1:1.227. 0227

1.228

- pXRF Number: 0228
- Bead Description:
  - Color: White, Opaque
  - Shape: Round
- Artifact Number: F23
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Pit
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.228. pXRF 0228

1.229

- pXRF and LA-ICP-MS Number: 0229
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: F169
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Pit
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.229. pXRF 0229

1.230

- pXRF Number: 0230
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: F72
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Pit with Posts
- Elemental Group: Sb
- Date Range: N/A

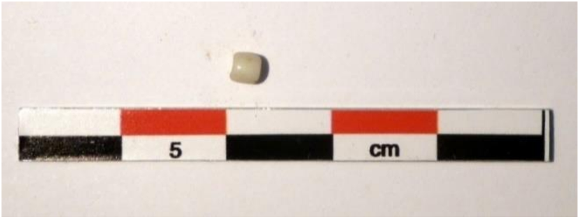

Figure Appendix 1:1.230. pXRF 0230

1.231

- pXRF Number: 0231
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: F101
- Site Number: 40MR1
- Site Name: Fort Loudoun
- State: Tennessee
- Feature Type: Pit
- Associated Artifacts: Animal bones, lithics, daub, nails, glass beads, and kaolin pipe
- Elemental Group: Sb
- Date Range: N/A

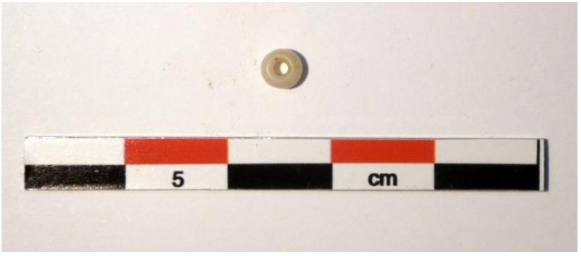

Figure Appendix 1:1.231. pXRF 0231

1.232

- pXRF and LA-ICP-MS Number: 0232
- Bead Description:
    - Color: Turquoise Blue, Translucent
    - Shape: Seed
- Artifact Number: F75
- Site Number: 40PK3
- Site Name: Hiwassee Old Town
- State: Tennessee
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

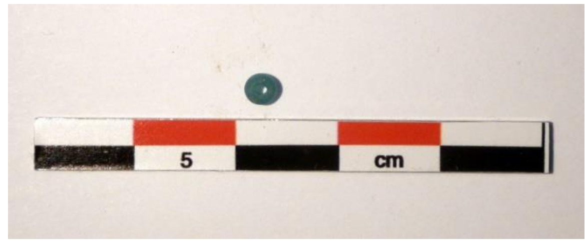

Figure Appendix 1:1.232. pXRF 0232

1.233

- pXRF and LA-ICP-MS Number: 0233
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: F680
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Pit
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.233. pXRF 0233

1.234

- pXRF and LA-ICP-MS Number: 0234
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: F661
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Basin Pit
- Elemental Group: 3
- Date Range: Post ca. 1680/1700

Figure Appendix 1:1.234. pXRF 0234

1.235

- pXRF Number: 0235
- Bead Description:
  - Color: White, Opaque
  - Shape: Oblong
- Artifact Number: F112
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Circular Pit
- Associated Artifacts: Shell, animal bone, metal, glass beads, and daub
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.235. pXRF 0235

1.236

- pXRF Number: 0236
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: F262
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Circular Pit
- Associated Artifacts: Gun flint, sherds, glass beads, nails, tinklers, brass wire, and animal bone
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.236. pXRF 0236

1.237

- pXRF and LA-ICP-MS Number: 0237
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: F806
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Circular Filed Area
- Associated Artifacts: Sherds, glass beads, animal bone, and antler
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.237. pXRF 0237

1.238

- pXRF and LA-ICP-MS Number: 0238
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Oblong
- Artifact Number: F89
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Circular-Oval Pit
- Elemental Group: 5
- Date Range: Mid to Late 18th Century

Figure Appendix 1:1.238. pXRF 0238

1.239

- pXRF Number: 0239
- Bead Description:
    - Color: White, Opaque
    - Shape: Seed
- Artifact Number: F75
- Site Number: 40PK3
- Site Name: Hiwassee Old Town
- State: Tennessee
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.239. pXRF 0239

1.240

- pXRF Number: 0240
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: F159-A
- Site Number: 40MR1
- Site Name: Fort Loudoun
- State: Tennessee
- Feature Type: Pit
- Associated Artifacts: Bottle glass, mirror, chert, European ceramics, and nails
- Elemental Group: Sb
- Date Range: N/A

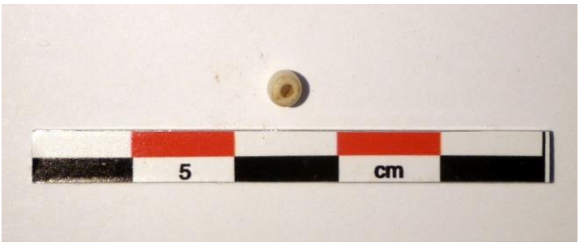

Figure Appendix 1:1.240. pXRF 0240

1.241

- pXRF Number: 0241
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: B403(2)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 403
  - Sex: Data Missing
  - Age: Data Missing
  - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

Figure Appendix 1:1.241. pXRF 0241

1.242

- pXRF Number: 0242
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B403(2)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 403
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 7
- Date Range: 17th Century?

Figure Appendix 1:1.242. pXRF 0242

1.243

- pXRF Number: 0243
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B403(2)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 403
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 7
- Date Range: 17th Century?

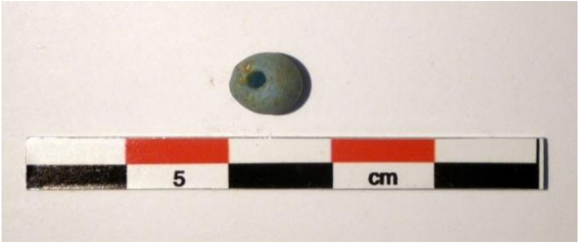

Figure Appendix 1:1.243. pXRF 0243

1.244

- pXRF Number: 0244
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: B403(2)
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Feature Type: Burial 403
    - Sex: Data Missing
    - Age: Data Missing
    - Burial Position: Data Missing
- Associated Artifacts: Data Missing
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

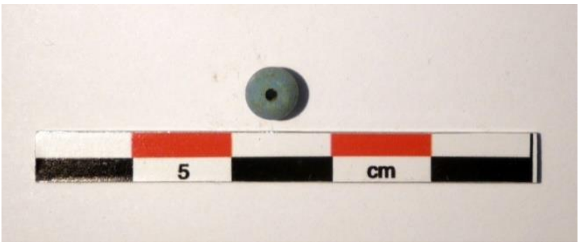

Figure Appendix 1:1.244. pXRF 0244

1.245

- pXRF Number: 0245
- Bead Description:
    - Color: Blue, Translucent
    - Shape: Fragment
- Artifact Number: 107S72E
- Site Number: 40GN9
- Site Name: N/A
- State: Tennessee
- Feature Type: Unknown
- Associated Artifacts: Unknown
- Elemental Group: 1C
- Date Range: ca. 1640 – 1680

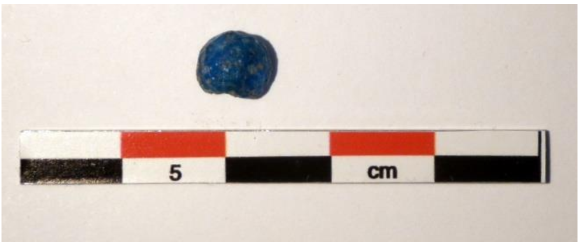

Figure Appendix 1:1.245. pXRF 0245

1.246

- pXRF and LA-ICP-MS Number: 0246
- Bead Description:
    - Color: Turquoise Blue, Opaque
    - Shape: Round
- Artifact Number: F673
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Basin
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

Figure Appendix 1:1.246. pXRF 0246

1.247

- pXRF Number: 0247
- Bead Description:
    - Color: White, Opaque
    - Shape: Round
- Artifact Number: F531
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Pit
- Elemental Group: Sb
- Date Range: N/A

Figure Appendix 1:1.247. pXRF 0247

1.248

- pXRF Number: 0248
- Bead Description:
    - Color: White, Opaque
    - Shape: Oblong
- Artifact Number: F261
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Feature Type: Basin Pit
- Associated Artifacts: Sherds, glass beads, and metal bucket
- Elemental Group: Other
- Date Range: N/A

Figure Appendix 1:1.248. pXRF 0248

1.249

- pXRF and LA-ICP-MS Number: 0249
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: F479
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Feature Type: Pit
- Elemental Group: 2
- Date Range: ca. 1590 – 1630

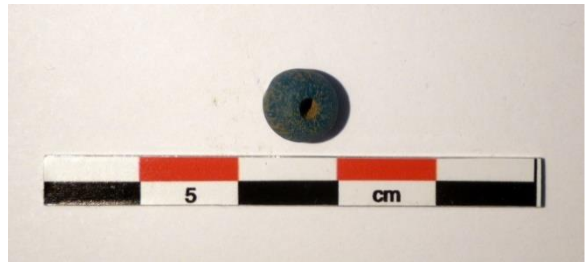

Figure Appendix 1:1.249. pXRF 0249

1.250

- pXRF Number: 0250
- Bead Description:
  - Color: Blue, Opaque
  - Shape: Round
- Artifact Number: 14(2)
- Site Number: 38MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Feature Type: Burial 1
  - Sex: Indeterminate
  - Age: Infant
  - Burial Position: Partly Flexed
- Associated Artifacts: Glass beads and shell beads
- Elemental Group: 4
- Date Range: ca. 1680 – Mid 18th Century

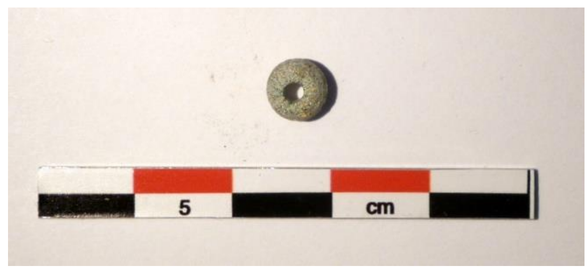

Figure Appendix 1:1.250. pXRF 0250

1.251

- LA-ICP-MS Number: 0251
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: 252
- Site Number: 40WG143
- Site Name: Cane Notch
- State: Tennessee
- Feature Type: Surface Collection
- Associated Artifacts: N/A
- Elemental Group: 1A
- Date Range: ca. 1570 – 1630

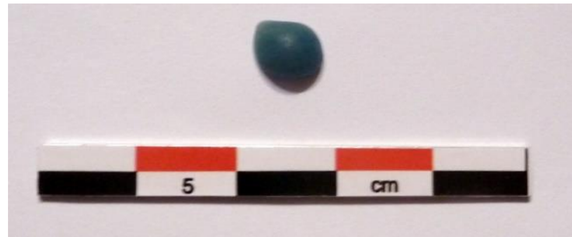

Figure Appendix 1:1.251. LA-ICP-MS 0251

1.252

- LA-ICP-MS Number: 0252
- Bead Description:
  - Color: White, Opaque
  - Shape: Seed
- Artifact Number: 251
- Site Number: 40WG143
- Site Name: Cane Notch
- State: Tennessee
- Feature Type: Surface Collection
- Associated Artifacts: N/A
- Elemental Group: Sn
- Date Range: N/A

Figure Appendix 1:1.252. LA-ICP-MS 0252

1.253

- LA-ICP-MS Number: 0253
- Bead Description:
  - Color: Turquoise Blue, Opaque
  - Shape: Round
- Artifact Number: N/A
- Site Number: 40WG143
- Site Name: Cane Notch
- State: Tennessee
- Feature Type: Surface Collection
- Associated Artifacts:
- Elemental Group: N/A
- Date Range: N/A

Figure Appendix 1:1.253. LA-ICP-MS 0253

Section 2: LA-ICP-MS Field Museum Analysis

Analysis of the LA-ICP-MS sample is still ongoing. For now, only basic elemental notes are presented here. Future publications will further define the temporal patterns of these glass beads. Elemental notes are based on the sites together.

2.1

- LA-ICP-MS Number: FM1
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Round
- Artifact Number: 1985(5)
- Site Number: Barnes Accession 41
- Site Name: Tellico Plains
- State: Tennessee
- Elemental Notes: low Pb-Sn

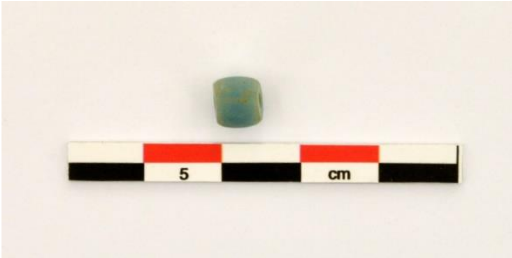

Figure Appendix 1:2.1. LA-ICP-MS FM1

2.2

- LA-ICP-MS Number: FM2
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Seed
- Artifact Number: F148
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Elemental Notes: Antimony/Arsenic?

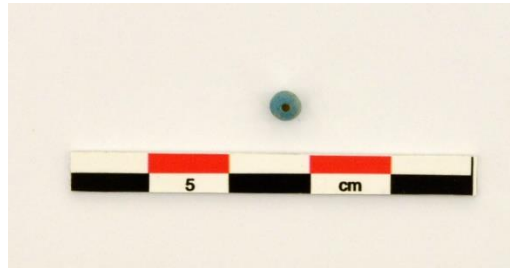

Figure Appendix 1:2.2. LA-ICP-MS FM2

2.3

- LA-ICP-MS Number: FM3
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Round
- Artifact Number: F214
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Elemental Notes: Antimony/Arsenic?

Figure Appendix 1:2.3. LA-ICP-MS FM3

2.4

- LA-ICP-MS Number: FM4
- Bead Description:
  - Color: Robin's Egg Blue, opaque
  - Shape: Round
- Artifact Number: 972/41
- Site Number: Barnes Collection Accession 41
- Site Name: Ft. Loudoun
- State: Tennessee
- Elemental Notes: low Pb-Sn

Figure Appendix 1:2.4. LA-ICP-MS FM4

2.5

- LA-ICP-MS Number: FM5
- Bead Description:
    - Color: Robin's Egg Blue, Opaque
    - Shape: Oval
- Artifact Number: 1401/41
- Site Number: Barnes Collection Accession 41
- Site Name: Abel Farm
- State: Tennessee
- Elemental Notes: Antimony

Figure Appendix 1:2.5. LA-ICP-MS FM5

2.6

- LA-ICP-MS Number: FM6
- Bead Description:
    - Color: Robin's Egg Blue, opaque
    - Shape: Seed
- Artifact Number: 671C
- Site Number: 40MR50
- Site Name: Tellico Block House
- State: Tennessee
- Date Range: 1794-1807

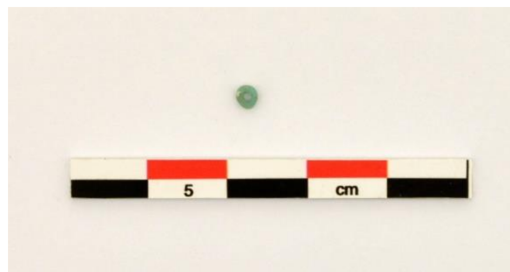

Figure Appendix 1:2.6. LA-ICP-MS FM6

2.7

- LA-ICP-MS Number: FM7
- Bead Description:
    - Color: Robin's Egg Blue, opaque
    - Shape: Round
- Artifact Number: 59
- Site Number: 37MG31
- Site Name: Hiwassee Island
- State: Tennessee
- Elemental Notes: Opacified with antimony
- Date Range: Early 18th Century

Figure Appendix 1:2.7. LA-ICP-MS FM7

2.8

- LA-ICP-MS Number: FM8
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Round
- Artifact Number: F38
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Elemental Notes: 1 Pb-Sn, 2 antimony

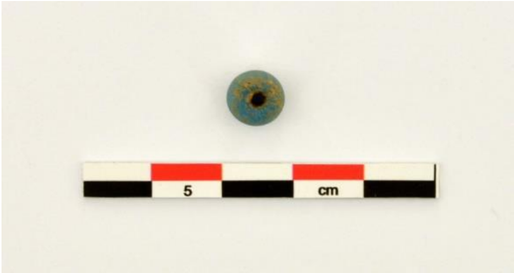

Figure Appendix 1:2.8. LA-ICP-MS FM8

2.9

- LA-ICP-MS Number: FM9
- Bead Description:
  - Color: Robin's Egg Blue, opaque
  - Shape: Oval
- Artifact Number: F276
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Elemental Notes: 1 Pb-Sn, 2 antimony

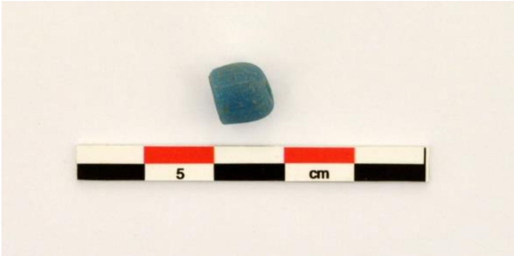

Figure Appendix 1:2.9. LA-ICP-MS FM9

2.10

- LA-ICP-MS Number: FM10
- Bead Description:
  - Color: Robin's Egg Blue, opaque
  - Shape: Round
- Artifact Number: 1544
- Site Number: 2RE12
- Site Name: DeArmond
- State: Tennessee
- Elemental Notes: low Pb-Sn
- Date Range: 17th Century

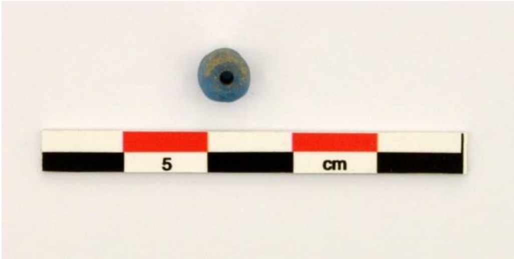

Figure Appendix 1:2.10. LA-ICP-MS FM10

2.11

- LA-ICP-MS Number: FM11
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Round
- Artifact Number: F183
- Site Number: 40MR62
- Site Name: Tanasee
- State: Tennessee
- Feature Type: Postmold of Townhouse 1
- Elemental Notes: 1 Pb-Sn, 2 antimony

Figure Appendix 1:2.11. LA-ICP-MS FM11

2.12

- LA-ICP-MS Number: FM12
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Round
- Artifact Number: F173
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Elemental Notes: 1 lead-antimony, 1 antimony, 1 arsenic

Figure Appendix 1:2.12. LA-ICP-MS FM12

2.13

- LA-ICP-MS Number: FM13
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Seed
- Artifact Number: F223
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Elemental Notes: 1 lead-antimony, 1 antimony, 1 arsenic

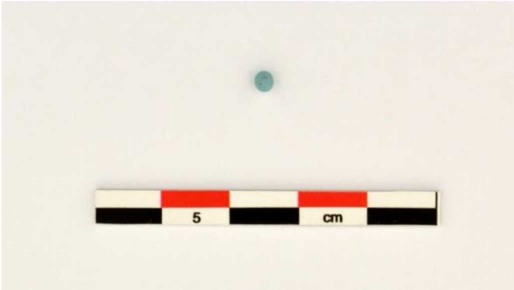

Figure Appendix 1:2.13. LA-ICP-MS FM13

2.14

- LA-ICP-MS Number: FM14
- Bead Description:
    - Color: Robin’s Egg Blue, Opaque
    - Shape: Round
- Artifact Number: F262
- Site Number: 40MR7
- Site Name: Citico
- State: Tennessee
- Elemental Notes: 1 lead-antimony, 1 antimony, 1 arsenic

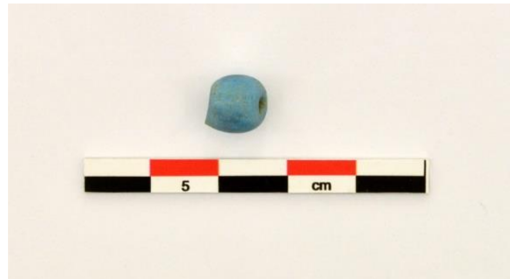

Figure Appendix 1:2.14. LA-ICP-MS FM14

2.15

- LA-ICP-MS Number: FM15
- Bead Description:
    - Color: Robin’s Egg Blue, Opaque
    - Shape: Seed
- Artifact Number: F374
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Elemental Notes: 1 antimony, 1 arsenic (low) 1750-1776

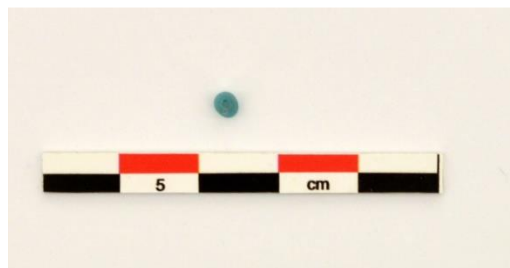

Figure Appendix 1:2.15. LA-ICP-MS FM15

2.16

- LA-ICP-MS Number: FM16
- Bead Description:
    - Color: Robin’s Egg Blue, Opaque
    - Shape: Seed
- Artifact Number: F295
- Site Number: 40MR5
- Site Name: Tomotley
- State: Tennessee
- Elemental Notes: 1 antimony, 1 arsenic (low) 1750-1776

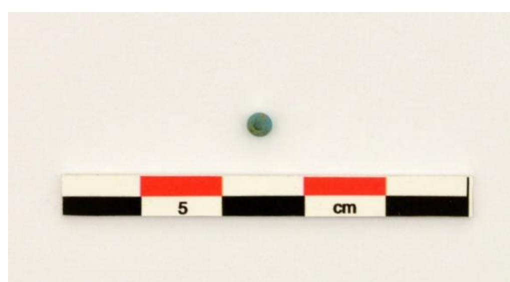

Figure Appendix 1:2.16. LA-ICP-MS FM16

2.17

- LA-ICP-MS Number: FM17
- Bead Description:
    - Color: Robin’s Egg Blue, Opaque
    - Shape: Circular
- Artifact Number: F3
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Elemental Notes: 1 lead-tin, 1 arsenic

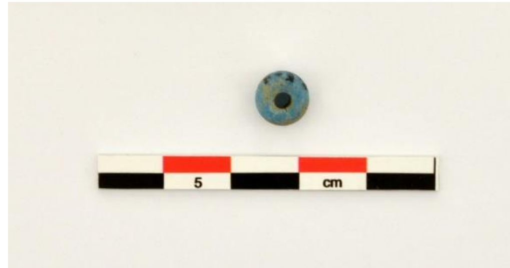

Figure Appendix 1:2.17. LA-ICP-MS FM17

2.18

- LA-ICP-MS Number: FM18
- Bead Description:
    - Color: Robin’s Egg Blue, Opaque
    - Shape: Round
- Artifact Number: F667
- Site Number: 40MR6
- Site Name: Toqua
- State: Tennessee
- Elemental Notes: 1 lead-tin, 1 arsenic

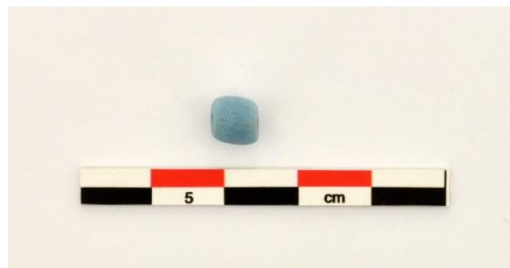

Figure Appendix 1:2.18. LA-ICP-MS FM18

2.19

- LA-ICP-MS Number: FM19
- Bead Description:
    - Color: Robin’s Egg Blue, Opaque
    - Shape: Seed
- Artifact Number: F23
- Site Number: 40MR2
- Site Name: Chota
- State: Tennessee
- Elemental Notes: Antimony/Arsenic?

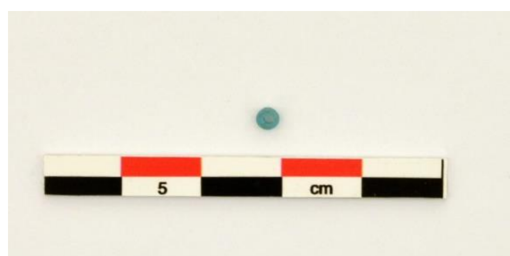

Figure Appendix 1:2.19. LA-ICP-MS FM19

2.20

- LA-ICP-MS Number: FM20
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Round
- Artifact Number: 1969
- Site Number: 2RE12
- Site Name: DeArmond
- State: Tennessee
- Elemental Notes: low Pb-Sn
- Date Range: 17th Century

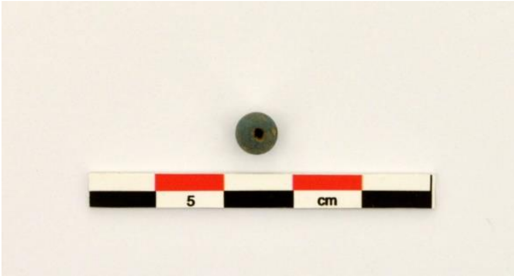

Figure Appendix 1:2.20. LA-ICP-MS FM20

2.21

- LA-ICP-MS Number: FM21
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Circular
- Artifact Number: 037-1817/1, F69
- Site Number: 31BK22
- Site Name: Berry
- State: North Carolina
- Date Range:17th Century possibly 16th Century

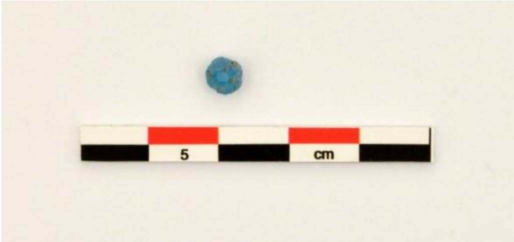

Figure Appendix 1:2.21. LA-ICP-MS FM21

2.22

- LA-ICP-MS Number: FM22
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Seed
- Artifact Number: 2317a1161
- Site Number: 31SK1a
- Site Name: Upper Saratown
- State: North Carolina
- Elemental Notes: Arsenic Rich

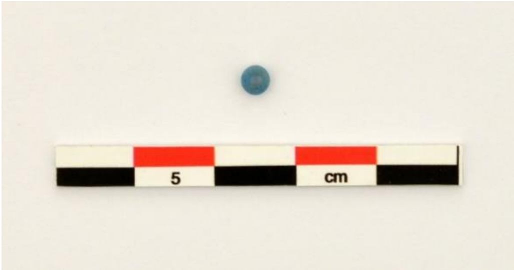

Figure Appendix 1:2.22. LA-ICP-MS FM22

2.23

- LA-ICP-MS Number: FM23
- Bead Description:
    - Color: Cerulean Blue, Semi-translucent
    - Shape: Round
- Artifact Number: 048-1966, F103
- Site Number: 31BK22
- Site Name: Berry
- State: North Carolina
- Elemental Notes: Indeterminate

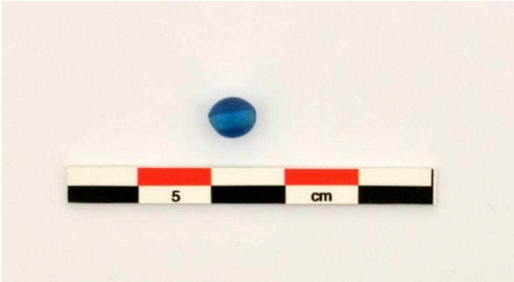

Figure Appendix 1:2.23. LA-ICP-MS FM23

2.24

- LA-ICP-MS Number: FM24
- Bead Description:
    - Color: Robin’s Egg Blue, Opaque
    - Shape: Circular
- Artifact Number: 048-323
- Site Number: 31BK22
- Site Name: Berry
- State: North Carolina
- Date Range:17th Century possibly 16th Century

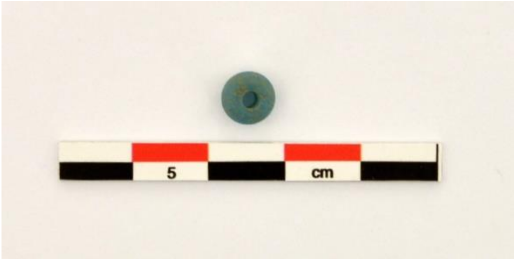

Figure Appendix 1:2.24. LA-ICP-MS FM24

2.25

- LA-ICP-MS Number: FM 25
- Bead Description:
    - Color: Bright Navy Blue, Opaque
    - Shape: Round
- Artifact Number: 031-010
- Site Number: 31BK22
- Site Name: Berry
- State: North Carolina
- Date Range:17th Century possibly 16th Century

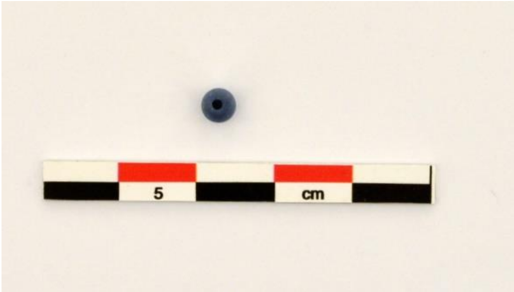

Figure Appendix 1:2.25. LA-ICP-MS FM25

2.26

- LA-ICP-MS Number: FM26
- Bead Description:
  - Color: Dark Shadow Blue, Opaque
  - Shape: Round
- Artifact Number: 037-1181
- Site Number: 31BK22
- Site Name: Berry
- State: North Carolina
- Date Range:17th Century possibly 16th Century

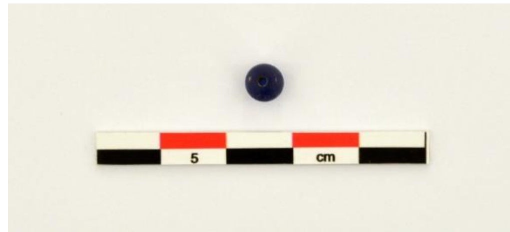

Figure Appendix 1:2.26. LA-ICP-MS FM26

2.27

- LA-ICP-MS Number: FM27
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Seed
- Artifact Number: 2317a1161
- Site Number: 31SK1a
- Site Name: Upper Saratown
- State: North Carolina
- Elemental Notes: Lead Rich

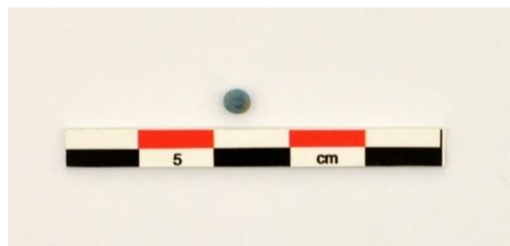

Figure Appendix 1:2.27. LA-ICP-MS FM27

2.28

- LA-ICP-MS Number: FM27
- Bead Description:
  - Color: Robin's Egg Blue, Opaque
  - Shape: Seed
- Artifact Number: 2317a1161
- Site Number: 31SK1a
- Site Name: Upper Saratown
- State: North Carolina
- Elemental Notes: Arsenic Rich

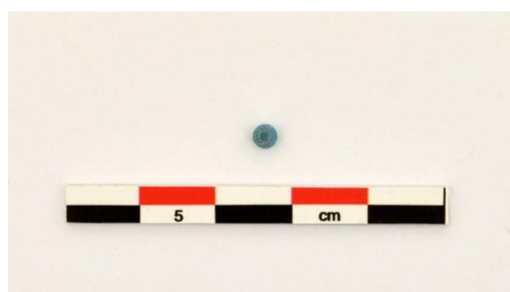

Figure Appendix 1:2.28. LA-ICP-MS FM28

2.29

- LA-ICP-MS Number: FM27
- Bead Description:
  - Color: Robin’s Egg Blue, Opaque
  - Shape: Seed
- Artifact Number: 2317a1161
- Site Number: 31SK1a
- Site Name: Upper Saratown
- State: North Carolina
- Elemental Notes: Arsenic Rich

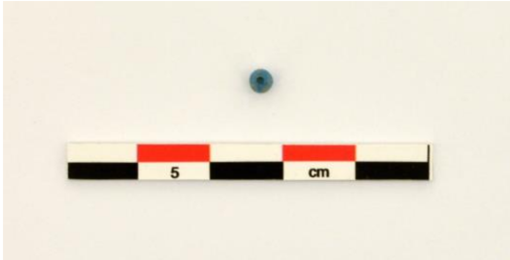

Figure Appendix 1:2.29. LA-ICP-MS FM29

2.30

- LA-ICP-MS Number: FM27
- Bead Description:
  - Color: Robin’s Egg Blue, Opaque
  - Shape: Seed
- Artifact Number: 2317a1161
- Site Number: 31SK1a
- Site Name: Upper Saratown
- State: North Carolina
- Elemental Notes: Arsenic Rich

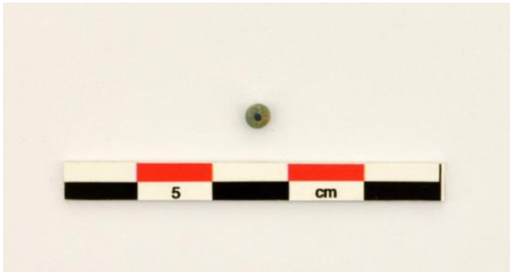

Figure Appendix 1:2.30. LA-ICP-MS FM30

Vita

Jessica Nicole Dalton-Carriger was born in Knoxville, Tennessee, on September 14, 1984. She attended both elementary and middle school in Knox County and graduated from Halls High School in 2003. In fall of 2003, she moved to Johnson City, Tennessee, to attend East Tennessee State University. At ETSU she pursued a Bachelor of Arts degree in History with a minor in Anthropology, which she completed in 2007.

In August of 2007 she returned to Knoxville and began Graduate School at the University of Tennessee. In the Fall of 2011 she completed her Masters of Arts degree in Anthropology specializing is Late Mississippian Native American Archaeology in the Watts Bar Reservoir. Her thesis is entitled "The Social Memory of Upper Hampton Farm: An Organizational and Ceramic Study of 40RH41." In the Spring of 2011 she continued her graduate studies at the University of Tennessee. She graduated from UT in the Spring of 2016 with a Doctor of Philosophy degree in Anthropology focusing on the Protohistoric period. She is a member of the Society for American Archaeology, the Tennessee Council for Professional Archaeology, the Southeastern Archaeological Conference, and the Society of Bead Researchers. She currently teaches full time at Roane State Community College in Harriman, Tennessee.

She is married to Steven Preston Carriger Jr. of Kingsport, Tennessee.