Abstract

C. Alexander Turner III. AN HISTORICAL AND ARCHAEOLOGICAL INVESTIGATION OF THE *SCUPPERNONG*: A MID-NINETEENTH-CENTURY NORTH CAROLINA-BUILT CENTERBOARD SCHOONER. (Under the direction of Dr. Gordon P. Watts) Program in Maritime History and Nautical Archaeology, April 1999.

The purpose of this thesis is to examine the archaeological remains of the nineteenth-century centerboard schooner *Scuppernong*. John Boushell constructed the vessel in Elizabeth City, North Carolina in 1853. The *Scuppernong*'s historical and archaeological significance, therefore, stems from the fact that it is the only confirmed archaeological example of a North Carolina-built nineteenth-century centerboard schooner. Although there are other examples of centerboard schooners in the North Carolina archaeological record, none have been positively identified as being North Carolina-built.

This thesis utilizes both a regional and site specific methodology. The author presents a regional context for examining the *Scuppernong* by investigating geography and economics and their relationship to maritime ventures within the region. He discusses shipbuilding and vessel types in relation to the region's changing environmental and economic constraints, including the construction of schooners capable of traveling the Dismal Swamp Canal. In a site specific realm, the thesis includes discussion of Antebellum shipbuilding in Elizabeth City, North Carolina, the vessel's history, and the archeology of the vessel, including vessel construction techniques and comparative analysis with other centerboard schooners previously located in North Carolina. The

author concludes that the *Scuppernong* is an example of a vessel type known in the Albemarle Sound region during the nineteenth-century as a "canal schooner," designed specifically for travel on the Dismal Swamp Canal as well as open water, such as the Albemarle Sound and the Atlantic Ocean. The *Scuppernong* site presents an additional point of reference for future historical and archaeological studies regarding North Carolina shipbuilding and its techniques.

AN HISTORICAL AND ARCHAEOLOGICAL INVESTIGATION OF THE *SCUPPERNONG*: A MID-NINETEENTH CENTURY NORTH CAROLINA-BUILT CENTERBOARD SCHOONER

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A special thank you goes to Mrs. Joanne Foreman of Elizabeth City, North Carolina for allowing me to work with her collection of nineteenth-century documents relating to shipbuilder Timothy Hunter. She contributed more to this thesis than she will ever know.

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Table of Contents

List of Figures

List of Tables

Introduction

On June 10 1862, Union troops moved swiftly towards Indiantown, North Carolina, in an effort to apprehend a Confederate. Under the command of Lt. C.W. Flusser, the Union squad searched in vain for the supposed rebel. During their search, however, Flusser's men discovered the schooner *Scuppernong* just below the Indiantown Creek bridge. The schooner carried a partial load of oak timber. Unable to bring the schooner down Indiantown Creek and into the North River, Flusser and his men burned and sank the vessel.

In August of 1992 members of the North Carolina Underwater Archaeology Unit (UAU) located the remains of a wooden vessel in Indiantown Creek, the northern portion of the North River. Indiantown Creek forms the boundary between Currituck and Camden counties. Historical and archaeological investigations confirmed that the vessel remains were of the centerboard schooner *Scuppernong*. John Boushell built the *Scuppernong*, designated as UAU site number 0002NCR, in Elizabeth City, North Carolina in 1853. The vessels owners employed the *Scuppernong* in the coastal trade.

This thesis utilizes regional and site specific research to examine the *Scuppernong* vessel remains both historically and archaeologically. Due to a lack of information relating to the construction and usage of centerboard schooners in the Albemarle Sound region, the combination of historical and archaeological data adds to an information database for the vessel type, as well as the region.

Chapters one and two build the contextual basis for examining the *Scuppernong* remains. To provide a regional historical context for the *Scuppernong*, chapter one examines factors influencing maritime ventures within the Albemarle, particularly environmental and economic components. Although the range of variables affecting

shipping and shipbuilding are quite large, there are several broad themes that provide a general framework for regional analysis. In a period of limited transportation modes and burgeoning national economic growth, regional geography and economics influenced the development of commercial and shipbuilding activities. Chapter one, therefore, discusses the region's geography and economics, and their influence upon the region's maritime commerce, including vessel types and shipbuilding.

Chapter two presents vessel specific research, such as Elizabeth City shipbuilding, vessel ownership, and vessel use patterns. Chapter two presents a focused view of shipbuilding in Elizabeth City, North Carolina, and an historical overview of the schooner *Scuppernong,* a vessel constructed and home-ported in Elizabeth City. By utilizing the papers of Captain Timothy Hunter, an Elizabeth City shipbuilder, the author presents an overview of Elizabeth City shipbuilding. Captain Hunter's papers provide insight into antebellum shipbuilding, a relatively undocumented segment of North Carolina's maritime history. Although there is no single document that presents his plans or techniques for vessel construction, the wide range of Hunter's documents, including receipts, bills, and notes, enable one to construct a model for mid-nineteenth century shipbuilding in Elizabeth City, North Carolina, and the Albemarle Sound region. The second half of chapter two examines the history of the schooner *Scuppernong*. This section includes data on possible features and equipment carried on canal schooners of the period, as well as information on the vessel's builder, owners, and usage. That data allowed the author to develop a micro-view of the regional perspective.

Chapters three and four provide archaeological data regarding the excavated vessel remains. Included are sections on previous investigation, site environment, research design and methodology, and a description of the vessel's recorded archaeological features and artifacts. Chapter three examines the vessel's excavated features and

presents only descriptive data, not analytical interpretations. Chapter four presents descriptive and analytical data concerning the recovered artifacts.

Chapter five presents site interpretations and conclusions, including the author's analysis of the vessel's extant structure and recovered artifacts. By combining historical and archaeological data, the author examined the *Scuppernong*'s place within cultural systems, particularly economic and transportation. In an attempt to broaden the realm of investigation, the author also includes a small scale examination of comparative data from other centerboard schooner archaeological sites within North Carolina.

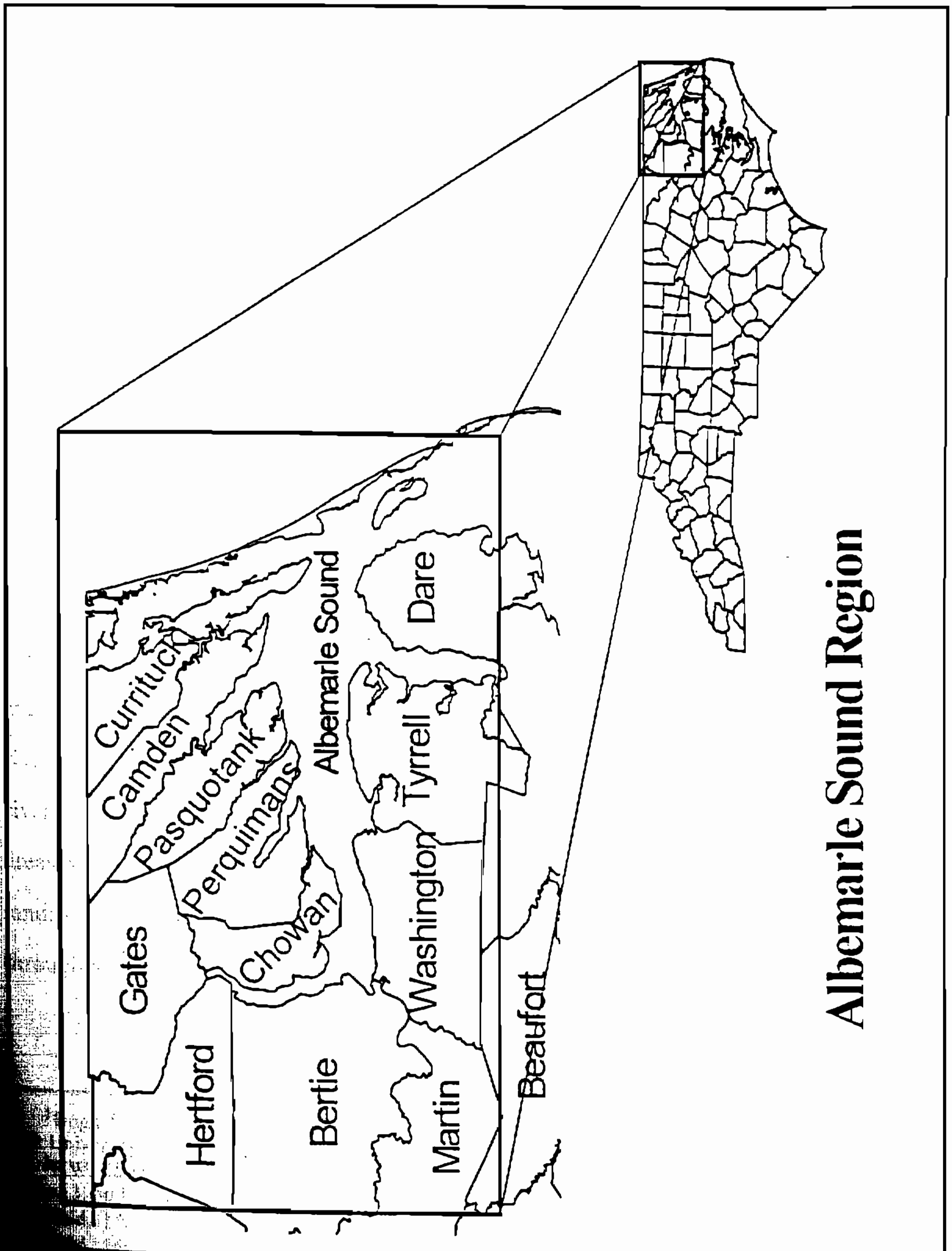
Chapter One

The Ante-Bellum Maritime Commerce of the Albemarle Sound Region

There were many influential factors regarding nineteenth century maritime ventures within the Albemarle region. Although the range of variables affecting shipping and shipbuilding are quite large, there are several broad themes that provide a general framework for regional analysis, most notably environmental and economic components. This chapter discusses the region's geography and economics, and their influence upon the region's maritime commerce, including vessel types and shipbuilding.

The Albemarle Sound region is located in the northeastern portion of North Carolina. The Albemarle is America's largest brackish sound and is supplied by several sizable rivers including the North River, the Pasquotank River, the Chowan River and the Roanoke River. The Albemarle Sound is bordered on the north by Currituck County, Camden County, Pasquotank County, Perquimans County, Chowan County and Bertie County. Washington County, Tyrrell County, and Dare County border the Albemarle's south side. (Figure 1).

European settlement of the Albemarle Sound region resulted primarily from the growth of the Virginia colony of Jamestown. The 1606 and 1609 Virginia charters included all of the area surrounding the Albemarle Sound, but not until the 1620s did settlement of the region begin to gain momentum. The need for land, in order to cultivate



1. Map of the Albemarle Sound Region.

tobacco, was a prime motivation for southward expansion. Even then, movement into the region was moderate.[1]

The geography of the Albemarle region, including numerous navigable streams, creeks and rivers that flow into the Albemarle Sound, both aided and hindered the European colonists. While the region has many navigable bodies of water, it also had many swamp morasses and marshes. Consequently, wetlands hindered the development of adequate roadways.[2] The colonists, therefore, employed a variety of small boats and vessels to transport the region's products. The colonist's vessels included canoes, row boats, perriaugers, shallops, and sloops. European colonists utilized specific vessel types based on both task and environmental conditions.[3]

Due to the ease of water travel, compared to land travel, colonists settled areas adjacent to the creeks and rivers of the Albemarle. By settling next to water planters easily shipped surplus produce, and received goods from other colonies or Europe.[4] Writing in 1704, Reverend John Blair noted that the inhabitants "plant only on the rivers."[5] As colonists increased in number, the amount of available land adjacent to rivers and streams decreased. Only then did colonists begin to settle the backcountry areas of the Albemarle. A 1717 petition to the governor, for example, noted that "all the lands near to the Water were taken up."[6] Backcountry settlements increased in number throughout the remainder of the eighteenth century.

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[1] Hugh T. Lefler and Ray Albert Newsome, *North Carolina: The History of a Southern State* (Chapel Hill: University of North Carolina Press, 1954), 14.

[2] F.W. Clonts, "Travel and Transportation in Colonial North Carolina," *North Carolina Historical Review* 3, no.1 (January 1926): 1.

[3] Ibid., 17.

[4] Ibid., 16.

[5] William L. Saunders, ed., *The State Records of North Carolina*, (Goldsboro, N.C.: Broadfoot Publishing, 1916), 1:602.

[6] Ibid., 2:290.

As colonists settled areas away from water, regional collection and shipping centers developed. Regional commercial activities depended upon the efficient shipment of local products such as tobacco, grain, lumber, and fish. 1786 petitions to the legislature revealed characteristics desirable for establishing a commercial area and town at Murfree's Landing, on the Meherrin River. The petitions emphasized the good roads and water, deep channel, "and proximity to the back settlements."[7] In 1787 Murfree's Landing became Murfreesboro. John Foote, nephew of Murfreesboro merchant Justin Foote, observed that merchants in Mufreesboro furnished "Planters with every article they needed, which the plantations did not yield, and collect[ed] and ship[ped] their disposable produce of every kind. . . ."[8] The agricultural nature of the Albemarle's economy continued into the nineteenth century, as did the development of maritime commercial ventures.

Like the Albemarle, other regions along the eastern seaboard depended heavily upon maritime commerce. During the first quarter of the nineteenth century, the growth of American cities, combined with a changing market structure, created nodal commercial centers such as New York, Philadelphia, and Baltimore.[9] Numerous regional ports, such as Charleston, Savannah, and Norfolk, developed as collection and distribution points for regional commerce. After obtaining the produce of regional ports, larger commercial centers, such as New York, distributed the nation's produce and manufactures into the expanding domestic and foreign commercial markets.

Commercial expansion combined with a rising number of backcountry settlements led [illegible] large population increases in America. Between 1820 and 1830, the national

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[illegible]mas C. Parramore, "The Merchants Foote," *North Carolina Historical Review* 46, no.4 (Autumn [illegible]

[illegible] T. Gilchrist, ed., *The Growth of the Seaport Cities 1790-1825* (Charlottesville: University [illegible]ginia, 1967), 86.

population grew from 9.6 million to 12.9 million.[10] In 1830 there were 90 cities of over 2,500 people, with a combined population of 1.1 million. Of those cities, New York with a population of 202,000, Baltimore with 81,000, Philadelphia with 80,000, and Boston with 61,000, developed as economic centers.[11]

The nation's market structure also changed. In particular, the number of general merchant firms declined and specialized firms increased, including those in the money exchanges.[12] By 1815, the role of merchant capitalists, who acted on their own accounts in the foreign and domestic markets, lessened as the role of specialists became increasingly important. Specialized commercial services included banking, wholesaling, warehousing, and insurance. Many newspapers also increased their coverage of commercial intelligence concerning markets and shipping.[13]

While other areas of the country experienced expanded economic development during this period, North Carolina remained under-developed and poor.[14] An 1830 legislative report stated that North Carolina was:

> a state without foreign commerce, of want of seaports or a staple; without internal communications by rivers, roads, or canals; without a cash market for any agricultural product; in short without any object to which native industry and active enterprise could be directed.[15]

Moreover, sectional differences between the eastern and western portions of the state hindered growth during the nineteenth century.[16] These differences included cultural

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[10]Ibid.
[11]Ibid.
[12]Ibid.
[13]Ibid.
[14]Lefler and Newsome, *North Carolina*, 298.
[15]"Report of Legislative Committee on Internal Improvements," *Journal of the Senate and the House Commons of the General Assembly of the State of North Carolina* (Raleigh: Lawrence and Lamay, 1831), 220-221.
[16]Guion Griffis Johnson, *Ante-Bellum North Carolina: A Social History* (Chapel Hill: University of North Carolina Press, 1937), 33.

differences resulting from different ethnic and settlement patterns. Differences in agricultural crops and markets also hampered economic growth. The lack of interconnecting transportation facilities between the coastal plain, piedmont and mountains increased the growth of sectionalism.[17] The interests of the population were often limited to the immediate areas of that particular region.[18]

Geography also hindered transportation and commercial activities within eastern North Carolina, with the Cape Fear region being an exception. That region, located along the southeastern section of North Carolina's coastline, contained a deep-water channel and harbor, which enabled large vessels to enter the port of Wilmington. The middle and northeastern sections of the state lacked deep-water entrances and harbors. In those areas, barrier islands, known as the Outer Banks, separated North Carolina's sounds from the Atlantic Ocean. Small, highly dynamic inlets provided the only access from the sounds to the ocean (Figure 2).

During the nineteenth century, Ocracoke was one of several principal shipping inlets. Located fifty miles northeast of Cape Lookout and thirty miles southwest of Cape Hatteras, Ocracoke provided vessels an entrance into the ocean from Pamlico Sound. Once over the inlet bar, which had a low water depth of thirteen feet, incoming vessels navigated narrow channels through the sounds before reaching a port.[19] The depth of the channels inside Ocracoke, Teach's Hole with six-foot depth and the Swash with nine-foot depth, forced many vessels to transfer cargoes to lighters.[20]

Other inlets used for shipping North Carolina products were Hatteras, Old Topsail, New Currituck, and Roanoke Inlet. Old Topsail Inlet, considered one of the best inlets

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[17]Ibid.

[18]Wayne Payne, "The Commercial Development of Ante-Bellum Elizabeth City" (Masters Thesis, Carolina University, 1971), 1-2.

[19]Clifford Reginald Hinshaw, Jr., "North Carolina Canals before 1860," *North Carolina Historical* w 25, no.1 (January 1948): 2.

[20]Ibid.

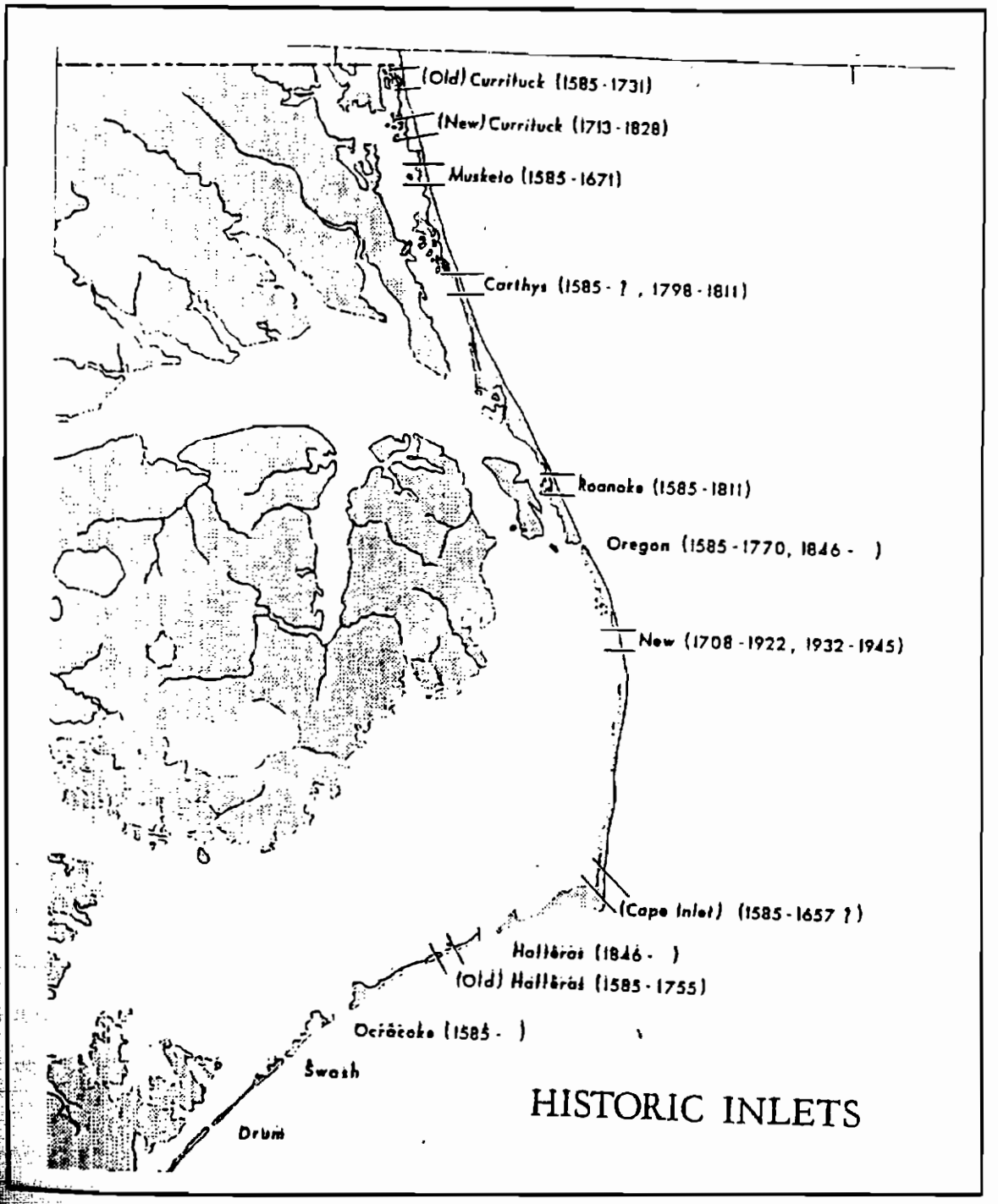

Figure 2. Map of North Carolina Historical Inlets. Reproduced from Gary S. Dunbar, *Historical Geography of the North Carolina Outer Banks* (Baton Rouge: Louisiana State University Press, 1958).

for navigation, lead into Beaufort, but from there the shallow waters of Core Sound provided limited access to the larger sounds, such as Pamlico and Albemarle.[21] New Currituck Inlet, located five miles south of the Virginia state line, flowed into the northern portion of Currituck Sound. The depth through that inlet was only five feet, but a sizable portion of Currituck Sound commerce moved through the inlet in small sloops and schooners. Due to a six-foot depth and continually shifting channel, Roanoke Inlet provided minimal ocean access. Both Roanoke and New Currituck Inlets eventually closed as navigable channels in 1820 and 1828 respectively.[22]

In 1861, Edmund Ruffin aptly described the shipping problems associated with the geography of North Carolina's coast. Ruffin stated:

> There is no access to the ocean, through the sand reef, so good and deep as the narrow Ocracoke Inlet, which now permits vessels of only six feet draft to pass over the bar across the inlet, after tedious delays and much danger, and which passage opens upon an unsheltered and most dangerous seacoast. The whole ocean shore of North Carolina is a terror to navigators, and is noted for the number of shipwrecks, and especially near Cape Hatteras.[23]

Geography had a profound impact on the state's maritime and economic development, and most North Carolina leaders recognized that the state needed to improve its transportation facilities. In 1815 and 1816, the state's legislature sought to improve internal transportation facilities, as well as develop home markets.[24] An effort to concentrate the state's commerce was a primary factor in the movement for internal

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[21] Ibid.

[22] Christopher Crittenden, "The Seacoast in North Carolina History, 1763-1789," *North Carolina Historical Review* 7, no.4 (October 1930): 437.

[23] Edmund Ruffin, *Agricultural, Geological and Descriptive Sketches of Lower North Carolina, and Adjacent Lands* (Raleigh, N.C.: Institute for the Deaf, Dumb and Blind, 1861), 114-115.

[24] William H. Hoyt, ed., *The Papers of Archibald D. Murphey*, 2 vols. (Raleigh, N.C.: U.M. Uzell Co., 1914), introduction.

improvements.[25] By concentrating the state's commerce at a centralized location, legislators and citizens hoped to create in-state markets and limit out of state note circulation.[26] In 1819, Archibald D. Murphey, chairman of the Board of Internal Improvements, chastised farmers and merchants for shipping to out of state markets. Murphey stated that by shipping two-thirds of "our produce through other ports. . . we lose the profits upon our commerce."[27]

Although a number of projects began during the period from 1815 to 1830, most proved ineffective. The attempted transportation improvements included clearing the inlets and constructing canals, such as the Clubfoot and Harlowe's Creek Canal. Ultimately, insufficient skill and expertise, combined with provincialism, ruined most attempts at improving transportation.[28]

North Carolina's inability to develop a centralized in-state market and interconnecting transportation systems forced the Albemarle region to trade where transportation networks were most favorable. In the case of the latter that meant shipping by water to Virginia and other states.[29] Rather than travel miserable roads to the interior of North Carolina, the Albemarle counties transported their produce to markets in Virginia, Maryland, Pennsylvania, and New York. Albemarle citizens also purchased necessities there.[30]

In the ante-bellum South the primary problem concerned transporting products to outside regions, in addition to obtaining the necessary food supplies and manufactures. The South concentrated on developing internal transportation and communication

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[25] Balthaser Meyer Henry and Caroline Macgill, *A History of Transportation in the United Staes fore 1860* (Washington, D.C.: Carnegie Institution of Washington, 1917), 274.

[26] Ibid.

[27] Hoyt, *Archibald D. Murphey*, vol. 2, 103.

[28] Allan Morgan, "State Aid to Transportation in North Carolina: The Pre-Railroad Era" *North Booklet* 10 (1910): 153.

[29] ayne, "Ante-Bellum Elizabeth City," 4.

[30] efler and Newsome, *North Carolina*, 300-301.

between several agricultural and commercial regions, or "gateways."[31] In describing the various "economic provinces" of the South, Ulrich B. Phillips, noted historian of the American South, included the Albemarle region of North Carolina in the "Lowland and Piedmont Virginia" economic province. Phillips stated that commercial activities, combined with natural transportation facilities, distinguished each province. The transportation problem of the "Lowland and Piedmont Virginia" province concerned getting produce to the navigable waterways for shipment to the Chesapeake region.[32]

In order to access the primary transportation network, most Albemarle settlements and towns developed along the waterways.[33] Two of the primary nineteenth century ports in the Albemarle were Edenton and Elizabeth City. Edenton, located on the Chowan River, lay approximately thirty miles up the sound from Elizabeth City and the Dismal Swamp Canal. Elizabeth City developed along the Pasquotank River, at the southern terminus of the Dismal Swamp Canal. As a result of the canal's completion in 1828, Elizabeth City became the predominant port in the Albemarle area.

Smaller towns and villages were also important distribution areas within the region. Small, secondary maritime centers functioned as collection points which either shipped directly, or more commonly, to larger ports within the sound area for re-shipment. Numerous small maritime centers developed the Albemarle's major tributary rivers, including the Chowan, Perquimans, Cashie, North, Pasquotank, Scuppernong, Alligator, and Roanoke (Figure 3). These centers included such places as Nixonton, Hertford, Winton, Columbia, and various landings on the aforementioned rivers. Beyond the small maritime settlement areas, numerous smaller communities and landings developed along

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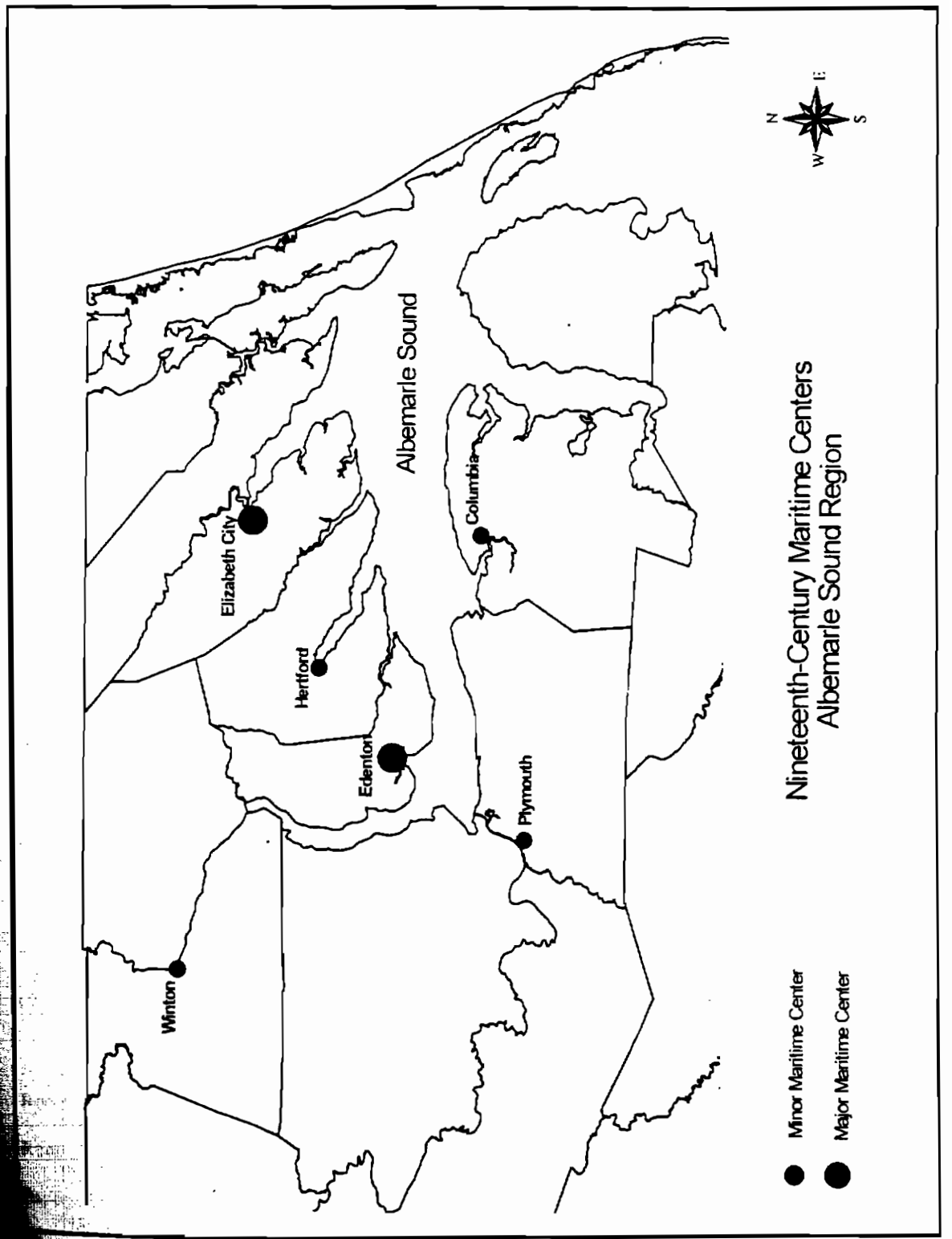
[31] Ulrich B. Philips, *The History of Transportation in the Eastern Cotton Belt to 1860* (New York: Columbia University Press, 1908), 1.

[32] Ibid., 1-2.

[33] Henry Roy Merrens, *Colonial North Carolina in the Eighteenth Century: A Study in Historical Geography* (Chapel Hill: University of North Carolina Press, 1964), 256.



ure 3. Map of Nineteenth Century Albemarle Ports and Maritime Centers.

the navigable creeks which flowed into the rivers. Collectively, small maritime centers increased the region's commerce.

Bartonsville, on the banks of the Chowan River, was an example of a small maritime village. During the mid 1850s, Stephen Barton, originally of Massachusetts, established residence along the Chowan in hopes of beginning a lumber business.[34] Barton, keenly aware of the demand for lumber in northeastern states, acquired a 2,000 acre tract previously known as "Mason's Mill" in Hertford County.[35] Two years later, in 1857, Barton conducted a sizable amount of business with ports such as Philadelphia and Norfolk.[36] Bartonsville continued to prosper until the Civil War when the economy stagnated, thereby ending the village's existence.

While villages such as Bartonsville contributed to the region's overall maritime economy, individual planters and merchants provided a primary impetus for shipping the region's grain, fish, and lumber. Correspondence from Henry Gibson of Martin County,[37] Thomas Cox of Washington County,[38] and William G. Armstrong of Tyrrell County[39] illustrate the region's commercial lumber industry. Additional correspondence from Ebenezeer Pettigrew of Tyrrell County,[40] pertaining to grain shipments, and John Chesson of Washinton County,[41] involving fisheries, provide valuable glimpses into other

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[34]Thomas Parramore, "The Bartons of Bartonsville," *North Carolina Historical Review* 51, no. 1 (Winter 1974): 22.

[35]Ibid., 23.

[36]Ibid., 24.

[37]Henry Gibson, correspondence concerning lumbering activities, Henry Gibson Papers, Manuuscript Room, North Carolina Division of Archives and History, Raleigh.

[38]Thomas Cox, correspondence concerning lumbering activites, Thomas Cox Letterbook, Manuuscript Room, North Carolina Division of Archives and History, Raleigh.

[39]William G. Armstrong, correspondence concerning lumbering activities, William G. Armstrong Papers, Special Collections, Perkins Library, Duke University, Durham.

[40]Sarah Mcculloh Lemmon, ed., *The Pettigrew Papers*, 2 vols. (Raleigh: North Carolina Department of Archives and History, 1971).

[41]John Chesson, correspondence concerning commercial fishing markets, Chesson Papers, Manuscript Room, North Carolina Division of Archives and History, Raleigh.

important commercial activities of the period. The documents provide useful information regarding shipping modes, routes, and destinations.

Stave and shingle production were important commercial operations in the area surrounding the Albemarle Sound. A letter from Thomas Cox, of Plymouth, North Carolina, to W.H. Clapp, communicates information regarding the procurement and shipment of staves from the Albemarle region.

> The winter or spring is usually the best season to procure staves, and at that time a cargo could be had for a vessel of 200 to 250 tons in 10 or 15 days generally. In all cases it would be best to have them bought before the arrival of the vessel, for if perchance two vessels should be wanted at the same moment a thing by no means uncommon it would afford the holders an opportunity of advancing the price on the purchases above the fair market rate. The staves procured here are usually of the best quality & such as are generally selected for the New York market & of corse [sic] would suit any other place.[42]

The Albemarle's lumber output continued steadily throughout the ante-bellum period. The area encompassing the Great Dismal Swamp became a vast source of lumber products, particularly shingles. For example, Frederick Law Olmstead, who visited the Great Dismal Swamp in 1853, observed that the lumber camps provided "considerable commercial importance as furnishing a large amount of lumber, and especially of shingles, for our Northern use, as well as for exportation."[43]

Nineteenth-century lumbering was labor intensive. In the Great Dismal Swamp, African-American slaves, hired out by their owners, and African-American freemen manned the lumber camps. In the camps, the slaves and the freemen worked side by side in a relatively unfettered work setting.

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[42]Thomas Cox to W.H. Clapp, letter regarding the procurement and shipment of staves, 1828, Thomas Cox Papers, Manuscript Room, North Carolina Division of Archives and History, Raleigh.

[43]Frederick Law Olmstead, *The Cotton Kingdom: A Traveler's Observations on Cotton and Slavery in the American Slave States* (New York: Knopf, 1953), 114

> The slave lumberman lives measurably as a free man; hunts, fishes, smokes, and sleeps, plays and works, each and as much as he pleases. It is only required of him that he shall have made, after half a year has passed, such a quantity of shingles as shall be worth to his master as much money as it is paid to his owner for his services, and shall refund the value of the clothing and provisions he has required.[44]

The African-American, both free and enslaved, played a prominent role in the nineteenth century economy of the Albemarle area. On plantations, such as the one owned by Charles Pettigrew of Washington County, slave labor "grew the grain, felled the timber, and caught the fish."[45] In addition, African-Americans, both slave and free, engaged in skilled and artistic occupations other than laborer. These occupations and skills included cooper,[46] ship rigger,[47] nail cutter,[48] and ship carpenter.[49] Ultimately, African-Americans helped shape the region's economy as well as its culture.

While lumbering was an important regional industry, farming also constituted a large segment of the economy. Farmers all over the region raised crops, primarily corn and wheat, for subsistence. The surplus grains were then shipped to larger out-of-state markets. Although not entirely uncommon for farmers to directly ship their own produce, farmers generally shipped their surplus crops by land and water to a centralized shipment point, such as Plymouth, Edenton or Elizabeth City. From these regional maritime centers, merchants and commission merchants shipped the produce to markets in Norfolk, Baltimore, and New York.

The logbook of Captain Little John Pugh, onboard the schooner *Rio* of Baltimore, provided an example of large grain shipments from Elizabeth City to New Jersey in 1859.

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[44] Ibid., 114-115

[45] Jeffrey J.Crow, Paul D. Escort, and Flora J. Hatley, *A History of African Americans in North Carolina* (Raleigh, North Carolina: Division of Archives and History, North Carolina Department of Cultural Resources, 1992), 52.

[46] Freddie L. Parker, *Stealing a Little Freedom: Advertisements for Slave Runaways in North Carolina, 1791-1840* (New York and London: Garland Publishing, 1994), 27.

[47] Ibid., 21-22

[48] Ibid., 27

[49] Ibid., 20

In September of that year Pugh delivered 3,054 bushels of wheat to Millville, New Jersey, located on the Maurice River. The river's shallowness forced Pugh to partially offload three miles below Millville. After which, Pugh sailed upriver and delivered the remainder of the shipment to RD Wood.[50]

The Albemarle's fisheries were also important economically. The papers of John Chesson, a Washington county resident, provide insight into fishery operations and shipments to Baltimore markets. In several letters Baltimore commission merchants relayed information regarding demand and prices for various catches, particularly shad and herring. In 1851, a Baltimore commission merchant wrote:

> Since our last we have had a continuation of cold easterly winds with high tides, which has operated very much against our fisheries, so much so that they have caught this week scarcely more than sufficient supply the demand for them fresh and at good prices say at $6 to $7 pr thousand for herring and $10 pr hundred for shad. . . From N Carolina our receipts have been unusually light and our advice today are quite unfavorable leading us to apprehend quite a short supply Shad are worth $9.50 Herrings 5 1/4. The market is now bare of both shad and herrings. Provisions, flour and corn all trend upward and fish must bring good prices.[51]

Although the region contained agricultural, forestry, and fishery resources, the region's inhabitants developed few manufacturing activities. In 1852 the editor of the Elizabeth City *Old North State* chided the region's inhabitants for the dearth of manufacturing. The editor asked why the people of eastern North Carolina refused to invest in such ventures as flour mills, cotton factories, or even linseed oil factories. The editor, using flour production as an example of the problem, commented:

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[50] Little John Pugh, Entry concerning grain shipment aboard the schooner *Rio*, 1859, Little John Pugh Logbook 1858-1860, Perkins Library, Special Collections, Duke University, Durham, North Carolina.

[51] Baltimore commission merchant to John Chesson, Letter concerning markets for Albemarle fish, 1851, John Chesson Papers, Manuuscript Room, North Carolina Division of Archives and History, Raleigh.

> Thousands and thousands of bushels of wheat are shipped away yearly at an average expense of ten cents per bushel. This wheat is manufactured and returned to us from Richmond, Baltimore, and other places in the form of flour, at an expense fully equal to $4.50 on every barrel. Manufactories of the character we have spoken of cannot fail to be profitable.[52]

Due to the region's dependence on outside manufacturing, trade with out of state markets remained vital. Correspondence from Thomas and William A. Turner, Plymouth, North Carolina commission merchants, to Ebenezer Pettigrew illustrates the use of maritime transportation and commission merchants to acquire goods and materials unobtainable within the Albemarle region.

> Yours of this month is this day at hand with your two carts. We send you two boxes, four bags, one saw, & five bars steel, being all the goods, except one Ream paper & a paper parcel, which we recd of the Schr John S Bryan Capt Pike, & Van Bokelyn & Whites letter of Aug 30, for you. . . .[53]

Apparently, Pettigrew received goods from the New York firm of Van Bokelyn & White. Commission merchants helped supply Albemarle inhabitants with goods produced in other commercial region's.

Planters and merchants utilized commission merchants to resell their goods, take orders for goods from other areas, and serve as as financial middlemen in the various trades. Commission merchants performed those services for a fee, usually 1 or 1.5 percent. An example of the shipment of goods and the method of business transactions is revealed in a letter from McDougall & Clark, Baltimore commission merchants, to William G. Armstrong of Columbia, N.C., located in Tyrrell county.[54] After Mr. Armstrong's shipment of 112,000 shingles arrived onboard the schooner *Ann C.*

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[52] *Old North State* (Elizabeth City, North Carolina), 19 March 1852.
[53] Lemmon, *The Pettigrew Papers*, 1, 101.
[54] McDougal & Clark to William Armstrong, Letter concerning a shingle shipment, 1855, William Armstrong Papers, Letters Folder 1855-1857, Perkins Library, Special Collections, Duke University, Durham, North Carolina

Davenport, McDougall & Clark then sold half of Armstrong's shipment for $8 per thousand, and stored the other half of the shipment in hopes of obtaining a higher price. McDougal and Clark also paid Captain Daniel Basnight, of the *Ann C. Davenport*, a freight payment of $179.20 and debited Armstrong's account $300 dollars. Captain Basnight then used the $300 to settle some of Armstrong's Norfolk accounts on the return trip.[55]

Similarly, a letter from Hicks and Smith, New York commission merchants, to Ebeneezer Pettigrew adds additional information regarding the reciprocal nature of commercial ventures with commission merchants in large shipping centers along the eastern seaboard. The letter, dated 24 June 1834, stated that Pettigrew's cargo, which arrived onboard the schooner *Lady of the Lake*, netted a profit of $1333.56, a large sum for the time. Hicks and Smith also stated that Pettigrew's cargo of corn "was very good, and it brought 5 [cent] pr bushel more, than the ordinary quality from your State, the price of the latter being about 61[cent per bushel]...."[56]

Regarding purchases for Pettigrew, Hicks and Smith shipped supplies on Pettigrew's schooner, except his order of negro cloth. Hicks and Smith stated that there was a small supply of "negro cloth," and, since most of it was of inferior quality, they intended to wait for Pettigrew's vessel to return and then send the cloth shipment.[57] The term "negro cloth" refers to osnaburg cloth. Many slave owners used this rough and coarse cloth, similar in texture to feed bags, as material for slave clothing.[58]

Shipping to outside markets involved timing as well as luck. Swings in the financial markets and uncertain weather made maritime commerce a risky, yet necessary venture. A February 1837 letter from John Williams, a Charleston commission merchant, to

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[55] Ibid.
[56] Lemmon, *The Pettigrew Papers*, I, 236
[57] Ibid., 236-237
[58] Jeffrey J.Crow, Paul D. Escort, and Flora J. Hatley, *African Americans in North Carolina*, 57.

Pettigrew provided information regarding the Charleston corn markets. Williams advised Pettigrew to delay shipment of his corn, due to the saturation of the market by North Carolina corn shipments. Williams wrote:

> I have now on the way from your state 30,000 bushels and would advise you not to ship Just now. I think it better to defer for about 30 days, in the mean time will keep you advised of the market, an if you can forward to Mess Bryan & Maitland of Plymouth NC a small sample of your corn for them to forward to me I could then advise you with more correctness, and certainty. . . .[59]

Bryan & Maitland were commission merchants in Plymouth, North Carolina. Communications such as these were vital to the timing of maritime shipments.

An August 1836 letter, from Charles Lockhart Pettigrew to his father, Ebenezer Pettigrew, illustrated some of the physical difficulties associated with the coastal trade. Pettigrew states that Captain Dunbar sailed onboard the schooner *Lady of the Lake* from Ocracoke Inlet in route to Charleston. Upon leaving the inlet, the winds began to blow from the South, and, having heard from other vessels that the Charleston market was low, Captain Dunbar proceeded toward Providence, Rhode Island. After a day's sail, the winds shifted to the north. Captain Dunbar then reversed his course and sailed for Boston. Once more the winds shifted and Dunbar again changed course, finally arriving in New York. Charles Pettigrew also added that Captain Dunbar attributed the low market in Charleston to the northerly winds having blown so many vessels to that port.[60] Although there were many difficulties associated with maritime transportation, it remained the most efficient form of cargo shipment for the Albemarle area during the ante-bellum period.

[59] Lemmon, *The Pettigrew Papers*, I, 334.
[60] Ibid., 308.

Since the primary method of shipping the state's produce and manufactures was through dangerous inlets, the citizens of the Albemarle region sought a canal link to the commercial market of Norfolk, Virginia. With a canal, the Albemarle's residents could easily access a sizable shipping and commercial center. Virginia merchants also favored the waterway because it would increase their business from the Albemarle.

In 1790, both North Carolina and Virginia state legislatures passed a bill to link the Pasquotank River, in North Carolina, and the Elizabeth River in Virginia, but due to financial difficulties construction did not begin until 1793.[61] Construction began on each end of the proposed waterway with African-American slaves, hired out by their owners, performing the arduous task of cutting the canal through the swamp, roots and stumps of the Great Dismal Swamp.[62] The canal's first stage was not completed until 1805. In that year, two sections opened, a six-mile stretch from Elizabeth City and a five-mile section from Norfolk. A road linked the sections. Therefore, to ship via the canal, cargo had to be transferred by water to the road and then loaded back on vessels for transportation to Norfolk.[63]

The canal's size limitations and limited military strategic value, especially concerning American naval sloops and schooners, prompted alterations to the waterway. The canal was sufficient for shingle flats but not larger vessels. Flats, which drew eighteen to twenty-four inches loaded, carried up to eight thousand juniper shingles per load from the Dismal Swamp lumber camps.[64] Although many shingle flats traveled the canal, the waterway failed as a viable transportation route for larger vessels, particularly sloops and schooners. The War of 1812, and the British blockade of Chesapeake Bay, served as a

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61 Alexander C. Brown, *The Dismal Swamp Canal* (Chesapeake, Virginia. Norfolk County Historical Society, 1967), 32.
62 Ibid.
63 Hinshaw, *North Carolina Canals*, 22.
64 Brown, *Dismal Swamp Canal*, 213.

catalyst for improving the canal for vessels other than flats.[65] Completion of the waterway enabled boats to begin making the trip from Elizabeth City to Norfolk. Although the canal's opening enabled North Carolina merchants and farmers to begin shipping on an increased scale, the waterway still lacked the size to accommodate larger sloops and schooners .

Because the canal was unable to accommodate larger vessels before 1828, much of the Albemarle's sloop and schooner commerce continued to pass through the dangerous inlets. An 1819 shipping bill illustrates trade from the Albemarle region to Richmond, Virginia via the inlets. The bill documents the shipment of twenty-six hogsheads of tobacco from Plymouth, North Carolina, to Richmond onboard the Schooner *Concord*, with William Dough as master.[66] Since the Dismal Swamp Canal was not yet enlarged as a ship canal, it is likely the *Concord* exited through Ocracoke Inlet.

A subsequent letter from Richmond, dated June 1819, indicates that the *Concord*'s shipment of tobacco reached its destination in a damaged condition and that there was a problem concerning liability. The letter stated that the amount of damage equaled one hundred seventy two dollars and ninety-eight cents. The letter also observed that the captain "say he is not liable for the damage."[67] Although not stated, the damage may have occurred during passage through the volatile inlets.

Before 1828, large amounts of shingle and lumber traveled through the Dismal Swamp Canal on rafts and flats. An entry from the letter book of Washington County resident, Thomas Cox, dated 27 February 1827, provides insight into the canal's usage before its enlargement in the winter of 1828. Cox wrote to WJ Bryant, of Elizabeth City,

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[65] Hinshaw, *North Carolina Canals*, 22

[66] Shipping bill for Schooner *Concord*, 1819, Brownrigg Family Papers, Special Collections, Joyner Library, East Carolina University.

[67] Captain Dough to Thomas Brownrigg, June 1819, Brownrigg Family Papers, ibid.

North Carolina, trying to secure lightering for his staves through the Dismal Swamp Canal to Norfolk. Cox wrote:

> will you oblige me so far as to say at what price I could get 200,000 ROHhds[Red Oak Hogshead Staves] & 100,000 pipe staves lightered [sic] the canal from Plank Bridge to Norfolk including tolls and all other expences [sic]. . . who could I get to do it that could be relied on. . ..[68]

Cox also inquired of Bryant as to an appropriate shingle buyer in Norfolk. Cox asked "what would Mr. Cluff pay for 1 to 200,000 RO Hhds & 100,000 pipe staves delivered in Norfolk I am told he is a large shipper."[69] The letter characterizes the growing importance of water-borne communication and trade with Norfolk markets.

Increased canal traffic illuminated the waterway's deficiencies. The problems related to the waterway's lack of width and depth, in relation to the size of vessels that needed to use the canal. The size vessel needed to safely navigate the Albemarle Sound and carry the necessary cargoes was often too large to pass through the canal. It became obvious that the canal's depth and width had to be increased.[70]

In order to make the necessary improvements, the canal company secured three loans, two for $50,000 and one for $37,500, and sold a portion of stock to the United States government. In 1828, after thirty-six years of work and an expenditure of $800,000 dollars, workers completed the canal for use as a ship canal. The canal was twenty-two and a half miles long, seventeen feet six inches wide at its narrowest lock, and had sufficient depth for vessels drawing five and one half feet.[71]

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[68] Thomas Cox to W.J. Bryant, 27 February 1827, Thomas Cox Letterbook. North Carolina State Archives, Raleigh, N.C.

[69] Ibid.

[70] Hinshaw, *North Carolina Canals*, 23.

[71] Thomas J. Wertenbaker, *Norfolk: Historic Southern Port* (Durham, N.C.:Duke University Press, 31), 160.

Many citizens of the Albemarle area and Norfolk expressed increasing interest in the improved canal. James Cathcart Johnston, of Pasquotank County, for example, wrote to Ebenezer Pettigrew, of Tyrrell County, and described the anticipation felt by citizens of the Albemarle region following the canal's improvement. Johnston stated:

> I think Norfolk will become a great grain & lumber market and if it does not the facility of shipping from there to any other is so great that I would much prefer sending my produce there with my own people and shipping it than be subject to the uncertainty & delays of our navigation. With a boat of kind I think you might count with certainty of having a crop of grain in New York in four or five days whereas by Ocracoke it might be a month.[72]

Johnston's prediction was correct. During the remainder of the nineteenth century, Norfolk became an important market and distribution center for Albemarle commerce.

After canal improvements, the waterway's traffic steadily increased. In 1833, the *American Beacon*, a Norfolk paper, reported that one hundred and ninety-four schooners and sloops, averaging forty-five tons, passed through the canal during the month of February.[73] With increased width and depth, the Dismal Swamp Canal quickly usurped the majority of the region's commercial shipments to northern ports.

Statistics on tolls and commerce indicate the rise in Albemarle region shipping via the canal. In 1829 the Dismal Swamp Canal tolls were $11,658, in 1830 they were $18,437, and in 1831 the tolls amounted to $27,030. The tolls for the year ending April 30, 1833 rose to $34,059. During that twelve month period, the commercial value of northbound goods reached $1,713,796, of which Albemarle Sound lumber products, such as staves and shingles, comprised the majority, totaling $724,918.[74] Indicative of the Albemarle region's commerce is the list of goods passing through the canal in the year ending July

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[72] Lemmon, *The Pettigrew Papers*, I, 115.
[73] *American Beacon* (Norfolk, Virginia), 19 March 1833
[74] Wertenbaker, *Historic Southern Port*, 162.

1847. The goods included 22,360,050 shingles, 5,256,350 staves, 139,000 feet of scantling, 43,685 feet of timber, 1,261,099 bushels of corn, 26,255 bushels of wheat, 21,956 bushels of peas, 30,505 barrels of naval stores, 688 barrels of spirits of turpentine, 4,366 hundredweight of bacon, 3,722 bales of cotton, and 1,299 kegs of lard.[75]

Although the canal's commercial importance increased after 1828, some citizens criticized the waterway's physical characteristics. An 1845 editorial in the Norfolk *Beacon* stated:

> nine-tenths of the trade of Norfolk comes from Albemarle Sound, yet the chief artery through which it must flow is sluggish. The shoals and logs in the canal are so bad that boats often have to lighten their cargoes, the locks and bridges are antiquated, in places the channel is too narrow for vessels to pass each other, the water is often low, the approaches at each end are crooked and obstructed by stumps.[76]

Not all complaints dealt with the waterway's inadequacies, some Albemarle residents disliked the increased commerce of the canal and Norfolk. Areas such as Plymouth, on the Roanoke River, and Edenton, near the head of Albemarle Sound, suffered from decreasing maritime commerce. Several newspaper editorials summarized the negative feelings of residents to the west of Elizabeth City and the Dismal Swamp Canal.

As early as 1830 editorials appeared lamenting the shipment of North Carolina produce and lumber to Virginia markets. The editor of the *Edenton Gazette* wrote:

> our sister state Virginia has received a large proportion of funds from the government for internal improvements, and especially to carry on and complete her Dismal Swamp Canal which to her may be of incalculable benefit, but to North Carolina, a blood sucker at her vitals--who has been solicited to join in the support of the canal, and her citizens entreated to engage in Canal Commerce.[77]

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[75] Hinshaw, *North Carolina Canals*, 28-29.
[76] *American Beacon* (Norfolk, Virginia.), editorial, 12 May 1845.
[77] *Edenton* (North Carolina) *Gazette*, editorial, 13 February 1830.

Nineteen years later, some newspaper editors continued to belittle the canal and its patrons. The editor of the *Plymouth Weekly* stated:

> there are a great quantity of Produce, Lumber, and Naval Stores coming down the Roanoke passing right by Plymouth, and making Norfolk the depot, of a great portion of the production of North Carolina! Why is it, that North Carolinians had rather enrich and build up Cities in other States, than have even respectable Towns within their own borders.[78]

Various parties within the state often discussed plans for providing ocean access to the Albemarle region. Principally these plans sought to obtain congressional funding for re-opening Roanoke Inlet. The federal government never acted upon these improvement plans. Consequently, the region's produce and lumber continued to flow through the Dismal Swamp Canal and later the Albemarle & Chesapeake Canal.

The Albemarle & Chesapeake Canal, which opened in 1859, provided the citizens of the Albemarle region, and Norfolk, an alternate shipping route. The new canal, located approximately twenty miles east of the Dismal, had fewer locks, greater width, a deeper channel, and a straighter course.[79] In essence, the new canal alleviated the problems associated with shipping through the Dismal Swamp Canal. The new Albemarle & Chesapeake canal, combined with the wide-spread destruction of the Civil War, led to the demise of the Dismal Swamp Canal as the Albemarle's primary shipping route.

The region's preferred water transportation routes varied, but the importance of regional shipbuilding remained constant. Historians have under-emphasized shipbuilding in the southern United States, including North Carolina, but the Albemarle region developed an active shipbuilding industry. Shipbuilding in that region included small

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[78] *Plymouth* (North Carolina) *Weekly*, editorial, 21 October 1849.
[79] Alexander C. Brown, *Juniper Waterway: A History of the Albemarle and Chesapeake Canal* (Charlottesville, Virginia: University Press of Virginia, 1981), 3.

one boat plantation yards and full-time commercial shipyards, such as those in Elizabeth City. The production in plantation yards was usually the result of a farmer or merchant building a vessel to carry their produce to market. An 1829 letter from Ebenezer Pettigrew, of Tyrrell County, to James Cathcart Johnston, of Pasquotank County illustrates Pettigrew's vessel construction. He wrote that he was:

> very busily engaged geting [sic] the timber for a vessil [sic] of about sixty tons, which I am about to build, in partnership with a Capt. Dunbar, we expect to have her ready for the next wheat crop. . . .[80]

Occasionally, in plantation yards, farmers and merchants contracted ship carpenters from other areas to build the desired vessel. Pettigrew, for example, used ship carpenters from Beaufort to construct his vessel. Pettigrew explained that his Captain Dunbar "had gone to Beaufort, for carpenters" and that he was "pleased with the master workman and the other hands hired from Beaufort seven in number appear to be good."[81]

Although farmers and merchants needed vessels to carry their goods, the venture of shipbuilding was not without risk. James Cathcart Johnston's reply to Pettigrew, concerning his shipbuilding, reveals some of the pitfalls. Johnston, although familiar with Pettigrew's problem of getting produce to market, advised him to:

> have nothing to do with vessels or vessel building the latter cannot end profitable to you, the holding & running them is [sic] would be still more so. . . . Again with the very best management by merchants who devote their time and attention to them they are expensive and unprofitable. . . . A farmer who spread his bread on the land may after many days gather it to gather again but when he scatters it on the water I fear he will not again find it all. . . .[82]

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[80]Lemmon, *The Pettigrew Papers*, I, 112.
[81]Ibid., 117.
[82]Ibid., 115.

Although Johnston urged Pettigrew to avoid shipbuilding and management, in 1829 Johnston began construction on a canal boat for his own produce. He noted:

> I have given orders to my overseer in Pasquotank to get timber and materials to build a canal boat which will not cost me much and with which I can with (sic) my own negroes and at no expence[sic] except the toll carry my produce thro' to Norfolk where if (sic) does not sell at a fair price it can be shipt (sic) a very reduced freight to any other market foreign or domestic.[83]

The merchants and shipbuilders of the Albemarle region built vessels according to their use and expected operating environments. The "canal boat" that Johnston built was probably a flat or small barge, whereas the boat Pettigrew built was a schooner, designed to sail in variable conditions. The canal boat was designed for carrying large amounts of produce, often stacked upon each other, in relatively calm water. This vessel type sometimes employed sail, but more commonly needed towage. The schooner on the other hand was capable of carrying large loads in a variety of conditions, but it was much more complex to build and operate. If a merchant needed a vessel to transport large amounts of produce in creeks as well as the sounds or open ocean, vessels such as the schooner were more aptly suited to such voyages.

Pettigrew illuminated these considerations when he wrote to Johnston regarding the canal boat venture in 1829. He stated:

> I very much approve of your plan as respects the canal boat & the Norfolk trade, but you have an advantage over me in that respect. Some of your plantations [are on the] great rout [sic] which will command steam boat conveyance, while I live out of the way and cannot yet command any of those conveniences.[84]

[83] Ibid.
[84] Ibid., 117.

Pettigrew's plantation, located on the southern side of the Albemarle Sound, did not provide him with the luxury of direct access and towage on the Dismal Swamp canal. Consequently, he built a vessel that could safely transport his goods over open water directly to ports such as Norfolk, Baltimore or Charleston.

In the larger, more populated areas within the Albemarle region, commercial shipyards constructed vessels for the region's commerce. Shipbuilding in the town of Elizabeth City, exemplified the growth of commercial yards. The 1850 United States Census for Pasquotank County lists three shipyards in the Schedule for Manufacturing. Those included the yard's of Captain Timothy Hunter, Burgess and Lamb, and Richard Overman.[85] The Hunter yard opened sometime before 1835,[86] while the Burgess and Lamb shipyard, located at Pleasant Point, began operation in November of 1848.[87]

Edenton, in Chowan county, was also the site of several other commercial shipyards. An advertisement from the *Edenton Sentinel* lists the shipyard of George Smith[88] and the Edenton *American Banner* lists the yards of John Cox and R.T. Paine.[89] Paine's shipyard operated since at least 1850, the year he advertised it for rent. In that year, Paine advertised his shipyard and railways were available for rent during the year 1851. In addition to the shipyard, Paine advertised to hire out four ship carpenters and one blacksmith to work in the yard during the year.[90] The region's commercial development depended upon reliable and efficient transportation, and commercial shipbuilders supplied the growing market for coasting vessels.

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[85] 1850 Pasqoutank County (North Carolina) Census, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[86] Timothy Hunter and Lem C. Moore, Management agreement for their shipyards, 1835, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.

[87] *Old North State* (Elizabeth City, North Carolina), 24 February 1849.

[88] *Edenton* (North Carolina) *Sentinel*, 6 November 1841.

[89] *American Banner* (Edenton, North Carolina), 8 May 1856.

[90] *Albemarle Bulletin*, 25 November 1850.

In nineteenth-century America, the inter-regional shipment of goods depended upon the waterways, and schooners became the primary vessel type.[91] During this period, the schooner dominated the American coasting trade, as well as the West Indian trade. In 1815, there were 1,314 vessels built in America, of these 680 were schooners, 274 sloops, 224 brigs, and 136 ships.[92] These numbers reveal the schooner's popularity. In 1860, American builders still favored the schooner. There were 1,102 vessels constructed and of these 372 were schooners, 289 sloops, 264 steam vessels, 141 ships and 36 brigs.[93]

In North Carolina, the schooner also became the most prevalent vessel type. During the period 1800 to 1850, three out of every four North Carolina-built sailing vessels was a schooner. Other vessel types utilized during this period included canoes, barges, canal boats, flats, sloops, brigantines, full-rigged ships and steamboats.[94]

The Albemarle Sound's shore, with its many creeks and rivers, produced conditions where maneuverability and windward sailing ability were highly advantageous. Edmund Ruffin provided a vivid description of the waterways in the northern portion of Albemarle Sound. He stated:

> The whole country, and especially from Perquimans county to Currituck Sound, is pervaded by broad and deep estuaries near the Sound; and their head waters, extending near or into the Dismal Swamp, make, with their many branches, a net-work of natural still-water canals, narrow and crooked, but as deep, as smooth, and as sluggish as artificial canals. . . .[95]

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[91] Howard I. Chapelle, *The History of American Sailing Craft* (London: Putnam Press, 1935),.221.

[92] Robert G. Albion, *The Rise of the Port of New York, 1815-1860* (New York and London: Charles Scribner's Sons, 1939), 304.

[93] Ibid.

[94] Lewis R. Fischer, and Helge W. Nordvik, eds., *Shipping and Trade 1750-1950: Essays in International Maritime Economic History* (West Yorkshire, England: Lofthouse Publications, 1990), 256.

[95] Edmund Ruffin, *Agricultural, Geological and Descriptive Sketches of Lower North Carolina, and Adjacent Lands* (Raleigh, N.C.: Institue for the Deaf, Dumb and Blind, 1861), 56-57.

The need for maneuverability, combined with the smaller crew, as compared to the sloop, helped make the schooner the primary vessel type in the Albemarle region.

Generally, a schooner, given a hull length equal to a sloop, operated with fewer crew and maneuvered easier. Crewmen worked two smaller sails easier than one large sail, and dividing the sail area provided a lower center of effort for the sail plan. The schooner rig was also more efficient when working in confined waters, such as bays and rivers, and the schooner sail plan was readily adjustable to variable wind and weather conditions.

The development of the centerboard also influenced the design of American sloops and schooners. Although initially confined to smaller vessels, larger commercial vessels eventually began to use centerboards, especially schooners in the coastal trades.[96] There were several advantages to using centerboards on schooners within the coastal trade. The centerboard allowed vessels to navigate in shallow creeks and rivers, and still perform well in open water.[97] In addition, centerboard vessels had a small draft, compared to keel vessels, and sailed well when not loaded with cargo.[98]

The origin and development of centerboards in American vessels is unclear. The first record of the pivoted centerboard comes from an 1811 patent granted to Henry Swain, Jacocks Swain, and Joshua Swain in Cape May, New Jersey.[99] The influence of the lee board is evident from the fact that the American inventors called their design a "lee-board through the bottom".[100] The English also claim to have invented the pivoted centerboard. The Royal Navy officer Molyneux Shuldham is said to have created a pivoted long board

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[96]Howard I. Chapelle, *The Search for Speed Under Sail, 1700-1855* (New York: W. W. Norton & Company, 1967), 279.

[97]Quentin Snediker and Ann Jensen, *Chesapeake Bay Schooners* (Centreville, Maryland: Tidewater Publishers, 1992), 58.

[98]Chapelle, *Search for Speed*, 279.

[99]Howard I. Chapelle, *American Small Sailing Craft: Their Design, Development, and Construction* (New York: W. W. Norton & Company,.1967), 40.

[100]Henry N. Barkhausen, *Focusing on the Centerboard* (Manitowoc, Wisconsin: Manitowoc Maritime Museum, 1990), 9.

in 1809 but it does not appear that the English widely employed this design.[101] According to Chapelle, American sloops and schooners employed the pivoted centerboard fairly widely by 1825.[102] It appears the centerboard developed as a means of increasing vessel abilities in shoal, or confined waters.

Although there is little information regarding the centerboard's introduction into the Albemarle region, it appears to have arrived as early as 1817. For example, an 1817 letter from Ezra Cornell, who migrated from New York to Martin County, North Carolina, describes the construction of a vessel. Cornell stated that he was building "a vessel with a Leabourd in the Middle which people here are not acquanted (sic) with but I think it will introduce the fashon (sic) here which will be a grate (sic) advantage to this Country the navigation be shole (sic)".[103]

What Cornell described was a vessel with a centerboard. While one can not say with any degree of certainty whether this was the first centerboard used in the Albemarle Sound, it probably represents one of the first attempts at implementing that particular aspect of vessel technology. According to Cornell, the environment dictated the rapid acceptance of a centerboard. Consequently, environmental conditions were a primary factor in regional vessel adaptation.

As the centerboard increased in popularity, nineteenth century schooner usage continued to increase in the American coasting trade. Similarly, Albemarle shipwrights also produced large numbers of schooners for the coasting and West Indies trade. North Carolina shipbuilding research provides information regarding the spatial and temporal aspects of vessel construction, including vessel types. The following table lists the vessel

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[101] Chapelle, *American Small Sailing Craft, 40.*

[102] Ibid.

[103] Ezra Cornell, Letter to his brother, 1817, Cornell Family Papers, Department of Manuscripts and University Archives, Cornell University, Ithaca, New York.

types built in the major counties of the Albemarle Sound region. Using Still and Stephenson's data, a clearer picture of preferred vessel types emerges (Table 1).[104]

TABLE 1 Albemarle Sound Vessels Built Between 1800 and 1865

Vessel	Currituck	Camden	Pasquotank	Chowan	Tyrrell	Washington	Totals
Schooners	64	9	66	40	28	39	246
Sloops	5	0	0	0	3	0	8
Brigs	3	0	6	1	0	2	12
Barks	0	0	1	0	0	0	1
Ship	0	0	1	0	0	0	1
Steam	0	0	1	0	0	1	2

Although these numbers do not represent the entirety of vessels built during the period, the information provides a good indication of total population regarding vessel types. Overwhelmingly, the majority of vessels constructed in the Albemarle region were schooners. Not only were schooners well suited for the region's operating environment, but these vessels also proved more economical with regard to operating costs and cargo capacity.

The opening of the Dismal Swamp Canal was another environmental influence on vessel adaptations. After the canal's enlargement in 1828, shipbuilders designed vessels specifically for the canal trade route. Channel depth and lock sizes were the major design constraints for vessels using the canal. In particular, the size of the canal's smallest locks dictated the maximum beam of vessels in the canal trade. The canal's smallest locks were seventeen and one-half feet in width and ninety-five feet in length. Vessels employed in

[104]Richard Stephenson and William N. Still (compilers), "A Statistical Analysis of Interstate and International Vessel Construction in North Carolina," (Greenville: East Carolina University, 1993).

the canal trade, therefore, had beams of less than seventeen and a half feet. Also, since the average depth of the canal was five and one half feet, builders constructed vessels with shallow draft hulls.

Before 1830, as evidenced by William Still's and Richard Stephenson's compilation of North Carolina-built vessels, most schooners built in the Albemarle region appear to have had beam widths between nineteen and twenty-two feet. Conversely, during the period 1830 to 1860, many of the schooners built in the Albemarle had beams between sixteen and seventeen feet. The data indicates that several areas, such as Edenton, Plymouth, and Elizabeth City, produced a high proportion of schooners with lengths between fifty and eighty-five feet and beams of sixteen to seventeen feet. The shift in vessel dimensions strongly suggests an effort to produce vessels adapted to canal trade.

An example of a canal schooner, built in Elizabeth City, was the *Samuel D. Lamb*. An 1849 Elizabeth City newspaper editor observed that "in less than three months, three fine vessels, two of them of large size and intended for the West Indies trade and the other for the canal has [sic] been launched from the shipyards of Elizabeth City."[105]

Those vessels were the *Hunter*, built by Timothy Hunter, the *John C. Gambrel*, built at C.M. Laverty's shipyard, and the *Samuel D. Lamb*, built at the Burgess and Lamb yard.[106] When one examines the size of these vessels, it becomes apparent that the *Samuel D. Lamb* was constructed for use in the Dismal Swamp Canal. The *John C. Gambrel*, a 128-ton schooner, which measured eighty-one feet in length, twenty-two feet in beam, and eight feet in depth, and the *Hunter*, a 155-ton brigantine, were too large to pass through the canal. The *Samuel D. Lamb* was seventy-one feet in length, seventeen feet in beam, and five feet in the hold.[107] These dimensions coincide with the dimensions

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[105] *Old North State* (Elizabeth City, North Carolina), 3 November 1849.
[106] Ibid.
[107] Stephenson and Still (compilers), "Vessel Construction in North Carolina."

of many other vessels built between 1830 and 1860 in areas such as Elizabeth City, Edenton, and Plymouth. Clearly the canal's importance as a trade route was reflected in vessel sizes and types.

The development of maritime commerce and shipbuilding in the Albemarle Sound region was a function of many spheres of influence. One area of influence was the economic system of the region. With an agriculturally based economy and little manufacturing, the region produced extractive products for shipment to out-of- state markets. Consequently, most manufactured goods were purchased in out-of-state markets and transported back. Therefore, the development of water-borne transportation was extremely important.

The environment also affected the region's commercial activities. Since the Albemarle was primarily a region of waterways and swamp morasses, few road systems developed. Within the Albemarle Sound and its tributaries, navigation was shoal and sometimes restricted by small creeks and streams. Also, the dangerous inlets affected not only commercial activities but also developments in vessel forms. Later, as canals were constructed, ship carpenters also built to accommodate the canal's size. As the natural and man-made environment changed, the region's inhabitants adapted. These changes represent the region's inextricable link to the water and the importance of maritime ventures on a regional scale.

Chapter Two

Ante-bellum Elizabeth City Shipbuilding and the Schooner *Scuppernong*

Antebellum Elizabeth City shipbuilding represented a microcosm of the Albemarle Sound region's shipbuilding industry as a whole. As commercial activities increased, including shipping, so did regional shipbuilding, especially in Elizabeth City. After 1830, as Elizabeth City gained prominence as the Albemarle's principal port, commercial shipbuilding continued to develop. By 1850, for example, there were three shipyards in Elizabeth City, including the yards of Captain Timothy Hunter, Burgess and Lamb, and Richard Overman. Hunter's yard, which built and repaired vessels, employed twenty-five hands, Burgess and Lamb's yard, which also built and repaired vessels, employed seventeen, and Richard Overman employed six workmen in his shipyard.[108]

While the shipbuilding trade soared between 1850 and 1855, by 1860 there were no commercial shipyards listed in the Pasquotank County Manufacturing schedule. This drop in the number of shipyards may be a result of a national economic recession in 1857, followed by a short depression. Due to the inter-regional nature of the Albemarle's economy, the depression probably forced some shipyards out of business, while others continued to operate at reduced levels of production. Timothy Hunter appears to have been one of the survivors. Whereas the 1850 census lists Hunter as a shipbuilder,[109] the

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[108] 1850 Pasqoutank County (North Carolina) Census, Schedule of Manufacturing, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[109] 1850 Pasqoutank County (North Carolina) Census, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina..

1860 census lists Hunter simply as a ship carpenter.[110] In any event, Hunter continued to build ships at his wharf in Elizabeth City.

While it is unclear when Captain Hunter migrated from Virginia to Elizabeth City, his personal documents indicate that he constructed vessels commercially in Elizabeth City by at least 1835. In that year, for example, Captain Hunter and Lem C. Moore signed a management agreement regarding the prices and general management of each man's shipyard. Included were price breakdowns, based on tonnage, for hauling out vessels and for vessels laying on the ways.[111]

Regarding the process of hauling out vessels, Hunter and Moore agreed to charge eight dollars to haul out vessels of thirty tons and under, ten dollars for vessels of thirty-one to fifty tons, and ninety cents per ton for vessels over fifty tons. There were also charges for vessels "laying on the ways." These prices, which also varied by tonnage, ranged from one dollar and twenty-five cents for vessels thirty tons and under, up to two dollars per day for vessels greater than seventy-five tons.[112]

Although the agreement set price guidelines for services rendered, Hunter and Moore also negotiated a means of price control. For example, the document specifies that each shipyard owner should not question vessel captains or owners regarding the price estimates of other yards. Hunter and Moore stated:

> we shall make our estimate without knowing what the offer may have been & if the price should be made known before the estimate is made then we mutually agree not to interfere. -- until the captain or owner refuses to give the price that has been asked him -- and the same be made known in writing or otherwise from the party offering to do the work.[113]

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[110]1860 Pasqoutank County (North Carolina) Census, Schedule of Manufacturing, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[111]Timothy Hunter and Lem C. Moore, Management agreement for their shipyards, 1835, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.

[112]Ibid.

[113]Ibid.

By creating such an agreement, Hunter and Moore were apparently attempting to create price stability and, perhaps, reduce the possibility of a price war.

While competition from rival shipyards undoubtedly affected Hunter's economic status, the supply and demand of materials and labor also played a prominent role in Hunter's success or failure as a shipbuilder. To succeed, Hunter required sufficient quantities of material and labor at acceptable prices. Antebellum shipbuilding in Elizabeth City was a labor-intensive activity. During the period, the shipyard workforce probably consisted of free, apprenticed, and enslaved men, all working together. Unfortunately, there are few remaining documents regarding North Carolina shipbuilders. Like many of the vessels, the master carpenters and workmen remain anonymous in the region's history.

Although a dearth of shipyard documents hinders research regarding laborers, census material from 1850 and 1860 provides useful information regarding the racial and geographic diversity, or lack of, among free men employed in shipbuilding occupations. The 1850 Pasquotank County census, for example, listed fourteen ship carpenters. Of these fourteen men, eight were white, five were black and one was mulatto. In addition, nine of the ship carpenters were born in North Carolina, while one was born in Massachusetts, one in Virginia, and one in Ireland.[114] Obviously, there was a great deal of racial diversity among ship carpenters in the 1850 Pasquotank County census, but little geographic diversity regarding place of birth.

The 1860 Pasquotank census lists nine ship carpenters. Of these nine men, only one was black, and there were no mulattoes.[115] Unlike the 1850 census, there was limited

[114] 1850 Pasquotank County (North Carolina) Census, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[115] 1860 Pasquotank County (North Carolina) Census, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

racial diversity among ship carpenters in 1860 Elizabeth City. Also, one sees that the geographical origins of ship carpenters remained slanted toward native North Carolinians. Of the fourteen ship carpenters in the 1860 Pasqoutank census, one was from Pennsylvania, one was from Virginia, two were from Maryland, and ten were born in North Carolina.[116] In 1860, the free Elizabeth City shipyard workers appear to have been predominantly white and native North Carolinians.

Apprenticeships supplied additional shipyard labor. For instance, the Pasqoutank County Apprentice Indentures provide limited information regarding youths apprenticed to Elizabeth City shipwrights. In 1832, for example, James M. Grice apprenticed Christopher Griffin, aged seventeen, David Griffin, aged thirteen, and William Griffin, to the "ship builder's trade."[117] Other examples include the 1833 apprenticeship of George Horton, aged seventeen, to John Boushell[118] and the 1840 apprenticeship of Josiah Bell, aged eleven, to Timothy Hunter.[119]

African-American slaves also constituted a major source of shipyard labor. Shipbuilders, like others involved in nineteenth century commercial activities, utilized enslaved African-Americans in their labor force. Although documentation relating to African-American involvement in North Carolina shipbuilding is limited, eighteenth-and nineteenth-century newspaper ads for slave runaways provide important descriptions of a runaway's skills and occupations, including those related to shipbuilding. One particularly poignant example is the 1805 runaway advertisement for "Sam," a ship carpenter from Bertie County, located along the northwestern portion of Albemarle Sound. In the advertisement the slave owner stated: "His clothing I can not describe, as

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[116]Ibid.

[117]James H. Craig, *The Arts and Crafts in North Carolina: 1699-1840* (Winston-Salem, N.C.: Museum of Southern Decorative Arts, 1965), 265.

[118]Ibid.

[119]Ibid., 266.

he had many; but his working clothes were two osnaburgs he carried with him a silver watch, and I expect money; this is an artful fellow; he is by trade a ship carpenter and caulker."[120] The term osnaburg refers to a rough and coarse cloth, similar in texture to feed bags, which slave owners used as material for slave clothing.

Other runaway advertisements also refer to African-American shipbuilding skills. For instance, a 1793 runaway advertisement described the ship rigging skills of a man named "Yarmouth." Whitmill Hill, Yarmouth's owner at the time, aptly described Yarmouth's training and importance. Hill stated:

> He has been brought up in a rope-walk, and very ready at work in rigging; from which circumstances, I judge he will endeavour (sic)to get passage to the northward in a vessel; but I hope, as he cost me the price of four common negroes no master of a vessel would be guilty of so high an offense as to endeavour to deprive me of him He may be lurking about Edenton, as he obtained his trade, in Mr. Collins's [sic] rope walk.[121]

As these advertisements illustrate, African-American slaves were key participants in Albemarle shipyards.

Although it is unknown exactly how many African-American slaves worked in Elizabeth City shipyards, at least one shipbuilder, Captain Hunter, depended heavily upon such labor. In fact, these men were so important to the yard's operation, Hunter insured eight men,each for five years, with North Carolina Mutual Life Insurance Company. Of these eight, Hunter insured two men for $1,000 each, and the remaining six for between $600 and $800 each. Hunter's slave insurance coverage totaled $5,800.[122] The two men Hunter insured for $1,000 each, Alfred Whedbee and Calib, were apparently more skilled

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[120] *Virginia Gazette and General Advertiser* (Richmond), 24 August 1805.

[121] Freddie L. Parker, *Stealing a Little Freedom: Advertisements for Slave Runaways in North [illegible], 1791-1840* (New York and London: Garland Publishing, 1994), 21-22.

[122] North Carolina Mutual Life Insurance Company, Slave life insurance policies, 1853, Timothy [illegible] Papers, Private Collection, Elizabeth City, North Carolina.

than the other men. Although the insurance policies do not provide information on each man's skills, an 1863 "affidavit of lost negroes," filed with the Confederate States Government, provided additional information. That document listed the names, ages, skill, and worth, according to Hunter, of slaves lost during the war.[123] The "affidavit" listed Alfred Whedbee, then aged 33, and Calib, aged 30, as carpenters. In addition to Alfred and Calib, Hunter's other slave shipyard workers included a blacksmith, a caulker, a sawyer, three carpenters and two ship carpenters. In total, Hunter listed nine men, for a combined worth of $17,500. The following list provides the names, ages, skills, and worth, according to Hunter, of his lost shipyard slaves (Table 2):[124]

TABLE 2 Timothy Hunter Shipyard Slaves – 1863 Insurance Values

Daniel	35 years	ship carpenter	$1,800
Seth	26 years	ship carpenter	$2,500
Terry	40 years	sawyer	$1,200
Steven	27 years	caulker	$1,500
Alfred	35 years	carpenter and caulker	$2,000
Emanuel	38 years	carpenter	$2,000
Calib	30 years	carpenter	$2,300
Alfred Whedbee	33 years	carpenter	$1,700
George	28 years	blacksmith	$2,500
			$17,500

In addition to labor, shipbuilders required raw and processed materials. In Elizabeth shipyards, wood, primarily oak and pine, iron, and copper were the principal

[123] Hunter to Confederate States Government, Lost Negroes Affadavit, 1863, ibid.
[124] Ibid.

shipbuilding materials. According to the 1850 Pasquotank County Census Schedule for Manufacturing, two out of three commercial ship yards used wood, iron, and copper. The third, and smallest shipyard, owned by Richard Overman, did not list copper as a raw material.[125] Since copper was used extensively during this period to protect the bottoms of ocean going vessels from the terredo worm, Overman's non-use of copper indicates that he probably did not focus on constructing vessels for the West Indian trade, where vessels were more susceptible to worm infestation. The use of copper in the yards of Hunter, as well as Burgess and Lamb, suggests that they served the coasting and West Indian markets.

Timothy Hunter's receipts and bills document the types and origins of materials used in his shipyard. It appears that Hunter acquired lumber locally, produced his own wrought iron, and utilized firms in New York and Norfolk for various other manufactured materials. Regarding the acquisition of wood, Hunter's documents indicate that he obtained planks and decking from several sources throughout the years. For instance, in 1853 Hunter received large lumber shipments from Benjamin F. Hanks of Washington, N.C. In April of 1853 Hunter purchased 2,077 feet of 2 3/4-inch by 5-inch decking at 16 dollars per 1,000 feet and 4,144 feet of 2-inch planks at 13 dollars per 1,000 feet. In total, Hunter purchased approximately 6,200 feet of lumber during the month of April, at a cost of $97.10.[126] While Captain Hunter's papers do not reveal his intended use for the lumber, in all probability his men used the lumber to plank the hull and deck of a new vessel, as well as ceil the hold.

An 1860 bill reveals that Hunter acquired lumber from the saw mill of H.N. Perry, located in Elizabeth City. Hunter purchased lumber from Perry in March, April, July,

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[125]1850 Pasquotank County (North Carolina) Census, Manufacturing Schedule, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[126]Benjamin F. Hanks to Timothy Hunter, Bill for lumber purchases, 14 April 1853, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.

and December of 1860. The first March shipment included 2,104 feet of 3-inch planking and 1,007 feet of 1 1/2-inch planks. Two weeks later, on 14 March, Perry shipped 3,094 feet of 2-inch plank to Hunter. Just over a month later, on 20 April, Hunter received 4,449 feet of 2 1/4-inch planks, while the July shipment included 2,000 feet of 2-inch planks. The final purchase, in December, was for 2,158 feet of one and one quarter inch planks. Between April and the end of December, Hunter purchased approximately 11,700 feet of sawn lumber from Perry.[127] It is interesting to note that between 1853 and 1860 two-inch planks remained approximately thirteen dollars per thousand.

By 1866 Hunter utilized still another lumber source, Spruill's mill of Tyrrell County, North Carolina, located on the southern side of the Albemarle Sound. A December bill from Benjamin Spruill & Sons reveals that Hunter purchased 1,010 feet of 2-inch planks, 1,060 feet of 1 1/2-inch planks, and 1,000 feet of 1-inch planks.[128] The 1866 bill indicates that Hunter paid eighteen dollars per thousand for 2-inch planks, as compared to thirteen dollars per thousand six years earlier. The 1860 and 1866 lumber bills illustrate the dramatic rise in post-Civil War lumber prices.

Iron was another important material used in nineteenth-century vessel construction. Consequently, Hunter's shipyard also contained a blacksmith shop. Although there were no iron foundries within the immediate area, Hunter imported iron from larger, more industrialized regions along the eastern seaboard. For instance, an 1851 bill from Egleston & Battell, New York iron merchants, indicates that Hunter purchased various sizes of English and Swedish iron.[129] After receiving the raw iron, Hunter's blacksmith's could then produce wrought iron nails, spikes, and bolts used in fastening a vessel's structural elements.

[127]H.N. Perry to Hunter, Bill for lumber purchases, 1860, ibid.
[128]Benjamin Spruill & Sons to Hunter, Bill for lumber purchases, 1866, ibid.
[129]Egleston & Battell to Hunter, Bill for iron purchases, 1851, ibid.

Although Elizabeth City shipbuilders constructed vessels primarily with local materials and services, the Albemarle's lack of specialized manufacturing forced shipbuilders to acquire certain elements of the ship's gear and materials from outside markets. Ship chandlery goods, for example, were shipped to Hunter from larger port cities, such as Norfolk or New York. An 1856 bill of lading from a New York firm, Collin & Mitchell, illustrates Hunter's out of town purchases. For instance, Hunter's New York shipment included cordage, cotton duck, manilla, Russia bolt rope, blocks, signal halyards, a binnacle lamp, and a mariner's compass, all of which were necessary for outfitting new vessels.[130]

Hunter's use of an out of state iron works company further demonstrates the use of specialized services within shipbuilding. Hunter's personnel produced wrought iron, but it remained impractical for them to produce cast iron. Consequently, Hunter contracted Atlantic Iron Works, of Norfolk, Virginia, to produce cast iron hawser pipes. According to an 1860 receipt, Atlantic Iron Works charged Hunter one dollar and twenty-five cents for one half day's work on the hawser pipe pattern, five dollars and sixty cents for the hawser pipes and flanges, and two dollars and fifty cents for one days work drilling holes in the pipes and flanges.[131] Throughout the ante-bellum period, shipbuilders utilized the specialized services of iron workers, sail makers, and ship chandlers. The shipbuilder in ante-bellum Elizabeth City, therefore, obtained and utilized skills and materials within and without the region.

The importance of water transportation to the region's economy and the interconnection between merchants and shipbuilders accentuated the development of vessel partnerships. Since much of the Albemarle's economy functioned within a

[130]Collin & Mitchell to Hunter, Bill of lading for ship chandlery materials, 3 April 1856, ibid.
[131]Atlantic Iron Works to Timothy Hunter, Bill for iron hawser pipes, 1860, Timothy Hunter Papers, Elizabeth City, North Carolina.

growing network of merchants, shipbuilders, farmers, and mariners, it was not uncommon for many of these men to enter mutual business partnerships, especially regarding vessel construction and ownership.

Timothy Hunter was no exception. Hunter built and owned schooners in conjunction with merchants and vessel captains within the Albemarle region and Norfolk, Virginia. Hunter, for example, owned one-half of the schooner *Nebraska* with its captain, Alvin Purdy.[132] Other vessels owned by Hunter included the schooners, *William W. Hall*,[133] *Lucent*[134] and the *Southerner*.[135] While Hunter worked primarily as a shipbuilder, those documents make it readily apparent that he also became involved in vessel ownership and mangement.

Captain Hunter successfully operated an Elizabeth City shipyard for over thirty years, but volatile financial and social circumstances eventually undermined his success. While Hunter weathered several national economic downturns, such as those of 1837, 1839, and 1857, the financial and social distress of the Civil War ultimately eroded Hunter's ability to compete in a changing economic market. Specifically, financial losses during the Civil War, combined with the dramatic post-Civil War price increases of shipyard materials and labor, weakened Hunter's financial base. Unable to recover debts owed to him, Hunter declared bankruptcy in 1868 thereby ending his shipbuilding career.[136]

The shipbuilder in ante-bellum Elizabeth City obtained and utilized skills and materials within and outside the region. Elizabeth City shipbuilders acquired lumber within the region, produced wrought iron components locally, and utilized specialized services such as ship chandlers from outside the region. The intra-regional aspect of the

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[132]Timothy Hunter to Alvin Purdy, Bill of sale for one half the schooner *Nebraska*, 12 September 1854, ibid.

[133]Vessel Enrollment for the *William W. Hall*, 2 November 1853, ibid.

[134]Outward Clearance for the schooner *Lucent*, 31 March 1859, ibid.

[135]Court Order to Timothy Hunter Concerning the schooner *Southerner*, 28 June 1858, ibid.

[136]Timothy Hunter, List of debts and declaration of bankruptcy, 24 August 1868, ibid.

Albemarle's commerce carried over into shipbuilding. In order to construct large numbers of schooners for the Albemarle trade, shipbuilders needed access to outside markets and materials. Elizabeth City shipbuilders relied on the continuation of inter-regional commercial activities as a demand factor, and as an input into acquiring the necessary construction materials. Inter-regional commerce, therefore, created a demand for schooners and enabled their construction in Elizabeth City shipyards.

The *Scuppernong*, a coasting schooner, was constructed in an Elizabeth City shipyard in 1853. Coasting schooners, many of which were designed for travel through the Dismal Swamp Canal, formed the core of the region's merchant fleet. Unfortunately, historians and archaeologists know very little about the construction of nineteenth century North Carolina schooners. Details concerning a vessel's appearance, gear, or even of their builders, owners, or crew remain fragmented.

To illuminate the *Scuppernong*'s possible appearance and outfitting the author utilized vessel enrollments, published surveyors reports, and the Hunter papers. Vessel enrollments and registrations reveal basic information and dimensions regarding American-built vessels. During the nineteenth century, for example, vessels employed in foreign trade were required to "register" in their home port, while vessels engaged in the coasting trade were "enrolled." The register or enrollment document provided the vessel with a license to carry on shipping activities. In most cases, the vessel's original register or enrollment document provides a brief description, including vessel dimensions, as well as, the builder's name and location. In addition, whenever a vessel changed home ports, captains, or ownership, vessel owners were required to re-register or enroll their vessels.

The *Scuppernong*'s original enrollment document provided the most enlightening documentary evidence concerning the vessels appearance and dimensions. The enrollment document, for instance, revealed that the *Scuppernong* was a single-decked,

two-masted schooner, with a square stern, a billet head, and no galleries. The vessel's length was 77 feet 8 inches, its width was 17 feet, and its depth of hold was 5 feet 11 inches.[137] As discussed in chapter one, Albemarle shipbuilders often constructed vessels with similar dimensions for use on the Dismal Swamp Canal. The canal's Elizabeth City lock width of seventeen feet six inches influenced builders when constructing vessels for use on the waterway.

Several other documentary sources provide evidence regarding the appearance and outfitting of schooners built in the Albemarle region with comparable dimensions. The New York Marine Register of 1857[138] and the American Lloyds Registry of 1862[139] provided the vessel's name, captain, rig, insurance class, tonnage, draft, construction materials, place of construction, use of a centerboard, and model. "Draft" probably referred to the amount of water that a vessel drew when fully loaded, and "Model" referred to full, medium, or sharp hull shapes. Hulls with a full entrance and shape allowed increased cargo capacity in comparison to vessels with a "sharp" bow.

By cross referencing the New York Marine Register and the American Lloyd's with Still and Stephenson's database[140] of North Carolina-built vessels, one may compare the listed features of Albemarle-built schooners with dimensions suitable for passage through the Dismal Swamp Canal. The author cross-referenced fourteen vessels from the 1857 New York Marine Registry and 1862 American Lloyd's with the Still and Stephenson material.[141] The comparisons suggest that Albemarle shipbuilders constructed Dismal Swamp Canal schooners based on several general features and designs. First, most of the

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[137] Vessel Enrollment 29, Port of Plymouth (North Carolina), 28 July 1853, Record Group 41, National Archives, Washington, D.C.

[138] *New-York Marine Register: A Standard of Classification of American Vessels, and of such other vessels as visit American ports* (New York: R.C. Root, Anthony & Company, 1857)

[139] *American Lloyd's Registry of American and Foreign Shipping* (New York: Ferris & Pratt, 1862)

[140] Stephenson and Still (compilers), "Vessel Construction in North Carolina."

[141] See Appendix A for vessel specific information.

compared vessels had a "full" hull. Of the fourteen schooners, for example, eleven were constructed with a full model hull. The remaining three were "medium" shaped hulls. Second, Albemarle shipbuilders apparently constructed many Dismal Swamp Canal schooners with a draft of approximately 6 feet. There were ten vessels with a six-foot draft, one with a 6 1/2-foot draft, and three with a seven-foot draft. Third, all fourteen vessels utilized a centerboard.

These general features present a picture of Albemarle canal schooner hull form. Dismal Swamp Canal schooners utilized "full hulls" with shallow draft and centerboards. The data indicates that those characteristic broadly defined the shape and form of Dismal Swamp Canal schooners. Builders constructed canal schooners to meet the environmental and economic constraints of the region. Merchants, for example, required vessels sizable enough to carry bulk cargoes and shallow enough to work in the Albemarle's rivers and creeks. The vessels also needed to pass through the Dismal Swamp Canal and, if necessary, into open water. Although builders certainly utilized individual techniques and methods to achieve these qualities, the data strongly suggests that ship builders in the Albemarle region constructed canal schooners with generalized vessel form requirements. The *Scuppernong*'s builder, John Boushell, probably used a similar generalized design form.

Historical documentation also provides information on outfitting vessels such as the *Scuppernong*. The Hunter papers, for instance, provide an excellent example of outfitting the schooner *North Carolina*, a vessel built in Elizabeth City. In 1843 Timothy Hunter constructed the *North Carolina* and outfitted it with materials obtained from Dickson & Mallory of Norfolk, Virginia. The *North Carolina* was 76 feet long, 17 feet wide and 5 feet in the hold.[142] The vessel's dimensions and time and place of construction suggest

[142] Stephenson and Still (compilers), "Vessel Construction in North Carolina."

that the vessel was constructed for use on the Dismal Swamp Canal. The materials used to outfit the vessel included bushed blocks, No. 4 cotton duck, tarred rope, marline, a wood compass, 3 inch manila rope, 2 3/4-inch manila rope, and 2 1/2-inch manila rope.[143] Those materials indicate that schooners built in Elizabeth City were probably sparsely furnished, simple work boats. Ship builders constructed vessels with a minimal amount of amenities and a maximum amount of cargo space. Hunter used durable yet cost effective materials. Technology concerning outfitting materials remained relatively constant through the 1870s, consequently many of the materials that builders and captains utilized, including rigging blocks, stoves, and other vessel hardware, were simple, cost effective components. Cost effectiveness was a primary consideration for builders and owners.

In addition to basic vessel components such as rigging gear, compass, and anchor and chain cable, vessels carried items necessary for repairs and crew life. Hunter outfitted the *North Carolina* with one hatchet, one ax, one caulkers iron, one caulkers mallet, one auger, one handsaw, and one drawing knife.[144] Those items provided the crew with the basic implements for vessel repair. Outfitting also provided the vessel with basic crew items. The *North Carolina*, for instance, carried tin cups, one dozen spoons, knives and forks, a coffee mill and crockery ware. [145] Other Elizabeth City vessels, such as the *Scuppernong*, were no doubt outfitted in much the same manner as the schooner *North Carolina*.

While these data present clues to the appearance and outfitting of Albemarle-built canal schooners, other material provides insight into the career of the vessel's builder. The *Scuppernong*'s original enrollment document noted that "master carpenter" John

[143] See Appendix B for complete list of outfitting materials for the *North Carolina*.
[144] Dickson & Mallory to the schooner North Carolina, Bill for vessel outfitting materials, 28 March 1843, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.
[145] Ibid.

Boushell constructed the vessel in Elizabeth City, North Carolina in 1853.[146] Only scattered documentary evidence remains concerning Boushell's shipbuilding business. Newspaper references, census data, and several of Timothy Hunter's personal papers provide the best available sources.

Using various sources one may trace John Boushell's shipbuilding career during the period 1827 to 1861. Boushell, for example, operated an Elizabeth City shipyard before 1835. Two 1827 editions of the *Elizabeth City Star* listed Boushell as building several schooners at his wharf in Elizabeth City during that year.[147] Boushell also constructed larger vessels. In 1831 the editor of the *Elizabeth City Star* noted that Boushell laid the keel for a 300 ton brig.[148] It is, therefore, apparent that Boushell operated in Elizabeth City during the 1820s and 30s and that he was probably adept at constructing medium to large size vessels. After 1835, however, the documentary record becomes less clear. Although census records indicates that Boushell worked as a ship carpenter in both Pasqoutank and Chowan counties, many of the details concerning his shipbuilding career remain uncertain.

Regarding Boushell's relocation from Pasquotank to Chowan County, several documents within the Hunter collection indicate that financial instability may have forced Boushell to leave Elizabeth City. Although Boushell paid off a note against "one negro man slave named Sam and sundry other property, consisting of household and kitchen furniture, [and] tools for carrying on the business of shipbuilding,"[149] Boushell may have lost his shipyard due to other outstanding debts. For instance, a 7 May 1835 letter, written by executor Matthew Cluff, reveals that Timothy Hunter paid one hundred dollars

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[146] Vessel Enrollment 29, Port of Plymouth (North Carolina), 28 July 1853, Record Group 41, National Archives, Washington, D.C.

[147] *Elizabeth City Star* (North Carolina), 21 November 1827; Ibid., 21 July 1827.

[148] Ibid., 3 June 1831.

[149] C. Eringhaus, Notice of John Boushell debt repayment, 1 January 1831, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.

on a note against Boushell's shipyard, thereby releasing all claims against the property.[150] The document, however, does not indicate whether Boushell, Hunter, or both men assumed possession of the shipyard. The document does not specify whether Hunter or Boushell retained the shipyard, but it does indicate that these men knew each other. Boushell left Elizabeth City for Chowan County sometime between 1835 and 1849.

With the Dismal Swamp Canal fully operational by 1828, it appears unusual that Boushell relocated to Chowan County during a period of burgeoning canal trade. The 1850 Chowan County census listed Boushell, a Maryland native, as a ship carpenter.[151] Additionally, the 1850 manufacturing schedule for Chowan County stated that Boushell employed 27 hands and produced 10 schooners annually at his shipyard.[152] Boushell obviously operated a sizable shipyard in Chowan County after relocating from Pasqoutank County.

Boushell did not, however, remain in Chowan County. The 1860 Pasquotank County census listed Boushell as a ship carpenter.[153] Again, Boushell's reasons for relocation are unknown, but, based on notes from Boushell to Timothy Hunter, it appears possible that Boushell became an employee in Hunter's Elizabeth City shipyard after returning. The notes indicate that Hunter paid several debts for Boushell at various times during the period 1860 to 1861. In certain notes, for instance, Boushell asked that Hunter "place the same [amount] to my account,"[154] or "charge the same [amount] to your humble servant."[155] In addition, Hunter also helped keep Boushell out of jail. Because of their failure to repay sixty dollars on 1 January 1860, the Pasqoutank County "Justice of the

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[150]Matthew Cluff, Notice of John Boushell debt repayment by Timothy Hunter, 7 May 1835, ibid.

[151]1850 Chowan County (North Carolina) Census, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[152]1850 Chowan County (North Carolina) Census, Schedule of Manufacturing, ibid.

[153]1850 Pasqoutank County (North Carolina) Census, ibid.

[154]John Boushell to Timothy Hunter, Note requesting Hunter to pay a debt for Boushell, 1 January 1861, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.

[155]Ibid., Note requesting Hunter to pay a debt for Boushell, 7 April 1860, ibid.

Peace" ordered John Boushell and William Newbold arrested. Hunter subsequently offered himself for "security" to stay the arrest.[156] Because of the importance of experienced, talented ship carpenters, it is possible that Hunter looked after Boushell as a means of protecting his shipyard resources, of which manpower was critical.

While incomplete documentation does not allow a full analysis of Boushell's shipbuilding career, data regarding his personal life adds to the overall picture regarding Elizabeth City shipbuilding and the *Scuppernong*'s construction. Elizabeth City shipbuilders constructed the *Scuppernong* within finite regional and national economic constraints. In addition, the *Scuppernong*, and similar canal schooners, were probably constructed without the aid of "builders plans." There are no known examples of schooner construction plans or half models from the Albemarle Sound region. The art of shipbuilding was primarily passed on through work experience and apprenticeship. Boushell, a sixty-three year old artisan with at least thirty-five years of experience when he constructed the *Scuppernong*, was probably capable and adept at constructing vessels without plans or half models. The *Scuppernong*, therefore, represents and preserves a small measure of Boushell's shipbuilding experience and techniques, and a physical record of an Antebellum Elizabeth City canal schooner.

The *Scuppernong*'s historical data, like that of Boushell, is not extensive, but it provides a small vignette of the vessel's ownership and usage, thereby adding to the vessel's overall documentation. Enrollment documents and contemporary newspapers provide insight into the vessel's ownership and use. The following provides the date and place of enrollment, owner, and master:[157]

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[156] J.M. Poole, Order to arrest John Boushell and William Newbold, 13 January 1860, ibid.

[157] North Carolina Vessel Enrollment Abstracts, 1853-1856, Microfilm collection, North Carolina Underwater Archaeology Unit, Kure Beach, North Carolina.

Enrollment Date		Port	Owner	Master
July 28, 1853	#29	Plymouth	S.S. Simmons	B. Allen
July 20, 1854	#29	Plymouth	S.S. Simmons	D. Haymen
July 20, 1855	#23	Plymouth	S.S. Simmons	J. Helbridge
May 10, 1856	#21	Elizabeth City	J. Lawrence	G. Kesler

The *Scuppernong*'s original owner was Samuel S. Simmons, or S.S. Simmons. Simmons owned the vessel from July 1853 to May 1856. Simmons was a wealthy businessman and plantation owner in Tyrrell County, near Columbia, North Carolina. The following provides a vivid description of Simmons' vast plantation and extensive array of buildings and equipment:

> There is about 1800 acres of land, with 1200 cleared is[sic] rich and easily cultivated. The average production will not fall short of 8 barrels of corn and 15 bushels of wheat per acre, the wheat crop oftener yeilding 20 bushels. The plantation is in the highest state of cultivation, being advantageously laid out and effectually drained. The buildings are new, and in fine order, built of the best material, and every house necessary on a large farm. A large and comfortable dwelling, and office near; 12 framed cabins, with brick chimneys, Overseer's house, Jail, Carriage house and Stable, two large stack houses and stables with two barns, each 80 by 160 feet, 3 stories high, well located on different parts of the land, with excellent machinery on each. The grain has to be hauled only about one mile to the Scuppernong River on fine roads. There is also a good Steam Grist Mill, which from the toll, supplies the farm with meal and flour.[158]

In order to ship large amounts of corn and wheat from his plantation, as well as other regional commodities such as lumber, Simmons owned and operated a fleet of merchant schooners. In 1856, for example, Simmons owned sixteen schooners, including the *Scuppernong*.[159] Thirteen of those vessels were "adapted for the Canal Trade," as

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[158] *American Banner* (Edenton, NC), 18 October 1856.

[159] North Carolina Vessel Enrollment Abstracts, 1853-1856, Microfilm collection, North Carolina Underwater Archaeology Unit, Kure Beach, North Carolina.

evidenced by the advertisement for their auction."[160] The *Scuppernong* was one of Simmons' canal schooners.

Simmons used the *Scuppernong* to transport goods through the Dismal Swamp Canal to Norfolk and other ports. At least once, for instance, the vessel carried a cargo to New York. An 1853 edition of the *Old North State*, an Elizabeth City newspaper, noted that the *Scuppernong* loaded in Elizabeth City and sailed north through the Dismal Swamp Canal enroute to New York.[161] Five days later the *Scuppernong* arrived in New York City, carrying a load of shingles for the commission merchant firm of Benton & Brother.[162]

The *Scuppernong*'s New York voyage provides insight into Simmons' perception of the vessel's capabilities. The fact that Simmons utilized the *Scuppernong* to transport a valuable cargo of shingles, through the Dismal Swamp Canal and up the coast to New York, indicates a certain level of confidence regarding the vessel's sailing capabilities. Canal schooners, such as the *Scuppernong*, were probably not just constructed to travel through the canal but to also make short coasting voyages along the eastern seaboard. The *Scuppernong*'s 1853 New York voyage further demonstrates the utility of canal schooners and their importance in the region's transportation system. Merchants utilized canal schooners to carry the region's most valuable cargoes, including shingles, staves, grains, and fish. The inherent risk and uncertainty of shipping by water forced some vessel owners to insure the vessels and their cargoes. Marine insurance was widely used during the nineteenth century by many persons involved in maritime ventures. As specialized financial services became more prevalent, insurance companies began to underwrite policies for coasting vessels. For instance, Bannister Ballance, an Elizabeth

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[160] *Southern Argus* (Norfolk, Virginia), 11 March 1856.
[161] *Old North State* (Elizabeth City, North Carolina), 17 September 1853.
[162] *New York Times*, 21 September 1853.

City vessel captain and owner, insured the canal schooner *J.W. Hinton* for $2,000 with the Washington Marine Insurance Company of New York, New York.[163] The *J.W. Hinton* , constructed in 1856, was 82 feet long, 17 feet wide, with a 5 feet depth of hold.[164] Ballance probably used the *J.W. Hinton* to carry goods through the canal to ports such as Baltimore, Philadelphia, and New York. Coasting voyages presented a vessel owner with increased risk, including the possibility of vessel loss by foul weather or human error. These were not, however, the only risks encountered by vessel owners.

In the case of S.S. Simmons, financial over-extension through business dealings, combined with the onset of economic recession and depression, resulted in the loss of his material possesions, namely his vessels and plantation. In 1856, Simmons suffered financial setbacks that ultimately devastated his holdings. In 1857, a crisis in the United States money markets brought on a recession and depression that lasted until the end of 1859.

The complete details of Simmons' downfall remain uncertain, but it is apparent that he was unable to repay outstanding debts. An 1856 letter from John Beasley of Plymouth, North Carolina exhorted William G. Armstrong of Columbia, North Carolina to repay debts. In noting the situation's urgency, Beasley alluded to the fact that he previously lost money "largely by S.S. Simmons."[165] It appears conceivable that Simmons, who carried out extensive shipping and merchant activities, became overextended financially and suffered further losses due to deteriorated American financial and credit markets.

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[163]Washington Marine Insurance Company (New York), Insurance policy for the schooner *J.W. Hinton*, 23 April 1860, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.

[164]Stephenson and Still (compilers), "Vessel Construction in North Carolina."

[165]John Beasley to William G. Armstrong, Letter requesting that Amstrong repay debts to Beasley, 19 April 1856, William G. Armstrong Papers, Special Collections, Perkins Library, Duke University, Durham, North Carolina.

Simmons' inability to repay outstanding debts forced creditors to take legal action. In an effort to recover funds, trustees for the creditors sold or auctioned all sixteen of Simmons' vessels, including the *Scuppernong*. H.G. Spruill, trustee, advertised the vessels for sale in an 11 March 1856 edition of a Norfolk, Virginia newspaper.[166] Later, a 28 June edition of the same paper advertised the auction of two of Simmons' canal schooner's, the *Mary Eliza* and the *Ann Halsey*. The auction proceeds were used to satisfy the claims of Carter, Mallory & Company and O' Brian, Grafton & Company.[167]

The proceeds from liquidating Simmons' vessels, however, were insufficient for complete debt remuneration. In October of 1856, trustees, H.G. Spruill, C.L. Pettigrew, and C. Latham, advertised for sale the "valuable Plantation in the County of Tyrrell, now occupied by S.S. Simmons."[168] Simmons, once a wealthy and influential merchant, apparently lost his fleet of schooners and his plantation of 1800 acres. After years of success, Simmons' large scale shipping and merchant activities diminished.

Although S.S. Simmons suffered serious financial losses during 1856, others, such as Joseph Lawrence, continued to own and operate coasting vessels. Lawrence acquired the *Scuppernong* during Simmons' period of financial hardship and enrolled the vessel at Elizabeth City, North Carolina, on 10 May 1856.[169] Lawrence, who migrated from Pennsylvania to Elizabeth City, worked as a mariner,[170] and later as a ship carpenter.[171]

As a ship carpenter, Lawrence had connections with Timothy Hunter. Like Boushell, Lawrence may have been an employee in the Hunter shipyard, or he may have operated a small-scale shipyard on the Elizabeth City waterfront. Lawrence stated in a note that he

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[166]*Southern Argus* (Norfolk, Virginia), 11 March 1856.

[167]Ibid., 28 June 1856.

[168]*American Banner* (Edenton, North Carolina), 18 October 1856.

[169]Vessel Enrollment 21, Port of Elizabeth City (North Carolina), 10 May 1856, Microfilm collection, North Carolina Underwater Archaeology Unit, Kure Beach, North Carolina.

[170]1850 Pasqoutank County (North Carolina) Census, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[171]1860 Pasqoutank County (North Carolina) Census, ibid.

sent Hunter "3.41 1/2 lbs. of 5/8 [inch], 2.77 lbs. of 3/4 [inch], .68 lbs. of 7/8 [inch], .91 1/2 lbs. of 2 1/2 [inch] flat iron, and 1.06 3/4 lbs. of 2 [inch] flat iron."[172] Regarding the 2 and 2 1/2 inch flat iron, Lawrence added that the two men could share the single bars. Lawrence also commented that he was waiting for bale oakum, "for we have some coming."[173] While the nature of the two men's association remains vague, it appears that both men cooperated in obtaining shipbuilding supplies. The financial panic of 1857, and the depression of 1859, probably necessitated the formation of strategic business alliances, and Lawrence, if not already employed by Hunter, probably cooperated with Hunter in obtaining materials and construction contracts. By 1866 Hunter and Lawrence became partners in the shipbuilding business.[174]

Lawrence also participated in vessel ownership and management. Lawrence, for instance, owned the *Scuppernong* from 1856 to 1862. Other than scattered newspaper references, the *Scuppernong*'s use during the period 1856 to 1860 is not well documented, but the scant references present insight into the vessel's use. The *Democratic Pioneer*, the Elizabeth City newspaper during the period 1856 to 1860, failed to carry reports regarding vessel departures and arrivals and consequently presented no references to the *Scuppernong*.[175]

The *Southern Argus*, a Norfolk, Virginia newspaper contained several references to the vessel. The first reference, after Lawrence's purchase of the vessel, was in 1857 when the *Scuppernong* delivered staves and lard to the Norfolk commission firm of S. Cherry & Company.[176] The vessel's captain at that time was George Kesler, a man listed in

[172]Joseph Lawrence to Timothy Hunter, Note concerning a shipment of iron and oakum, 13 August 1859, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.

[173]Ibid.

[174]Timothy Hunter and Joseph Lawrence to Captain Decker, Bill for repairing the *Draggon*, February 1866, ibid.

[175]*Democratic Pioneer* (Elizabeth City, North Carolina), 1856-1860, Microfilm room, Division of Archives and History, Raleigh, North Carolina.

[176]*Southern Argus* (Norfolk, Virginia.), 25 March 1857, Microfilm room, Norfolk City Library, Norfolk, Virginia.

Lawrence's household in the 1850 Census. Both Kesler and Lawrence were Pennsylvania natives.[177]

Other *Scuppernong* references occurred on 31 December 1858, when Captain Balance transported a cargo of corn to the Norfolk commission merchant firm of Grandy & Stout,[178] and on 2 February 1859, when Captain Hooker delivered a cargo of corn to D.D. Simmons & Brothers, commission merchants.[179] "Balance," the *Scuppernong*'s master on the 1858 delivery, may have been Banister Balance, an Elizabeth City vessel captain and owner of the schooner *J.W. Hinton* in 1860. "Hooker," the vessel's captain on the 1858 voyage to Norfolk was not listed in either the 1850 or 1860 Pasquotank County Census. In order to keep the vessel in use, Lawrence and the *Scuppernong* captains probably solicited the vessel's services to various merchants and commission merchant firms.

The *Scuppernong* 's owners, Simmons and Lawrence, used the vessel to carry the region's products, whether it was shingles, staves, lard, or corn. In the case of Simmons, he probably used the vessel to carry his own shipments of grain and shingles, and the shipments of other plantation owners or merchants. Simmons, like any vessel owner, wanted his schooners to make money. Therefore, if his vessels were not carrying personal cargoes, Simmons hired the vessels out. In vessel ownership and management, idle vessels were unprofitable.

In all likelihood Lawrence utilized the *Scuppernong* in a similar manner. Lawrence, who once worked as a mariner and then as a ship carpenter, probably hired the vessel out to any merchant or groups of merchants in need of cargo transportation. The vessel also

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[177]1850 Pasqoutank County (North Carolina) Census, Microfilm room, Joyner Library, East Carolina University, Greenville, Noth Carolina.

[178]*Southern Argus* (Norfolk, Virginia), 31 December 1858, Microfilm room, Norfolk City Libray, Norfolk, Virginia.

[179]*Southern Argus* (Norfolk, Virginia), 2 February 1859, ibid.

provided Lawrence with a cargo vessel for personal shipments, such as for chandlery materials. In addition, vessel ownership enabled Lawrence to expand his financial base. The *Scuppernong*'s use during the pre-Civil War period epitomized the usage of Albemarle schooners in general. Schooners like the *Scuppernong* were the region's primary cargo carriers, an important, yet mundane, role in the region's maritime transportation network.

The end of the 1850s ushered in a period of change regarding the Albemarle's economy and maritime ventures. By 1860, as Americans became increasingly polarized politically and the threat of civil war drew closer, Albemarle shipbuilders, merchants, and vessel owners struggled to continue normal economic operations. Few people could have foreseen the circumstances of the coming war.

The Civil War brought to an end the majority of the Albemarle region's economic ventures, including vessel shipments. Shortly after the war's commencement, in an effort to strangle the movement of goods and supplies, the Union moved to blockade the Southern states. General George B. McClellan, Commander of the Union Army, realized the potential of North Carolina for supplying the Confederate cause. Consequently, McClellan worked to control eastern North Carolina and reduce North Carolina's ability to receive goods and supply the Confederates. On 28 August 1861, General Benjamin F. Butler led a combined army and naval force that captured Hatteras Island. Six months later, on 7 February, General Ambrose E. Burnside utilized army and naval forces to capture Roanoke Island. The capture of Roanoke Island allowed Union forces to gain military control of the Albemarle Sound region, including vessel shipments in and out of the Albemarle.

The destruction of the Confederate "Mosquito Fleet" at Elizabeth City on 10 Februaury 1862 further signaled the ascent of Union control within the region. The

"Mosquito Fleet," comprised of a small number of steamers and schooners converted into gunboats, represented the Confederate Navy's solitary line of naval defense in the Albemarle. The destruction of that fleet opened the way for further military movements at Plymouth, Edenton, and other towns. By the end of Februaury 1862, Union forces effectively controlled the Albemarle Sound region.

Although the Confederates lacked a naval presence in the Albemarle following the destruction of the "Mosquito Fleet," the possibility of a Confederate gunboat attack, via the Dismal Swamp Canal or the Albemarle & Chesapeake Canal, remained a concern for Union naval commanders. Several letters from S.C. Rowan, Commander of the U.S. Navy, describe the uneasiness of Union officers regarding an attack via the canals. On 29 March 1862, for instance, Rowan warned U.S. Navy Flag-Officer Goldsborough that intelligence sources indicated the Confederates were plating several new gunboats at Norfolk for use in North Carolina. Regarding an attack through the Dismal Swamp Canal, Rowan stated that it was possible to temporarily close the canal at Elizabeth City, but he feared such a maneuver might strain available forces and hinder operations in other parts of the sound.[180]

Two days later, on 31 March, Rowan wrote to C.W. Flusser, commander of the Steamer *Commodore Perry,* and notified him to proceed to Elizabeth City and "assume command of the naval forces in front of that place."[181] According to Rowan, Flusser's primary responsibility was to "prevent the enemy from sending his gunboats through the canal, . . . at all hazards."[182] Union naval officers perceived the possibility of a gunboat attack from Norfolk as a threat to their control in the Albemarle.

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[180]*Official Records of the Union and Confederate Navies in the War of the Rebellion*, Ser. I, Vol. VII, 177, herinafter cited as *Official Records, Navies*.

[181]Ibid., 181.

[182]Ibid.

While Union naval officers moved to guard against a Confederate gunboat attack from Norfolk, the Confederate Navy rushed to begin construction of gunboats designed for use in North Carolina. On 30 March, the day before Rowan sent his letter to Lt. Flusser, Steven R. Mallory, Secretary of the Navy of the Confederate States, issued orders to Captain S.S. Lee, commandant of the Norfolk navy yard, to "urge with all possible dispatch the completion of the small ironclad gunboats designed for the North Carolina waters, and to go through the Albemarle Canal."[183] Mallory advised Lee to contact Constructor Porter regarding his "plans and specifications" to build vessels "with at least two heavy guns, and not to draw, when ready for service, over 5 1/2 or 6 feet."[184] Mallory stressed that Porter should build approximately eight gunboats and "proceed to work without the loss of a day."[185] Union officers apparently feared attack from small, shallow draft gunboats that did not yet exist.

The threat of Confederate gunboat construction in Norfolk remained a Union concern until May of 1862. In late April and early May, for example, Union Naval Commander Rowan received several intelligence reports concerning Confederate gunboat construction activity in Norfolk and Deep Creek, Virginia. In a 3 May correspondence to Flag-Officer L.M. Goldsborough, Commander Rowan stated that "the enemy is building a gunboat at Deep Creek, at the head of the [Dismal Swamp] canal. The work was commenced about two weeks ago." [186] Rowan added that "from the most reliable information I can obtain the enemy has in hand, and at various stages of completion, eleven or twelve gunboats, two of them ironclad. . . .[187] Unknown to Rowan, the Confederates prepared to evacuate Norfolk on 3 May.

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[183]Ibid., 753
[184]Ibid.
[185]Ibid.
[186]Ibid., 306-307.
[187]Ibid.

The historical record is unclear concerning the actual construction of any of the small gunboats at the Norfolk yard. Although Mallory deemed the construction of such vessels important, the constriction of supplies and the advancing Union land and naval forces hindered progress on all vessel construction projects in and around Norfolk. On 3 May 1862, less than one month after Mallory's directive to begin construction on the small gunboats, Confederate forces conceded their eroding strategic position and evacuated Norfolk. It is possible, however, that the Confederates began constructing several small gunboats during the month of April. With only a month's time to assemble materials and men, the construction process probably never progressed farther than the laying of keel's and perhaps some frames. Moreover, the Confederates probably destroyed any unfinished vessels to avoid their falling into enemy control.

With Norfolk under Union command, Union forces exercised total control in the Albemarle Sound region, and concern for Norfolk gunboat attacks diminished. Outside of a few random skirmishes, Union land and naval forces faced little threat of resistance or attack from Confederate gunboats. In short, the Union Navy's duties consisted of reconnaissance and search and destroy missions for small clusters of Confederate guerrilla forces.

One particular search and destroy excursion ended with the destruction of the *Scuppernong*. On 10 June 1862, in a communiqué to Commander S.C. Rowan, Lt. C.W. Flusser described an expedition to the Pasqoutank and North Rivers. Flusser stated that during that expedition he led a group of seventy men, including soldiers and sailors from the U.S.S. *Commodore Perry* and U.S.S. *Hunchback*, on a night raid in search of a "prominent rebel at Indiantown."[188] The Union force missed the rebel leader but found the schooner *Scuppernong* "a short distance below the bridge."[189] Flusser noted that the

[188] *Official Records, Navies*, ser. I, vol. VII, 486.
[189] Ibid.

vessel was partly laden with live oak timber intended "for the construction of the rebel war steamer at Deep Creek."[190] Flusser and his men, unable to bring the vessel down the river due to obstructions in the upper reach, burned the *Scuppernong* and its cargo of live oak timber. Judging from the date of Flusser's letter to Commander Rowan, 10 June 1862, Flusser and his men located and burned the *Scuppernong* approximately one month after the Confederate withdrawal from Norfolk.

Despite the time between Norfolk's evacuation and the *Scuppernong*'s destruction, it appears plausible that the Confederates intended to utilize the *Scuppernong* to supply the Deep Creek shipyard. For instance, Indiantown Creek, where Flusser burned the *Scuppernong*, forms the boundary between Currituck and Camden Counties. Gilbert Elliott, an Elizabeth City native charged with constructing the gunboats at Deep Creek, may have known timber cutters in Camden and Currituck Counties. The *Scuppernong*, like many other privately owned vessels, may have been confiscated by the Confederate States Government and used to pick up and deliver timber to Elliott. In short, one may never know why the *Scuppernong* was in Indiantown Creek with a partial load of timber.

Uncertainty regarding the vessel's connection to the Deep Creek shipyard does not lessen the *Scuppernong*'s historical and archaeological importance. The schooner *Scuppernong* was a product of an Elizabeth City shipyard, perhaps Timothy Hunter's yard. The *Scuppernong*, constructed in 1853, represented the region's developments and limitations. The vessel also met the transportation needs, both economically and environmentally, of the region's inhabitants. While it is impossible to tell whether the vessel embodied the highest form of technological advancements within the region, it appears that the vessel satisfied the necessary standards for its role as a canal schooner in the regional transportation system. The *Scuppernong* exemplified the coasting schooners

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[190] Ibid.

which carried the Albemarle region's produce and lumber to northern markets, and returned with necessary foodstuffs and manufactured products. Coasting vessels, like the *Scuppernong,* enabled the Albemarle region, and the nation, to develop inter-regional and international trade during the first half of the nineteenth century. In addition, nineteenth-century coasting schooners combined functional, aesthetic and construction traditions that are largely undocumented. For these reasons, the *Scuppernong*, and vessels like it, are historically and archaeologically significant.

Chapter Three

Documentation of the Vessel Remains

Previous Investigation

In August of 1992 members of North Carolina's Underwater Archaeology Unit (UAU) performed a remote sensing survey in a section of Indiantown Creek, North Carolina (Figure 4). During that survey researchers located a 50 gamma anomaly approximately 800 hundred feet downstream from the Indiantown Creek highway (NC 1147/1107) bridge (Figure 5). Diver investigation of the magnetic anomaly revealed the remains of a wooden centerboard vessel. Historic research, before the remote sensing survey, indicated that Union forces burned and sank the schooner *Scuppernong* near the Indiantown Creek bridge in 1862. According to historic documentation, the vessel carried a partial cargo of oak timber. Therefore, based on measured and historical vessel dimensions, burn evidence, location of the wreck, vessel type, and the remains of several large oak timbers within the hull, UAU members concluded that the vessel remains were probably the *Scuppernong*.[191]

In May 1993, East Carolina University staff and students, along with UAU personnel, performed a second preliminary investigation of the vessel remains. That investigation presented the author with an opportunity to examine the site environment and exposed vessel remains. The following August, UAU personnel and East Carolina University

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[191] Mark Wilde-Ramsing, Underwater Archaeological Examination of North River, Currituck and Camden Counties, (Kure Beach, North Carolina Underwater Archaeological Unit, 1992), 3-4.

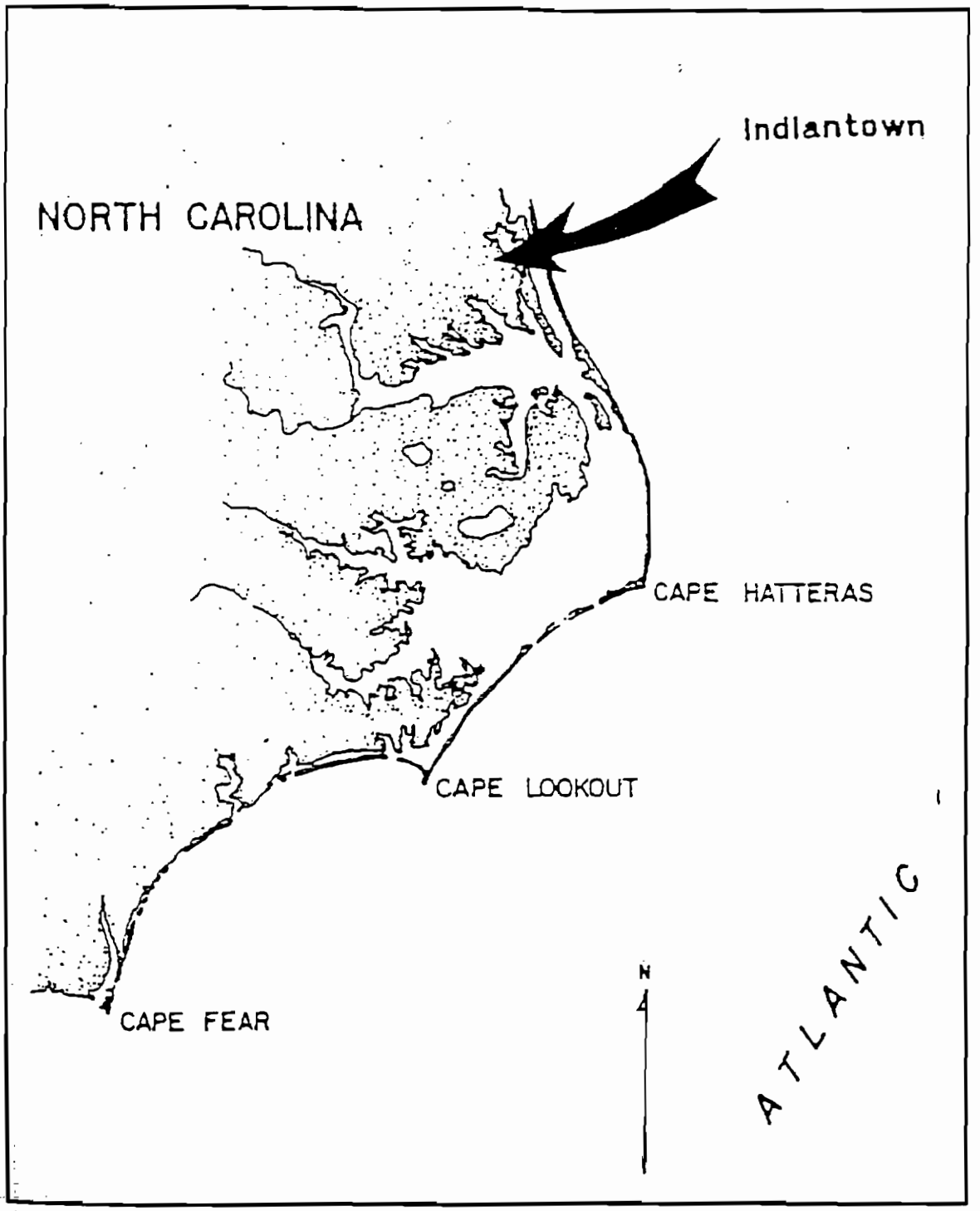

Figure 4. Map of Indiantown Creek, North Carolina - General Location. Reproduced from Mark Wilde-Ramsing, Underwater Archaeological Examination of North River, Currituck and Camden Counties, (Kure Beach, North Carolina Underwater Archaeological Unit, 1992).

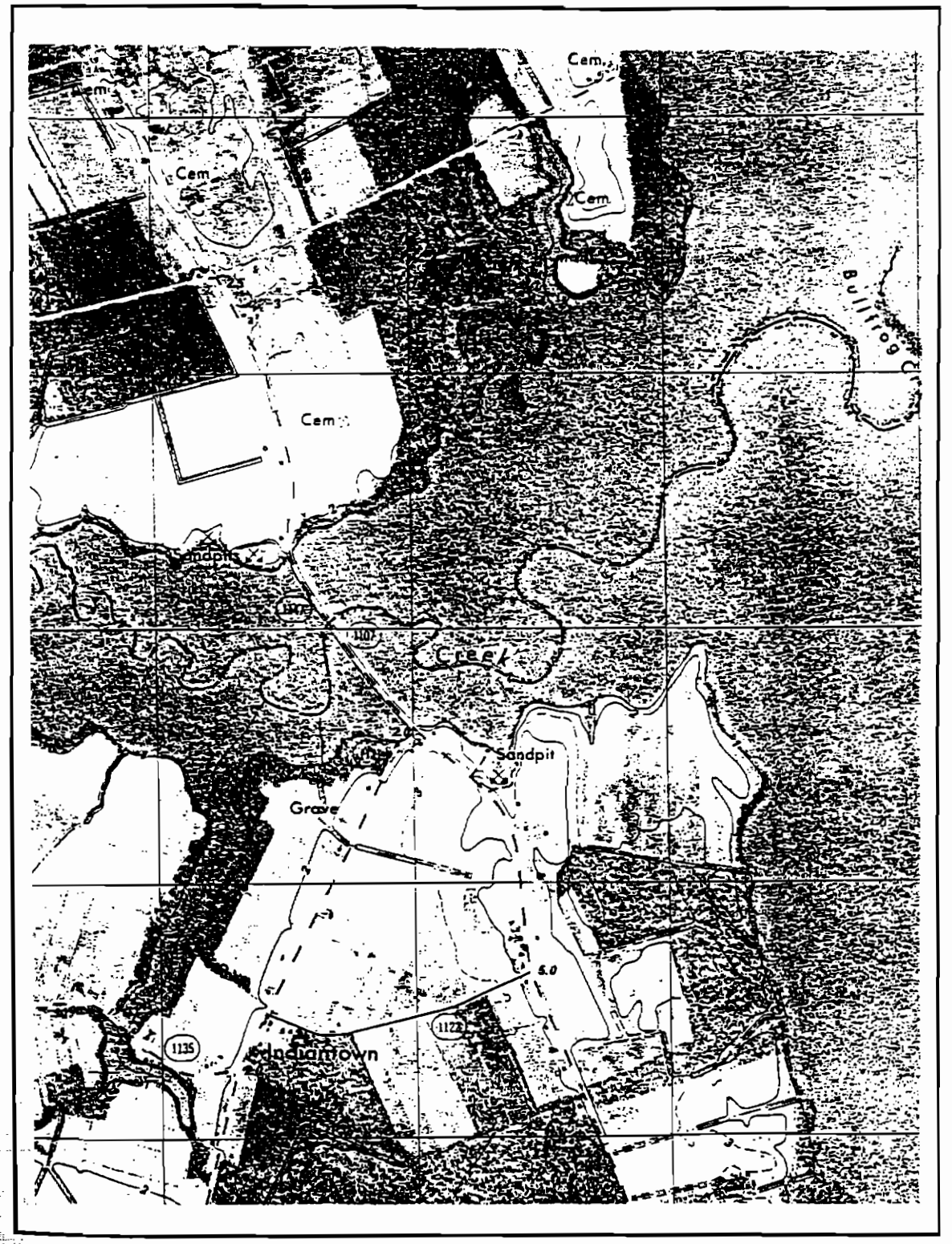

Figure 5. Site Location Map.

Staff and graduate students performed a phase II excavation on the *Scuppernong* site. The phase II investigation included a determination of the vessel's age, general dimensions, and construction features.

Site Location and Environment

The vessel remains are located approximately 800 feet downstream from the Indiantown Creek highway (NC 1147/1107) bridge. The water depth on-site ranged from 10 to 12 feet. Indiantown Creek is not tidal, but extended periods of high winds along Albemarle Sound may lower or raise creek water levels. Currents associated with wind changes are slight during the summer months. The overburden on the wreck site consists of approximately one to one-and-a-half-feet of sediment, including leaves, branches, and numerous trees that have fallen from the swamp into the creek. The first six to eight inches of sediment represent aerobic silt, while the remaining layers are an anaerobic mud environment. Due to the water's high tannin content, underwater visibility is limited to two feet with artificial light.

Research Design

The objectives of the vessel excavation were to document the vessel's design and associated construction techniques, as well as recover any diagnostic artifacts that could establish the age and or identity of the vessel. Due to the lack of data regarding North Carolina-built centerboard schooners, archaeological research helped establish comparative data for similar vessel types. The combination of archaeological and historical research enhanced the base of knowledge concerning nineteenth century schooner construction, usage and maritime activities of the Albemarle Sound region. As researchers gather more archaeological data on centerboard schooners, construction data

may be synthesized to provide additional information on technology diffusion and vessel adaptation, particularly on regional scales.

In order to ascertain information pertaining to the vessel's identity and construction patterns, a phase II excavation was conducted. Given the limited time frame, archaeological research focused on the vessel's centerline. By concentrating on the vessel's longitudinal characteristics, researchers gathered data on the bow, keel, keelson, framing pattern, centerboard structure, and stern. The vessel was partially excavated and examined with the intention of collecting the following data:

1. Overall dimensions
2. Details of the centerline - Including the centerboard trunk design and placement, keel/keelson construction, and the dimensions and placement of mast steps.
3. Understanding of the bow and stern construction - Including an examination of the cant frames in the bow and an examination of how the stempost and sternpost fit to the keel.
4. Framing pattern
5. Wood samples of major structural components - Including samples from the stempost, sternpost, keel/keelson, and frames/futtocks.
6. Recovery of a sample of diagnostic artifacts
7. Plan view map of wreck site - Including outer boundaries, details of the centerline, bow, stern, and excavated features areas.

Description of Field Work

On 2-6 August 1993, members of the North Carolina Underwater Archaeology Unit (UAU), East Carolina University, and the author performed a limited excavation (phase

two) of the vessel remains in Indiantown Creek. Both the Underwater Archaeology Unit and East Carolina University, supplied equipment for the project. Housing and food for the crew members was graciously provided by Barbara and Wilson Snowden of Currituck County, North Carolina. Due to the remoteness of the site there were no dive shops in close proximity to provide scuba tank air fills. Therefore, an air compressor belonging to the Shiloh Volunteer fire department was adapted to fill the scuba tanks used daily.

The initial step was to relocate the vessel remains using a Geometrics 806M magnetometer. The magnetometer, which detects magnetic anomalies in relation to the earth's magnetic field, produces a magnetic signature of ferrous remains, thereby indicating a possible wreck location. Since the wreck had been previously located using the magnetometer, the vessel's general location and magnetic signature were known. UAU members positioned the magnetometer in a 14-foot McKee Craft and made several passes over the area. The group quickly located a sizable anomaly and placed a buoy on the site.

After relocating the vessel, divers placed buoys on the wreck's stem and stern in order to provide surface reference points. A 24-foot Privateer served as a diving operations platform and artifact storage area, while the dredge operations were performed from a 14-foot McKee Craft. Divers also placed a baseline and measuring tape along the centerline of the vessel. The baseline was strung from the forward side of the stempost to the aft side of the sternpost, with the baseline's zero point on the stempost's forward face. The baseline provided the reference datum points for recording the vessel's features and associated artifacts.

In the vessel's forward section, from 18 to 26 feet on the baseline, there were several large "L" shaped timbers, or knee timbers, laying across the keelson and centerboard

trunk. After determining that the timbers were cargo, and not part of the vessel structure, they were brought to the surface and documented. After documentation, the timbers were returned to the site.

At this time excavation along the vessel's centerline began. As a test, a small area, from 23 to 25 feet on the baseline, was excavated using a water induction dredge. When cleared, the inside and port side of the trunk revealed evidence of burning and many sharp iron spikes used in fastening the trunk pieces. Several loose iron drift pins were also observed along the port side of the keelson.

On 3 August, dredging commenced from the stem to the stern, along the centerline of the vessel. The dredging focused on clearing the centerline of the vessel to reveal features such as the keelson, floors, mast steps, ceiling planks, centerboard trunk and artifacts. Dredged material was pumped to the surface and screened through a floating quarter inch screen system. The large amount of natural wood debris hindered the dredging process.

Researchers used two pumps in the dredging process, with one pump adapted to run two dredge heads. This set-up permitted three divers to work simultaneously in clearing overburden from the wreck site. One diver worked in the bow area, one in the vicinity of the centerboard and one in the stern. Divers cleared the majority of the centerline, including an area extending out 2 to 3 feet on both the port and starboard sides, on 3 August. Since the cleared areas began to fill quickly, they were periodically re-cleared for measurement and mapping.

During the dredging process, project personnel recovered artifacts associated with the wreck. These artifacts included iron spikes from the bow section, a limber board from the five to ten foot centerline location, brass and copper nails, a padlock, a hook from a

tackle block and associated brass roller bearings, a bilge pump and pearlware plate pieces. Divers referenced artifact provenience to the baseline.

On 4 August, divers began mapping the mast steps, centerboard trunk and the port side floor pattern. Due to the water's low visibility conditions, divers wore communications gear that enabled them to talk to the surface and other divers. This equipment was particularly useful in recording the floor pattern of the vessel. When recording this information, measurements were called to the surface for documentation, thereby eliminating the need to carry an underwater slate.

Vessel mapping continued through 5 August. In particular, divers mapped the floor pattern and stern area. Due to sediment accumulation, researchers periodically re-dredged the stern area to facilitate mapping. After dredging, the stern floors were mapped along with the sternpost profile. Due to time limitations, the vessel's beam extremities were not excavated and recorded. Instead, divers probed the vessel's extremities in order to estimate the beam width.

The final day, 6 August, consisted of mapping the stem, measuring elevations along the wreck and taking wood samples for species analysis. The baseline was left in place to aid the future documentation of vessel features. On 5 and 6 May 1994 the author returned to the site for two days to re-examine the framing pattern and stern deadwood.

Description of Vessel Remains

The *Scuppernong* remains represent the vessel's hull below the turn of the bilge. The length of the remaining vessel structure was 75 feet 9 inches, and probing indicated that the vessel's remaining beam was approximately 17 feet. Much of the remains are in poor condition and have been severely burned. Due to sediment and wood debris around the vessel, the lower and outer portions of the hull remains were inaccessible without

extensive excavation. Consequently, the lower hull planking, keel, and beam extremities were not fully excavated and documented.

The site plan (Figure 6) depicts the vessel remains from a plan view and does not represent the vessels approximate ten degree list to starboard. The plan and profile drawing (Figure 7) illustrates the excavated areas. Beginning at the aft centerboard trunk post and moving towards the stempost, the vessel's floors were assigned letters for identification. From the aft centerboard trunk post to the sternpost, floors were numbered for identification.

Stem/Apron

The bow of the *Scuppernong* was constructed around a stempost and apron. The remaining stempost and apron rose 4 feet 2 inches above the creek bottom. Wood species analysis indicated that the stempost was white oak (*Quercus* sp.).[192] Due to time constraints, the area outside the bow was not excavated. Consequently, it is unknown how far the stem structure extends below the creek bottom surface.

Originally, the apron laid flush against the aft side of the stempost, but it has partially separated (Figure 8). The apron's partial separation allowed researchers to measure the sided dimensions of the stempost at three sections. At the top of the stempost, section A, the post's forward edge was 9 inches, the sides were 4 inches, and the aft side was 11 inches across. At a position approximately 1 foot 11 1/2 inches from the top of the timber, section B, the stempost's forward edge was 4 inches wide, the sides were 14 inches, and the aft edge was 9 inches wide. At the creek bottom, section C, the stempost's forward side was 4 inches in width and the sides were 15 inches. Due to the

[192] Lee Newsome, personal communication, 1994.

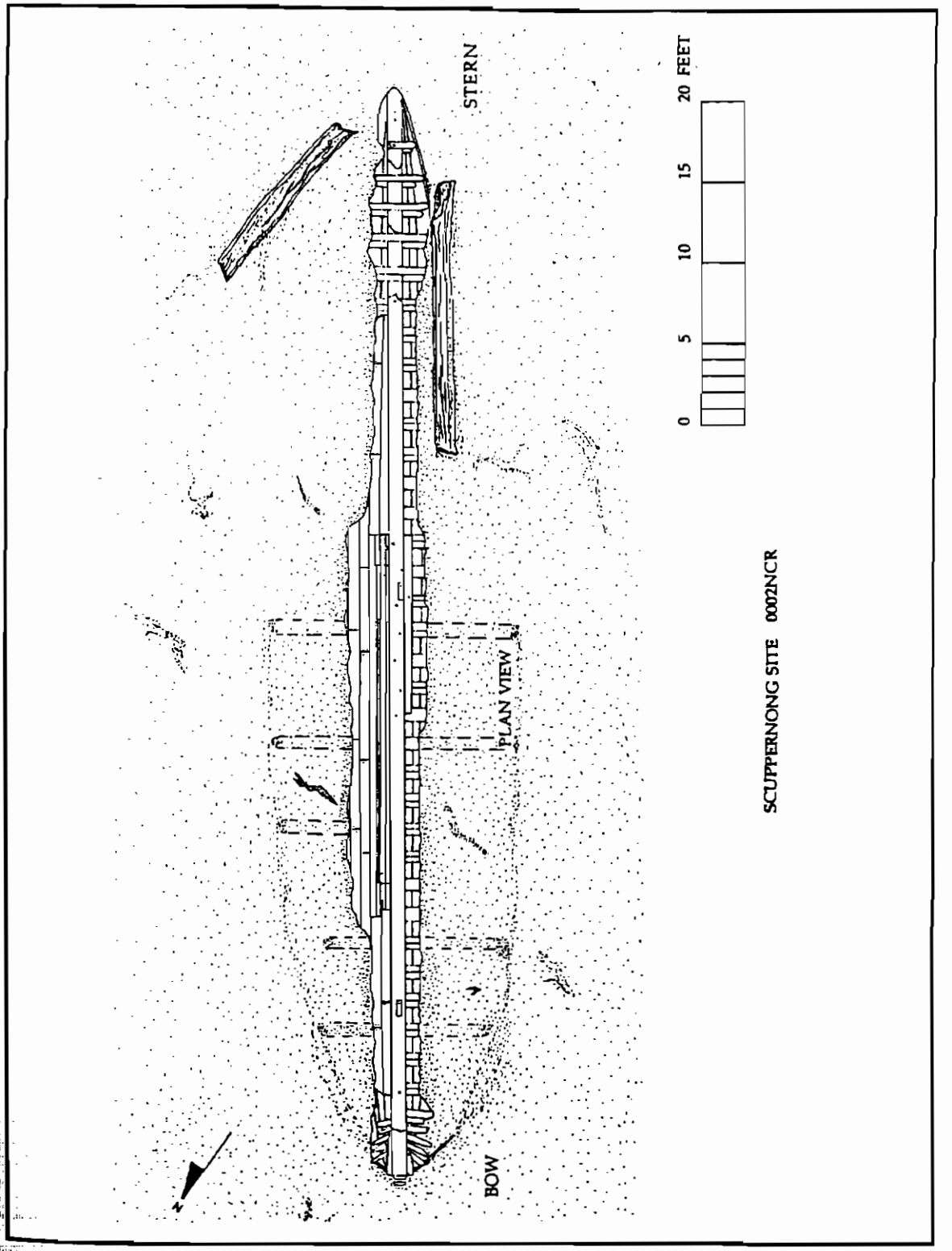

Figure 6. *Scuppernong* Site Plan.

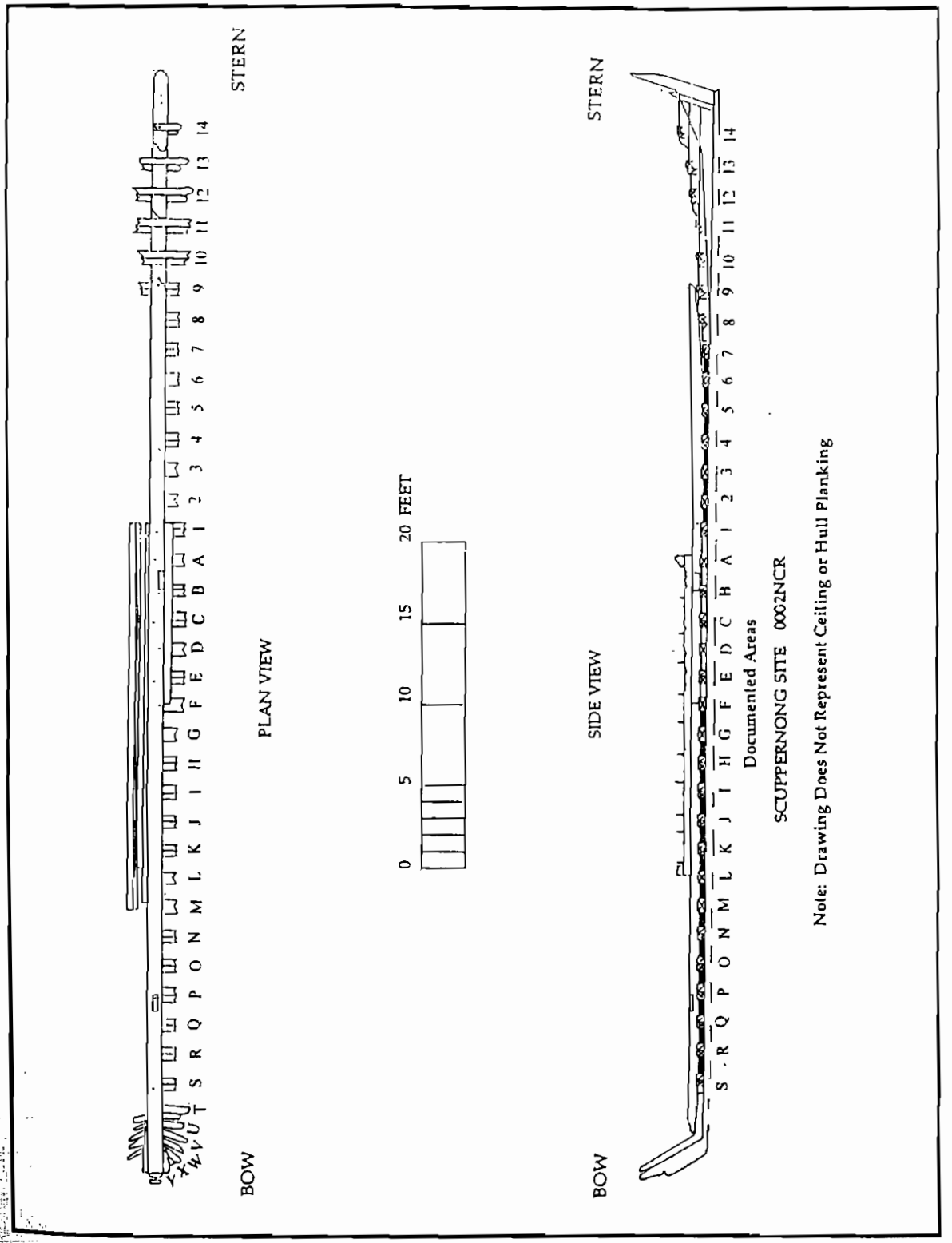

Figure 7. *Scuppernong* Excavated Areas – Plan & Profile Views.

intact hull planking and apron, the aft side of the stempost could not be measured at section C. Approximately 1 foot 11 1/2 inches from the top of the stem post, the forward face of the stempost was notched inward approximately 6 inches. The notched area angled up and out towards the top of the stempost. The notching may represent an area where the billethead was attached.

A 2-inch rabbet was cut along the port and starbord edges of the post's after side. The rabbet allowed the hood ends of the planks to fit securely into the stempost. The remaining hull planks, with their hood ends still positioned in the rabbet, were attached to the stempost by two ½-inch iron spikes.

Keel

Although the keel was not exposed by excavation in the bow, it was partially excavated in the stern area. From the sternpost to a point three feet forward the keel was exposed and documented. In this area, the keel timber was 4 1/2 inches molded and 11 1/2 inches sided. It is possible that the keel timber was a keel plank as opposed to a full keel timber. Wood analysis revealed that the keel was sweetgum (*Liquidambar styraciflua* sp.).[193]

Keelson

The keelson, sided 12 inches and molded 8 inches, was also constructed of sweetgum (*Liquidambar styraciflua*).[194] The keelson began at the 3 foot mark on the baseline and terminated at 62 1/2 feet. At 56 feet on the baseline, the keelson began to rise so that it rode over the first 4 1/2 feet of the stern deadwood and two corresponding floors. The keelson timber also became smaller in molded dimension as it rode over the deadwood

[193] Ibid.
[194] Ibid.

section. At its after end the keelson's molded dimension narrowed from 8 to approximately 5 inches. There were no observable scarphs on the keelson timber. It is possible, based on vessel length, that the keelson was composed of scarphed timbers. Burn damage may have obscured evidence of the keelson scarphs.

Along the underside of the keelson there were notches that corresponded to the frame positions. The notches enabled the keelson to ride over and securely lock the floor and futtock combinations in place. The rebates were 1/2 to 1 inch in depth and their widths varied according to the floor and futtock widths.

Keelson Blocks

Wooden blocks, which rested between the keel and the keelson, occupied the majority of the spaces between frames. Most of the blocks appeared to be 1 to 1 1/2 inches narrower than the width of the keelson and keel. Investigations revealed only one section, adjacent to the main mast step sister keelson, where there were no blocks between the keelson and the keel.

Mast Steps

Two mast steps were cut into the vessel's keelson. The forward maststep was centered on the keelson. The forward edge of the fore maststep was 9 feet 3 inches forward of the forward centerboard trunk post's forward edge. The forward maststep was 14 inches long by 4 1/2 inches wide, and cut to a depth of 3 inches. A drain hole was located three inches from the aft end of the maststep.

The main maststep was offset to port on the keelson. The forward edge of the main maststep was 19 feet 6 inches aft of the forward centerboard trunk post's forward edge. The main maststep was 14 1/2 inches long by 5 inches wide and was cut to a depth of 6

inches. Like the foremast step, there was a drain hole located three inches from the aft edge of the maststep. The main maststep's starboard edge was placed 7 inches from the starboard side of the keelson. The port side of the step was formed by a sister step piece. The sister step piece was sided 7 inches and molded 7 inches and fastened to the keelson to form the port side of the main maststep. The sister step piece was 12 feet 3 inches long. The aft portion of the main maststep was located 6 inches forward of the forward edge of the aft centerboard post and 11 inches to port of the inside of the centerboard trunk.

Centerboard Trunk

The centerboard trunk was offset to starboard of the keel. The forward edge of the forward centerboard trunk post was 8 feet 2 inches to the rear of the aft edge of the forward maststep. The trunk structure's total length was 22 feet 10 1/2 inches. The centerboard slot was 20 feet 8 inches long with a width of 4 inches (Figure 9). The remaining trunk structure rose approximately 1 to 1 1/2 feet above the keelson. Wood species analysis revealed that the centerboard trunk was constructed of southern yellow pine (*Pinus* sp., section *Diploxylon, Taeda* group).[195]

Two trunk posts, 7 1/2 inches long by 4 inches wide, were positioned at the forward and aft ends of the trunk structure. These posts secured the port side trunk member to the starboard side trunk member and formed the ends of the centerboard slot. The posts were badly burned, but extended approximately 6 to 8 inches above the trunk planks.
A 4 inch sided timber had been placed alongside the keelson and keel plank to form the port side trunk bedlog. The molded dimension of this timber could not be determined.

[195] Ibid.

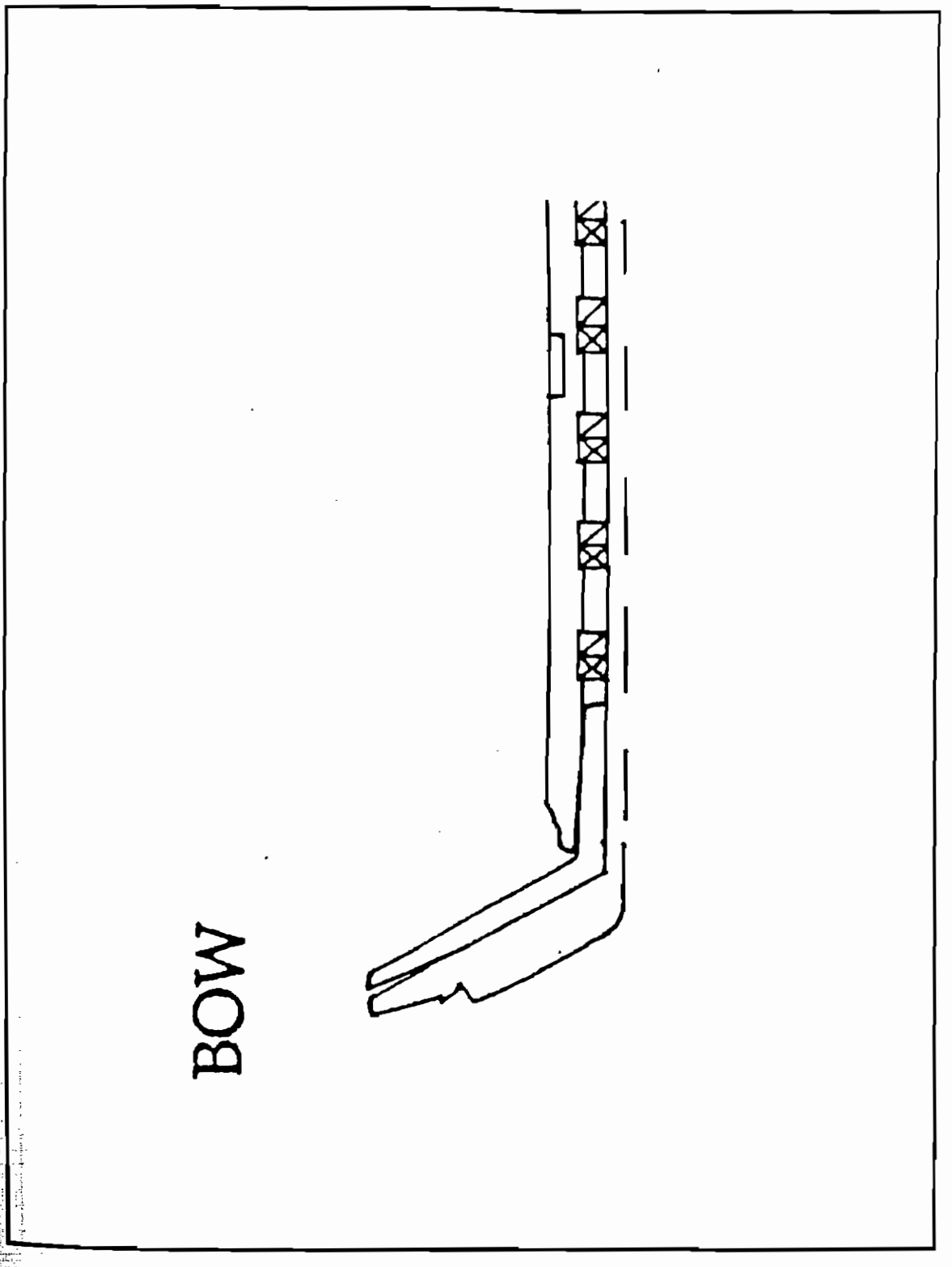

Figure 8. Stem Area.

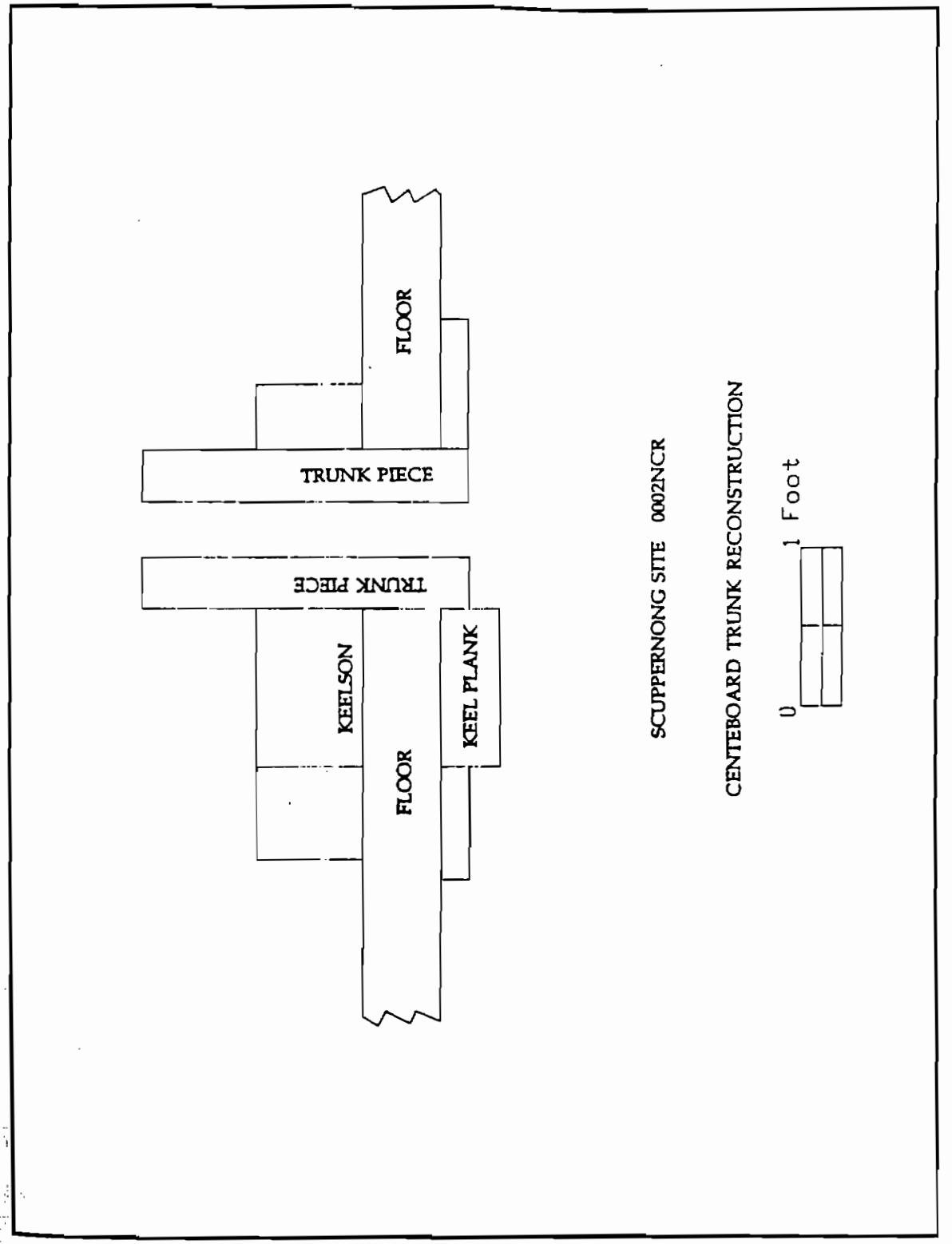

Figure 9. Centerboard Reconstruction View.

Due to the intact nature of the keel, keelson, and trunk structure, it was not possible to ascertain whether the port side floors mortised into the port side bedlog.

The starboard side of the trunk structure was composed of two timbers. The bedlog was sided 4 inches, while the other member was sided 5 inches. Those timbers lay flush against each other and formed the starboard side trunk base. Although intact ceiling planking prevented further investigation, it appeared that the 5 inch timber may have been a clamp, installed to provide support for the starboard trunk frames. Intact ceiling planking precluded determining whether the floors mortised into the trunk bedlog on the starboard side.

Positioned on top of the port and starboard trunk pieces were the remains of burned planks that formed the sides of the centerboard trunk. Those timbers were 3 inches thick. Protruding from the tops of those timbers were 3/4 inch iron spikes used to edge fasten the additional trunk timbers. Along the port side of the trunk, eleven spike positions were referenced from the aft side of the forward trunk post to the forward side of the aft trunk post. Spike positions on the starboard trunk side did not correspond to the port side locations.

Framing Pattern

To identify and reference the recorded frames, the author assigned the frames forward of the aft centerboard trunk letters for identification. Aft of the same position frames were assigned numbers. The port side limber board was removed to facilitate documentation of the framing pattern. The documented framing pattern includes the cant frames used in shaping the bow and the floor and futtocks used to shape the hull and stern. Aft of the cant frames, the frames at the keel and keelson were composed of single

and double timbers. Wood species analysis on the port side floor located at the 51 feet mark on the baseline, revealed that the floor was red oak (*Quercus* sp., red oak group).[196]

Although blocks between the frames hindered observations, it appeared that the floors crossed the keel, while the first futtocks butted under the keelson. Iron drift bolts were used to attach the keelson, floors and keel. The placement of those 1 inch iron drift bolts along the keelson indicated that the floors were forward of the first futtocks, except in the stern deadwood area. Drift bolt placement along the keelson was staggered off-center.

In order to calculate the vessel's "room and space" the sided dimensions of the double timber frames were added to obtain a single dimension. All the sided dimensions were totaled and divided by the number of frames. This produced an average "room" measurement of approximately 10 1/2 inches. By adding all of the spaces between frames and dividing by the total number of spaces the average "space" was computed to be approximately 13 1/2 inches. The combined average "room and space" was approximately 24 inches.

Cant Frames

Overall twelve timbers were used to shape the vessel's bow, six on the port side and six on the starboard. These timbers were not fastened to any remaining structural element except the outer hull planking. None of the timbers attached at the keelson or apron. It is possible that the cant frame heads were originally fastened to a sheer clamp and breast hook.

There were six cant frames observed in the *Scuppernong's* port side bow (Figure 7). Cant frame Y was the port knighthead timber. That timber, fayed to the apron, terminated at 3 feet 8 inches on the baseline. Cant frame Y was a single piece sided 5 1/2

[196] Ibid.

inches and attached to cant frame number twenty-four at its base. Cant frame X butted the apron at 3 foot 8 inches on the baseline. Cant X was also a single timber sided 5 1/2 inches. There was 1 1/2 inch space between the heels of cant X and cant Y.

Cant frame W was a single, 5-inch sided timber. There was a 1 1/2 inch space between the heels of cant frame W and cant frame V. Cant frame V was a single timber, sided 6 inches and molded 2 1/2 inches. Cant frames Y through V were badly burned. A 1 1/2 inch space separated cant frame V and U.

Cant frame U was a single timber sided 6 1/4 inches. Cant frame T was composed of two parallel timbers. The forward timber was sided 4 5/8 inches and the after timber was sided 6 3/4 inches. The space aft of that frame was 12 inches.

Frames S through M

Frames S through M consisted of six double timber frames and one single timber frame. Measured at the keelson, the double timber frames ranged from 9 3/4 inches to 11 inches in total sided dimension. Frame M, the single timber, was sided 11 1/2 inches. The space between frames S through M ranged from 12 to 14 inches (Figure 7).

Frame S was the first frame aft of the cant frames and was composed of two timbers. Measured at the keelson, that frame's total sided dimension was 9 1/2 inches. The forward timber was 5 1/4 inches sided, while the aft timber was sided 4 1/4 inches. The space between frame S and R was 13 3/4 inches.

Frame R was a 10 1/2 inch double timber frame. The forward timber was sided 5 1/2 inches, while the aft timber was sided 5 1/4 inches. The space aft of frame R was 13 1/4 inches.

Frame Q was a double timber frame with a total sided dimension of 10 3/4 inches and a molded dimension of 5 3/4 inches. The forward timber was 5 1/2 inches and the aft timber was 5 1/4 inches. The space aft of frame Q and forward of frame P was 13 1/4 inches.

Frame P was a double frame with a total sided dimension of 11 7/8 inches. The forward timber was 5 5/8 inches sided and the aft timber was 6 inches sided. There was a space of 1/4 inch between the forward and aft frame timbers. The space aft of frame P was 12 1/4 inches.

Frame O, composed of double timbers, had a total sided dimension of 11 inches. In that set, the forward timber was sided 5 3/4 inches and the aft timber was 5 1/4 inches. The space between frame O and frame N was 14 inches.

Frame N was composed of double timbers and had a sided dimension of 10 inches. The forward timber had a sided dimension of 4 3/4 inches and the aft timber was sided 5 1/4 inches . The space aft of frame N and forward of frame M was 13 inches. Frame M was a single timber sided 11 1/2 inches. The space between frame M and L was 13 3/4 inches.

Frames L through A

Frames L through A were positioned in the centerboard trunk area (Figure 7). Frame L was on the forward end of the trunk, while frame A was located perpendicular to the aft centerboard trunk post. There were seven double frame sets and four single frames. The double timber frames ranged from 9 1/4 inches to 12 inches in sided dimension, while the single frames varied from 9 1/4 inches to 11 1/4 inches sided. The space between frames ranged from 11 3/4 to 14 1/2 inches. Random measurements indicated that the frames were molded approximately six inches.

Frame L was composed of two 4 1/2 inch sided timbers. Frame K was also a double timber frame, with both timbers sided 4 1/2 inches. The space aft of frame K was 13 1/4 inches.

Frame J was a double timber set. The forward timber was sided 5 inches and the aft timber was sided 4 3/4 inches. The space after frame set J equals 13 1/2 inches. Frame I is also a double timber frame with a total sided dimension of 11 1/4 inches. The forward timber was 5 1/4 inches sided and the aft timber was 6 inches sided. The space aft of frame I was 12 inches.

Frame H was a double timber frame set. The forward timber was sided 5 3/4 inches, while the after timber was sided 5 1/4 inches. The space after frame H was 13 1/8 inches. Frame G was a single timber, 11 inches in sided dimension. The space between frame G and frame H was 13 5/8 inches.

Frame F was also a single timber, sided 11 1/4 inches. The space aft of F was 11 3/4 inches. Frame E, a double timber frame, had a forward timber sided 5 1/4 inches and an aft timber sided 5 inches. The space following frame E was 12 inches.

Frame D was a single timber frame, with a sided dimension of 10 1/2 inches. There was a 14 inch space between frame D and C. Frame C, a double timber frame, had a forward timber sided 5 1/4 inches and an aft timber sided 6 3/4 inches. The space aft of C was 12 3/4 inches.

Frame B, a double timber frame, passes underneath the main maststep which is offset to port of the keelson. The forward timber was 5 inches sided, while the aft timber was 4 1/2 inches sided. The space aft of frame B was 14 1/2 inches. Frame A was positioned perpendicular to the aft centerboard trunk post. Frame A was a single timber sided 9 1/4 inches and molded 6 inches.

Frames 1 through 7

Frame 1 was the first frame aft of the centerboard trunk, while frame 7 was the frame just forward of the stern deadwood (Figure 7). There were five double timber frames and two single timber frames in this section. The sided dimensions of double frames ranged from 10 to 11 1/4 inches. The two single timber frames were sided 10 and 10 1/2 inches respectively. Between 1 and 7, frame spacing varied from 12 1/2 to 14 3/8 inches.

Frame 1 was a double timber frame with a total sided dimension of 11 1/4 inches. The forward timber was sided 6 inches, while the aft timber was sided 5 1/4 inches. The space aft of frame 1 was 12 3/4 inches. Frame 2 was a single timber sided 10 inches. The space aft of 2 was 14 inches.

Frame 3 was a single timber sided 10 1/2 inches. The space aft of frame 3 was 12 1/2 inches. Frame 4 was a double timber frame with a total sided dimension of 11 1/8 inches. The forward timber was 5 3/8 inches and the aft timber was 5 3/4 inches. The space aft of frame 4 was 14 3/8 inches.

Frame 5 was composed of double timbers with a total sided dimension of 10 inches. The forward timber was 5 3/8 inches and the aft timber was 4 5/8 inches. The space aft of frame 5 was 13 inches. Frame 6 was composed of double timbers. The forward timber was 5 1/2 inches, while the aft timber was 5 1/4 inches. Frame 7, the last frame before the stern deadwood, was a double timber frame with a total sided dimension of 10 3/4 inches. The stern deadwood began approximately 1 1/2 inches aft of frame 7.

Frames 8 through 15

Frames 8 through 15 were positioned in the stern deadwood (Figure 7). In this area, the floors were rebated into the deadwood structure, and the futtocks were mortised into

the deadwood forward of the accompanying floors. In some of the frames, fillet pieces were used to shape the undersides of the frames. The keelson covered approximately 4 1/2 feet of deadwood, including frames 8 and 9.

Frame 8 was composed of double timbers with a total sided dimension of 11 1/4 inches. The port side first futtock, sided 5 1/4 inches, butted to the side of the bottom deadwood timber. The floor, sided 6 inches, was rebated into the bottom deadwood timber. The floor crossed the centerline of the deadwood and attached with an iron drift bolt. Approximately 1 inch aft of frame 8, the lower deadwood member exhibited a notch that allowed the keelson to rise over the deadwood. The notch carried forward to the forward end of the lower deadwood member. The space between frame 8 and frame 9 was 13 inches.

Frame 9, on the port side, was composed of a floor and two first futtocks. The total sided dimension of the floor and the port side futtock was 10 1/2 inches. The port futtock, sided 5 inches, butted the starboard futtock on the centerline of the deadwood. The underside of the first futtocks were notched to allow them to fit over the deadwood. The floor, sided 5 1/2 inches, was rebated into the middle deadwood timber. The floor crossed the centerline of the deadwood and was attached with an iron drift bolt. The keelson terminated at this position on frame 9. A drift bolt fastened the keelson, floor, and deadwood together. Frame 9 was badly burned. There was a 14 inch space between frame 9 and frame 10.

Frame 10 was composed of a floor and two first futtocks. The total sided dimension of the port side first futtock and the floor was 11 1/2 inches. The port side futtock, sided 6 inches, butted the starboard side futtock on the port edge of the deadwood. The starboard futtock was rebated into the middle deadwood piece. The floor, sided 5 1/2 inches, was also rebated into the middle deadwood member. The floor crossed the centerline of the

deadwood and attached with an iron drift bolt. The space between frame 10 and frame 11 was 14 inches. The space contained a large amount of concreted debris.

Frame 11 was composed of a floor and two first futtocks. The remains of frame 11 were badly burned. The total sided dimension of the floor and the port side fist futtock was 12 inches. The half floors, sided 6 inches, butted on the side of the lower deadwood timber. The floor, sided 6 inches, was rebated into the lower deadwood timber. The floor crossed the centerline of the deadwood and attached by an iron drift bolt. Just aft of frame 12, the middle deadwood timber, broken and burned, terminated. The space between frame 11 and frame 12 was 13 inches.

Frame 12 was composed of a floor and two first futtocks. Both the floor and futtocks were badly burned. The total sided dimension of the floor and the port side first futtock was 11 inches. Both timbers were sided 5 1/2 inches. The first futtocks butted on either side of the deadwood, while the floor was rebated into the deadwood. The floor crossed the centerline of the deadwood and attached by an iron drift bolt. Measured from the centerline of the deadwood, the remaining port section of the floor timber extended approximately 2 feet 6 inches. The space between frame 12 and frame 13 was 13 inches.

Frame 13 was also composed of a rebated floor and first futtocks that butted on either side of the deadwood. The frame remains were badly burned. The floor crossed the centerline of the deadwood and attached by a drift bolt. Measured from the centerline of the deadwood, the remaining port section of the floor timber extended approximately 2 feet in length and was 5 inches in sided dimension. The port side first futtock was sided 5 1/4 inches. There was a 17 inch space between frame 13 and the remains of frame 14.

The port side remains of Frame 14 were broken and badly burned. Measured from the centerline of the deadwood, the remaining port section of the floor was approximately 17 1/2 inches long and 6 inches sided. Like the previous six floors, the floor was seated

in a deadwood rebate and fastened with an iron drift pin. The starboard floor section was broken away at the iron drift pin on the centerline of the deadwood. Between frame 14 and the inner sternpost, there was an open floor rebate, a drift pin that rose approximately 4 inches above the deadwood, and an iron spike which rose above the deadwood approximately 3 inches.

Stern Deadwood

Forward of the stern post there were three deadwood pieces stacked one upon another. The three deadwood members butted against the inner sternpost. These timbers served as the base for the floors and futtocks that formed the vessel's stern. Documentation of the stern deadwood was hindered by sediment and debris, as well as the garboard strake (Figure 10). The garboard rabbet angled up through the deadwood and terminated on the sternpost. The garboard strake attached to the sternpost approximately 3 feet above the bottom of the keel. Although complete documentation of the deadwood structure proved impractical given the limited time constraints, divers recorded the deadwood's general configuration and dimensions.

Adjacent to the inner sternpost, the bottom deadwood piece had a molded dimension of 12 inches, while the middle and top pieces had molded dimensions of 9 inches. The top piece was severely burned. Based on the width of the top deadwood piece and the keel, the deadwood pieces appeared to have original widths of approximately 11 1/2 inches. The lengths of those pieces varied.

The top of the deadwood was severely burned and broken. The surviving top member was 2 feet 3 inches long and 11 inches wide. There was an iron drift bolt inserted into the top of this piece. The drift bolt, which rose 4 inches above the top deadwood piece, was positioned 9 inches forward of the inner sternpost. Near the stern

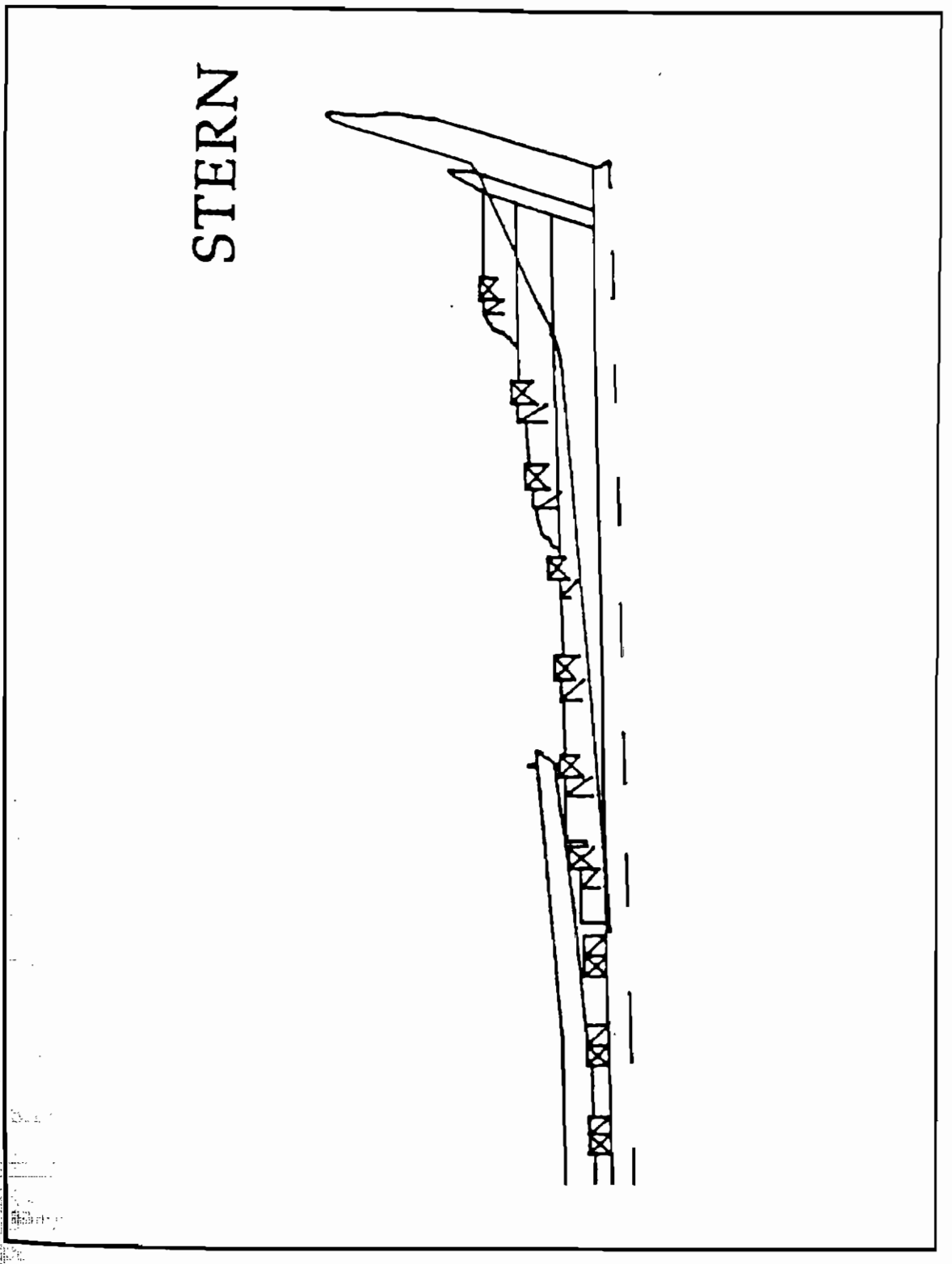

Figure 10. Stern Area.

post, the top deadwood piece had an open rebate for frame 15 and another rebate, futher forward, that contained the partial remains of frame 14, a badly burned floor. It appeared that the top deadwood piece would have terminated just forward of frame 14.

At approximately 58 feet on the baseline, the bottom deadwood timber terminated with a vertical saw cut. The width of the deadwood at this end was 11 1/2 inches. Frame 7 rested on the keel, 1 1/2 inches forward of the bottom deadwood termination point. In addition, just aft of frame 7 the garboard rabbet began to angle up from the keel plank through the deadwood. The distance from the top of the bottom deadwood piece's forward end to the garboard strake was 7 inches. The garboard rabbet angled up through the deadwood configuration and terminated on the sternpost, at a position 3 feet above the bottom of the keel. The garboard strake was seated in this rabbet and, therefore, the lower parts of the deadwood were unplanked.

Just aft of frame 8 it appeared that the middle deadwood piece terminated with a vertical saw cut. At the middle deadwood piece's forward termination point, its width was 11 1/2 inches. The distance from the top of the middle piece's forward termination point to the garboard strake was 5 inches. Although it appeared that the deadwood section was composed of three pieces, the garboard strake and outer hull planks hindered complete documentation. Consequently, there may also have been one or more pieces not visible.

Sternpost

The vessel's sternpost remains rose 5 feet 10 1/2 inches above the keel. Wood species analysis revealed that the sternpost, like the stempost was constructed from white oak

(*Quercus* sp., white oak group). [197] Due to the intact nature of the sternpost base, it was unclear how the sternpost attached to the keel plank. It appeared that the sternpost may have been mortised to the keel and also fastened to the deadwood structure. Iron drift bolts were inserted through the back side of the sternpost into the inner sternpost and deadwood structures. Additional support was provided by the lower gudgeon strap, which attached the sternpost and inner stern post.

The upper portion of the sternpost was broken away. One foot below the top of the sternpost, the post's thickness was 6 inches. The sternpost's aft portion was partially broken away at that position. Two feet from the top of the post, the timber's thickness was 9 inches. At this position the sternpost was intact, presenting a true representation of the structure. Approximately 2 feet 11 inches below the top of the sternpost, the sternpost had a thickness of 12 inches. From this point to the base of the sternpost, the timbers thickness remained 12 inches.

There were two gudgeon straps attached to the sternpost. The gudgeon straps held the rudder pintles and enabled the rudder to swing freely. The first strap was located 2 feet 3 inches above the bottom of the keel, while the second strap was positioned 9 inches above the bottom of the keel. Both straps were 2 1/2 inches wide. The upper strap was 10 inches long and the lower strap was 1 foot 6 inches long.

Along the forward edge of the sternpost there was a rabbet for the outer hull planking hood ends. The rabbet, a 2 inch "V" shaped groove, began at the top of the remaining sternpost and terminated at a position approximately 3 feet above the bottom of the keel. At that position, approximately 3 feet above the bottom of the keel, the garboard strake was fitted into the sternpost rabbet.

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[197] Ibid.

Ceiling

The ceiling remains intact throughout the majority of the vessel remains. Several areas, particularly in the bow and stern, are either unplanked or missing planks. Random measurements of ceiling planks indicated an average width of 8 inches with a thickness of 1 3/4 to 2 inches. Most of the planks appeared to be fastened to the underlying frames by sets of 1/2 inch iron spikes.

The majority of the vessel's limber boards remain intact on both the port and starboard sides. Limber boards, adjacent to the keelson, averaged 8 inches in width, 5 to 6 feet in length, and 2 inches thick. Aft of the centerboard trunk, small wooden shems were placed under several of the limber boards. Just aft of the centerboard trunk, one of the limber boards had finger holes on both sides. Wood species analysis indicated that the ceiling planks were southern yellow pine (*Pinus* sp., section *Diploxylon*, *Taeda* group).[198]

Hull Planking

Due to the large amounts of sediment and wood debris covering the site, measurements for the hull planking were randomly obtained in the bow and stern. In the bow, on the port side, five strakes were recorded at cant frames T and U. Measuring from bottom to top, the planks measured 8, 6, 6 3/4, 6, and 6 inches respectively. In the bow, between cant frame Y (port knighthead) and cant frame X, wrought iron spikes and a trunnel were used to fasten hull planking to the cant frames. Hull planking was fitted into a 2 inch "V" shaped rabbet on the aft side of the stem post.

[198] Ibid.

In the stern, the garboard strakes, which measured 11 inches wide and 2 inches thick, were originally fitted into a 2 inch rabbet on the forward side of the stern post and fastened with 1/2 inch iron spikes. The starboard side garboard strake has separated from the sternpost rabbet. On the port side, the garboard strake was still connected to the stern post. Wood analysis revealed that the hull planking was yellow pine (*Pinus* sp., section *Diploxylon*, *Taeda* group).[199]

[199] Ibid.

Chapter Four

Artifact Analysis

The archaeological investigation revealed a number of artifacts which provide insight into vessel construction materials and shipboard material culture. Sixty-seven artifacts were recovered from the *Scuppernong* site (NCR 0002), including glass, ceramics, iron fasteners, a padlock, block remains, roller bearings, and pieces of small unidentified iron plating. The diagnostic artifacts, while small in number, seem to confirm a mid-nineteenth-century date for construction and useage. The primary diagnostic artifacts included the remains of a pearlware plate, a wood screw, and the partial base of a green bottle. Several other artifact groups, including roller bearings and machine cut nails, have wide temporal ranges and extended periods of use. Consequently, the use of such materials can not be relied upon to produce a narrow time frame concerning use or loss. While not diagnostic regarding age, those artifact groups provide additional information pertaining to the various types of materials employed in the vessel's construction and operation.

There were four principal areas of artifact recovery, in the bow, just aft of the stempost, in the centerboard trunk area, and in the stern. Divers located the largest concentrations of artifacts in the stern area. Due to the vessel's loss by burning, the majority of artifacts displayed signs of burning or exposure to intense heat.

Metal

The majority of recovered metal artifacts pertained to the vessel's fasteners, rigging, and miscelaneous hardware. Several artifacts were concreted in clusters. In such instances, the author inventoried each piece in the concretion individually. If, for example, there were three nails concreted to an iron spike, the author inventoried the nails and spike separately.

Iron Bolts

There were three iron bolts recovered from the site. Artifact (0002NCR-50) was an iron bolt 17 1/4 inches long with a 7/8 inch diameter. The bolt was recovered at the 57 foot 6 inch position on the baseline, to the starboard of the keelson (Figure 11). The second bolt, artifact (0002NCR-19), was broken into two pieces. The combined length of the two pieces was 14 inches. The bolt's body diameter was 3/4 of an inch. There was an applied lip, or washer, around the head of the bolt (Figure 12). Researchers located the artifact at the 22 foot mark on the baseline. Artifact (0002NCR-56) was an 11 inch iron bolt with a 3/4 inch diameter. The artifact was recovered at the 57 feet 6 inch mark on the baseline, on the starboard side.

Wrought Iron Spikes

There were nine complete or partial wrought iron spikes collected on site. Exposed iron fibers ran parallel to the shaft. Seven spikes were found along the five to ten feet mark on the baseline (Figure 13). An eighth spike was found concreted to a small iron pin and several iron nails. The ninth spike was concreted to an iron wheel. The complete spikes varied in length from 4 3/4 inches to 5 1/2 inches. All of the spikes exhibited hand hammered rose heads, square shanks, and tapered on two opposite sides.

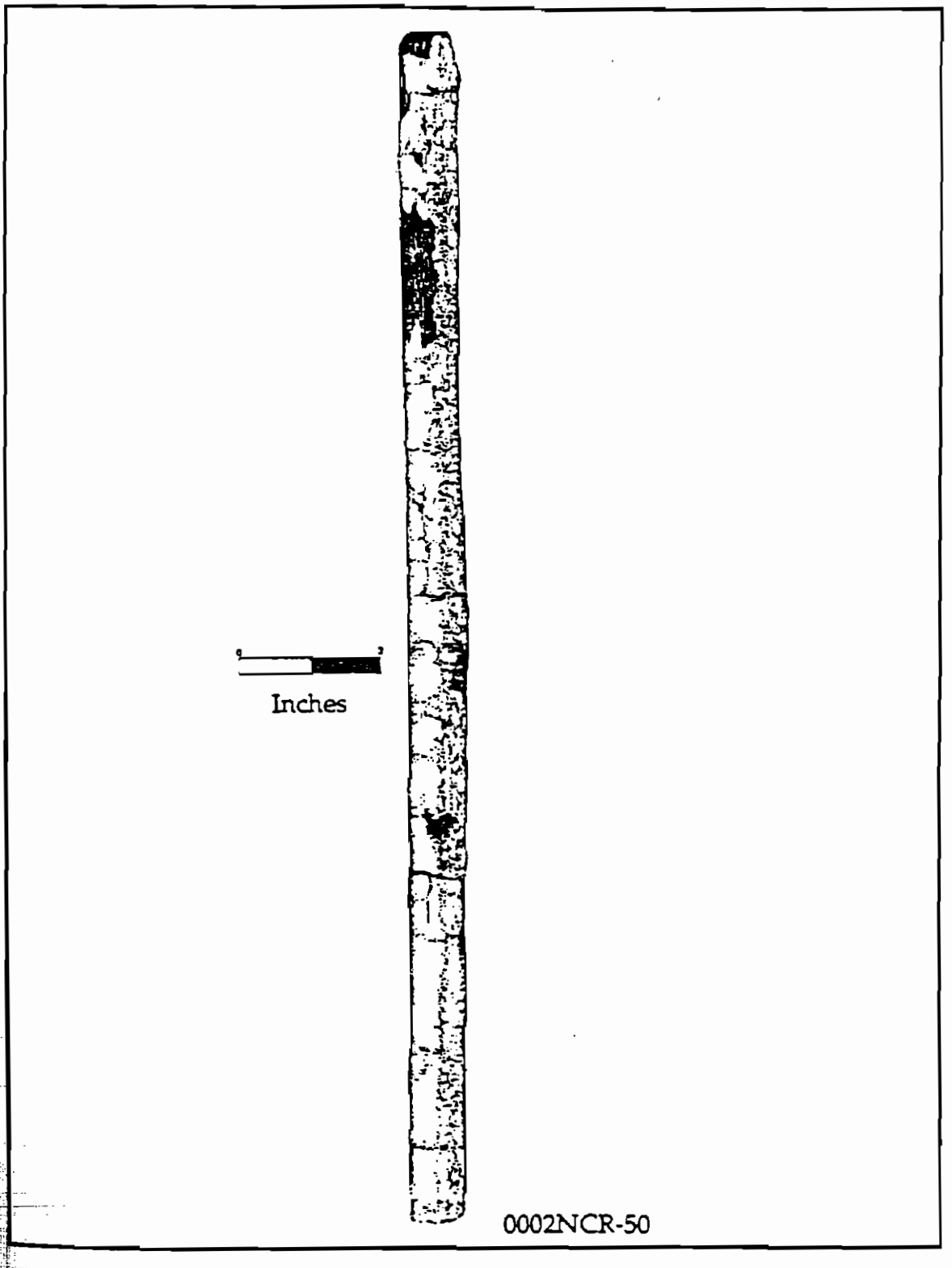

Figure 11. Iron Drift Bolt.

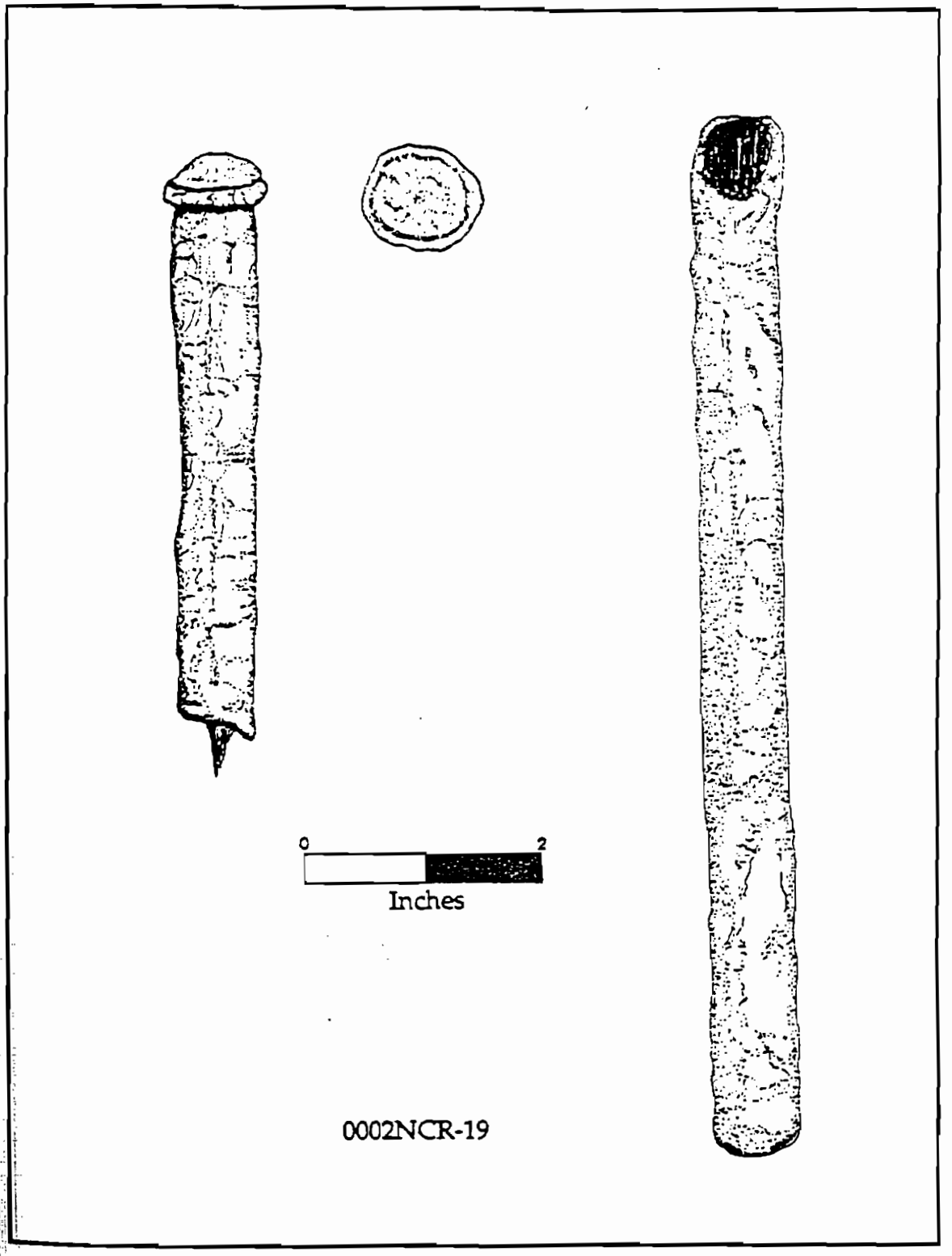

Figure 12. Iron Drift Bolt.

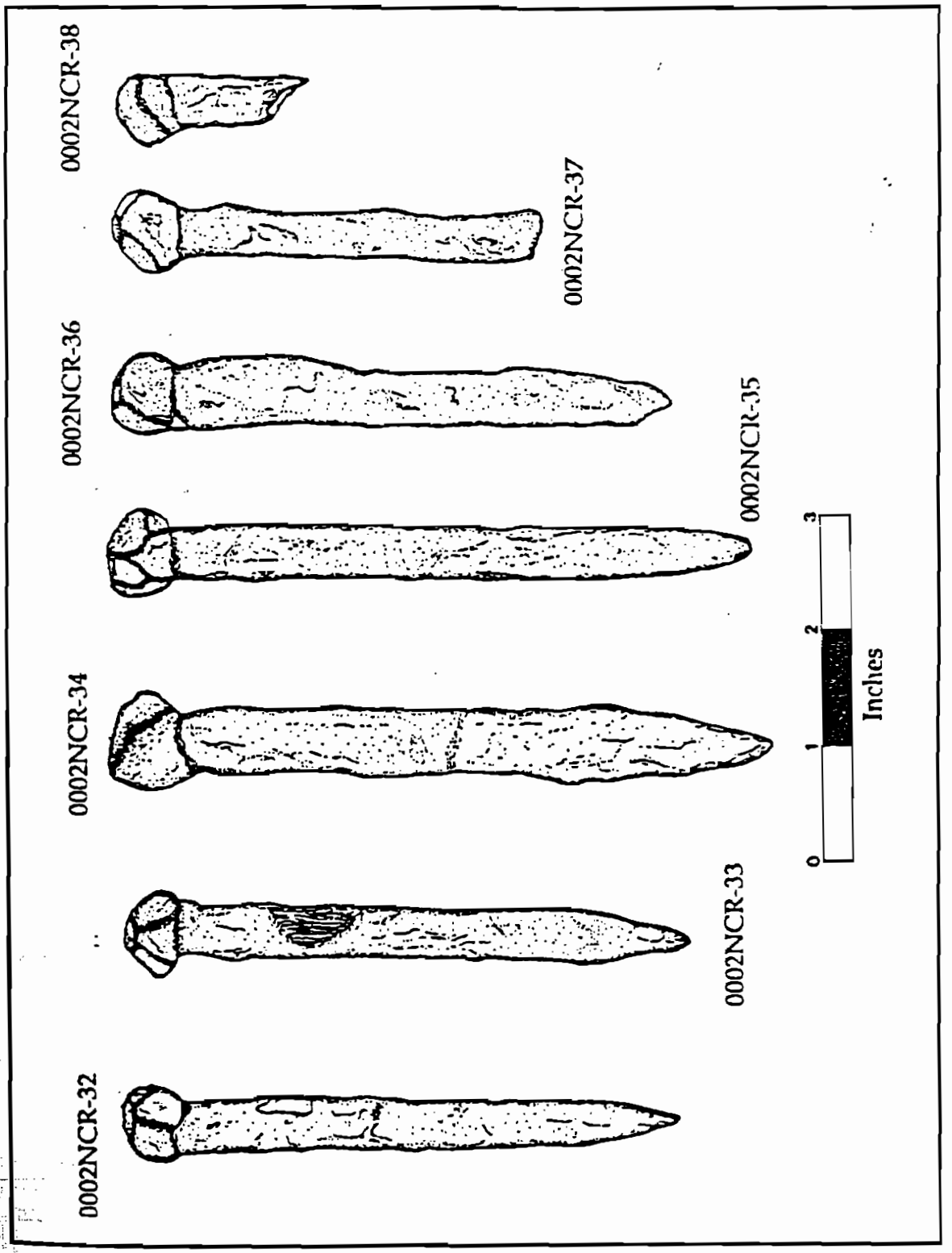

Figure 13. Wrought Iron Spikes.

Round Hubs

Artifact (0002NCR-47) was an iron hub with a spike through the center of the hub (Figure 14). The hub's diameter was 1 7/16 inches. Artifact (0002NCR-59) was a similar hub but larger. These artifacts may have been associated with rigging blocks and their roller bearings.

Brass Bearings

Divers recovered four brass hubs with their associated brass pin bearings. The artifacts were probably associated with blocks from the rigging. All of the hubs and bearings were burned, melted, and bent from intense heat. Three artifacts (0002NCR-4, 0002NCR-53, 0002NCR-54) included bearings that were housed within circular hubs. Those items may have served as hubs and bearings for block sheaves. One brass hub (Figure 15) was recovered with an iron pin in the center (0002NCR-54). The fourth (0002NCR-55) block bearing was the largest brass hub with brass pin bearings (Figure 16).

Hook

An iron hook (0002NCR-1), 6 6/16 inches long, was retrieved from the vessel's stern section, at approximately 68 feet on the baseline. The hook may have been attached to part of the rigging tackle or to the base of a block (Figure 17).

Block/Hook

The iron remains of a single piece block and hook (0002NCR-48) were recovered along the vessel's keelson at 66 feet on the baseline. The block's wooden exterior was

missing. The iron remains were 9 1/2 inches long and 3 3/4 inches wide. There appeared to be burned sheave remnants attached to the center of the block (Figure 18).

Nails

There were three copper nails and four iron nails found on-site. Artifact (0002NCR-8) was a 1 7/8 inch machine cut copper nail. Artifact (0002NCR-9) was a 1 15/16 inch machine cut copper nail. Both artifacts were recovered from along the keelson at the 68 feet 6 inches mark on the baseline. Artifact (0002NCR-20) was a machine cut copper nail recovered along the keelson at the 66 feet mark on the baseline. The nail was bent and measured 2 inches in length.

Artifact (0002NCR-21), retrieved at the 65 feet mark on the baseline, was a 1 13/16 inches machine cut iron nail. The head was broken from the shaft. The head was flat and square and appeared to have spurs on all four corners. The shaft, which was also square, was 3/16 of an inch at the head and approximately 2/16 of an inch at the blunt end. Artifacts (0002NCR-61) and (0002NCR-62) were machine-cut iron nails. Both nails were 2 5/8 inches long. Their shafts were tapered on two sides, while the other two sides were parallel. The heads were oval and appeared to have burrs on each corner. The shape of the point, in both front and cut-face view, was flat. Those features suggest that the nails date to post-1830.[200] Artifact (0002NCR-63) is the head and partial shaft of an iron nail. The broken nail, which resembles (0002NCR-61) and (0002NCR-62), was approximately 1 1/2 inches long.

[200]Jay D. Edwards and Tom Wells, *Historic Louisiana Nails: Aids to the Dating of Old Buildings* (Baton Rouge: Geoscience Publications, Department of Geography and Anthropology, Louisiana State University, 1993), 30.

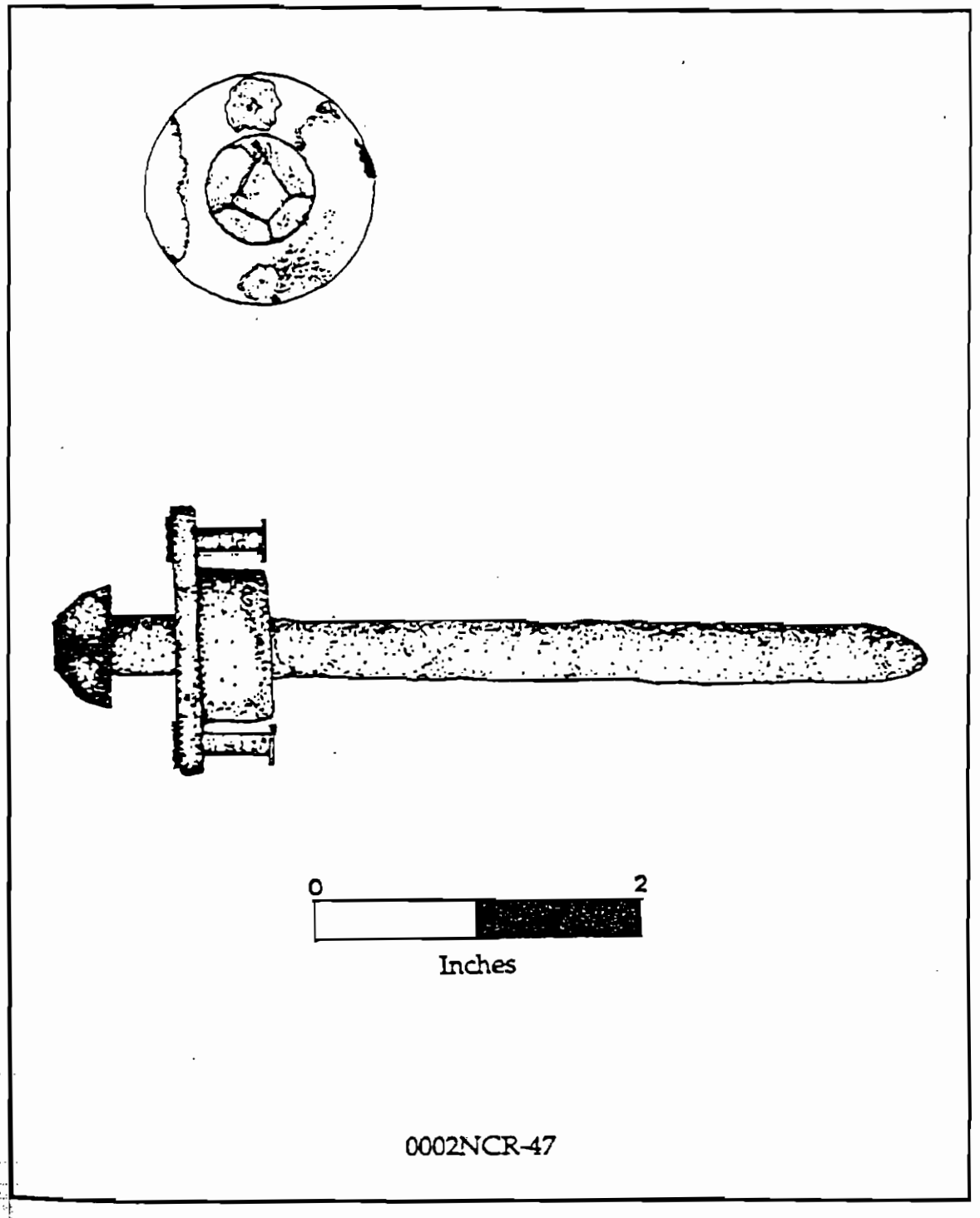

Figure 14. Iron Hub and Spike.

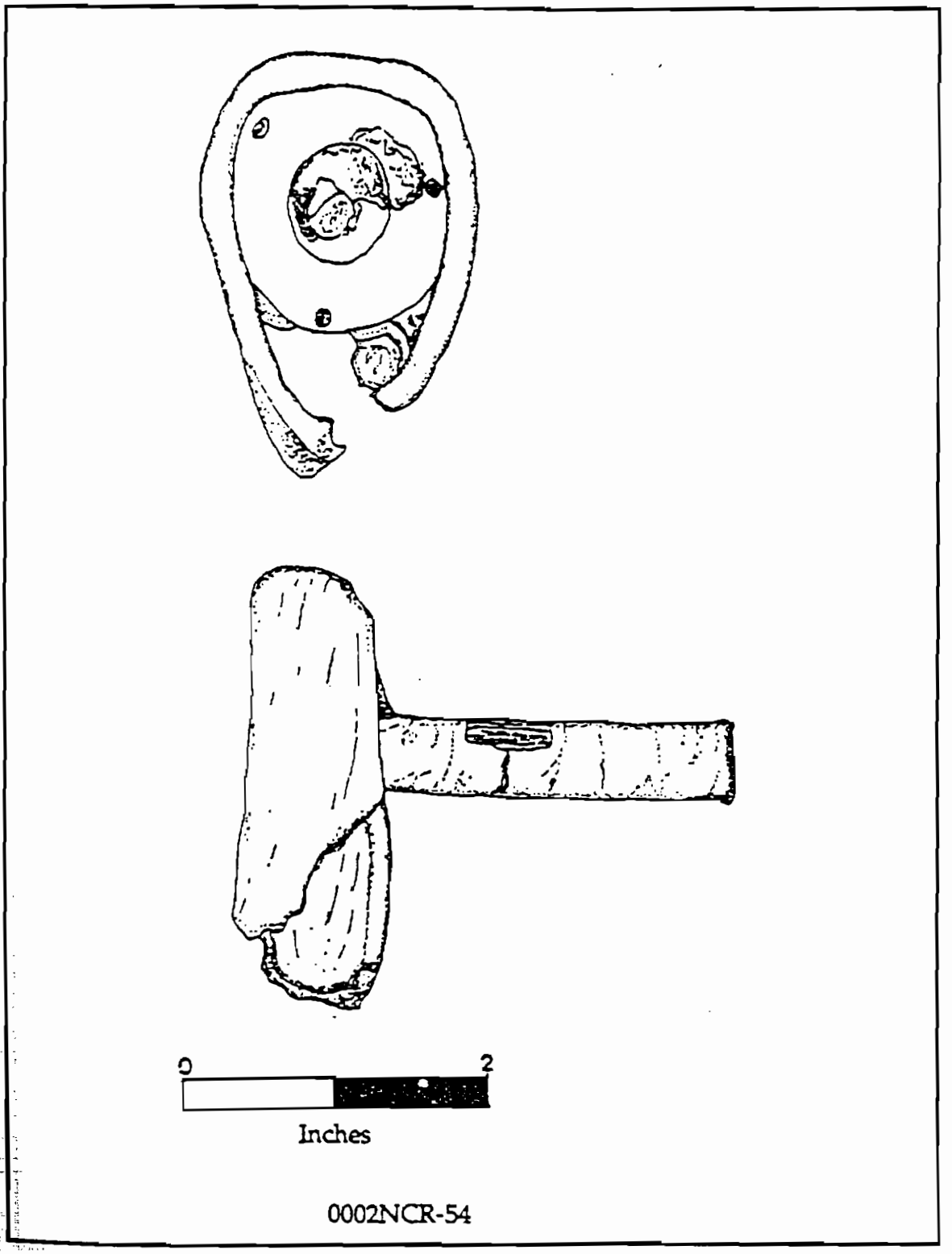

Figure 15. Brass Hub with Bearings and an Iron Pin

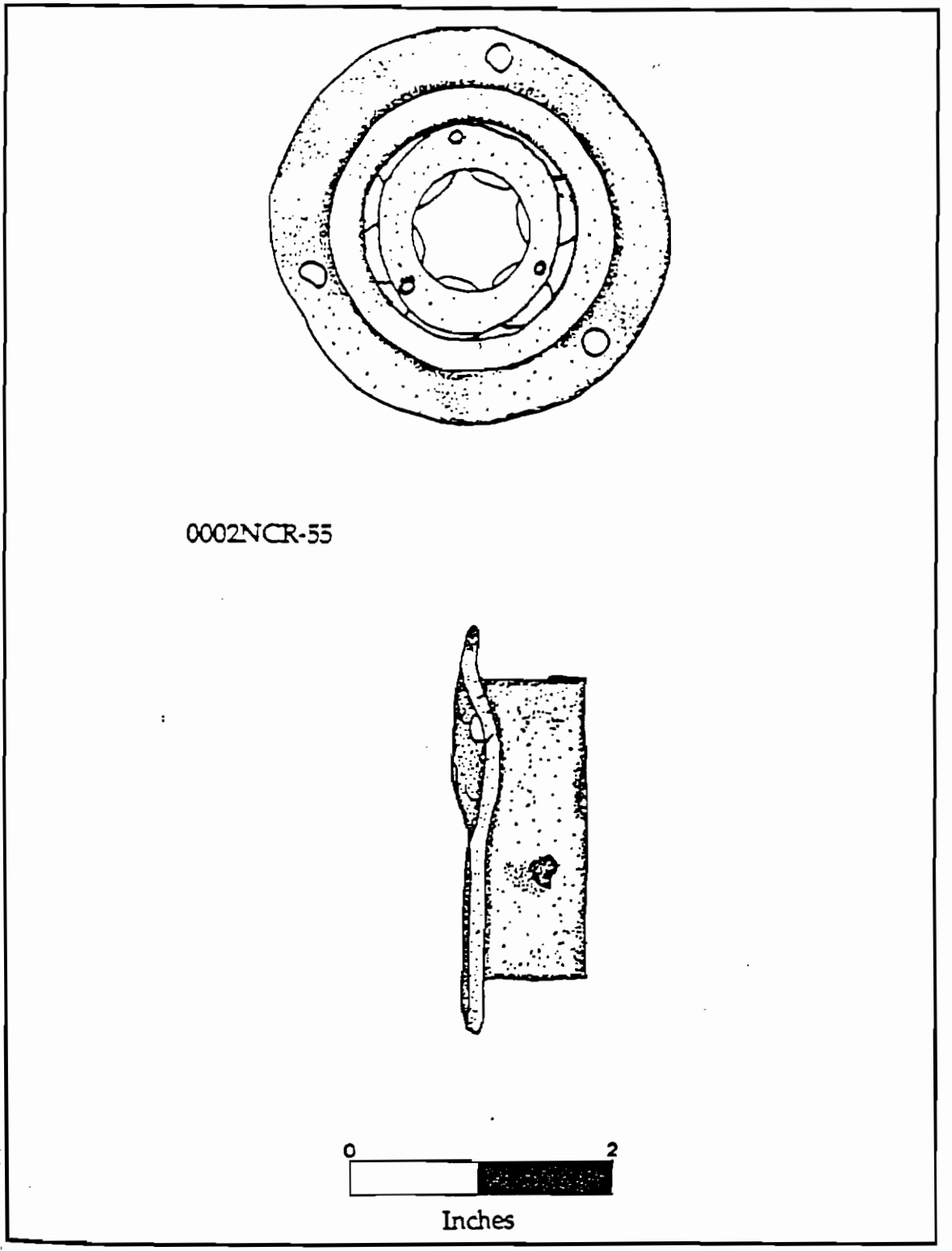

Figure 16. Brass Housing with Brass Bearings.

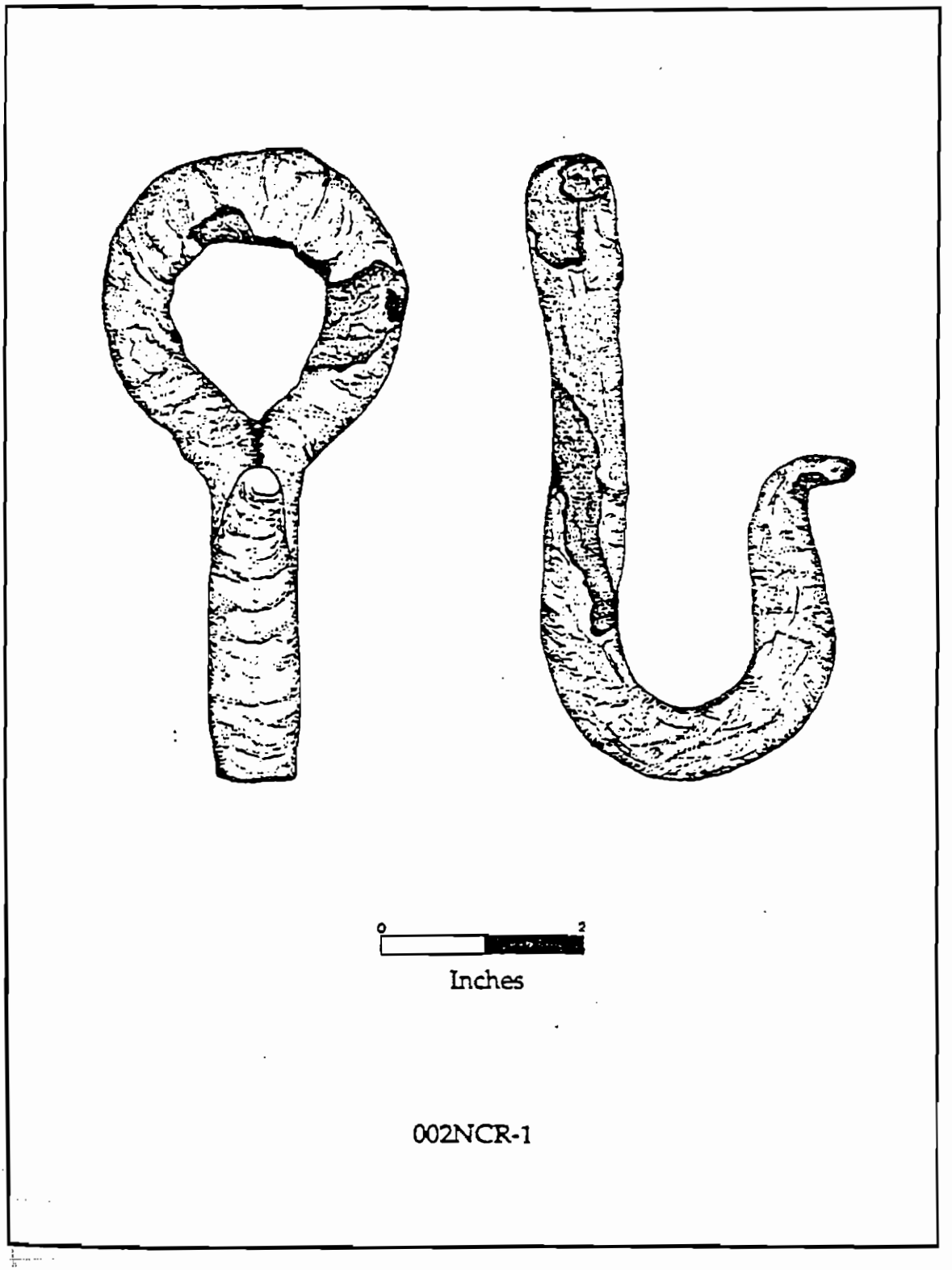

Figure 17. Iron Hook.

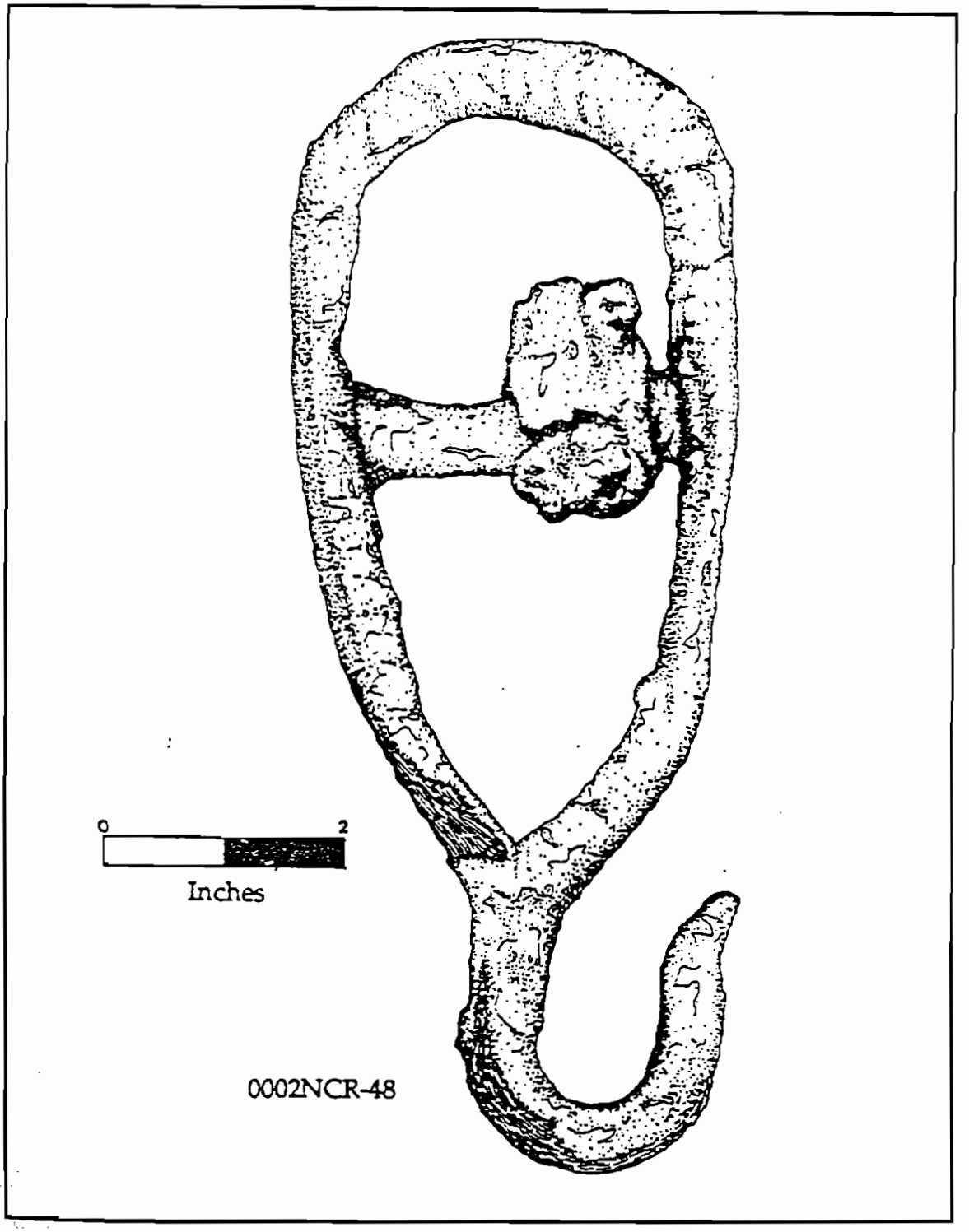

Figure 18. Iron Block and Hook.

Boat Hook

Artifact (0002NCR-22), recovered in the forward mast step area, may represent the partial remains of an iron and wooden boat hook (Figure 19). The piece consisted of funnel shaped iron with charred wood inside the middle and narrow sections of the iron. Two iron fasteners penetrated the iron shell and terminated within the hollow portion of the iron object. Those fasteners probably attached the wooden pole to the iron hook. The artifact was 7 inches long, 2 1/2 inches wide at the bottom, and 1 inch wide at the top.

Padlock

An iron padlock (0002NCR-5) was recovered in the stern area at approximately 67 feet 6 inches on the baseline. The lock was 3 5/8 inches long and 2 11/16 inches wide (Figure 20).

Iron Lock Clasp

The "L" shaped clasp (0002NCR-18) was 3 7/8 inches long. The body of the clasp exhibited a twisted appearance similar to that of the body of a screw. The clasp was found along the vessel's keelson at the 67 to 68 foot baseline mark. The clasp was concreted to burned wood and a wood screw (0002NCR-17).

Wood Screw

A machined screw (0002NCR-17) was recovered along the keelson at the 67 to 68 foot mark on the baseline. The screw's total length was 1 1/2 inches. The screw's head was flat with a 7/16 inch diameter. There was a straight slot across the head. The diameter of the shaft was 1/4 inch and the screw's end was blunt (Figure 21). That particular type of blunt machined screw was produced esxtensively throughout the period

1800 to approximately 1840.[201] The artifact was concreted to burned wood and an iron lock clasp (0002NCR-18).

Brass Strap Hinge

A brass hinge (0002NCR-43) was found along the keelson at 69 feet on the baseline. The hinge measured 8 1/4 inches long and 1 1/16 inches at its widest point (Figure 22).

Brass Box

A rectangular brass box (0002NCR-45) was recovered at approximately the 67 feet 6 inches mark on the baseline. The box was open on one of its long sides. The box was 5 1/16 inches long, 3/4 inch wide, and 1 1/32 of an inch deep. A small iron piece, 1 5/8 inches long by 5/16 inches wide, extended perpendicularly from the long side of the box (Figure 23). There were two screw holes on the backside of the box and on its top.

Iron Sliding Bolt Latch

A sliding latch (0002NCR-52), 4 inches long and 1 1/4 inches wide, was recovered three frames forward of the stern, at approximately the 67 foot mark on the baseline (Figure 24). The latch may have been used on an interior closet or storage space.

Iron Log Dog

Artifact (0002NCR-31) was shaped like a staple and broken into two pieces (Figure 25). The total length of both pieces was 9 inches. The artifact was used to secure cargoes of timber together, thereby aiding storage and preventing the cargo from shifting during passage.

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[201] Warren E. Roberts, editor, *Viewpoints on Folklife: Looking at the Overlooked* (Ann Arbor and London: UMI Research Press, 1988), 170-175.

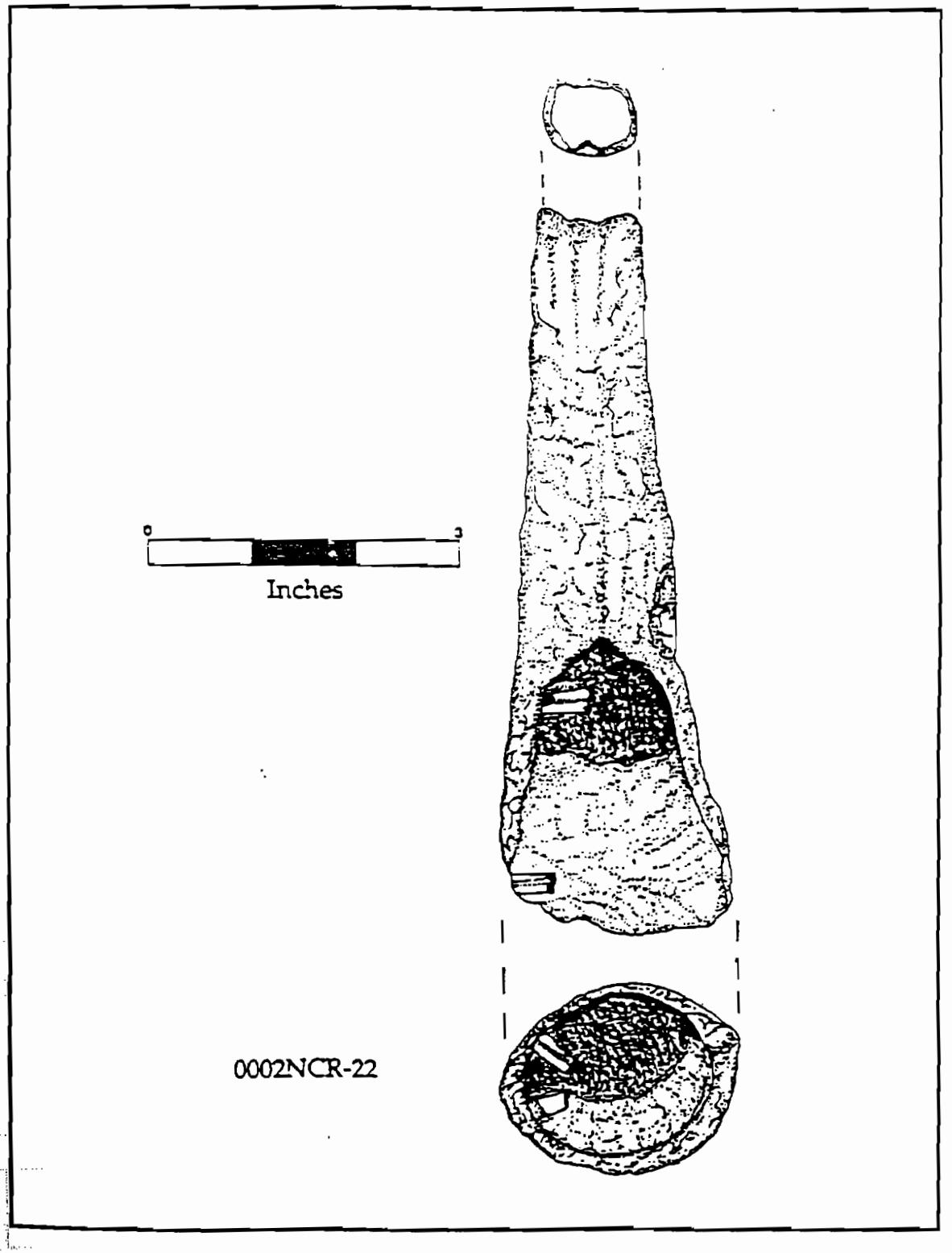


Figure 19. Partial Remains of Boat Hook Shaft.

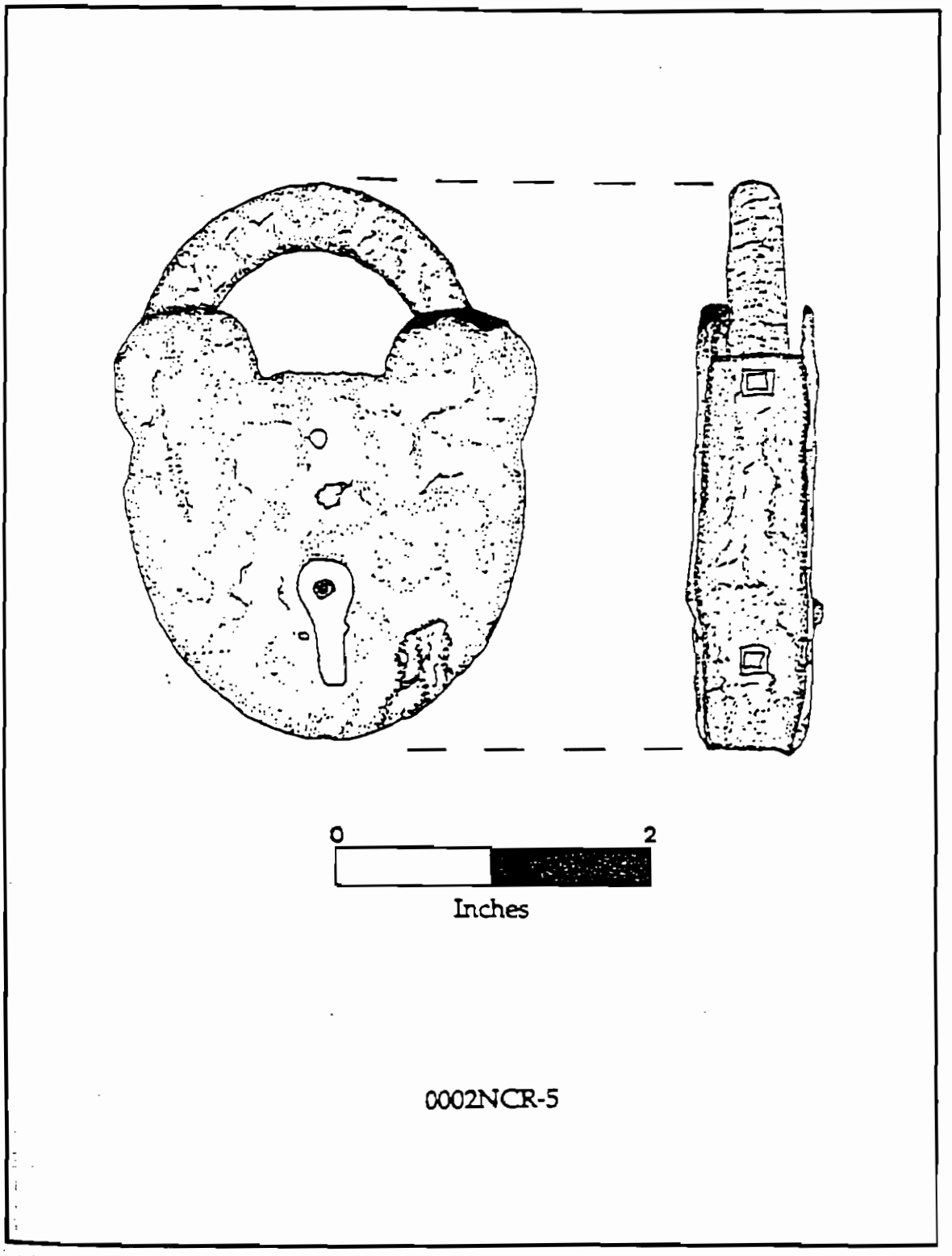


Figure 20. Iron Padlock.

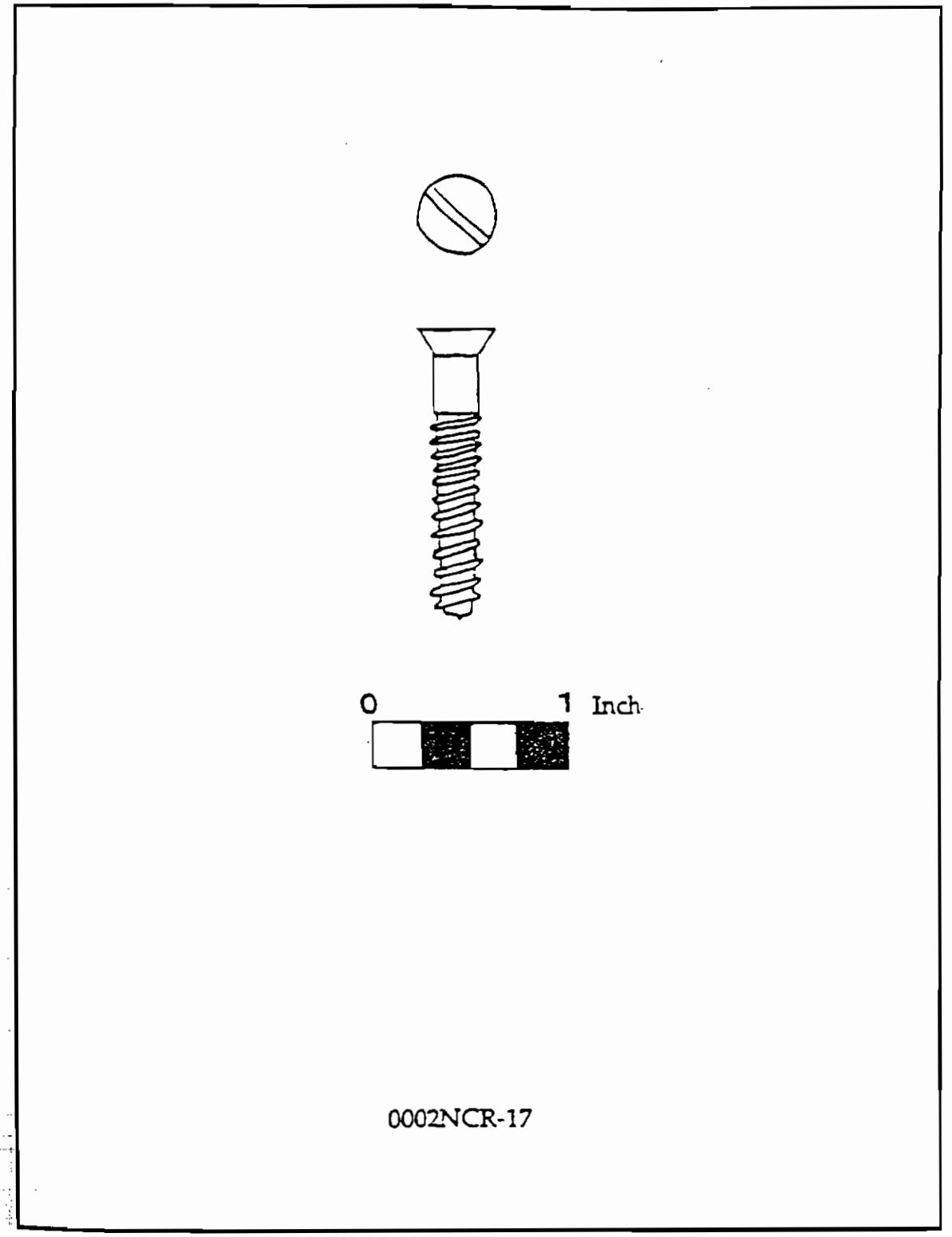


Figure 21. Blunt Wood Screw.

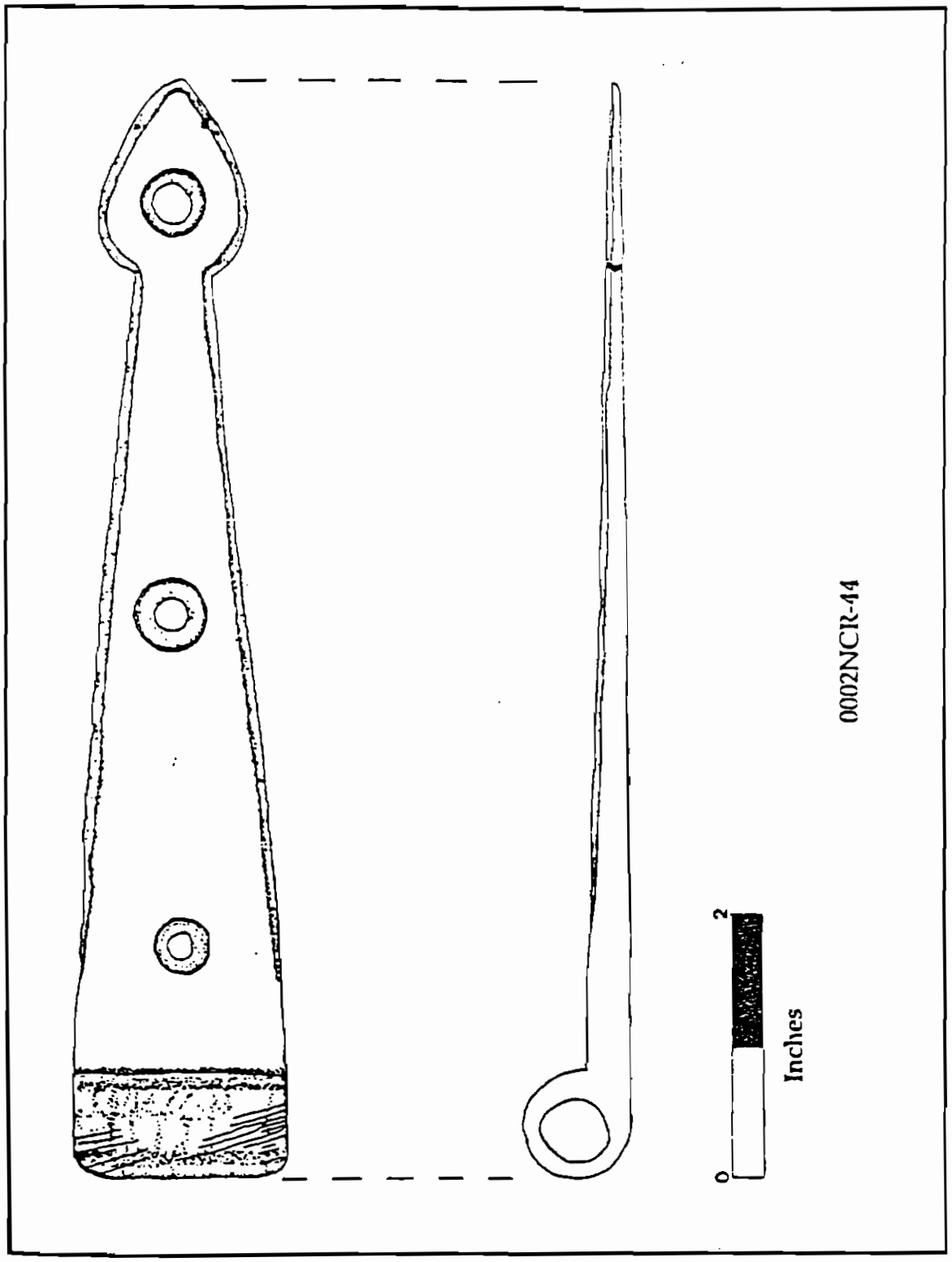


Figure 22. Brass Strap Hinge.

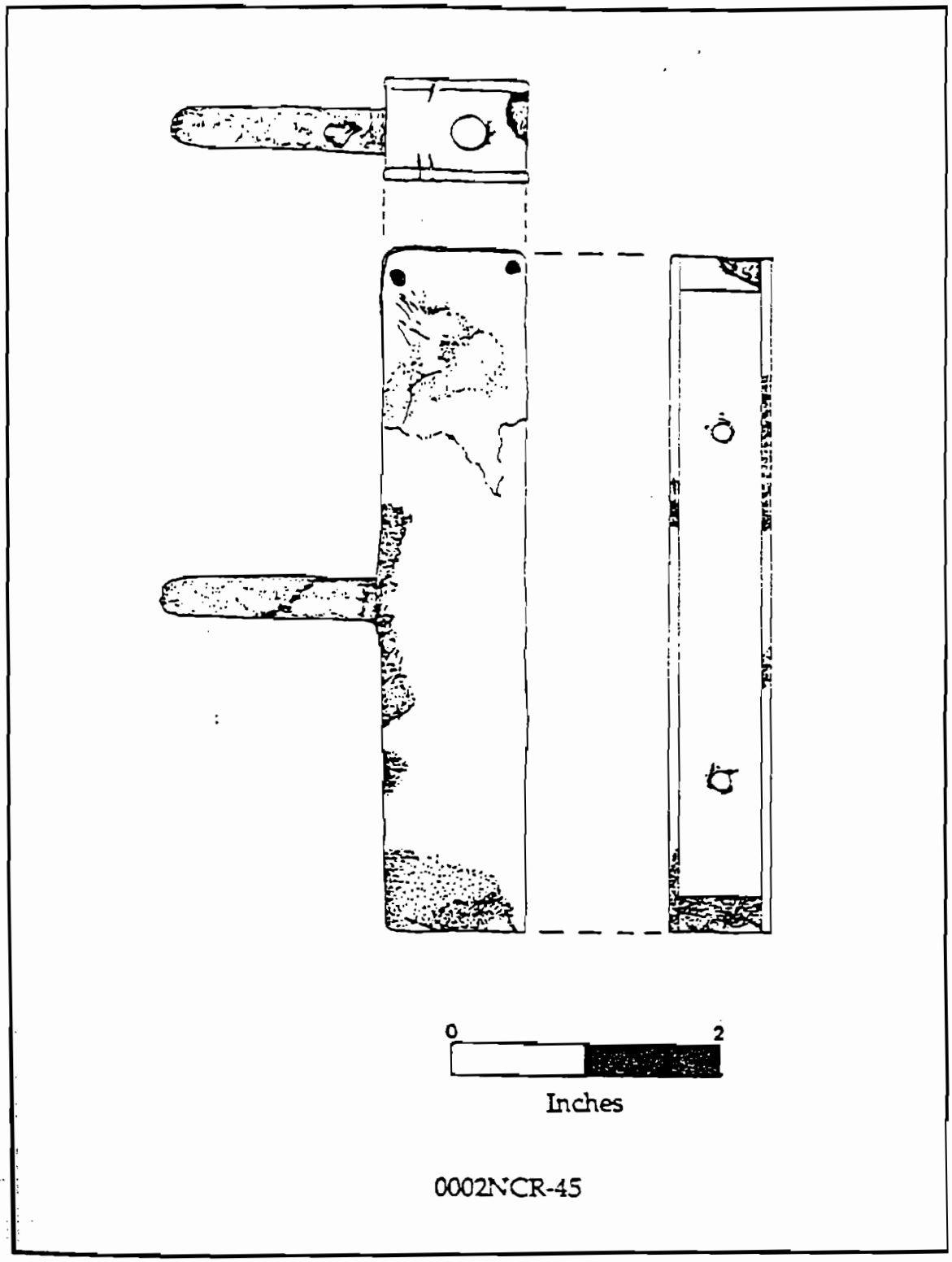
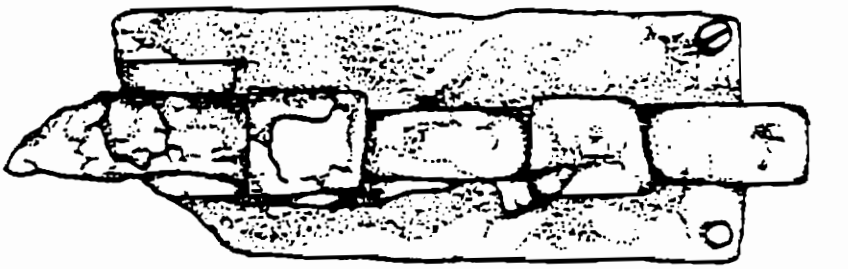
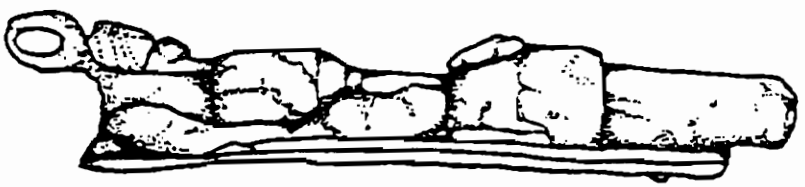


Figure 23. Brass Box.





0002NCR-52

Figure 24. Iron Sliding Bolt Latch.

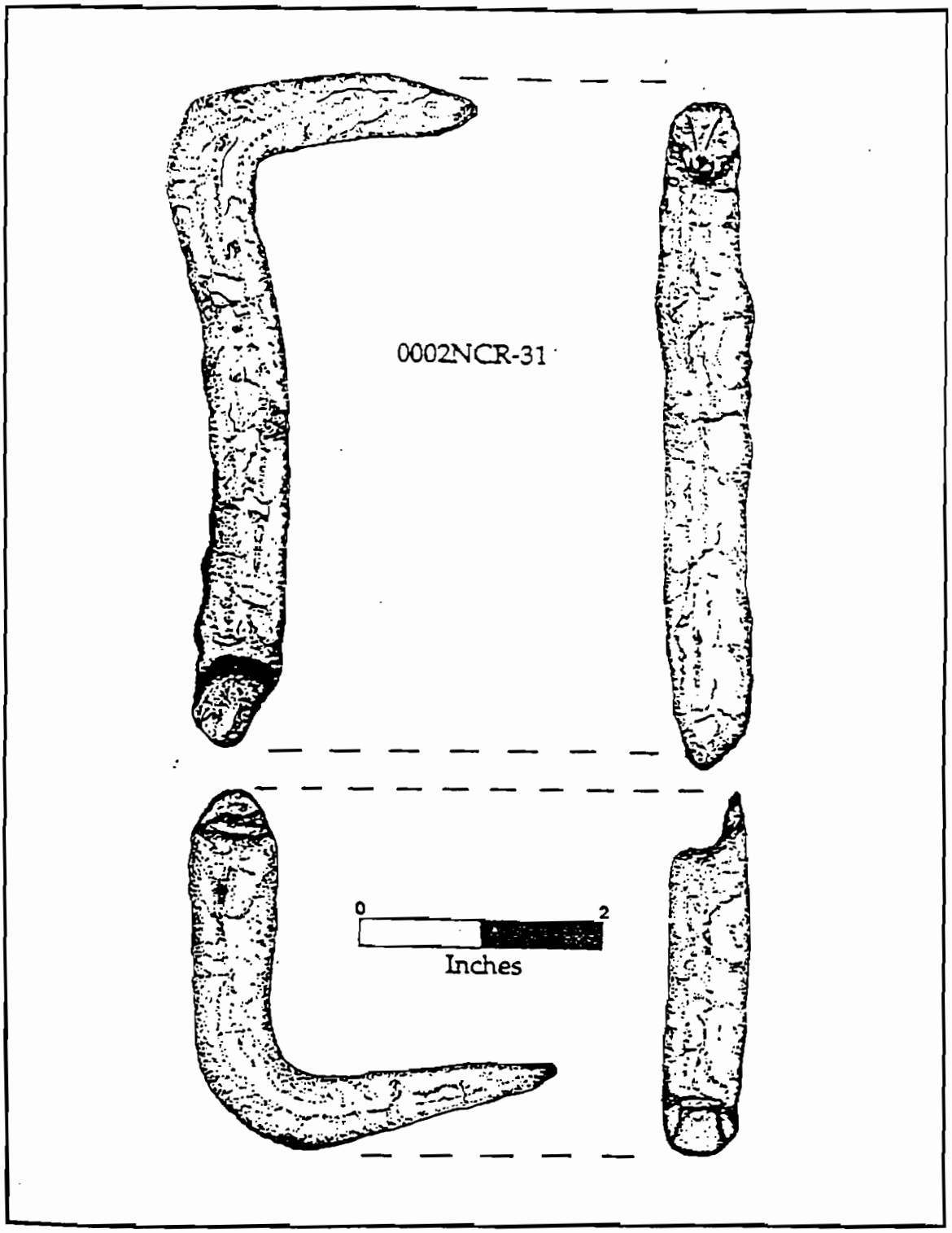


Figure 25. Iron Log Dog.

Iron Eye Ring with Spike

Artifact (0002NCR-51) consisted of an iron eye ring with an attached smaller eye ring and spike (Figure 26). The large eye ring piece was 9 1/4 inches long. The end of the attached spike was broken off. The remaining spike portion was 4 3/4 inches long.

Brass Escution Plate

The escution plate (0002NCR-39), recovered at approximately 67 feet 6 inches on the baseline, was circular with a total diameter of 1 15/16 inches (Figure 27). There was a 1 inch diameter hole in the center of the plate. The artifact's thicknes was 3/8 of an inch.

Iron Pin

The iron pin (0002NCR-49) was rounded at one end and narrowed to a round point at the opposite end. The object's shape resembles a fid, a tool used in rigging and unknotting lines (Figure 28). The artifact's length was 13 1/4 inches. The pin's diameter at the top was 1 inch, which reduced to 1/2 inch at the opposite end. The artifact was recovered at the 67 foot mark on the baseline.

Iron Cylinder

Recovered at the 62 foot mark on the baseline, the iron cylinder (0002NCR-46) had a diameter of 5 inches and a height of 6 1/4 inches (Figure 29). There was a 3/4 inch lip around the artifact's mid-section. The object may have been associated with the stove and its piping.

Iron Block Sheave

An iron block sheave was retrieved from the vessel's stern area at approximately the 52 foot mark on the baseline. The wheel, with a diameter of 8 1/4 inches, was grooved

around its outer edge. There was also a 1 inch diameter hole in the center (Figure 30). The artifact may have been associated with a rigging or pulley system to facilitate cargo handling.

Glass

All six of the glass artifacts showed signs of crizzling or melting. Researchers recovered all glass artifacts from the bow area, just aft of the stem post and apron.

Green Bottle Glass

Two pieces of a green bottle base, posssibly from a wine or champagne bottle, were recovered just aft of the stem post and apron (Figures 31 and 32). There were several embossed markings on both pieces. On artifact (0002NCR-3), the remaining embossed letters stated:

EORGE

D.C

Artifact (0002NCR-2) exhibited an embossed "G" that corresponded with the letters "EORGE" on (0002NCR-3). One possibility is that the bottle originated from a company in the Georgetown area of Washington, D.C. The separate broken pieces fit together to form part of the bottle base (Figure 33).

Clear Glass

Divers also recovered three pieces of badly melted clear glass. The thickness of these pieces ranged from 1/8 to 1/4 inch. These pieces may represent the remains of a lantern or signal light globe.

Ceramics

Few ceramic artifacts were recovered from the excavated areas. In all, researchers recovered nine pieces, including six pearlware and three stoneware. The pearlware pieces provided diagnostic information regarding the vessel's age, but, due to the wide temporal range of stoneware production, the stoneware artifacts proved less diagnostic.

Pearlware

There were six pearlware plate pieces recovered on the port side of the keelson at sixty-six feet along the baseline. Most of the pieces were badly stained, burned and concreted. The largest of the pearlware pieces (0002NCR-29), a portion of a plate body and rim, exhibited an impressed makers mark on its back. The mark included the word "Barker" and what appeared to be three leaves underneath. Although research produced no exact matches, the mark may denote the works of Samuel Barker of Yorkshire, England. Barker produced pottery from 1834 through 1893.[202] The piece recovered from the *Scuppernong* may represent an early production piece of Baker's pearlware.

The piece was blue and exhibited a feather edge design (Figure 34). The width of the piece was 6 3/4 inches and the length was 7 inches. Taken from the profile, the width of the body was 3/16 of an inch, where the piece turns up from the body the width was 2/16 of an inch, and then thickened to 1/4 of an inch. The piece had iron and organic stains on the front and back. There were also sediment concretions and pock marks on the front and back. There was an iron nail concreted to the body. The glaze appears to have been burned off. The maker's mark on the back read: Barker (Figure 35).

[202] Donald Towner, *Creamware* (London: Faber and Faber, 1978), 20.

Artifact (0002NCR-28) measured 3 1/8 inches by 4 3/8 inches. It was a small sectionof the body and rim. The rim was painted blue and had the feather edge appearance. There are stains on the front and back, with the stains being more prevalent on the front (Figure 36).

Artifact (0002NCR-26) was a portion of the plate rim. The outermost rim was painted blue and displayed the feather edge appearance. There were sediment concretions and black stains. (Figure 36).

Stoneware

There were three sherds of grey stoneware retrieved from the excavated areas. Artifact (0002NCR-15), the largest of the sherds, was 3 inches long and 2 5/8 inches wide (Figure 37). The sherd appears to have been exposed to intense heat. The glaze was burned from the exterior of the piece. The second sherd of stoneware (0002NCR-16) was 2 1/4 inches by 1 3/4 inches. On the sherd's exterior there was small area of hand-painted blue design. The final sherd (0002NCR-14) was 1 inch by 1 1/2 inches.

Wood

Oak Knees

Three large oak knee timbers were recovered from the 18-26 feet sections of the baseline, in the vessel's forward section. The timbers ranged from approximately 5 feet 7 inches to 7 feet 4 inches in length. All three timbers were badly charred. The timbers were not part of the vessel's structural elements.

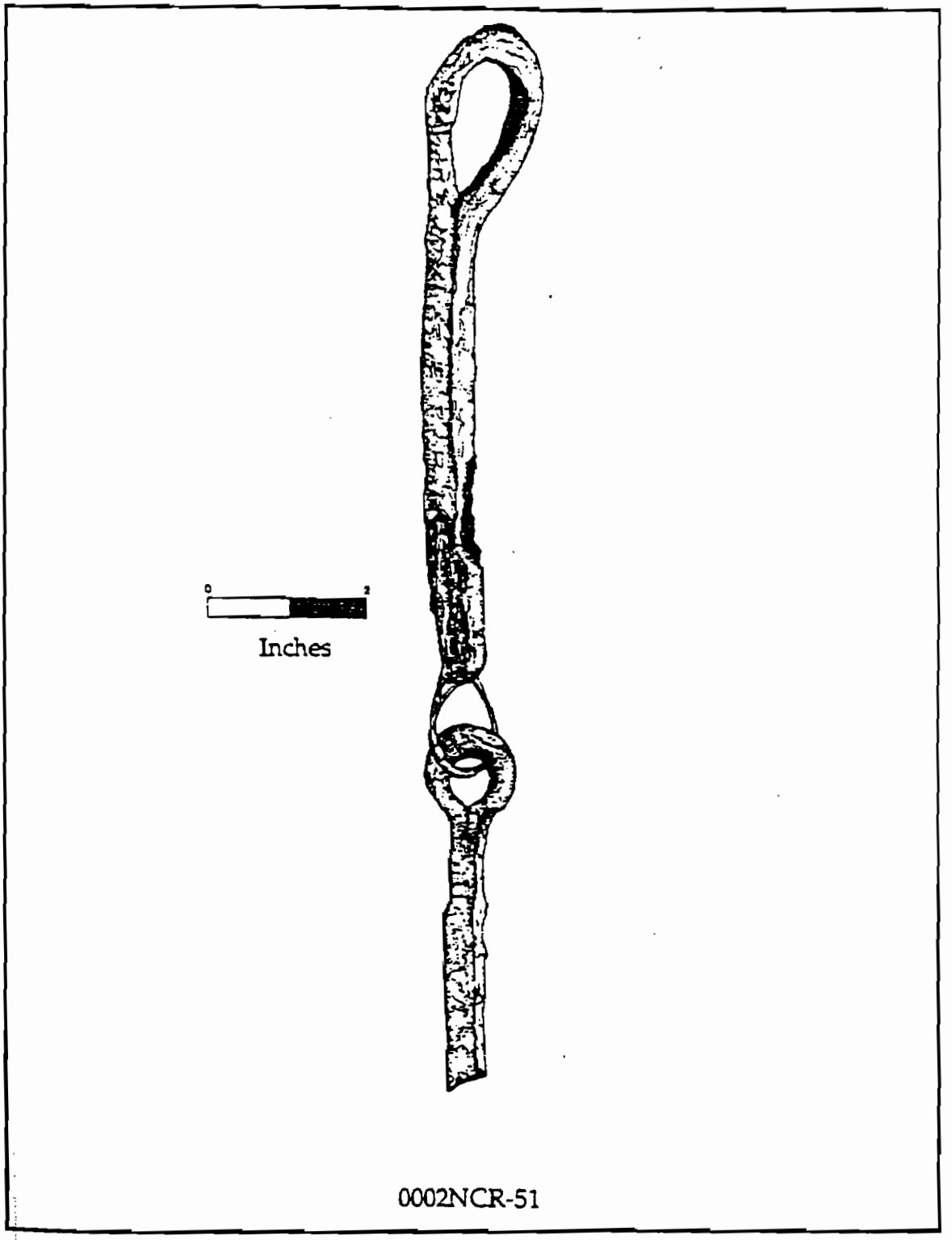


Figure 26. Iron Eye Ring with Spike Remains.

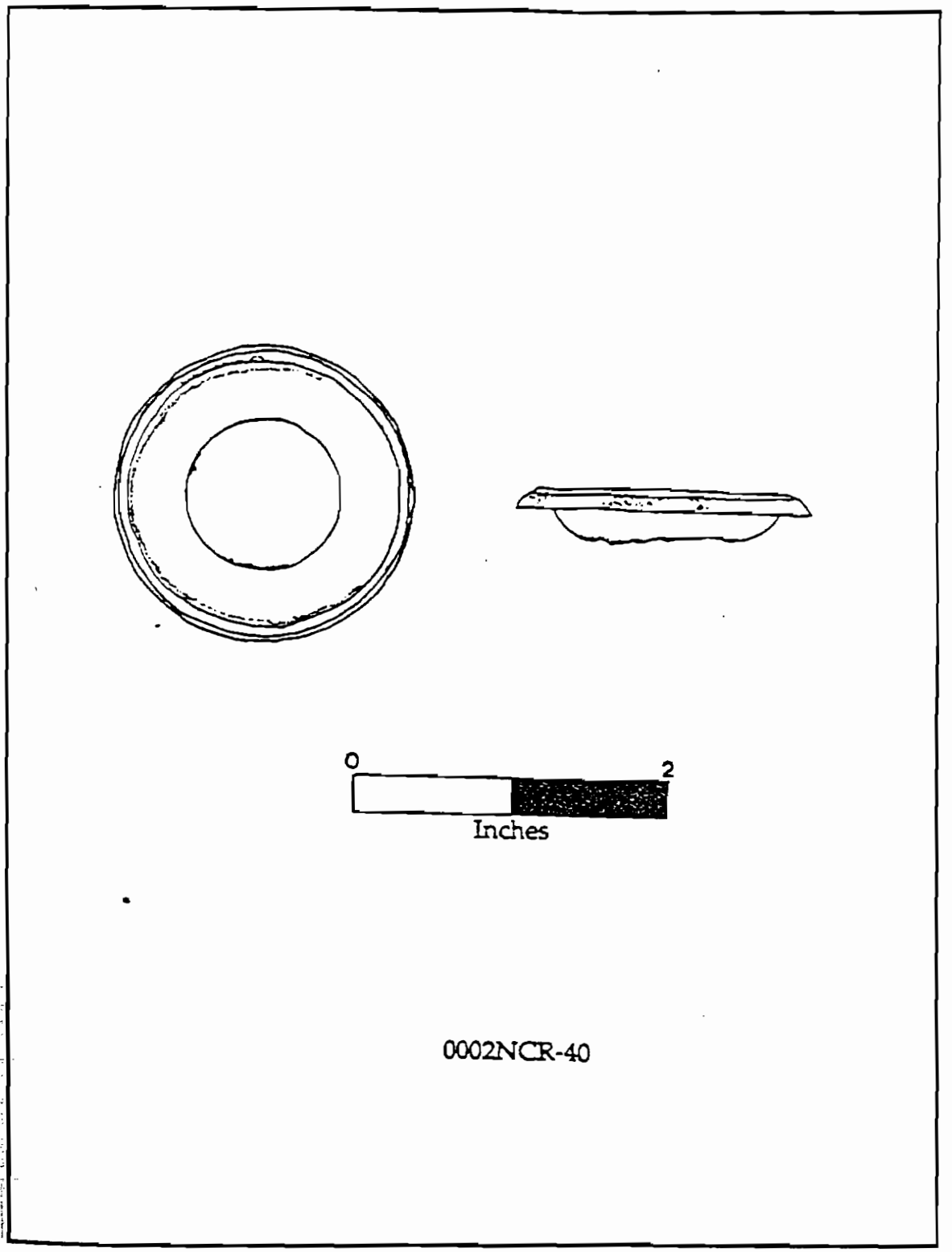


Figure 27. Brass Escution Plate.

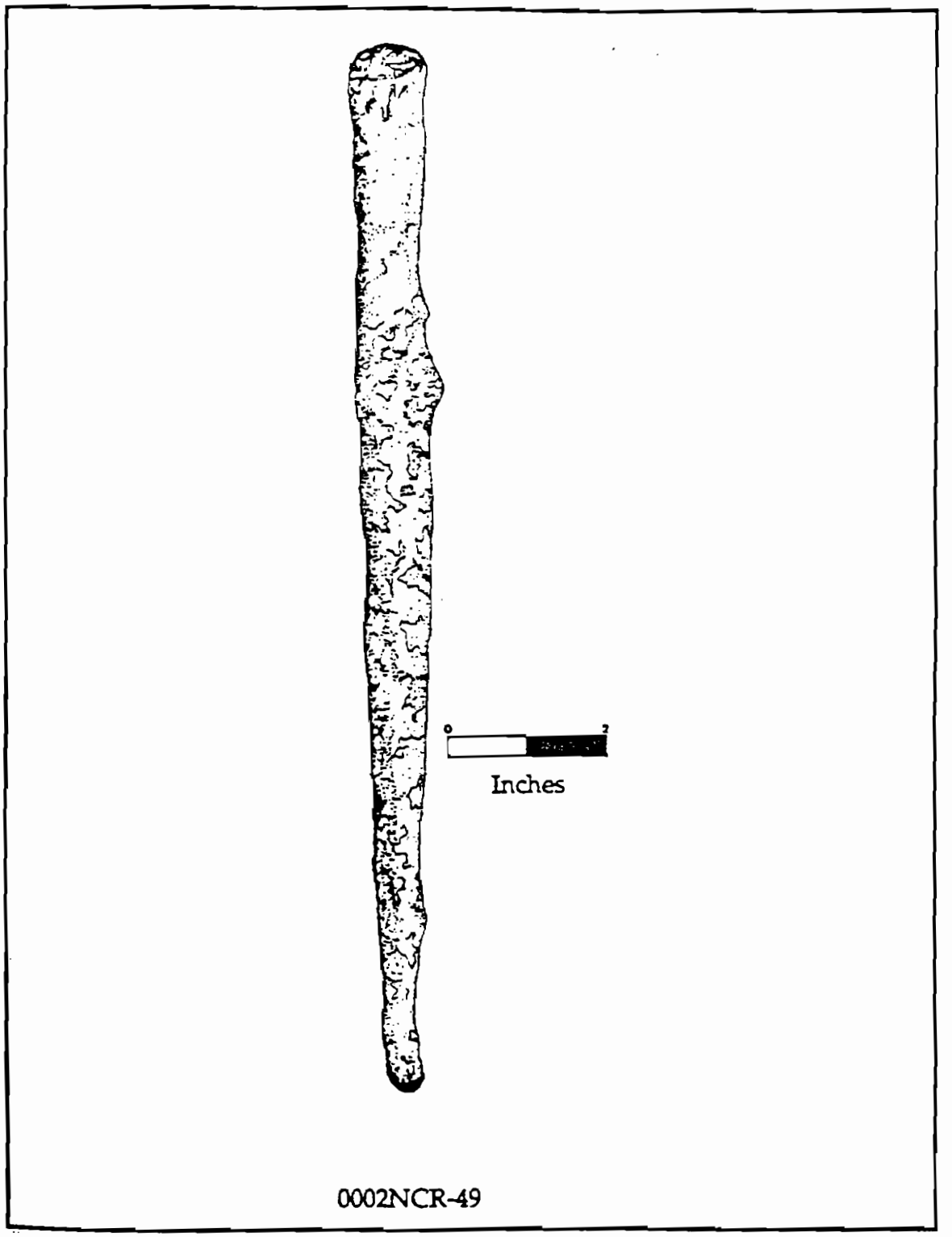
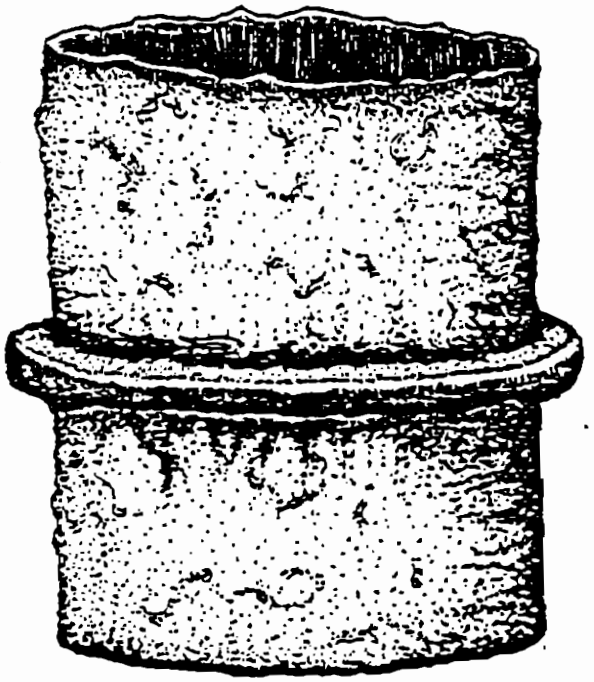


Figure 28. Iron Pin (Drift Pin).



0002NCR-46

Figure 29. Iron Cylinder.

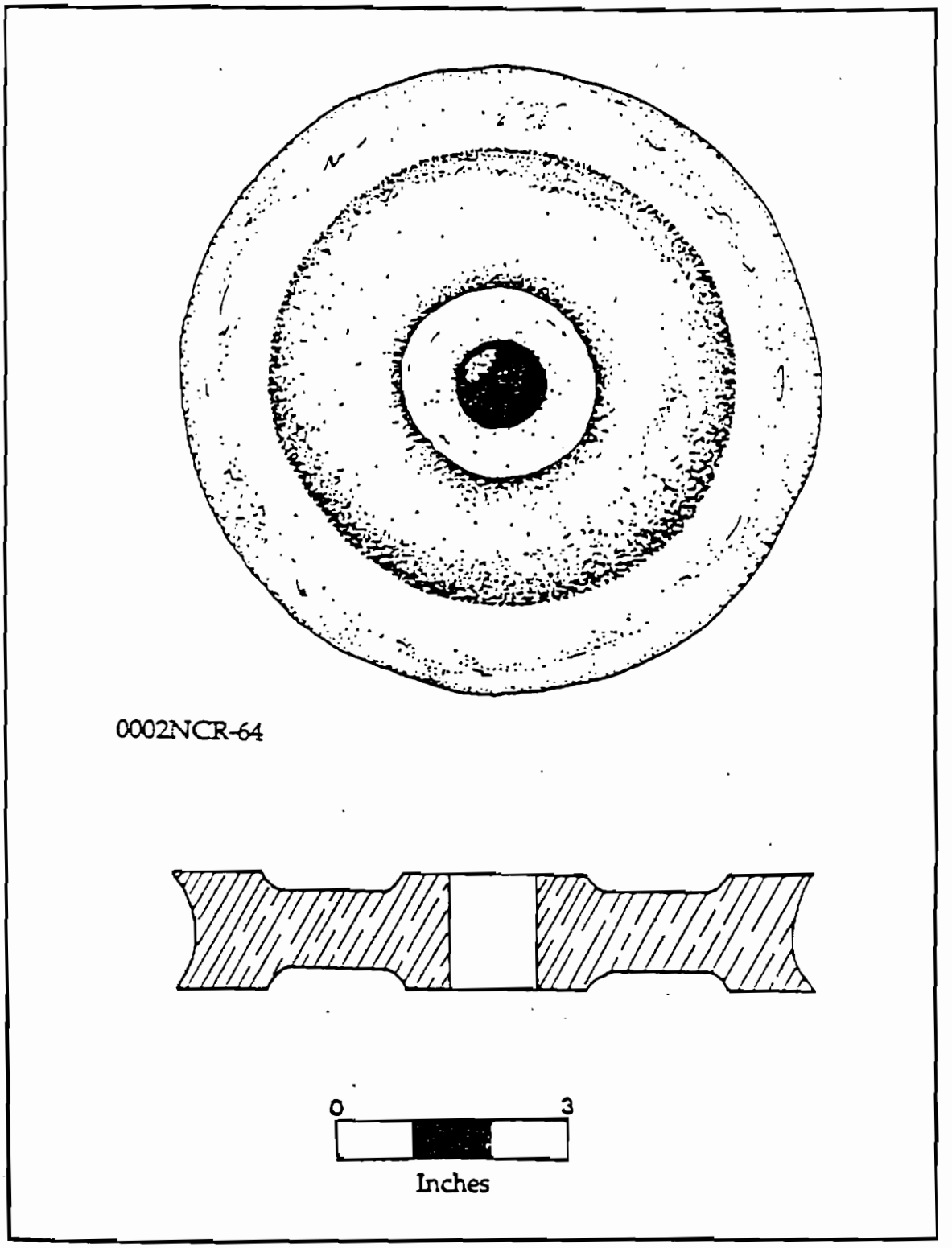


Figure 30. Iron Block Sheave.

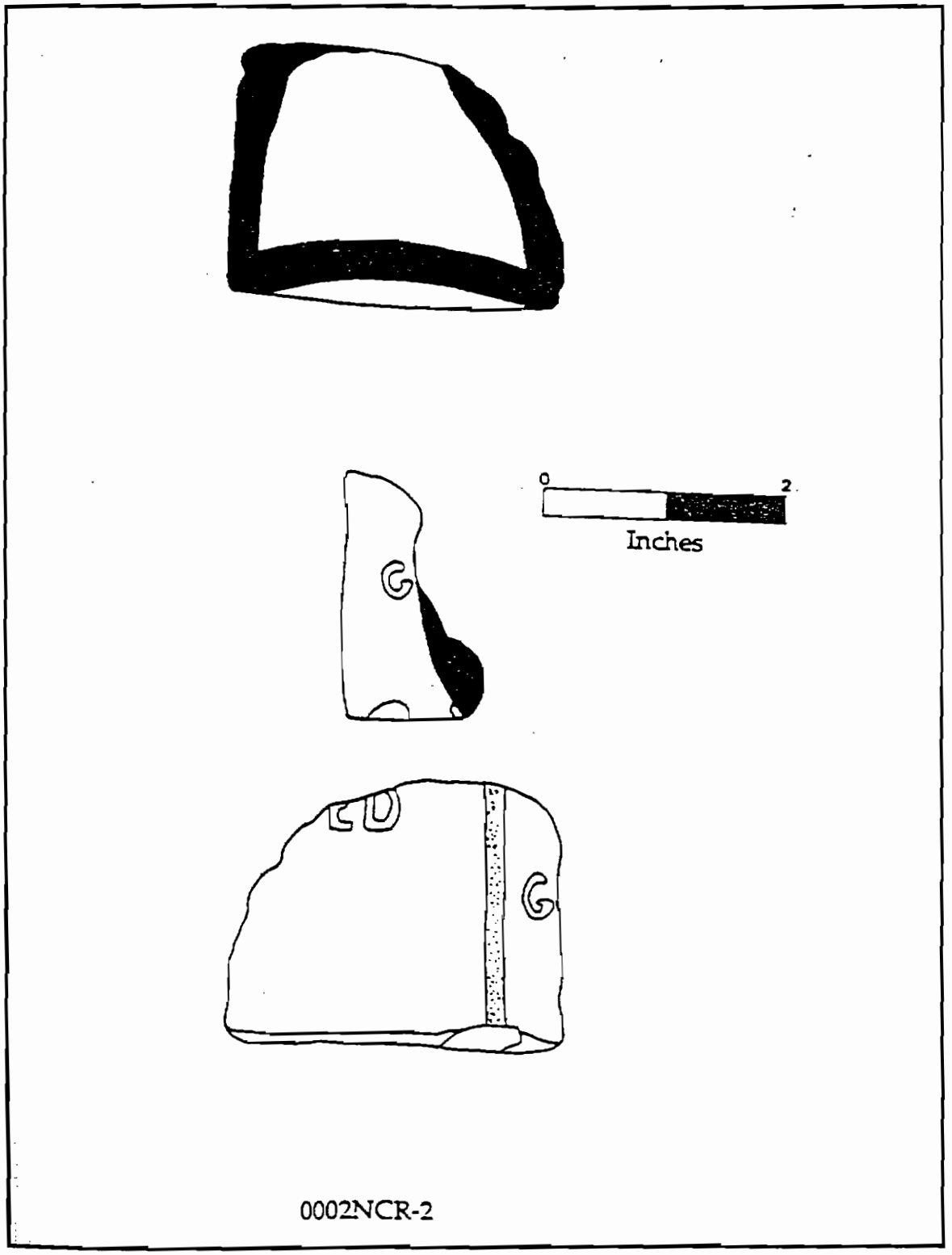


Figure 31. Green Bottle Base Piece.

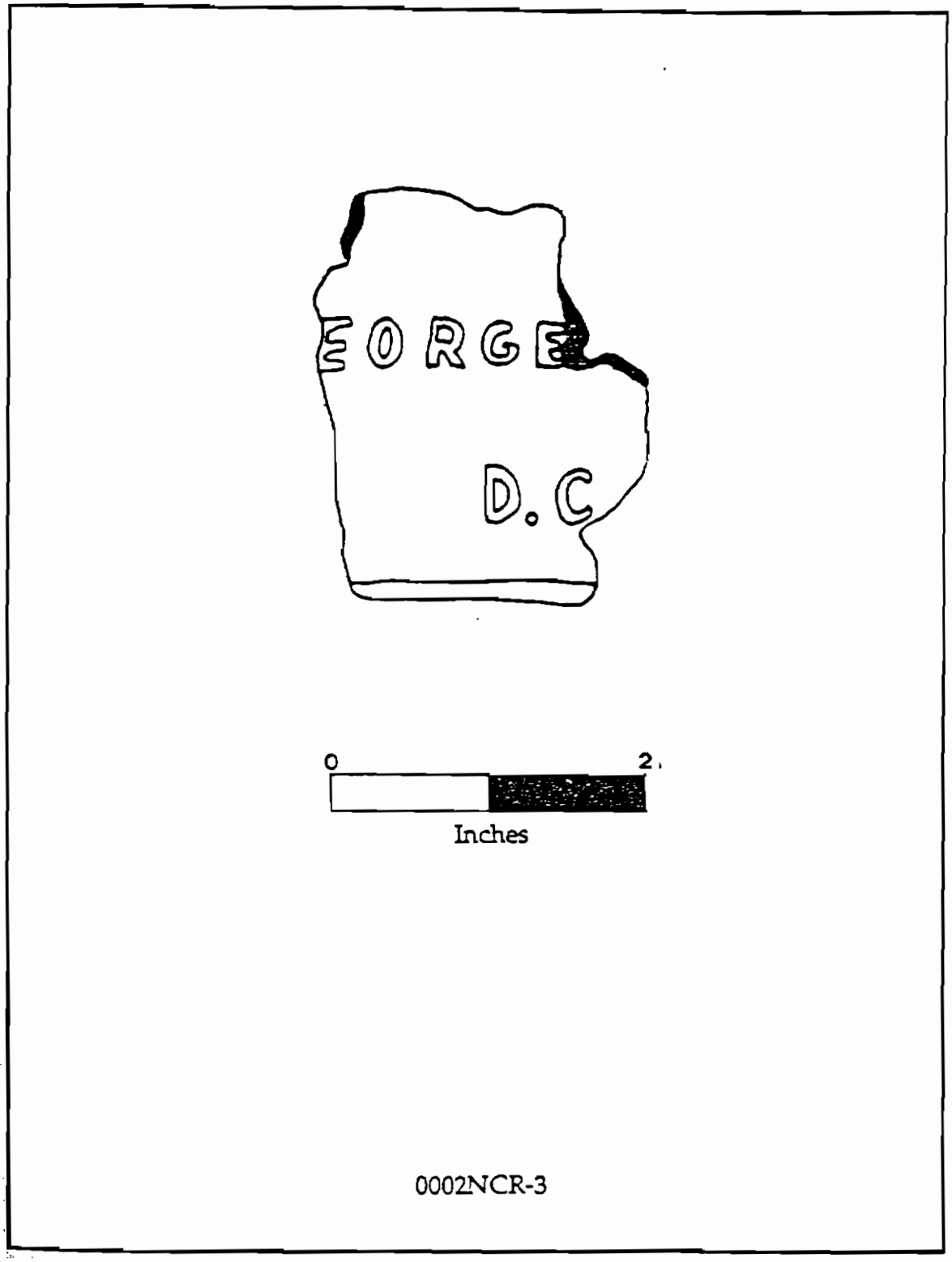


Figure 32. Green Bottle Base Piece with Embossed Lettering.

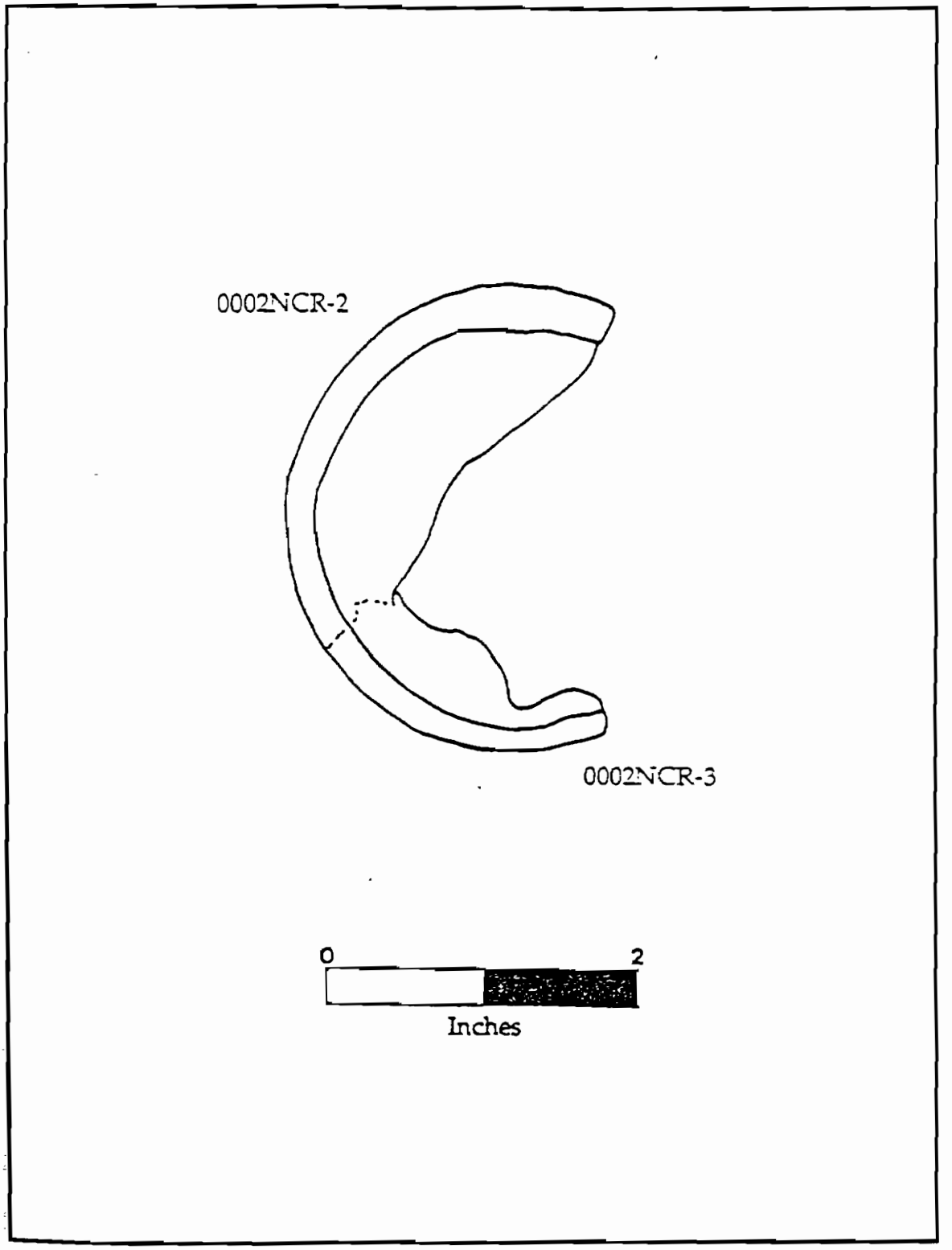


Figure 33. Green Bottle Base Pieces (Matching).

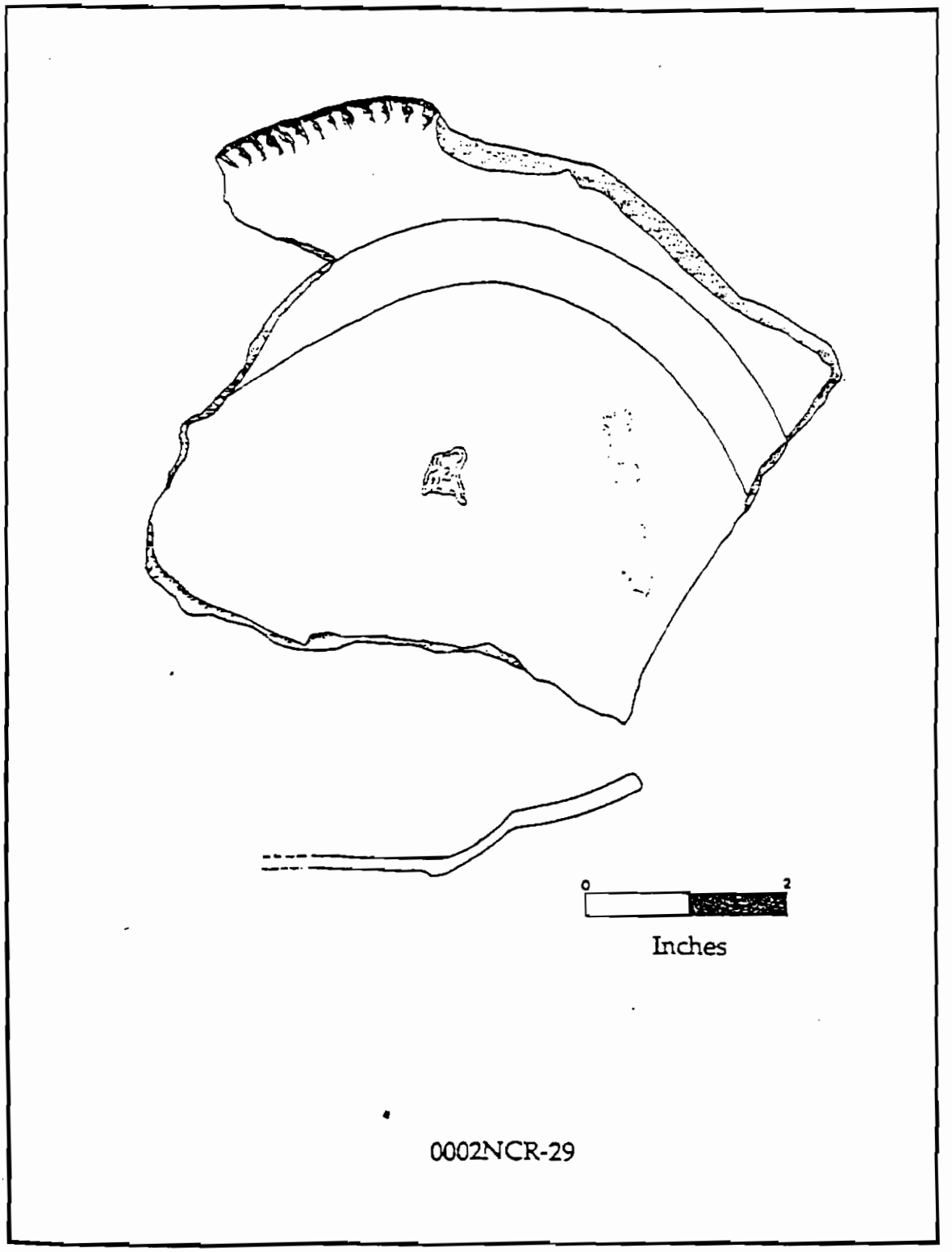


Figure 34. Pearlware Plate.

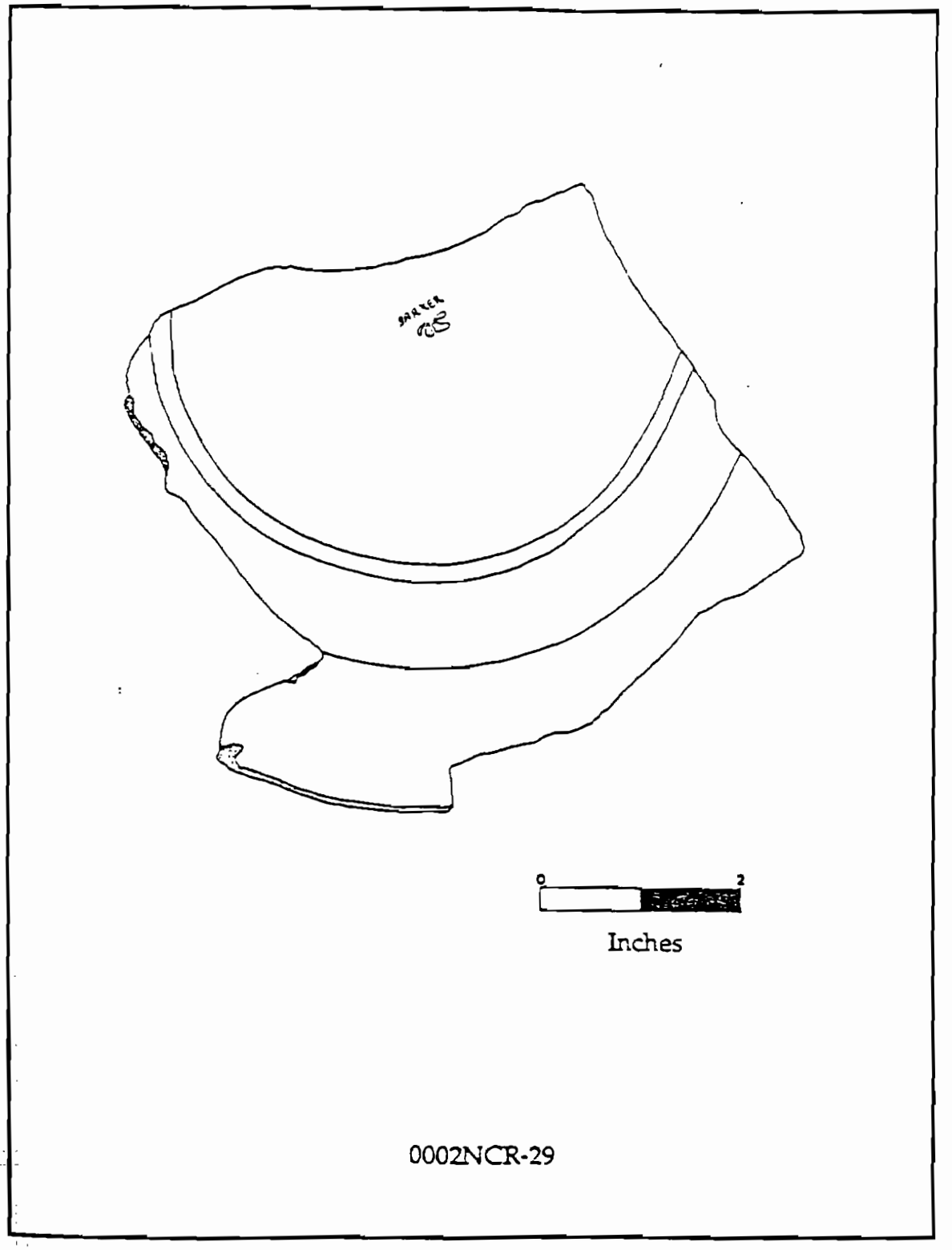


Figure 35. Pearlware Makers Mark.

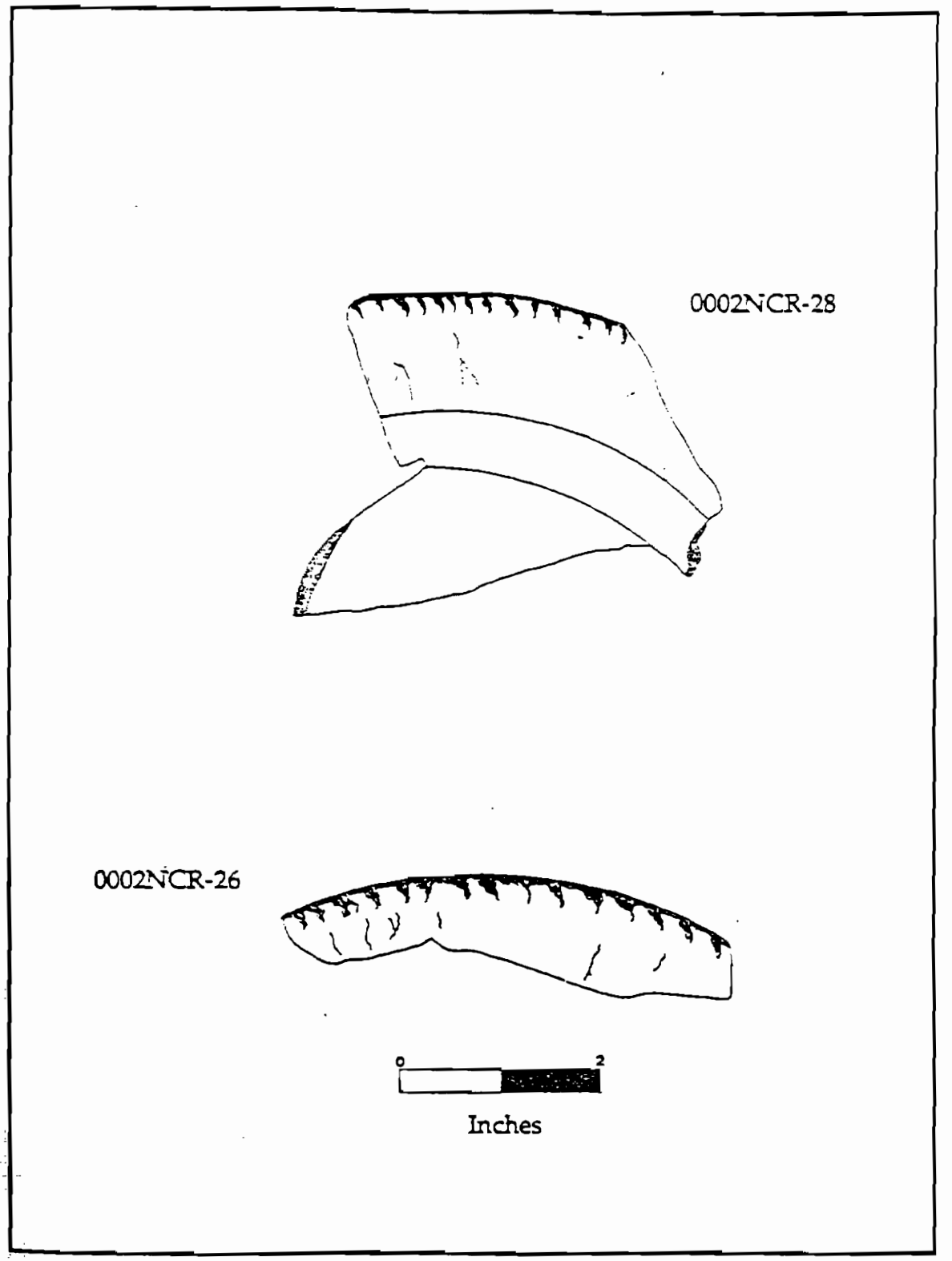


Figure 36. Pearlware Plate Pieces.

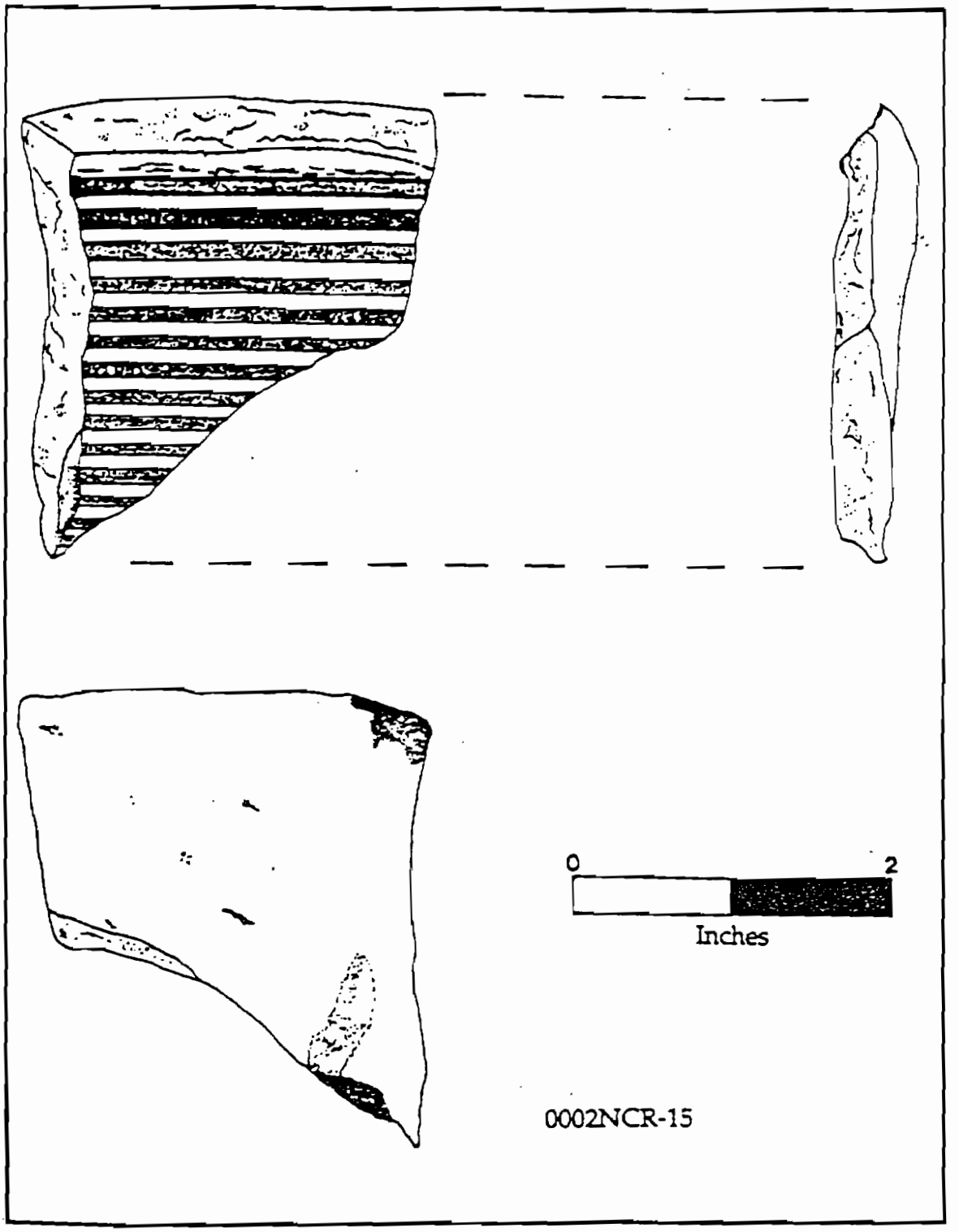


Figure 37. Grey Stoneware Sherd.

ARTIFACT INVENTORY

NUMBER	DESCRIPTION	PROVENIENCE
0002NCR-1	Iron Hook	68' on Keelson
0002NCR-2	Green Bottle Glass	Aft of Stem
0002NCR-3	Green Bottle Glass	Aft of Stem
0002NCR-4	Brass Block Bearing	68' on Keelson
0002NCR-5	Iron Padlock	67'-68' on Keelson
0002NCR-6	Clear Glass (Melted)	Forward Mast Step (Port Side)
0002NCR-7	Clear Glass (Melted)	Forward Mast Step (Port)
0002NCR-8	Copper Nail	68' 6" on Keelson
0002NCR-9	Copper Nail	68' 6" on Keelson
0002NCR-10	Iron Piece (Possibly a stove part)	68' on Keelson

0002NCR-11	Iron Piece (Possibly a stove part)	68' on Keelson
0002NCR-12	Iron Piece (Possibly a stove part)	68' on Keelson
0002NCR-13	Stoneware Piece (Glazed?)	67'-68' on Keelson
0002NCR-14	Grey Stoneware Piece	67'-68'
0002NCR-15	Grey Stoneware Piece	67'-68'
0002NCR-16	Grey Stoneware Piece Blue-design on exterior	67'-68'
0002NCR-17	Flat Head Screw	67'-68' on Keelson
0002NCR-18	Iron Latch Clasp	67'-68' on Keelson
0002NCR-19	Iron Drift Bolt 13 7/8 " Long, Washer attached	22' on Keelson
0002NCR-20	Copper Nail 2 " Long	66' on Keelson

0002NCR-21	Iron Nail 1 3/4 " Long, Squre Head and Shank	66' on Keelson
0002NCR-22	Partial Iron Boat Hook Funnel Shaped, 7' Long, 2 1/2" Wide at the top, 1" wide at the bottom	Forward Mast Step Area
0002NCR-23	Rock Fracture with Melted Glass	
0002NCR-24	Rock Fracture	
0002NCR-25	Pearlware Piece 2 1/4" Long, 1 1/4 "Wide	70' on Keelson
0002NCR-26	Blue Edged Pearlware Rim 4 1/2" Long	66' on Keelson
0002NCR-27	Blue Edged Pearlware Piece 2 1/2" Long	66' on Keelson
0002NCR-28	Blue Edged Pearlware Body/Rim Piece 4 1/2" Long, 3 1/2" Wide	66' on Keelson

0002NCR-29	Blue Edged Pearlware Body/Rim Piece 7" Long, 6 3/4" Wide	66" on Keelson
0002NCR-30	Ceramic Piece	66' on Keelson
0002NCR-31	Iron Log Dog	5-10' Area on Keelson
0002NCR-32	Wrought Iron Spike 4 3/4" Long	5-10' Area on Keelson
0002NCR-33	Wrought Iron Spike 5 1/2 " Long, Broken into two pieces, Iron threads run the length of the shaft,	5-10' Area on Keelson
0002NCR-34	Wrought Iron Spike 4 1/2" Long	5-10' Area on Keelson
0002NCR-35	Wrought Iron Spike 4 1/2" Long, 3/8" Shank Width	5-10' Area on Keelson

0002NCR-36	Wrought Iron Spike 4 1/2" Long, 3/8" Shank Width, Broken into two pieces	5-10' Area on Keelson
0002NCR-37	Wrought Iron Spike Broken into two pieces	5-10' Area on Keelson
0002NCr-38	Wrought Iron Spike Head	5-10' Area on Keelson
0002NCR-39	Broken Brass Hinge	66' along Keelson, Port Side
0002NCR-40	Brass Escution Plate (?)	67-68' on Keelson
0002NCR-41	Brass Cylindrical Pin 2" Long 7/16" Circumference	68' 6" along Keelson
0002NCR-42	Broken Brass Strap Hinge	67-68' on Keelson
0002NCR-43	Brass Strap Hinge	69' on Keelson
0002NCR-44	Melted Brass Conglomeration	67-68' along Keelson

0002NCR-45	Unidentified Brass Box	67-68' along Keelson
0002NCR-46	Iron Cylinder 7 1/4" in Height, 5" Wide (?)	62' along Keelson
0002NCR-47	Bearing with Copper Spike	66' 6" along Keelson
0002NCR-48	Iron Hook/Block	66' along Keelson
0002NCR-49	Iron Pin (Fid ?)	67' along Baseline
0002NCR-50	Iron Drift Bolt 17 1/4" Long, 7/8" Circumference	57' 6" to Starboard of Keelson
0002NCR-51	Iron Eye Ring with Spike 13 3/4" Long	55' along Baseline (6th Floor Aft of Centerboard Trunk)
0002NCR-52	Iron Sliding Bolt Latch	67' on Baseline (Three Frames Forward of Stern)
0002NCR-53	Brass Hub and Bearings	67' on Baseline (Three Frames Forward of Stern)

0002NCR-54	Brass Hub and Bearings with an Iron Pin	67' on Baseline (Three Frames Forward of Stern)
0002NCR-55	Brass Housing and Bearing Pins	67' on Baseline (Three Frames Forward of Stern)
0002NCR-56	Iron Bolt 11" Long, 3/4" Diameter (Concreted to iron Wheel)	57' 6" on Baseline, Starboard of Keelson
0002NCR-57	Iron Spike (Concreted to Wheel)	57' 6" on Baseline, Starboard of Keelson
0002NCR-58	Iron Pin Approx. 3" Long (Was Concreted to 0002NCR-59)	67' on Baseline (Three Frames Forward of Stern)
0002NCR-59	Round Iron Hub	67' on Baseline (Three Frames Forward of Stern)
0002NCR-60	Iron Spike 4 5/8" Long	66' on Baseline
0002NCR-61	Machine Cut Iron Nail 2 5/8" Long	66' on Baseline

0002NCR-62	Machine Cut Iron Nail 2 5/8" Long	66' on Baseline
0002NCR-63	Machine Cut Iron Nail Broken, 1 1/2" Long	66' on Baseline
0002NCR-64	Oak Knee Timber 7' 4" Long (Cargo)	24'-26' on Baseline
0002NCR-65	Oak Knee Timber 6' 7" Long (Cargo)	18' 6" on Baseline
0002NCR-66	Oak Knee Timber 5' 7" Long (Cargo)	18' on Baseline
0002NCR-67	Limber Board 5' 10" Long, 2" Thick	10-16' on Baseline

Chapter Five

Analysis and Conclusions

Throughout most of the eighteenth and nineteenth centuries, schooners were the primary cargo vessels employed in North Carolina waters, including the Albemarle Sound region. Although thousands of such schooners sailed in North Carolina, there are no known examples still afloat. Consequently, the archaeological record contains the only physical record of antebellum North Carolina-built coasting schooners. In North Carolina, the research base for schooner sites continues to increase, albeit with some inherent difficulties concerning data synthesis.

A lack of specific historical data concerning the loss of eighteenth-and-nineteenth century vessels in coastal waters, particularly regarding work boats, hinders submerged archaeological research. Often times, researchers are uncertain of the vessel's construction context, particularly regarding place of construction. Having an historical reference, therefore, that provides the date, location, reason for loss, and vessel name, is both rare and fortuitous.

In the case of the *Scuppernong*, UAU personnel located a documentary reference to the vessel's loss by fire, just below the bridge over Indiantown Creek. Consequently, during a remote sensing survey, UAU personnel located the remains of a burned, wooden centerboard vessel just below the Indiantown Creek highway bridge. Moreover, the specific historical reference enabled the author to identify the vessel's place of construction and builder, as well as to construct a regional context for the vessel remains. As a result, the archaeological data concerning the vessel's construction features adds to the current information base regarding nineteenth century shipbuilding in North Carolina.

The historical and archaeological study of the *Scuppernong*, therefore, presents an additional movement forward in documenting North Carolina's shipbuilding tradition. Although researchers did not completely excavate the vessel, documentation of the vessel's archaeological data, in addition to the development of a regional historical context, provides further baseline information regarding the construction and use of nineteenth century schooners in North Carolina. The *Scuppernong* site presents an unusual opportunity to document some of the techniques utilized by a specific builder, John Boushell, as well as develop comparative data concerning schooners built in the Albemarle Sound region of North Carolina.

An examination of contemporary historical records and past archaeological research allowed the author to perform a small measure of comparative analysis regarding the *Scuppernong*'s construction characteristics. Data concerning the *Scuppernong*'s hull configuration, framing, centerboard trunk, and stern construction provided areas of analysis. Unfortunately, a lack of nineteenth-century American treatises on commercial shipbuilding hampers documentation efforts, but by combining both documentary and archaeological research one may present a clearer context for nineteenth century shipbuilding in North Carolina.

For example, John Griffith's *Treatise on Marine and Naval Architecture*, published in 1850, was one of the few published nineteenth-century documents on American shipbuilding. His work provides insight into the general design parameters associated with American built vessels, including centerboard schooners. Griffith, in noting the diversity of coasting vessels in the United States during the period, stated that such vessels combined "the greatest variety of shape and principal dimensions. . . ."[203] Regarding the diversity of American shipbuilding techniques, Griffith noted that "it must

[203]John W. Griffiths, *Treatise on Maine and Naval Architecture.* (New York: Published by the author, 1850), 347.

be quite apparent that no definite instruction can be given for the construction of coasting vessels that will apply universally to all. . . ."[204] Griffith's reference to the lack of a generalized set of construction techniques reinforces the importance of attempting to document regional shipbuilding techniques, such as displayed on the *Scuppernong* site.

The *Scuppernong* remains represent the vessel's bottom below the turn of the bilge. Measured from the forward side of the stem post to the aft side of the stern post, the vessel's extant length was 75 feet 9 inches. The stem and sternposts rise approximately three to four feet above the creek bottom, while the remainder of the vessel structure is submerged. Significant portions of the vessel's centerline structure, including its stem, keelson, frames, ceiling planking, centerboard trunk, and stern remain relatively intact, but badly burned. Although the vessel's beam extremities were not excavated and recorded, probing indicated that the surviving beam width ranged from 16 to 17 feet. The builder used wrought iron spikes and drift bolts to fasten the vessel's major structural elements. In the vessel's forward section three large oak knees, ranging from 5 to 7 feet in length, were recovered and recorded. Those timbers probably represent the partial oak timber cargo referred to by Lt. Flusser in 1862.

Wood analysis of selected features confirmed that the vessel was constructed of Southern timber types, probably obtained within the Albemarle region. The keel and keelson were sweetgum, the stem and stern posts white oak, the floors a combination of red and white oak, and the centerboard trunk and hull planking were southern yellow pine.[205] All of those wood types were readily available within the Albemarle region.

The keel and keelson timbers, both constructed of sweetgum, provided longitudinal strength for the vessel. Although the entire length of the vessel's keel was not fully excavated, it appears that the vessel may have been built with a keel plank. Excavations

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[204] Ibid.

[205] Lee Newsome, personal communication, 1994.

in the vessel's stern revealed that the keel timber was sided 11 1/2 inches and molded 4 1/2 inches. The keelson, sided 12 inches and molded 8 inches, was notched to fit over the frames, thereby locking the floor and futtock combinations in place. Wooden blocks, which rested between the keel and keelson, occupied the majority of spaces between frame sets. No other schooner examined archaeologically in North Carolina exhibits those type of blocks between the frames.

The *Scuppernong*'s bow construction exhibited a series of radial cant frames, a configuration utilized during the eighteenth and nineteenth centuries. The *Scuppernong* cant frames, for example, were similar to those of the Fig Island #2 wreck, an unidentified late-eighteenth-century derelict vessel in Savannah, Georgia,[206] and the Hilton wreck, a small mid-nineteenth-century centerboard schooner in Wilmington, North Carolina.[207] The *Scuppernong*'s radial cant frames appear to represent the nineteenth-century evolution of eighteenth-century radial cant frame configurations.[208] On a shallow draft hull this relatively full bow configuration may have contributed to a limited draft forward, as well as an increased cargo capacity.

The *Scuppernong*'s framing pattern appeared consistent with other previously examined nineteenth century schooners. The thirty-three frames, observed along the keelson and stern deadwood, were a combination of single and double timbers at the keelson. Based on the placement of 1 inch iron drift pins along the keelson, the floors appeared to be positioned forward of the adjacent first futtocks. While the blocks between frames hindered observation of the first futtocks, the first futtocks appeared to butt under the keelson on the first full frame aft of the cants. That data corresponds with

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[206] Gordon P. Watts, Jr., *Underwater Archeological Excavation and Data Recovery at the Hilton wreck, Northeast Cape Fear River, Wilmington, North Carolina*, (Prepared for U.S. Army Engineer District, Wilmington, North Carolina, 1994), 83.

[207] Ibid., 79

[208] Ibid.

previous research which documents a "tradition throughout almost all of the nineteenth century, [where] the pattern consisted of frames composed of floors and staggered futtocks. Each floor was seated on the keel and attached by a drift pin."[209] Like the *Scuppernong*, a number of other nineteenth-century schooners previously examined in North Carolina waters exhibited a similar pattern of frames composed of floors and staggered futtocks. Those sites include the Queen Anne's Creek Wreck at Edenton,[210] the Tranter's Creek Wreck in Washington, the Three Piling Wreck in New Bern, and the New River Inlet Wreck at New River Inlet.[211]

The *Scuppernong*'s individual frame components had molded dimensions of approximately 6 inches, while the sided dimensions of the individual frame components ranged from approximately 5 1/2 to 6 inches. The average room and space framing measurement was approximately 24 inches, with room being approximately 10 1/2 inches and space approximately 13 1/2 inches.

The centerboard trunk structure, offset to the starboard side of the keel, was approximately 22 feet long. The centerboard slot was 20 feet 8 inches long and 4 inches wide. The *Scuppernong*'s builder constructed the trunk to butt against the keel and keelson, with two 4-inch sided pine timbers forming the port and starboard bedlogs. Although there seems to be some variation in trunk construction, most centerboard vessels examined in North Carolina contained trunks offset to the starboard side. For example, the Tranter's Creek Wreck, the Queen Anne's Creek Wreck, and the New River Inlet Wreck all exhibited centerboard trunks offset to the starboard side of the keel and keelson.[212]

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[209] Watts, *Hilton Wreck*, 82.
[210] Ibid., 85.
[211] Ibid., 85.
[212] Watts, *Hilton Wreck*, 82.

Previous historical research has also documented a starboard side centerboard tradition for nineteenth-century Chesapeake Bay schooners.[213] Unfortunately, there is little information regarding the reasons for placing centerboard trunks on the starboard side.

The side placement of centerboards may be related to mast placement and the correlation to sailing characteristics. On the *Scuppernong*, for example, the builder mortised two mast steps into the vessel's keelson. The forward maststep was centered along the keelson. The forward edge of the fore maststep was 9 feet 3 inches forward of the forward centerboard trunk post's forward edge. The forward edge of the main maststep was 19 feet 6 inches aft of the forward centerboard trunk post's forward edge. The builder offset the main maststep to the keelson's port side, just forward of centerboard trunk's aft end. The mainmast step's offset placement along the keelson provides insight into possible design considerations, including centerboard placement. One possibility, according to Chappelle, is that nineteenth-century shipbuilders sometimes positioned the main mast beside the trunk in an effort to balance the hull and rig.[214]

The final area of construction feature analysis regards the vessel's stern. The builder constructed the stern by stacking three deadwood timbers forward of the sternpost. The builder also rebated the stern floors into the deadwood structure, while the half floors, or futtocks, were mortised into the deadwood, forward of the accompanying floors. The builder also used fillet pieces to shape the bottoms of several floor and futtock timbers.

In the stern area, the garboard rabbet began to angle up from the keel plank through the deadwood. The garboard rabbet intersected the sternpost approximately 3 feet above the bottom of the keel. The garboard strake was seated in the rabbet and, therefore,

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213 Howard I. Chapelle, *The History of American Sailing S hips* (New York: W.W. Norton & Company, 1935), 302.

214 Chappelle, *Search for Speed*, 283.

portions of the deadwood were unplanked. The configuration created a skeg. A similar feature was documented on the Hilton Wreck, a centerboard schooner examined in Wilmington, North Carolina. Although the rabbet on the Hilton wreck did not continue into the deadwood, the garboard strake rose through the deadwood, leaving the bottom portions of the deadwood exposed.[215] The skeg stern technique is not well documented on schooners in the archaeological record. The Hilton Wreck and the *Scuppernong* are the only North Carolina schooner archaeological sites that exhibit that particular construction technique. The *Scuppernong's* deadwood and planking configuration was also similar to that of the *Emma C. Berry*, built in Noank, Connecticut, in 1866.[216] In both instances, the planking sheathed the top of the deadwood and the garboard was seated in the rabbett.[217]

The artifacts recovered from the *Scuppernong* site provide some additional construction information and illuminate the spartan lifestyles of men working on nineteenth century coasting vessels. Most of the recovered artifacts related to the vessels construction and operation, such as machine cut nails, wrought iron spikes and drift bolts, rigging block bearings, and various iron and brass hardware. Researchers recovered few artifacts pertaining to shipboard life. Those artifacts consisted of green bottle glass, a padlock, crockery sherds, and pieces of what may have been an English-made plate. None of the above items provided any negative evidence regarding a mid-nineteenth-century date for the vessels use and loss. In fact, all of the recovevered artifacts appear to support the mid-nineteenth-century construction and use period for the vessel.

The *Scuppernong* reflected the developments and adaptations of shipbuilding within the Albemarle region. Designed for travel on the Dismal Swamp Canal, vessel owners

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[215] Watts, *Hilton Wreck*, 50.
[216] Ibid., 85-86.
[217] Ibid., 86.

and captains required vessels such as the *Scuppernong* to sail efficiently in a variety of conditions, including shallow, narrow creeks, and open water, such as the Albemarle Sound and the Atlantic Ocean. Constructed primarily of local materials, including oak, sweetgum, and pine, the vessel symbolized the attempt by Albemarle shipbuilders to adapt vessel forms to natural and man-made environments. Although additional research is needed, the *Scuppernong* site provides valuable insight into Southern shipbuilding techniques, as well as important data for future comparative studies.

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Appendix A.

Albemarle-Built Dismal Swamp Canal Schooners

Listing of Draft, Centerboard, and Hull Shape

Vessel/Built	Length, Width	Draft	Centerboard	Model (Hull)
Ann G. Sykes Plymouth, NC 1854	74'-L 17'-W	6'	Yes	Medium
B. F. Maitland Plymouth, NC 1853	73'-L 17'-W	6'	Yes	Full
Caraway Eliz. City, NC 1847	69'-L 17'-W	Not Given	Yes	Full
Cora Manly Edenton, NC 1846	73'-L 17'-W	6'	Yes	Full
Good Hope Eliz. City, NC 1851	74'-L 17'-W	7'	Yes	Full
Jos. Ramsey Tyrrell Co. 1855	80'-L 17'-W	6'	Yes	Medium

Vessel/Built	Length, Width	Draft	Centerboard	Model (Hull)
Kate Stavro Edenton, NC 1859	77'-L 17'-W	6'	Yes	Medium
Osceola Eliz. City, NC 1850	72'-L 17'-W	6'	Yes	Full
Locust Plymouth, NC 1846	63'-L 17'-W	7'	Yes	Full
Palestine Edenton, NC 1845	67'-L 17'-L	6'	Yes	Full
S.H. Sample Edenton, NC 1851	65'-L 17'-W	6'	Yes	Full
Sarah & Mary Eliz. City, NC 1850	73'-L 17'-W	6.5'	Yes	Full
Sarah Porter Edenton, NC 1848	63'-L 17'-W	6'	Yes	Full

SOURCE: *New-York Marine Register: A Standard of Classification of American Vessels, and of such other vessels as visit American ports* (New York: R.C. Root, Anthony & Company, 1857); *American Lloyd's Registry of American and Foreign Shipping* (New York: Ferris & Pratt, 1862); Richard Stephenson and William N. Still (compilers), "A Statistical Analysis of Interstate and International Vessel Construction in North Carolina," (Greenville: East Carolina University, 1993).

Appendix B.

List of Materials to Outfit the Schooner *North Carolina* 1843

February 9

274 1/2 yds. [yards] No. 4 Cotton Duck	$85.09
9 lbs. Spun Yarn	1.17
2 lbs. Marline	.50
1 (?) Twine	.25
1 Side Oiled Leather	2.75
5 Hooks & Thimbles	2.37
6 (8 inch) Single Bushed Blocks	3.84
3 (7 inch) Single Bushed Blocks	1.68
2 (9 inch) Double Bushed Blocks	2.88
2 (7 inch) Double Bushed Blocks	2.24
2 (10 inch) Single Bushed Blocks	1.60
3 yds. Cotton Duck	.90
2 lbs. Tallow	.25
21 lbs. Bolt Rope	3.50
7 lbs. Tarred Rope	.90
1 Side Oiled Leather	2.75
1 Hook & Thimble	.75
1 Thimble	.20
85 lbs. Tarred Rope	11.05

17 1/2 lbs. Spun Yarn	2.28
6 Thimbles	.20
13 lbs. Tarred Rope	1.69
1 (6 inch) Bushed Block	.48
1 (6 inch) Double Wood Pin	.54
3 Hooks & Thimbles	1.88
Hook & Thimble	.25
41 lbs. Tarred Rope	5.33
3 1/4 lbs. (?)	.88
1 Coil 4 3/4 inch Rope	38.87
1 Coil 6 3/4 inch Stay	15.73
38 lbs. Bolt Rope	6.38
9 lbs. Nettles	1.50
4 lbs. Marline	1.00
338 yds. No.4 Cotton Duck	104.78
1 1/2 lbs. Marline	.38
60 lbs. Bolt Rope & Nettles	10.00
16 1/2 lbs. Cotton Sail Twine	6.60
3 1/4 lbs. Bolt Rope	.58
6 1/2 lbs. No.4 Cotton Duck	1.89
1 Coil 3 inch Manilla Rope	20.50
1 Coil 2 3/4 inch Manilla Rope	16.75
1 Coil 2 1/2 inch Manilla Rope	14.25

1 Camboose No. 7 Copper	20.00
1 Wood Compass	3.00
1 (6 1/2 lb.) Lead	.65
1 Lead Line	1.00
1 Pair Cair Hooks	1.00
1 Small Marline Spike	.50
1 Caulking Iron	.38
1 Caulking Mallet	.75
1 Hammer	1.00
1 Hatchet	1.00
1 Axe	1.50
1 Set Pindle Halyards	1.25
1 Auger	.75
1 Handsaw	1.25
2 Ser(?)	1.13
Drawing Knife	.75
Draw Bucket	.75
1 Doz. Spoons	.75
1 Ball Lamp Wick	.15
845 lbs. Chain Cable	75.94
1 3/4 lbs. Marline	.44
6 lbs. Spun Yarn	.78
1 Binnacle Lamp	1.75

1 Spike Gimbel	.25
Woodsaw	1.00
Knives & Forks	.75
Gib Hanks	.64
Tin Cups	.25
W(?) (?)	.27
46 lbs. Rope	5.98
	$326.80

March 31

1 (?) Twine	$.25
1 Side Oiled Leather	2.75
1 Coffee Mill	.75
26 lbs. Tarred Rope	3.38
5 3/4 lbs. Tarred Rope	.75
Crockery Ware	1.50
Total	**$530.65**

SOURCE: List of materials to outfit the Schooner *North Carolina*, 1843, Timothy Hunter Papers, Private Collection, Elizabeth City, North Carolina.