

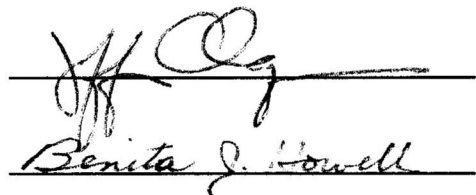
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I am submitting herewith a thesis written by Lee Ann Wilson entitled "Archaeological Investigations at the Carmichael Inn Site: Testing a Model for Cultural Patterning of the Rural Nineteenth Century Inn in the Ridge and Valley of Tennessee". I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Anthropology.



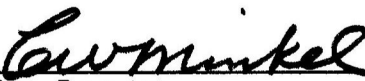
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ARCHAEOLOGICAL INVESTIGATIONS AT THE CARMICHAEL INN SITE:
TESTING A MODEL FOR CULTURAL PATTERNING OF THE
RURAL NINETEENTH CENTURY INN IN THE RIDGE AND
VALLEY OF TENNESSEE

A Thesis
Presented for the
Master of Arts
Degree
The University of Tennessee, Knoxville

Lee Ann Wilson
May 1989

This thesis is dedicated
to my parents,
John and D. Lee Wilson,
who have stood by me through everything.

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for the faunal analysis and allowed his Historic Artifact Analysis classes to assist in laboratory work on the Carmichael Inn site materials. His assistance in the field, laboratory, and editing phases of this work have been invaluable. I would particularly like to thank him for his patience and continuing interest in this project.

Much of the data used for this thesis was derived from records and specimens housed in the Frank H. McClung Museum at the University of Tennessee, Knoxville. The author acknowledges the role of the Tennessee Valley Authority, the National Park Service, the Department of Anthropology and the Museum for the recovery, curation, and access to these data. Future use by others of raw data presented in this study must receive prior approval from the Museum and should include proper acknowledgement of their original source and the exercise of discretion and professional ethics in their interpretation and accessibility.

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Mike Finger	Mitch Miller	
Mark Groover	Eric McClelland	

Without the labors of these able volunteers the project would not have been possible.

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ABSTRACT

Cultural patterning in the archaeological context has been studied at a number of historic sites in the southeast United States. Patterns associated with ethnicity, socioeconomic level and type of activity have been investigated. This work proposed a cultural pattern associated with the rural nineteenth century inn in the Ridge and Valley of Tennessee. The research tested a model for such inn sites which might differentiate them from purely residential sites of the the same time period in the area.

Archaeological investigations were conducted at the Carmichael Inn site in Loudon County, Tennessee. This site was formerly the location of a stagecoach stop and inn as well as a residence during the early to mid-nineteenth century. Data obtained was compared with that from other sites, both residential and inn sites, in the Ridge and Valley of Tennessee.

The data from the Carmichael Inn site do not strongly support the proposed model. It is thought that the Carmichael Inn was not a formal establishment, but was operated on a more casual level, and that inn-related activities which occurred there did not impact the archaeological record in such a way as to significantly differentiate it from purely residential sites of the same time period, area and socioeconomic level.

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I. INTENT AND JUSTIFICATION

The rural inn or public house played an important role in early American communities. Functioning as centers of social interaction, public houses served local residents as well as travelers. These institutions provided food, drink and opportunities for visiting, exchanging opinions and disseminating news (Earle 1900).

The Carmichael Inn, a two-story log structure in Loudon County, Tennessee, functioned as a family residence and an inn during the early to mid-nineteenth century. The Carmichael Inn site, 40LD184, is located on the Tennessee River, as shown in Figures 1 and 2. Until recently, the Inn was located on private property scheduled for development in the immediate future. The structure was purchased and donated to a local historical group (the Loudon County Heritage Association) and was dismantled and moved to another location in 1987. This thesis is the culmination of the historical research and archaeological investigations which were undertaken to salvage some of the anthropological information which was to be destroyed with the relocation of the structure and the industrial development of the site.

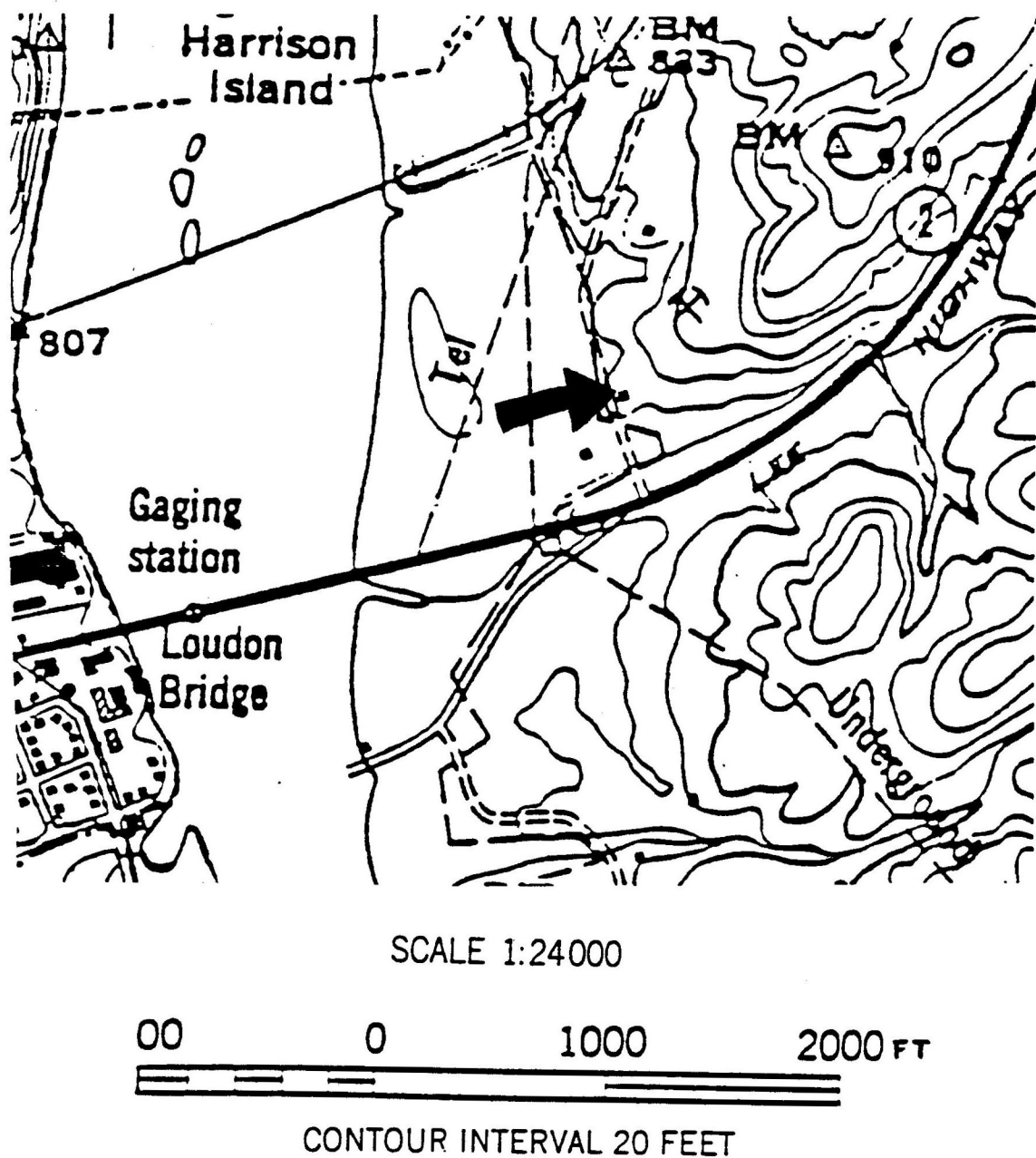


Figure 2. Location of the Carmichael Inn site on contour map.

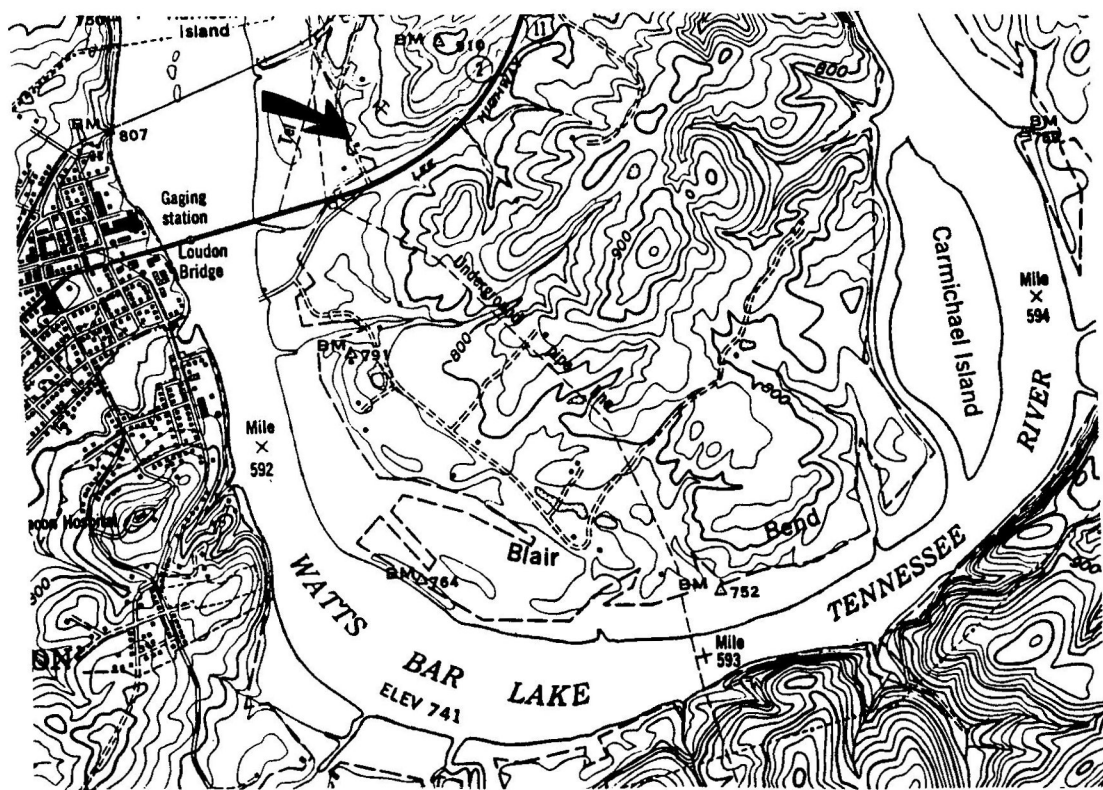
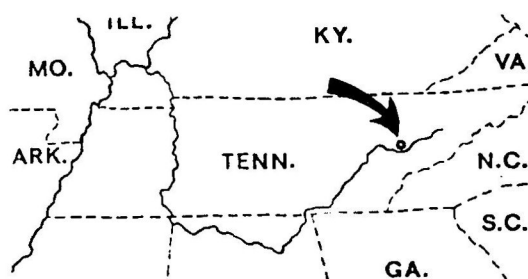


Figure 1. Location of the Carmichael Inn site.

The research involved establishing the culture history of the site and proceeded beyond this to the study of culturally determined patterns in the archaeological context. The behavior of groups of people creates patterns in the artifacts at the sites that these people occupy. The presence, density, distribution and condition of those artifacts which become a part of the archaeological record can be studied to determine the behavior of the former inhabitants of a site. In this thesis, those archaeological materials and their distribution which are the result of human behavior will be referred to as cultural patterning. This study and synthesis of cultural patterns at a rural nineteenth century inn are important because these institutions were important centers of community interaction during the early settlement of Tennessee. Investigations at the Carmichael Inn site (40LD184) provided an opportunity to test a model of a regional nineteenth century culture pattern in the Ridge and Valley province of Tennessee. While attempts were made to learn as much as possible about the Carmichael Inn and its history, the research design of this thesis has focused on the specific cultural pattern of rural nineteenth century inns in the Ridge and Valley province, as these establishments are manifest in the archaeological record.

PREVIOUS RESEARCH ON HOSTELRY PATTERNS

This research is based on the premise that the inn or public house, as an establishment, would leave a different

archaeological record than would a purely residential site. A brief review of work on such patterns in the southeastern United States follows.

Smith (1983) has suggested that a large trash dump or pit may be correlated with the presence of large numbers of guests at an inn or resort. He suggests an archaeological pattern that may be predicted for the mid-nineteenth century health resort. This institutional pattern includes a large secondary disposal area, such as the trash dump or pit mentioned above. Smith encountered such a phenomenon during archaeological work at Wynnewood Resort, in Sumner County, Tennessee (Smith 1983). A similar large trash dump was found at the Netherland Inn site in Sullivan County, Tennessee (Benthall 1973).

Worthy (1980) describes the economical and wear-resistant ceramics used by many public service institutions as "hotelwares". Although her work deals with late nineteenth and early twentieth century ceramics, the basic concept may be applicable to the study of earlier nineteenth century sites. It is logical and certainly quite possible that early and mid-nineteenth century inns and taverns utilized sturdy, inexpensive ceramics to serve their guests. Worthy suggests that "Relative amounts of one type of ware to another on a site may suggest choice resulting from specific activities at that site" (Worthy 1980: 330). In the case of "hotelwares" she posits that a large

percentage of plain white stonewares may indicate a commercial (food-serving) establishment with a post-1880 deposition (Worthy 1980: 334).

Dickens and Bowen (1980) have modeled a "holiday pattern" which includes a high percentage of bowls and serving dishes relative to the other pieces of a typical dinnerware set. This holiday pattern was suggested for the residential site, yet it may prove to be similar to the hostelry pattern being pursued here. The use of numerous bowls and platters for serving food to guests at an inn is certainly a reasonable possibility.

A decoration and cost ratio for ceramics has been established which indicates the simpler the decoration and the softer the paste, the less expensive the ware (Taylor 1950: 35). This information along with Worthy's idea of hotelwares may be applied to predict the type of ceramic assemblage expected on institutional sites of other periods, too. Worthy (1980: 345) also remarks that commercial establishments with more intensive use of the ceramics will possibly have an increased rate of breakage. This would cause the ceramics to be well represented in the archaeological record.

Smith (1983: 148) has indicated that the large secondary refuse disposal areas such as the large trash pit found at Wynnewood are unusual on rural domestic sites in Tennessee. The large number of guests at a public service institution such as a resort or an inn may have created the need for such a trash pit

in order to dispose of "excessive broken or odoriferous materials" (Smith 1983: 170). This discard pattern for the mid-nineteenth century mineral spring resort results from high-risk ceramic breakage due to accomodation of guests (Smith 1983: 176).

RESEARCH DESIGN

A number of research questions are addressed in this thesis. These include: 1. the study of the culture history of the site and the structure; 2. the study of refuse discard patterns at the Carmichael Inn site; 3. the study of the socioeconomic status of the owners and operators of the Carmichael Inn as reflected in the archaeological record; and 4. synthesis of the above areas of study in an attempt to develop and preliminarily test a model of cultural patterning for the rural nineteenth century inn in the Ridge and Valley province of Tennessee.

It has been established that certain artifact groups such as nails, glass and ceramics are time sensitive, and in proper context may be used to date archaeological sites (Hume 1975; Roenke 1978; South 1977). An attempt to delineate a clearer time frame for occupation of the site and construction and operation of the Inn was made by collection and analysis of a sample of nails, glass and ceramics. Results from different artifact groups were compared and historical documentation was sought to verify the results.

The socioeconomic status of the Carmichaels was also studied by examining some artifact groups that have been shown to reflect socioeconomic status. It was hypothesized that the owners and operators of the Carmichael Inn were in the upper-middle socioeconomic class range during the early nineteenth century and that the archaeological record would contain artifacts, specifically ceramics, that could be attributed to an upper middle class level. This estimate of the Carmichael's socioeconomic status was based on the number of slaves and the amount of land they are known to have owned (Knox County Tax Books, 1806-1854; United States Census 1830).

Smith (1980) has proposed a "domestic site ceramic-ware pattern" for Tennessee in which he compares percentages of different ceramic types recovered from a number of sites in East, Middle and West Tennessee. He provides an "ascribed social status" for the inhabitants of each site by tabulating the percentages of different types of ceramics (Smith 1980: 59-60). The data from the Carmichael Inn site were compared with this pattern with a particular focus on other sites in East Tennessee and other public service establishments.

As previously mentioned, refuse discard patterns were investigated. Attempts were made to locate a possible secondary refuse disposal area on the site, and to test for other refuse discard patterns.

Information gathered from the above-mentioned endeavors was synthesized in an attempt to determine if the site fits a proposed model of cultural patterning for the rural nineteenth century inn in the Ridge and Valley province of Tennessee. Data on subsistence, socioeconomic status, functional activity areas and discard patterns at the Carmichael Inn site were compared with similar data from other nineteenth century inns and resorts, including the Netherland Inn and Wynnewood Resort, and with data from nineteenth century residential sites in the Ridge and Valley province of Tennessee including the Ramsey house, the Walker house, the Roddy house and the James White second home site (Benthall 1973; Faulkner 1984, 1986, 1988; Roberts 1986; Smith 1984).

II. ENVIRONMENTAL SETTING

The Ridge and Valley province of Tennessee, also called the Great Valley, is a part of the larger Ridge and Valley province of the eastern United States which runs from New York to central Alabama (Fenneman 1938). In Tennessee, the Ridge and Valley is 35-55 miles wide and traverses the state in a northeast to southwest direction.

Rocks present in the Ridge and Valley are mostly sedimentary. Limestones are prevalent and others that occur include quartzite, conglomerate, shale, Fort Payne chert, Knox dolomite, marble and several varieties of sandstone (Fenneman 1938). The limestone was used by the nineteenth century settlers as a building material. Many of the early cabins had limestone foundations and chimneys. Iron, coal and copper are also present. Coal in the area was mined and used to heat homes after the Civil War.

The Tennessee River and its tributaries provide drainage to the southwest in the Ridge and Valley province. Tributaries include the Watauga, French Broad, Little Tennessee, Holston, Clinch and Hiwassee rivers. Although many falls and shoals impeded navigation, these rivers were important for trade and transportation in the nineteenth century. Whiskey, furs, salt-peter and agricultural products were transported by flatboat to north Alabama and New Orleans (Clio Research Company 1984: 20).

Many emigrants also traveled on flatboats. Later after 1830, steamboat travel on the river began, with regular stops at Blair's Ferry, quite near to the Carmichael Inn (Clio Research Company 1984: 27).

The soils in Loudon County around the Carmichael Inn are described as Waynesboro-Cumberland-Emory, of moderate to moderately high fertility (Elder et al. 1961). These soils are generally deep and well drained. The upper river terraces composed of alluvial floodplain deposits are generally well drained and suited for cultivation. Although subject to seasonal flooding, the alluvial soils adjacent to the rivers and streams were quite fertile and were ideal farmland during the nineteenth century. Almost all these bottomlands have been inundated since the building of the TVA reservoirs.

Although dramatic climate change during the past 12,000 years has been documented in the Ridge and Valley, change in this area during the last two centuries has been minimal (Delcourt and Delcourt 1984: 150). During the nineteenth century, as today, the climate in the Ridge and Valley province of East Tennessee was characterized by relatively long hot summers and short, mild winters. The plateau on the west and the mountains on the east form a conduit for prevailing winds from the southwest and the area received quite a bit of rain from the Gulf region (Killebrew and Safford 1874). Rainfall was 44-50" annually with snow rarely more than ten days a year (Clio Research Company 1984: 6).

The frost-free period averaged about six months, providing an ample growing season (Freels 1970: 51).

The Ridge and Valley province of East Tennessee is within the Carolinian biotic province, and was formerly dominated by the Oak-Chestnut forest (Braun 1974: 197). Dominant trees besides American chestnut included red oak, white oak, chestnut oak, black oak and tulip poplar (Braun 1974: 206). The American chestnut has been eliminated by the chestnut blight and the primary forests felled for lumber (Braun 1974: 197). The abundant woods provided early settlers with materials for building homes, barns, tools and furniture.

Shrubs and vines formed the dense undergrowth in the Ridge and Valley. Wild grapes, haws, blackberries, raspberries, persimmons and scuppernongs were plentiful and the herbs were rich and varied (Braun 1974: 240).

The fauna of the Ridge and Valley province was an important resource for the early settlers. Timberlake's mid-eighteenth century account of wildlife in the area lists bison, bear, deer, panther, wolf, fox, squirrel, raccoon, rabbit and opossum (Williams, ed. 1927: 71). These mammals were utilized for food, furs and oil (from bear fat).

Over 100 species of fish and 75 species of molluscs were found in the Tennessee River and its tributaries. Although both resources were utilized as food at times by Euro-Americans, there is little evidence to suggest that either was a primary food

resource for the early settlers (Bogan 1980: 54). Wild game birds such as dove, turkey, quail and water fowl were an available resource for the early settlers although there is not much archaeological evidence to support very extensive use of this resource (Benthall 1973; Breitburg 1983).

The fertile soils, plentiful rainfall, generally temperate climate and varied and abundant flora and fauna of the Ridge and Valley made it a favorable location for early inhabitants of the region. Like the American Indians who had lived here for thousands of years before them, the European settlers found the area irresistible. They explored and finally settled and thrived.

The proximity of the Carmichael Inn site to the river made this an advantageous location for hosting stagecoach and wagon travelers who were ferried across the river, as well as steamboat and flatboat passengers. The fertile bottomlands made possible the agricultural activities which provided the bulk of the Carmichael's livelihood. The limestone foundation blocks and the huge poplar wall logs of the Carmichael Inn pay testament to the use of these resources. Nineteenth century court minutes mention John Carmichael's corn fields on the first river terrace (Roane County, Tennessee, County Court Minutes 1823-1826). It appears that the Carmichaels put the many available natural resources to good use.

III. HISTORICAL DOCUMENTATION

PREHISTORIC CULTURE HISTORY

The Ridge and Valley province of Tennessee has been occupied by humans for thousands of years. The Cherokee Indians were well established in the area when European explorers arrived in the late sixteenth century. A prehistoric Mississippian village site (40LD53), the Henry site, is located on the floodplain below the Carmichael Inn (Boyd 1982). This site was used by the Carmichaels to grow corn and other crops. With evidence of long term prehistoric occupation nearby, it is not surprising that a prehistoric component was found at the Carmichael Inn site.

A Middle-Late Woodland component dating to circa AD 350-900 was encountered at the Carmichael Inn site beneath the log structure. This consisted of a small, shallow hearth which was probably briefly used (for further information see the discussion of Feature 2).

Several prehistoric ceramic sherds were found during the excavation at the Carmichael Inn site. These sherds date to the Middle Woodland period.

Although evidence for a long term prehistoric occupation on the Carmichael Inn site was not encountered, an indication of short term occupation was present. The hearth and the various pieces of chipped stone debris that resulted from the manufacture

of stone tools such as projectile points and knives indicate at least transient prehistoric occupation of the site.

HISTORY

European explorers were followed by settlers and soon Europeans without titles to the land began to settle in the Great Valley during the 1780s. After the Revolutionary War more settlers began to move into the Ridge and Valley. Legally, this land still belonged to the Cherokee.

By the time the Tennessee area became the Territory of the United States Southwest of the River Ohio in 1790, three million acres which by the treaty of Hopewell in 1785 belonged to the Cherokee, were "on the books as the property of white men" (Brewer and Brewer 1975: 73). In 1797 the Federal government acted to carry out its treaty and removed a number of the illegal European settlers. This had little effect, other than outraging the European settlers (Brewer and Brewer 1975).

The Territory Legislative Census of 1795 counted 77,262 persons in the Southwest Territory, more than the 66,000 persons required for statehood, and in 1796 Tennessee became a state (Folmsbee and Parks 1954).

More and more Euro-Americans continued to settle in the Ridge and Valley, both legally and illegally. More treaties and Cherokee cession of lands were negotiated. In 1819 the final treaty involving land in the Loudon area was signed. This was the Calhoun Treaty, and under the terms land in Monroe, McMinn,

Meigs and parts of Loudon and Polk counties was ceded by the Cherokee (Royce 1887).

In 1819 a small "town" was formed on the banks of the Little Tennessee River where the city of Loudon is today. This small town, called Blair's Ferry, was later to become Loudon. Clark writes that in 1817 A. Blair had "entered into an agreement with a Cherokee Indian named Pathkiller to operate a ferry across the river at this point" (Clark 1968: 6). The Blairs owned land on both sides of the river. John Carmichael had purchased a tract of land adjacent to the Blair's property in 1795. His sons later built the Carmichael Inn on this tract. The small town of Blair's Ferry became a part of Roane County in 1801 when Knox County was reapportioned.

Blair's Ferry continued to grow and in 1851 Wiley Blair laid off a town covering a portion of the present site of Loudon and renamed the town Blairsville. Blairsville was bought by a company in 1852, resurveyed and named Loudon (Clark 1968: 6). The East Tennessee and Georgia Railroad reached Loudon (or Blairsville) in 1851. Until 1856, Loudon was the end of the line. Since there was no bridge across the river, the railroad stopped on the south bank. If travelers wished to continue a journey north, they could ferry across the river and proceed on foot, horseback, or by wagon or stagecoach. The "roads" in the Ridge and Valley were generally widened trails. Most persons

went on horseback or on foot in the early nineteenth century, although the roads improved with time.

HISTORY OF INNS

Lodging for travelers in the Ridge and Valley during the late eighteenth and early nineteenth centuries varied greatly. Adam Hodgson's account of his horseback travels through the area in 1819-1820 "traced man through every successive stage of civilization, from the roaming savage to the statesman and philosopher" (Hodgson 1823: 316). During a few weeks he traveled from "deep uninhabited forests" in the Ridge and Valley to universities in Virginia. His accommodations vary this much, also (Hodgson 1823: 316).

He tells of stopping at a home where "we were told travelers were received". They were a "genteel family" and told him that he was misinformed, but two miles further on they did take in travelers. Two miles further on he was again told that he was misinformed, and that a little further on was Col. ____'s who received travelers regularly. This man said he did not receive travelers, but he did feed Hodgson's party and allow them to sleep under a tree for a small fee. Hodgson remarks that "in these newly settled countries it is the custom for almost every family to receive travelers and to accept a remuneration..." (Hodgson 1823: 266). "Where houses are thinly scattered and there is too little traveling to afford encouragement to an inn,

strangers may be taken in either with or without charge...persons are obliged to keep houses of entertainment in self-defense, however much the practice may infringe on their family comfort; and a habit is thus acquired of expecting admission into private houses" (Hodgson 1823: 267).

One source states that there were only a few taverns in the Ridge and Valley when Tennessee became a state in 1797 and that these were "filthy places, infested with bugs, fleas and the itch" (Folmsbee and Parks 1954: 86). The authors add that they served coarse food and drink, had few beds, and these were shared. Whiskey, brawls and shootings were common and many travelers camped out to avoid the above-mentioned dangers and discomforts (Folmsbee and Parks 1954: 87).

Francis Baily, an early nineteenth century British traveler, remarked that there were few taverns in the newly settled Ridge and Valley, but that almost all the farmers living near the road provided "dry entertainment", meaning food and lodging, without liquor (Williams, ed. 1928: 417).

Missionary Francis Asbury recounts tales of his varied lodging during travels through the Ridge and Valley from 1790 to 1800. He mentions being "kindly and comfortably entertained" by Alexander Ramsey in his excellent stone mansion (Williams, ed. 1928: 312). He remarks on staying at Thomas Amis's house (near present-day Rogersville) and being well entertained for his money (Williams, ed. 1928: 294). A few weeks later he complains that

he has no "regular meals, nor sleep; and it is difficult to keep up prayer in such rude companies as we have been exposed to" (Williams, ed. 1928: 301). He laments sleeping three persons to a bed. At times he simply camped beside the road sleeping on the ground, or in an abandoned cabin (Williams, ed. 1928: 293).

While the accounts of several early travelers mention the scarcity of inns in the Ridge and Valley in the late eighteenth century, references to a number of inns east and northeast of Knoxville indicate that some lodging was available in these areas, if not to the south and west. In Jonesboro in 1799, John Sevier and William P. Chester were both licensed to keep ordinaries (Matthews 1930: 25). The Devault Inn was licensed the same year in Leesburg, a small town west of Jonesboro (Matthews 1930: 26). The Netherland Inn in Kingsport was also operating at this time (Benthall 1973). Thomas Amis's home, three miles above Rogersville was a popular overnight stop on the stage route in the 1780s. This was a private home operated for profit, known for having made 300 pounds annually by brewing liquor, and serving good food, according to travelers (Matthews 1930: 28).

Bean's Station tavern, near present day Morristown, was also operating before the close of the eighteenth century (Matthews 1930: 29). John Crockett, father of Davy Crockett, opened a tavern eight miles east of Dandridge on the road from Knoxville to Washington D.C. This tavern was "on a small scale, as he was poor, and the principal accomodations which he kept were for the

waggoners who traveled the road" (Matthews 1930: 31). Although they varied a great deal, and some were less than desirable, there were a number of public houses operating in the Ridge and Valley near to and east of Knoxville in the late eighteenth and early nineteenth centuries.

Some formal establishments were licensed as taverns or public houses, and there were also quite a few private homes that took in travelers for a fee, either because they wished to do so, or as Hodgson says, out of self-defense.

It appears that more than one type of inn was operating during the nineteenth century. Formal establishments, such as the Netherland Inn, usually near to the larger population centers hosted travelers. In the rural areas, inns were probably operated on a more casual level, and were often not even the primary livelihood of the household. These rural inns probably kept travelers on an "as needed" basis, not necessarily operating as inns every night.

It is possible that the Carmichael Inn was operated somewhere between the level of the formal institution and that of "self defense". It is also quite possible that the status of the Carmichael Inn changed over time. It may have begun as a private home taking in an occasional traveler, and gradually converted to a more formal, licensed institution. The Carmichael Inn was probably never a formal establishment like the Netherland Inn or Castalian Springs were. However, it is thought that at some time

the inn operated on an "official" level since it was a designated stagecoach stop. Perhaps even then, it was closer to the rural inn, with occasional patrons, than to the formal establishment.

Since the name "Carmichael Inn" is so widely used to describe it, one might assume that it was actually a formal establishment. However, several factors challenge this assumption. No historical record has been documented to verify operation of an inn or public house and no record of a permit or license to operate an inn has been found. No known traveler's log documents an inn, although the diary of Samuel McCammon does mention crossing the river and staying with Mrs. Carmichael (McCammon 1854). So it is known that the Carmichaels received travelers in some capacity.

The Carmichael Inn was located on the first terrace above the flood plain, near the east bank dock of the Blair's ferry. This placed the Carmichaels in an advantageous situation for hosting travelers, although it is not known that they were operating an inn, or if indeed they had even built a structure at the early date the Blairs operated a ferry.

One indirect implication that the Carmichael Inn was a public house is the story of the Barksdale sisters who were journeying to Tate Springs, near Jonesboro, by stage coach. The party is said to have stayed at the Carmichael Inn, where the two sisters met John and Daniel Carmichael whom they later married. Family and legal records document the marriages, but no historic

record of the journey of the two sisters and their stay at the Carmichael Inn is known to this author. The marriage of Daniel and Louisa took place in 1860, and Mary and James married in 1863, so it can be assumed that the journey to Tate Springs, and the Barksdale's visit to the Carmichael Inn took place prior to 1860 (Carey family records).

HISTORY OF THE CARMICHAEL FAMILY

The Loudon County Carmichaels were descendents of Ulster-Scotch immigrants. The family of John Carmichael came to Pennsylvania about 1730 and settled in the Cumberland Valley near Roxbury, Pennsylvania (Pomeroy 1958; Carey family records). John was born in 1736 and married Isabel Pomeroy, also of Cumberland Valley, in 1760 (Pomeroy 1958: 53). In 1792 they moved to Kentucky and in 1793 to Washington County, Tennessee (Carey family records). Here, John purchased land on Big Limestone Creek where he and his family lived until his death in 1799 (Washington County Deed Book 7).

The Carmichaels also acquired property in other parts of Tennessee. On October 29, 1795, John Carmichael purchased one thousand acres on the Tennessee River from James Hubbard (also spelled Hubbert) who had obtained the land from the state of North Carolina. Carmichael paid 125 pounds for the property, which included "all...woods, waters and...appurtenances" but no structures are specifically mentioned. The boundaries of the property were defined by the river, by various trees, and by

George Moore's land on the northeast (Knox County Deed Book C). The Carmichael Inn was built on this tract.

When John Carmichael died in 1799 he willed the "land or plantation where I now live" (in Washington County) to his wife Isabel. To his sons, John Hudson and Daniel he left "a certain plantation lying on the river Tennessee", the tract that he had bought from Hubbard in 1795 (Washington County, Tennessee, Record of Wills, Book 1). In the will, no mention is made of a structure on the property, and since the senior John Carmichael had resided elsewhere, no assumptions can be made about whether the Carmichael Inn had been built yet.

The will of the senior John Carmichael left the plantation to Daniel and John in 1799 and in 1811 Daniel (by then a resident of Madison County, Mississippi Territory) conveyed 250 acres of the property to John for \$500. This was a part of the original 1,000 acre Hubbard tract, bounded still by George Moore's property, the Tennessee River, various trees, and again with all woods, waters and appurtenances, but no structures specifically mentioned (Roane County Deed Book E). There remains a clear possibility that the house or a part of it did exist and was not specifically mentioned as is usually the case in land deeds.

In 1817 a jury was appointed to "view a road" (or the potential for a road) from the bend of the Tennessee River "between John Carmichael's and James Blair's to intersect the road that leads past Lenoir at Solomon Moore's and report next

court" (Roane County Court Minutes 1816-1818). Later during the court case of Blair vs. Carmichael, Carmichael questions a member of the above-mentioned jury, asking, "Did not the jury view the road by my house...?" (Roane County Circuit Court Minutes 1826). So it is clear that some structure, probably the Carmichael Inn or some part of it had been built by that time.

In 1826 John H. Carmichael was granted leave to establish a ferry landing "on his own land on the Tennessee (River) on the north side near where he now lives and keep a public ferry there" (Roane County, Tennessee, County Court Minutes 1823-1826). The soon-to-follow court case of Blair vs. Carmichael resulted from Carmichael obtaining the ferry license. His neighbor James Blair had been operating a ferry across the river since 1817 (Roane County Circuit Court Minutes 1826). Carmichael's entrance into the business created several problems; besides being competition for Blair, he was using Blair's landing on the south side of the river. This case came to trial in 1826 and throughout the trial there are references to the road running by Carmichael's house and down to the river. The words public house or inn are not used.

It is difficult to determine exactly when the Carmichaels operated an inn. The tax lists from the early nineteenth century do not include the Carmichaels as innkeepers or tavern keepers. The list of early licenses issued to ordinary (inn) keepers in Roane County in 1807 does not include the Carmichaels, nor does

the list from 1812 (Wells 1975). The Roane County tax lists from 1815, 1817 and 1818 have 20 innkeepers listed and taxed and the Carmichaels are not among them. In 1821, John Carmichael's neighbor, James Blair, is recorded as paying the \$5.00 "ordinary tax" but the Carmichaels are absent from the list (Roane County, Tennessee Tax Lists 1814-1821).

This absence could mean several things. It is possible that the Carmichaels did not operate an inn during the early nineteenth century or at least not in the formal sense. Perhaps they never received a license to keep an official inn. Court proceedings may have been casual enough that the issuing of some licenses was never noted.

In the 1830 census the Carmichael household is recorded as having nine members, four of them children. When John H. Carmichael died in 1840 his estate listed 12 feather beds and 12 bedsteads. As many as six of these beds could have been used for travelers who stayed at the inn, since so many of the household were children and possibly slept together. The nine pots, three kettles, seven ovens, two skillets and two frying pans listed in the estate suggest that the Carmichaels were serving more people than those in their own household (Roane County, Tennessee, Estate Book C). Tax records for the years 1822-1847 are not available. It is possible that the Carmichaels obtained their license during these years.

Evidently Mrs. Carmichael and some of her children continued to run the inn after John H. Carmichael's death. The diary of Samuel McCammon, a Knox County farmer, mentions that he "crossed the river and stayed with Mrs. Carmichael" in 1846 when returning from a trip to Philadelphia, Tennessee (McCammon 1854). The visit of the two Barksdale sisters possibly in the late 1850s has been mentioned earlier. Louisa Barksdale married Daniel Carmichael and they lived elsewhere, although Daniel still owned part of the farm. Mary Barksdale married James Carmichael and they were still living in the house in 1863. Whether it was still being operated as an inn is not known. Daniel Carmichael died in 1864 and his wife, Louisa, purchased the Carmichael Inn and property around it, from his estate (Loudon County, Tennessee Deed Book A). She moved back to Loudon to live on the property, with James and Mary. A few years later, several days before she was to be remarried, Louisa sold the property to her brother-in-law, James. She kept this transaction a secret from her fiancée, and for this reason the contract was later declared void (Tennessee State Supreme Court Minutes 1874). The property then again belonged to Louisa and her new husband, James Hall. At this point it becomes rather difficult to follow the ownership of the separate tract of land on which the Carmichael Inn stood. The original parcel of 1000 acres no longer existed as an entity. Although a number of deeds for parts of "the old John Carmichael farm" exist, it has not been possible to establish which was the

parcel of land where the Carmichael Inn stood. It is known that a partnership of Doughty and Brabson bought a part of the "old John Carmichael farm" from a man named Johnston in 1880 (Loudon County, Tennessee Deed Book 4). Johnston had purchased the property at a Chancery Court sale in Monroe County in 1869. This probably did not include the tract with the house on it, because the previously referred to court case of Hall v. Carmichael states that James Carmichael, his family, and Louisa Carmichael and her children were living together on the property that Louisa owned in 1871 (United States Supreme Court Records 1874).

It is the opinion of this author that the tract with the inn was later purchased by Doughty and Brabson or by Doughty and Doughty when they began to consolidate their property in the area. Deeds to substantiate this have not been located at this time.

The partnership of Doughty and Doughty did own the parcel of land with the house on it in 1947 when the land was sold at Chancery Court as a result of the case of Doughty v. Doughty. At this sale Martin and Sylvia Bowers bought a parcel of land of 524 acres for \$37,500 which included the land where the Carmichael Inn stood (Loudon County, Tennessee Deed Book 51).

W. A. Blair purchased the property from the Bowers in 1951 for \$1.00, and later in 1956 willed it to Laura Blair Vance (Loudon County, Tennessee Deed Book 53, and Will Book C). Laura Blair Vance willed the land to Kate Blair in 1963 (Loudon County

Tennessee, Will Book D). In 1971, Kate Blair sold the property to Thomas Henry Jr. and Katharine Henry (formerly Katharine Blair), for \$10.00, along with 15 other pieces of property (Loudon County, Tennessee Deed Book 102). In order to preserve it, the Loudon County Heritage Association purchased the Carmichael Inn (the structure only, not the property) from the Henrys in 1987. The structure is currently owned by the Loudon County Heritage Association, and has been moved across the river to insure its preservation.

A precise date for construction of the building cannot be established. It is possible that James Hubbard built some part of it when he owned the land prior to 1795, or it may have been built at any time after this date. At least part of the structure was standing by 1817 when the jury viewed the road. The hardware on the earliest built, west pen dates to between the late 1770s to 1820 at the latest. The similarities in materials and construction technique indicate that the second pen was added not long after the first pen was built. Ceramics and other artifacts which are discussed in greater detail later, confirm a late eighteenth, or very early nineteenth century date for the early Euro-American occupation of the site.

IV. ARCHITECTURE

The Carmichael Inn has undergone many architectural changes. It began as a single crib log dwelling which was 25 x 18 feet (Tichy 1987: 16). Today it could be described as a log "I-house" as it is two stories tall, one room deep and two or more rooms long (Glassie 1965: 193). It has a central chimney which formerly opened into fireplaces in two downstairs rooms. The structure has a gable roof and two front and two rear doors. A fifth door is in the gable end of the east pen. A front porch runs the length of the house and a cellar was under the west pen.

The I-house was one of the most common house types throughout the English colonies in America (Glassie 1965). Glassie remarks that it was a typical dwelling for the successful farmer or the middle class family in the southern mountains (Glassie 1965: 203). The Carmichael Inn combines the English style with the Pennsylvania German tradition of the central chimney. Glassie attributes this innovative combination to the Scotch-Irish (Glassie 1965: 206). The Carmichaels were of Scotch-Irish descent and it is quite possible that their cultural heritage helped to determine the type of house they chose to build.

The first one and one half stories of the Carmichael Inn are built of large yellow poplar logs hewed on all four sides. These vary from 15-20 inches across. Interstices were chinked with

limestone, diagonally placed boards (some are oak shingles which may be original), and a clay mud mixed with horsehair. The sills of the building are yellow poplar and the floor joists are white oak. The structure originally rested on a continuous limestone foundation.

The logs of the west, and earliest built pen are v-notched. This pen originally had an exterior chimney in the center of the eastern gable end. The second pen was added by the piece sur piece technique in which vertically grooved posts are placed in the ground (or on the sill) and the horizontal wall logs are tenonned to fit into this groove (Fielder 1976). This method of construction was widely used in French Canada and parts of Louisiana (Fielder 1976; Kniffen 1965). Although buildings exhibiting a comprehensive piece sur piece construction are rare in East Tennessee and in other non-French-settled areas of the Southeast in general, use of this method for simply "adding on" is not as unusual.

In order to add on using the piece sur piece technique, the builder places vertically channeled posts at the two corners of the original pen that will abut the new pen. Then the tenonned ends of the wall logs of the addition are placed in the groove as the new wall is put in place. The exterior corners of the new pen are usually notched in the more traditional manner as at the Carmichael Inn, where they are v-notched (Bealer 1978).

The top half-story of the Carmichael Inn was added later, as is shown by the changes in technique and material. The yellow poplar logs are supplemented with hemlock and the v-notching and piece sur piece construction give way to pegged lap joints with no apparent chinking (Childress 1987: 14).

The Carmichael Inn had been covered by siding for most of its existence (Tichy 1987: 16). Some common reasons for using siding are improvement of appearance, protection of wall logs from weathering, and elimination of the need to upkeep chinking (Glassie 1965: 95).

The Carmichael Inn has a central chimney with hearths opening into each of the pens. The stone chimney ends at the second floor where it is continued by a flue of handmade brick with "penciled" mortar joints (Childress 1987: 14). The presence of these penciled joints suggests that this part of the chimney stood exposed before the second story was added.

Two of the remaining doors of the Carmichael Inn are of board and batten construction with clinched wrought nails and are hung on forged strap hinges on pintles. These are eighteenth and early nineteenth century door characteristics. Each pen has a front and a rear door which are approximately opposite each other, and the east pen has a door on the gable end. Artifacts found in excavations just outside this door date to 1850 and later, and the door frame was constructed using nails, rather than the pegs which were used on the other doors. Based on this

evidence, one could assume that this gable end door was a later addition, probably cut through during the mid-nineteenth century.

The original window frames were pegged into the walls, rather than nailed. Windows on either side of the front and rear doors are original and others on the first and second floors were added at some time later during the nineteenth century (Tichy 1987: 16). Large openings on the second floor, possibly for triple sliding sash windows may have been entrances to a second story front porch (Tichy 1987: 17). Peg holes across the front of the Carmichael Inn may have supported the second story of the full length front porch. Peg holes across the rear of the building suggest that a full length back porch was present. This porch may also have been two stories (Tichy 1987: 17).

The roof of the second story was constructed of pole rafters which are lapped and pegged together at the ridge (Tichy 1987: 16). A mid-nineteenth century date for the current roof is suggested by the moderate pitch of the roof, although the original roof probably had a steeper pitch (Tichy 1987: 17). Oak shingles were used as a roof covering, and some of these were utilized as chinking material between the wall logs.

V. THE PROPOSED HOSTELRY PATTERN

Consideration of the systemic context of the Carmichael Inn is important because this will have affected the archaeological record at the inn site. If indeed the Carmichael Inn was merely a home that took in an occasional traveler, then the archaeological record would not be expected to differ much, if any, from that of any other purely residential site of the period and area. If the Carmichael Inn was a busy public house servicing many of the travelers in the Ridge and Valley in the early nineteenth century, then the archaeological record would be expected to reflect this in specific ways, which will be enumerated. If the Carmichael Inn operated somewhere between these two extremes, it is quite possible that this will be manifested in the archaeological record, although probably not on the same scale as it would at a more formal hostelry.

The final and synthesizing hypothesis of this thesis states that cultural patterning specific to the rural nineteenth century inn in the Ridge and Valley province of Tennessee exists in the archaeological record and can be discerned at the Carmichael Inn site. Similar types of hostelry patterns have been proposed for the nineteenth century mineral springs resort and the late nineteenth century tavern or hotel (Smith 1984; Worthy 1982). The fact that the Carmichael Inn was a public service facility as well as a residence is expected to affect the percentages of

different vessel forms and ceramic types, and to increase the quantity of ceramics present. The large number of persons being served and handling the ceramics may have had several effects on the archaeological record. A large percentage of sherds from serving dishes such as platters and large bowls is expected, as is an increased percentage of less costly wares, such as undecorated and shell-edged pearlwares and whitewares. It is possible that breakage of these wares resulting from the frequent usage of them would cause them to be well represented in the archaeological record.

The archaeological record at the Carmichael Inn is expected to include an incidence of pipe fragments that is higher than would be found find at a purely residential site. This expectation is based on ethnographic accounts which refer repeatedly to groups of travelers smoking after dinner in rural inns.

During his travels in America in 1804, John Melish was unfavorably impressed with the amount of smoking in public houses. Once he came to sit by the fire in the barroom of the tavern and was soon smoked out by men enjoying "segars", pipes, and chewing tobacco (Melish 1818: 521). Another traveler notes that after dinner in the tavern, "...they served us tobacco, pipes, brandy and candles, and everyone spent more than two hours

alternately parching his throat with smoke and moistening it with wine" (Enys 1976: 184).

Smoking generally accompanied drinking in ordinaries, and tavern keepers kept tobacco and kaolin pipes which were available to patrons for a small fee (Rice 1983: 114). The patrons of the early American tavern usually dined all at one table unless the inn was very large. The travelers ate very quickly without talking, then the men would retire to smoke and converse by the fire, on the piazza, or in the barroom if they had one (Palmer 1818: 150).

The test implications of the final hypothesis will be as follows: when artifacts are categorized by South's groupings and compared with similarly grouped data from residential sites and other inn and resort sites, the following will support the hypothesis. The Carmichael Inn site, (and other inn and resort sites from the same time period) will show a pattern in the distribution and presence of certain artifacts. A higher incidence of pipes and pipe stems is expected at the inn sites than at the purely residential sites. A higher incidence of food serving vessels is expected at the inn sites, than at the residential sites. A higher incidence of coarse vessels such as jugs, utility (storage) jars, mugs and tankards is expected at the inn sites than at the residential sites. Inn sites are also expected to yield a high percentage of durable, minimally decorated refined wares such as plain and edge decorated

pearlware and whiteware, although this may not differ substantially from residential sites of middle class families. Inn sites are expected to have lower percentages of porcelain than upper class family residential sites.

Inn sites are expected to have one or more large, concentrated secondary refuse deposits. Although this is not expected on a purely residential site of the lower or middle class, it would be a possibility on an upper class plantation site. Both inn and residential sites are expected to have deposits of refuse around the doorways of the structure, and in upper class family sites with separate kitchens, these deposits are to be expected mostly around the kitchen doorways.

The Carmichael Inn site, (judging from land and slave holdings of the Carmichael family) could be expected to yield a ceramic assemblage similar to that of an upper middle class family, with the above-mentioned variations associated with the operation of an inn.

The 1830 population census indicates that John Carmichael had eight slaves and one free "colored" person in his household. There were nine white members of the household (United States 5th Population Census 1830). In 1840, the census lists eight white persons, nine slaves, and one free black person in the household (United States 6th Population Census 1840).

The 1860 agriculture census reveals that the Carmichaels were still very well off. James Carmichael, the son of John, is

listed as the head of the household. His now widowed mother is listed with him. Although the family's landholdings have decreased from the original 1000 acre parcel to 300 acres improved and 340 acres unimproved, the cash value is assessed at \$10,000. Carmichael's farm implements and machinery are valued at \$400, and his livestock at \$5,800. See Table 1 for a detailed list of the Carmichael's assets (Tennessee 8th Census of Agriculture 1860).

Table 1. James H. Carmichael's Assets, U.S. Agriculture Census.

25 horses	500 bushels wheat
6 asses and mules	3000 bushels Indian corn
7 milk cows	100 bushels peas and beans
2 working oxen	150 bushels Irish potatoes
25 other cows	75 bushels sweet potatoes
30 sheep	100 pounds butter
180 swine	60 pounds wool
45 tons hay	
Value of homemade manufactured goods	\$500
Value of animals slaughtered	\$600
Value of livestock	\$5,800
Value of farm	\$10,000 (300 acres improved, 340 unimproved)
Value of farming implements and machinery	\$400

Interestingly, the Carmichaels are not listed in the 1870 agricultural census in Loudon County. This may be due to economic changes after the Civil War, or it may be an oversight. Archival research has indicated that the socioeconomic status of the site occupants declined steadily after the Civil War. As was previously mentioned, James Carmichael filed for bankruptcy some time prior to the 1874 Supreme Court Case of Hall v. Carmichael (Tennessee Supreme Court Minutes 1874).

Table 2 lists expected differences between inn and residential sites. The expected outcomes and percentages were arrived at after studying a number of archaeological site reports and the available historic documents mentioned earlier. Smith's Tennessee Domestic Site Ceramic-ware Distribution data was consulted, as were a number of ethnographic accounts of early travelers in the Ridge and Valley (Enys 1976; Hodgson 1823; Marryat 1960; Melish 1818; Palmer 1818; Smith 1980). 1976; Palmer 1818; Marryat 1960; Hodgson 1823).

Table 2. Expected Differences Between Inn and Residential Sites.

Phenomena	Expectation at an Inn site	Expectation at a Low/Middle class resid. site	Expectation at an upper class resid. site
Tobacco Pipe Fragments	≥.05% total artifacts	<.04% total artifacts	≥.05% total artifacts
Serving Vessels	> 1% total identified vessels	< 1% total identified vessels	> 3% total identified vessels
Coarse Utilitarian Vessels	> 15% total ceramics	> 20% total ceramics	<10% total ceramics
Minimally decorated refined earthenwares	> 50% total refined earthenwares	> 60% total refined earthenwares	<50% total refined earthenwares
Porcelain	> 4% total ceramics	0-5% total ceramics	15-30% total ceramics
Large 2ndry Refuse deposit	yes	no	possibly
Refuse around structure	yes	yes	more around kitchen than residence
Ratio of wares porc;ref;coarse	1-4;70-85;12-25%	0-1;50-75;20-60	15-30;70-85;1-9

VI. SAMPLING DESIGN AND EXCAVATION

While the Carmichael Inn was still standing on the original site a grid was set up around it. The English system was used in laying out the grid since this is the system that was used by the early settlers in this area. The site was gridded into 10' x 10'squares using N500/E500 as a datum point. This datum was tied in to a fireplug at the southwest edge of the property. Posthole tests and excavation units were anchored to this grid. Excavation units are designated by the location of the southwest corner on the grid. Excavation units 3' x 3' were used, as they generally are large enough to allow for delineation of features and small enough to be manageable units for one day's work at a time. Also, this is the standard unit size that has been used in the testing of most Knoxville area historic sites. Soil from excavation units and postholes was screened through 1/4" mesh. Excavations were carried out by volunteers, supervised and instructed by the author. All excavation units and postholes were backfilled upon completion of the fieldwork.

Posthole sampling of the site was utilized in an attempt to locate outbuildings and features such as refuse dumps. This sampling was done at ten foot intervals along the grid lines, and at smaller intervals when density of artifacts indicated a need for more testing. Postholes were dug to sterile soil. Since the site was continuously occupied until 1971, virtually all

postholes contained artifactual material of some sort. Postholes yielding two or more artifacts datable to the early to mid-nineteenth century (the estimated period when the inn was in operation) indicated areas for further testing and in some cases placement of excavation units.

EXCAVATION AREAS

Excavation units were placed within two feet of the two back doors and the east end door of the structure in order to sample refuse which had been deposited in these areas. Excavation units were also placed to the east of each front door of the structure, within two feet of the front porch. Two units were excavated in the smokehouse area, about 30 feet north of the west pen. Locations of excavation units and postholes are shown in Figure 3. The research design of Phase I dictated excavation of units outside the doorways of the structure and testing the site with postholes. Further excavation units were placed based on the results of the posthole testing. For purposes of analysis, the units were grouped by area of the site (see Figure 4). Areas include the west pen area, east pen area, smokehouse area, and midden area. The west pen area includes two excavation units, one outside the rear door of the west pen, and one outside the front door, just off the front porch. The east pen area includes three excavation units, one outside the back door, one outside the east end door, and one just off the front porch, near the front door. The smokehouse area included two adjacent units

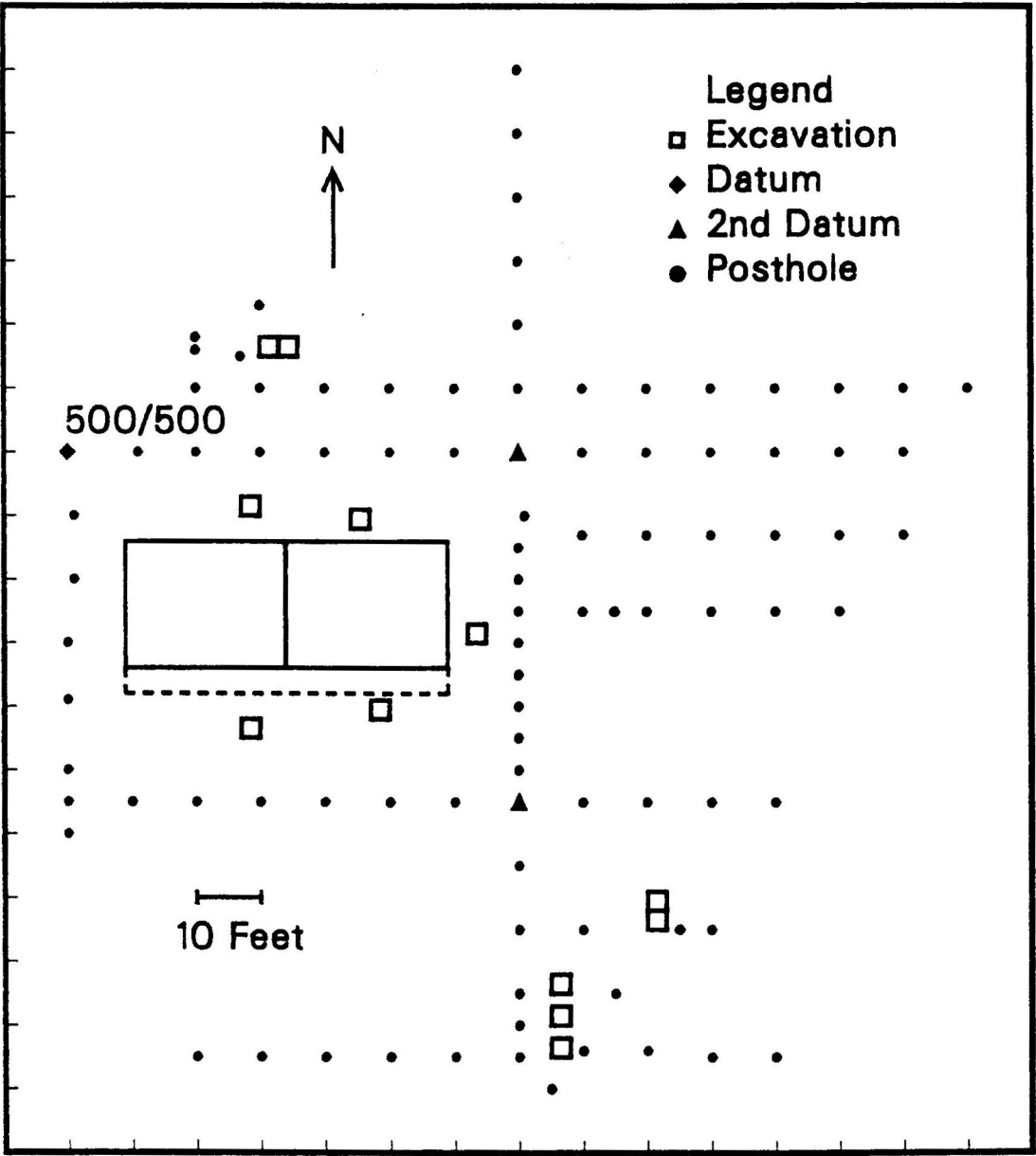


Figure 3. Excavation units and postholes.

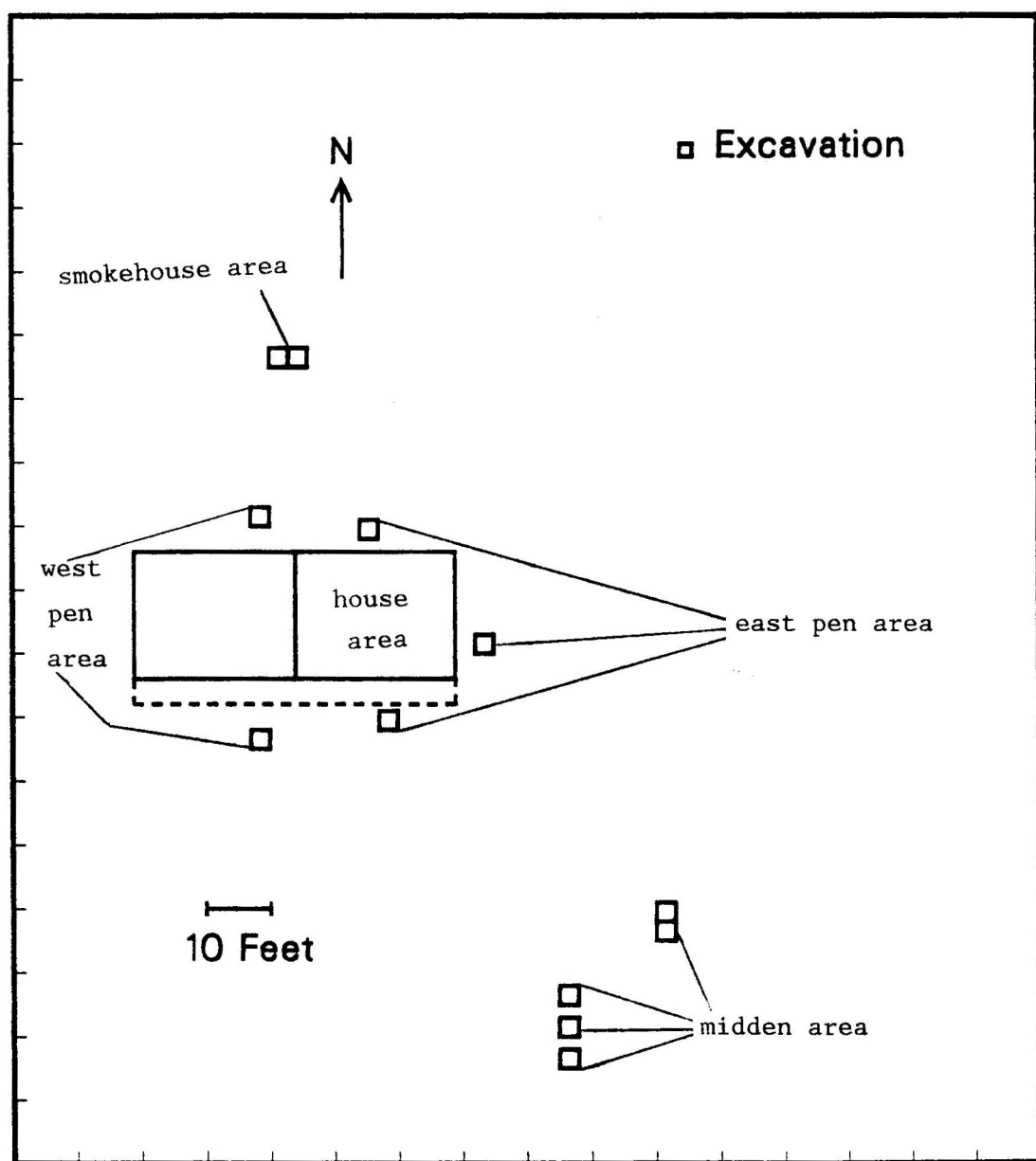


Figure 4. Excavation units grouped by area for analysis.

about 30 feet behind the west pen, where according to local tradition, an old smokehouse once stood. The midden area includes five units about fifty feet southeast of the structure. Phase I excavation units were dug in .2' levels, which in some cases followed the natural strata and in others did not. Over most of the site, the soil had two natural strata above the sterile clay subsoil. The upper stratum, horizon one, was generally no deeper than level one (0-.2'), and in some areas was much shallower. This soil was a mixture of humus and a dark brown sandy loam, varying in depth from .02-.4'.

The unit behind the west pen yielded the shallowest area of horizon one, it was absent in parts of the unit and extremely shallow (.02') otherwise. Natural stratigraphy directly behind the east pen was disturbed by construction activities.

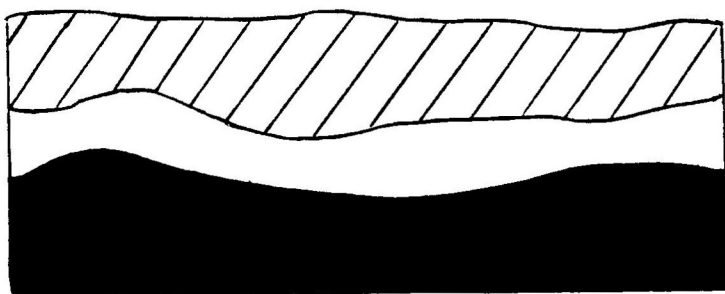
In the smokehouse area horizon one was .2' deep. At the end of the east pen, horizon one was deepest, .4'. In front of both pens, horizon one was .2' deep. In the midden area, it varied from .25' to .3' deep.

The second natural stratum was a medium brown sandy loam which was flecked with charcoal in some areas. This stratum graded into the sterile subsoil as it deepened, becoming flecked with orange or tan clay. This stratum varied in depth from .1' to .3', and will be referred to as horizon two. Horizon two was absent in the west pen area, where horizon one abruptly gave way to the clay subsoil. Horizon two was very thin to absent in the

smokehouse area where construction activities may have disturbed the strata. Horizon two was .25' deep in the sloping area at the east end of the structure. In the midden area, horizon two was deepest, generally about .3'. Artifacts dating to the nineteenth century were quite plentiful in the top half this strata, thinning out towards the base.

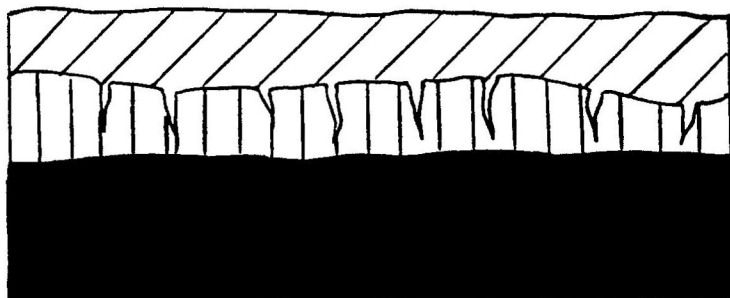
Horizon three was the often-sterile clay subsoil. This varied from orange to tan and often contained small pieces of chert. Few artifacts were found at the interface between horizons two and three, and even fewer were found in horizon three itself. See Figures 5 and 6 for profiles of soil horizons.

Phase II excavations were carried out after the structure was removed, before the site was bulldozed. These excavations included the area under the east pen of the structure. This area is referred to as the house area, and in most cases is combined with the east pen area, although ceramic artifacts were dealt with as a separate group for comparison purposes. Eight 3'x 3' units were excavated and the remaining area was divided into four quadrants and each was excavated. The soil was lacking the humus and sandy loam strata described above for other areas on the site. Here, the upper stratum was a fine light gray-brown powdery dust overlaying a compact tan clay subsoil. Ashy lenses were encountered throughout the upper stratum in the half of the pen nearest the fireplace. All artifacts from the house area



East Pen Area

E562/N470



West Pen Area

E527/N455

Key



Horizon 1



Horizon 2



Horizon 1/3

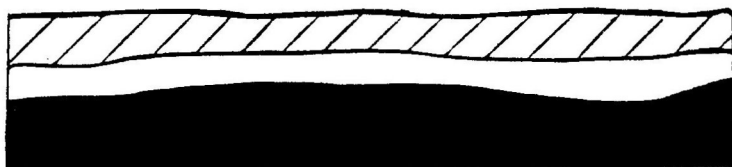


Horizon 3

SCALE

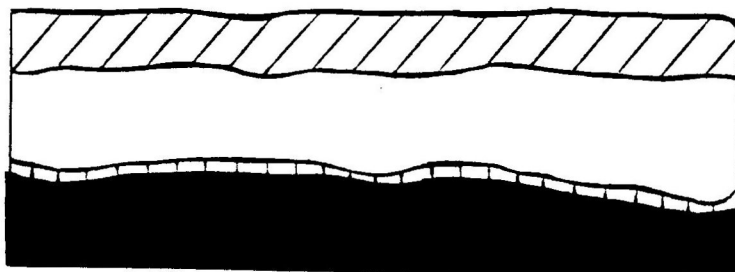


Figure 5. North profiles of excavation units in east and west pen areas.



Smokehouse Area

E533/N515



Midden Area

E590/N425



House Area

Key



Horizon 1



Horizon 2

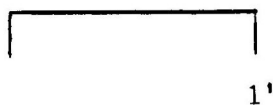


Horizon 2/3



Horizon 3

SCALE



1'



fine grey-brown powdery dust

Figure 6. North profiles of excavation units in smokehouse, midden and house areas.

were found in stratum one. These included early, middle, and late nineteenth century ceramics as well as artifacts from the twentieth century.

Artifacts were cleaned and catalogued by the author and volunteers.

FEATURES

Feature 1

This feature was an arrangement of hand-made bricks in the northeast corner of the excavation unit at E530/N515, in the smokehouse area (see Figure 7). An adjacent unit was opened to the east at E533/N515 in order to follow the brickwork. Bricks were encountered at the base of level one, at .2', and sloped to the east to .325' below surface. A gravel area was encountered in the northwest quarter of the unit, at .3', and limestone pieces and river cobbles were scattered throughout the southeast quadrant of the unit at .25' below the surface. Artifacts found in these two units included milk glass lidliners, wire nails, aqua container glass, and two early ceramic sherds, polychrome and blue shell-edged pearlware. Excavation of this feature was discontinued after mapping and documentation due to the low frequency of early and mid-nineteenth century artifacts, in order to concentrate efforts on areas yielding more information about early periods of occupation of the site. It is thought that the brick work represented the remains of a foundation pier. A later

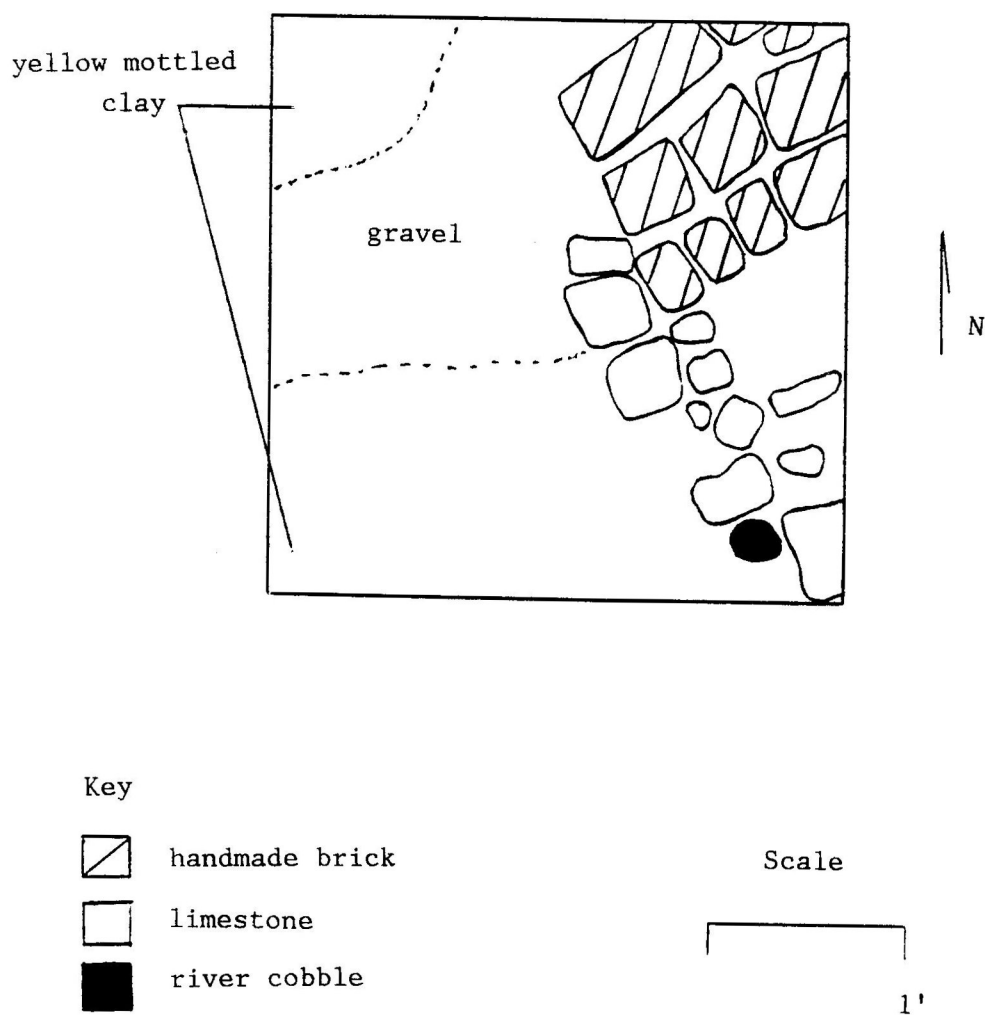


Figure 7. Feature one. Excavation Unit E530/N515 at base of level two.

conversation with Lewis Best, who lived on the site about 15 years ago revealed that there was a smaller log structure in this area which the inhabitants referred to as the "old smokehouse". This one story building was located directly north of the west pen. According to Best, the building had a fireplace and chimney, and his mother used to do canning there. The Best family rented the Carmichael Inn for about 20 years. This family had 15 children (Lewis Best, personal communication).

Feature 2

Feature 2 was located in units four and eight, under the east pen of the structure. It appeared as a round 12" diameter soil stain, darker in color in contrast to the stratum it was found in. The feature was profiled. It contained a 6" diameter boulder, a flat limestone slab, and one creamware ceramic sherd. The feature was cone shaped (see Figure 8) and was lined with orange-red clay. The depth of the feature was 10". It was thought that this was a posthole, possibly from an early fence or drying rack. The shallow depth of the feature makes it unlikely that it was used for a "ginpole", (a pole deeply inserted into the ground and used as leverage when hoisting large logs during construction), or a part of any structure that would have had to withstand a great deal of leverage or strain.

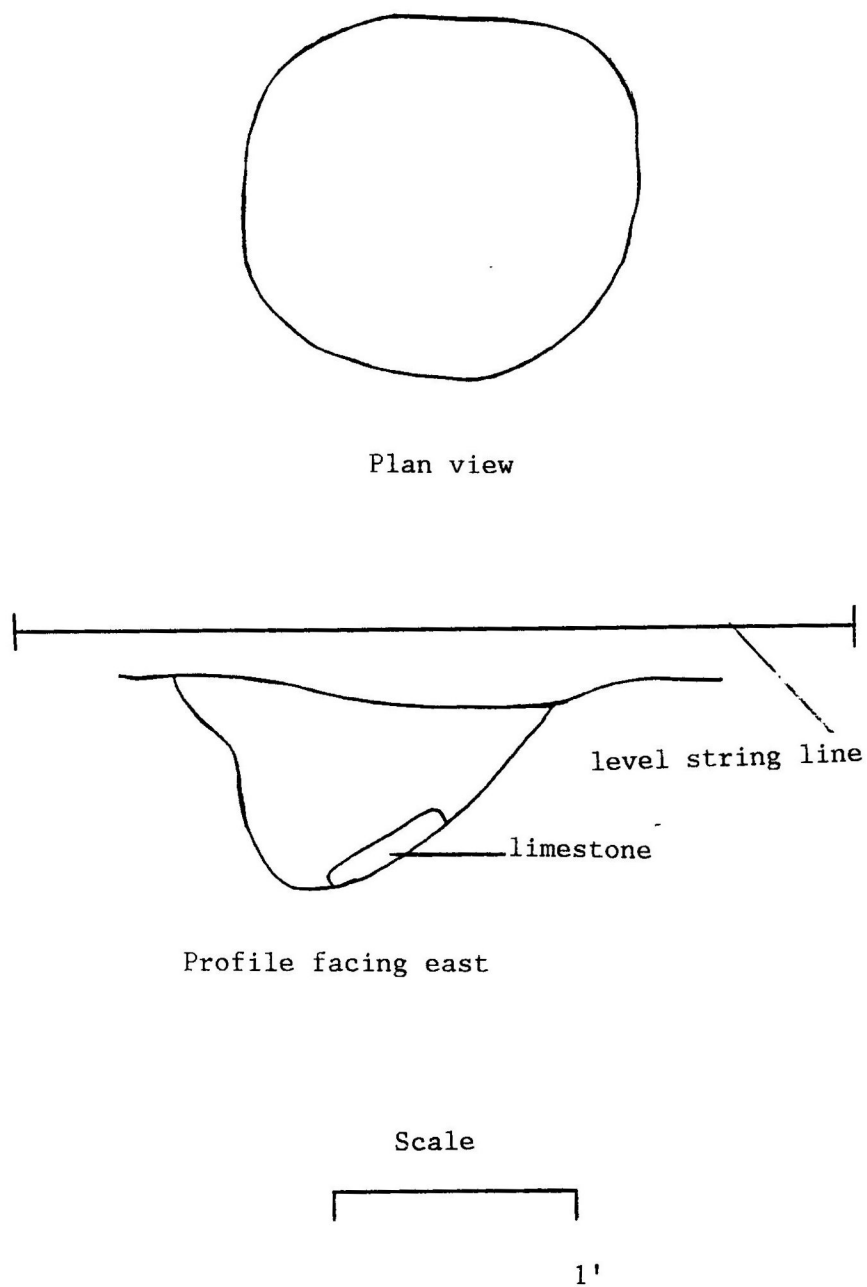


Figure 8. Feature two. Plan view and profile.

Feature 3

Feature 3 appeared as a dark, charcoal flecked stain in the southeast corner of the east pen of the structure. This feature was discovered after the entire east pen had been shovel-skimmed and troweled. It first appeared in the clay subsoil as an area of burned clay, flecked with charcoal. The feature contained burned limestone, sherds of plain, limestone-tempered, aboriginal pottery, and a hammerstone. This feature is thought to be a shallow hearth. The ceramics date to the Middle Woodland period. Besides revealing a transient prehistoric Indian occupation of the Carmichael Inn site, this feature provides other valuable information about the formation of the site. It can be assumed that the clay subsoil encountered beneath the east pen of the structure is the same subsoil that has been on the site for a thousand years or more, and not fill which was placed there when the cellar hole was dug under the west pen.

VII. COMPARATIVE DATA

The Carmichael Inn site was compared to a number of other historic sites in Tennessee. These sites were selected on the basis of location, function, period of occupation and socioeconomic level of the inhabitants. Whenever possible, sites in the Ridge and Valley province were chosen, so as to keep them as nearly comparable to the Carmichael Inn as possible. In order to test the hostelry pattern, sites functioning as inns and resorts were chosen. Sites which functioned purely as single family residences were also selected for comparative purposes. Residential sites from varying socioeconomic levels were included. Census and tax records were used to determine socioeconomic level. A description of each site follows. A brief history of the site, purchase date of the property, and date of construction when known, dates of occupation and estimated socioeconomic level are included. Information on location and archaeological investigations is also provided.

The Gibbs house site (40KN124), is located on Emory Road in east Knox County. A log house was built by Nicholas Gibbs there in 1792 (Faulkner 1988). Although some additions to the structure were made, the original building is still standing and was occupied by Gibbs descendents until 1971. Although Nicholas Gibbs owned a substantial amount of land (over 1000 acres), he was a middle class yeoman farmer (Groover 1988).

Archaeological investigations at the Gibbs house site during the 1987 season included eleven 3' x 3' excavation units. The areas excavated might be described as peripheral secondary middens. The ceramic sample includes 835 sherds.

The Roddy house site (40KN85) is located on Westland Drive in west Knoxville, Tennessee. The estimated date of construction for the original three-room house on the property is 1820-1826 (Gardner 1985). The site was continuously occupied from the original construction up through the 1970s (Faulkner 1986: 57). The 1850 Schedule 4 census lists the owner, then Robert Gray, as a farmer, owning 150 acres improved and 300 acres unimproved. The land was valued at \$1400. The Grays probably had a comfortable lifestyle, though they were not wealthy, and were in the middle income bracket (Groover 1988). Archaeological investigations at the Roddy house site included 13 3' x 3' test units, from which 346 ceramic artifacts were analyzed (Duggan 1986; Williams 1985). The site was excavated in natural levels, level one being 0-.3' and level two being .3' - .5' (Faulkner 1986:57).

The Walker house site (40KN121) is located in west Knoxville on the north side of Fox-Lonas Road at the intersection with Cedar Bluff Road. The tract of land was purchased by William Walker in 1797 and was inherited by his son Matthew in 1811. The house was a log structure with timber frame additions that date to the mid-nineteenth century. The log structure was standing by

1828 (McKelway 1987). The 1850 census lists the Walkers as farmers, with 80 acres improved, 20 acres unimproved and the land valued at \$1000, and the livestock at \$275. The Walkers, like the Grays, were on a middle income socioeconomic level (Groover 1988).

Archaeological investigations included seven 3' x 3' test units. The sample of ceramics consists of 260 sherds.

The Ramsey house site (40KN121) is located in east Knox County. Francis Ramsey purchased the property in 1786, moved there in 1793, and lived in a temporary structure until the Ramsey house was built in 1797 (Bowman and Folmsbee 1982). The kitchen was added to the house later. The house is one of Tennessee's oldest stone homes, reportedly the most costly and admired building in Tennessee during the census of 1800 (Faul 1986: 6). The Ramseys were a prominent early family in East Tennessee. Francis Alexander Ramsey was clerk of the superior court for Washington District and Knox County. His sons were active in banking, medicine, politics, business and history in Knoxville. The 1850 Schedule 4 census lists their land holdings as 110 improved acres, 127 unimproved acres valued at \$8000, and livestock valued at \$1800. The Ramseys were in the upper level socioeconomic bracket.

Archaeological investigations covered more than one field season and included 15 3'x 3' excavation units and one 3' x 1'

unit. These were dug in .3' levels. The size of the ceramic sample is 577 sherds (Roberts 1986).

Castalian Springs, or Wynnewood was a nineteenth century mineral springs resort, in Sumner County, Tennessee. Several field seasons of excavation were carried out there. One of these included the excavation of a large trash pit, estimated to have been dug and filled quickly in the late 1830s. The ceramics recovered from this feature (Feature 12), were probably used to serve guests at the resort. The feature was dated to 1839 by mean ceramic date, and by some maker's marks on the ceramics. It appears to have been a sealed refuse deposit (Smith 1983).

The Netherland Inn site, also referred to as the Netherland Inn Complex, is located in Sullivan County, Tennessee. The property was purchased by Euro-Americans during the late 1700s and Richard Netherland purchased the tract in 1818 (Benthall 1973). The earliest documented reference to an inn is in 1830, although it was probably in operation before this time. The site was continuously occupied until the 1960s.

The Netherland Inn Complex includes the remains of the inn, kitchen, smokehouse, wellhouse, slave quarters, stable, wharf, refuse pit and root cellar. On the basis of ceramic analysis and historic records the Netherlands are estimated to have been in the upper middle to upper socioeconomic class.

Archaeological excavations at this site were quite extensive. A backhoe was used to dig a series of trenches in

order to locate features, and these features were then excavated. Excavation units were 5' x 5' and were dug in 0.4' levels.

The James White Second Home site (40KN68) is located in south Knoxville on Riverside Drive. James White brought his family to East Tennessee in 1785. He purchased the tract of land on Riverside Drive and built a log house sometime between the 1790s and the 1790s. He died here in 1821 and the site was continuously occupied into the 20th century although the log structure was removed during the 1850s.

James White was a prominent leader of early Knoxville. He was a senator in the First General Assembly of Tennessee, and became Speaker of the Senate in 1797. Although he was in the upper socioeconomic class, his rather modest log home indicated conservative tastes.

Archaeological work was done at the James White Second Home site in 1981 and 1982. Archaeological investigations included 22 4' x 5' excavation units, which were dug in levels following natural stratigraphy. The size of the ceramic sample is 4,343.

VIII. ARTIFACTS

South's group, class and type scheme was used to classify artifacts so as to make the data comparable with that from most other historic sites recently excavated in Tennessee, including the Netherland Inn, Castalian Springs, Walker house, Ramsay house, James White second home, Gibbs house, and Roddy house sites. Percentages of ceramic types from different horizons and areas were tabulated and compared with data from the above-mentioned sites. Faunal and other artifact group comparisons were also made with some of the sites.

Data on percentages of ceramic types were compared with Smith's Tennessee domestic site ceramic ware distribution (Smith 1980). Refuse discard patterns were compared with those from the late eighteenth and early nineteenth century sites listed above. A general model of patterning for the rural nineteenth century public house in the Ridge and Valley province of Tennessee was tested by comparing data from the Carmichael Inn site with data from the previously mentioned sites.

While a great many artifacts were recovered, many of the later artifacts are not relevant to this research. Only those artifacts dating to the nineteenth century and earlier--the period of time when the Carmichael Inn was probably in operation--are included in this study. Although a large number of twentieth century artifacts were recovered, and no doubt these

items can provide considerable information about this later time period, they are not included in this report. These materials were analyzed and recorded and both the analysis and the artifacts are available at the Department of Anthropology, University of Tennessee, Knoxville.

A total of 8,709 eighteenth and nineteenth century artifacts from the Carmichael Inn site was analyzed. Frequencies of artifacts in South's groups are as follows: kitchen group, 4263; faunal group, 391; architectural group, 3933; furniture group, 10; arms group, 30; clothing group, 17; personal group, 10; activities group, 55 (includes stable and barn, 5; toys, 7; miscellaneous hardware, 39; and tobacco, 4). See Table 3 for percentages of the different artifact groups.

Table 3. Frequencies and percentages of artifacts in South's Artifact Groups.

<u>Group</u>	<u>N</u>	<u>% of Total Artifacts</u>
Kitchen	4,263	48.9%
Architecture	3,933	45.2%
Faunal	391	4.5%
Arms	30	0.3%
Furniture	10	0.1%
Personal	10	0.1%
Clothing	17	0.2%
Activities	55	0.6%
(Tobacco	4	0.05%
Toys	7	0.08%
Stable & Barn	5	0.06%
Miscellaneous hardware)	39	0.4%

KITCHEN GROUP

Ceramics

The ceramic frequencies from the Carmichael Inn site were tabulated for each provenience, by area of the site, and for the entire site. A total of 1,110 ceramic sherds was recovered on the site. Figure 9 illustrates percentages of different ceramic wares recovered. Percentages have been rounded to the nearest tenth of a percent.

Porcelain (N=44)

Porcelain represents 4% of the total ceramic count for the site. This includes plain and overglazed handpainted porcelain. Almost half the porcelain recovered (48%) was found in the east pen area. The house area contained 25%, the midden 20%, the smokehouse 5%, and the west pen, 2%. The east pen and house areas together, contain about 75% of the total porcelain from the site. Porcelain is a fine ware, used primarily for beverage and food consumption (particularly in tea sets), and it is thought that this distribution indicates areas where foods or tea may have been served. Sherds (20% of the total) recovered in the midden area probably represent discard, or erosional wash from a secondary discard area.

Almost half the porcelain recovered (48%) was plain. Two thirds of this was in the east pen area, about 24% in the midden area, and about 10% in the smokehouse area.

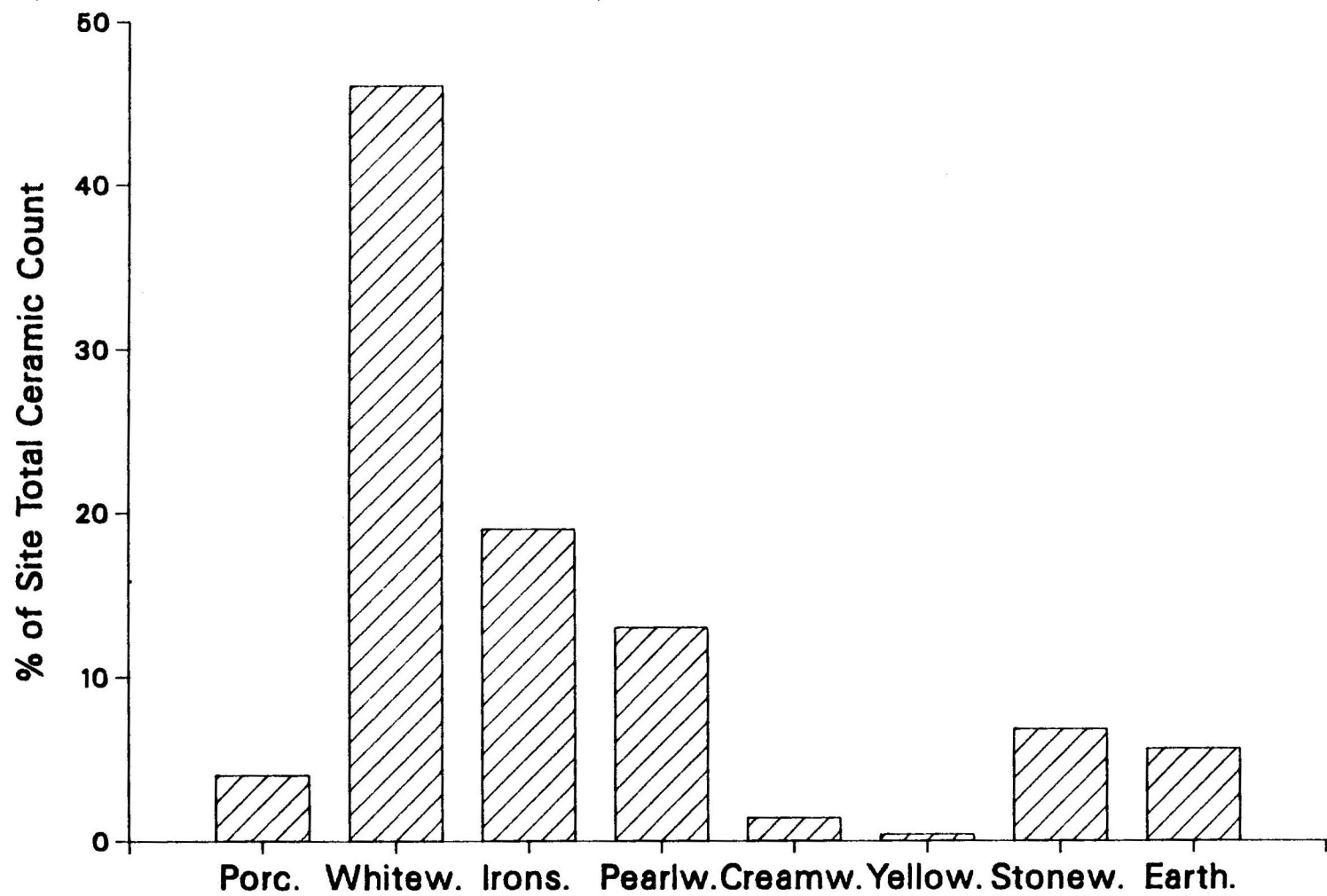


Figure 9. Percentages of ceramic wares recovered at the Carmichael Inn site.

Since only 23 decorated sherds of porcelain were recovered, this type was not tabulated by percentages, but is described by raw counts. Nine sherds of overglaze handpainted porcelain were recovered in the east pen and midden areas.

Porcelain with "other" decoration includes twentieth century designs, usually enamelled, comprised 20% of the total porcelain on the site and was all recovered in the east pen area. Embossed porcelain represented 7% of the total porcelain, and was recovered in the east pen area. Decal decorated represented about 5% of the total porcelain and was recovered in the east pen area.

All porcelain recovered from the Carmichael Inn site was English, no Chinese export porcelain was represented. Of the 33 sherds of porcelain recovered in the Phase I excavations, 25 were from horizon two, and are probably associated with the first half the nineteenth century.

Whiteware (N=515).

Whiteware represents the most frequent ware found at the site. Almost half the recovered ceramics (46%) were whiteware. Whiteware became available in the 1820s, and within 15 years had replaced pearlware. The median date for whiteware is 1860 (South 1972). Production of whiteware has continued into the twentieth century. Since whiteware is still being produced today, and the site was continuously occupied until 1970, the presence of such a large percentage of this ware is not

particularly meaningful in terms of examining patterns at the time the inn was in operation.

Almost half (44%) of the whiteware recovered was found in the east pen area, and more than 50% of this was from horizon two. Nineteen percent was found in the house area. Fifteen percent of the whiteware was found in the midden area, and this was about equally distributed between horizons one and two. Twelve percent was recovered in the smokehouse area, with most of this in horizon two (70%), and the west pen area had 10% of the total whiteware on the site, mostly in horizon three. Since this ware was popular from 1830 through the nineteenth century, one can discern something about ceramic use and discard patterns on the site during this time period. The east pen area of the structure was probably an important area for food preparation and consumption activities during the mid 1800s. Discard patterns during this time period may account for the percentages in the other areas.

Plain whiteware is the most common type, making up 72% of the total whiteware count. Almost two thirds (63%) of the plain whiteware recovered from the site came from the east pen area. About 9% came from the west pen area, 13% from the smokehouse area, and 16% from the midden area. The remaining 143 whiteware sherds with some type of decoration have been broken down into percentages by type.

The most frequent decorated whiteware type is "other". This category includes obviously modern decoration and represents 25% of the decorated whiteware recovered from the site. The second most frequent type is transfer printed whiteware, representing about 21% of the decorated whiteware. Transfer printed in black and blue became available during the late eighteenth century and by the 1820s the technique was developed for other colors. Molded edge whiteware makes up about 14% of the total decorated whiteware, and enameled whiteware about 13%. Decal decorated comprises about 10% of the total, blue shell edge, 9%; gilded, about 6%; flow blue, 2%; and spatter less than 1%.

Decal decorated whiteware was found in all areas of the site, except for the midden area. This type dates to the turn of the century or later. Gilded whiteware, another later type, was found near or beneath the structure, particularly in the east pen area. Transfer printed whiteware was recovered mostly near the structure. The east pen yielded 47% of the transfer printed whiteware, the west pen, 30%; the midden, 16%, and the smokehouse area, 7%. Most of the molded edge whiteware was found in the east pen area (13 sherds) although several were recovered in the smokehouse and west pen areas. One sherd of flow blue whiteware was recovered in each of the east pen, midden and smokehouse areas. This decoration dates to 1840 and was particularly popular at the end of the nineteenth century. One sherd of spatter decorated whiteware was found in the east pen

area, and two stick spatter decorated sherds were found in the midden area.

Ironstone (N=212).

Ironstone was the second most frequent ware found at the site. Nineteen percent of the total ceramic sherds recovered was ironstone. Production of this ware began in England before the 1820s, but it did not become widely available in America until ca. 1840. This ware became quite popular during the mid-nineteenth century, and is still being produced today. Ironstone is probably associated with the later occupations of the site rather than the years when the Carmichaels operated an inn.

Almost half (48%) of the total ironstone recovered from the site was found in the east pen area, mostly in horizon two, and 32% was found in the house area. It is believed that together, this 80% of the total ironstone count represents some of the later occupations at the site, and that the east pen area continued to be the central location for food preparation and consumption. Less than 10% of the site total of ironstone was found in each of the other areas; the smokehouse 7%; midden, 6%; and west pen area 7%.

Almost 61% of the ironstone recovered was plain. Most of this, 87%, was recovered in the east pen area, with 6% in the

midden area, and less than 4% in the west pen and smokehouse areas.

Of the decorated ironstone recovered, 35% was categorized by "other" decoration, which included various modern surface treatments. Thirty-four percent of the decorated ironstone had a molded edge, 17% decal, 11% transfer print, 10% over-glaze painted, and 6% was gilded. These types date to the later occupations of the Carmichael Inn site and their distribution is listed elsewhere.

Pearlware (N=146).

Pearlware comprised 13.2% of the total ceramics recovered. Pearlware was produced from 1780 to 1840 and was most popular during the first decade of the nineteenth century. These sherds are associated with the early Carmichael occupation of the site.

Over half the pearlware recovered on the site came from the midden area (58%), with more than three-fourths of this coming from horizons two and three. The house area yielded 32%, the east pen 5%, the west pen, 2%, and the smokehouse, 3%.

Plain pearlware made up 34% of the total pearlware recovered on the site. Decorated pearlware was tabulated by percentages, and the largest group was underglaze handpainted polychrome pearlware, representing 37%, or 36 of the decorated pearlware. Over half of these were recovered in the house area, 12 in the

midden area, one in the west pen area, and two each in the smokehouse and east pen areas.

Underglaze blue hand painted pearlware represents 29% of the decorated pearlware. These sherds were recovered in three areas, fifteen in the midden, ten in the house area and three in the east pen area. Annular decoration characterizes 8% of the total decorated pearlware. These eight sherds were recovered from the midden (5), and house areas (3). Transfer printed and spatter/sponge decorated types each represent 6% of the total decorated pearlware. The transfer printed pearlware was recovered from the midden area (5) and the east pen area (1). Transfer printed pearlware became available during the late eighteenth century and became more widespread and popular during the first two decades of the nineteenth century. Four spatter and sponge decorated pearlware sherds were recovered from the midden area and two from the east pen area.

Blue shell edge decorated pearlware comprises 7% of the decorated pearlware. This was recovered in the east pen area (3), in the midden area (3), and in the smokehouse area (1). One green shell edged pearlware sherd was recovered in the midden area. Two mocha decorated sherds were recovered in the east pen area. Edge decorated (other than shell edge) pearlware was found in the east pen and midden areas, one sherd in each area.

Creamware (N=16).

Creamware represented only 1.4% of the total ceramics. Produced from about 1762 to 1820, this ware was most popular during the late eighteenth century. Like pearlware, these sherds were associated with the earliest Carmichael occupation of the site. Of the 16 creamware sherds recovered from the site, seven were in the midden area, all in horizon two, five in the house area, and four in the east pen area, in horizon two. The seven pieces in the midden area probably represent swept or secondarily deposited materials. All creamware recovered was undecorated.

Yellow ware (N=4).

Yellow ware comprised only .4% of the total ceramics at the site. British yellow wares were produced from 1785 to 1835. In America, production began during the 1830s and continues today. Yellow ware has a very hard utilitarian paste, somewhere between earthenware and stoneware. It may have been used for kitchen vessels, rather than food serving vessels, although many consider this a refined earthenware. Since only four pieces were recovered, not a great deal can be inferred from the yellow ware distribution. Three sherds were found in the midden area, in horizon two, and one in the east pen area in horizon one. All yellow ware recovered was undecorated.

Coarse Earthenware (N=63).

Coarse earthenware was generally storage and food preparation vessels or serving vessels such as pitchers. These were usually lead glazed or slipped. Coarse earthenware comprises almost six percent of the total ceramics on the site.

Redware is a coarse earthenware. Although refined redware was manufactured, none was recovered in the archaeological excavations on this site. Redware was produced during the 1700s in America and was still being manufactured as late as the 1920s. The 47 sherds of redware recovered were all from coarse utilitarian vessels. Eighty-seven percent of this was lead glazed, and the remaining 13% was slip glazed. Eighty-three percent of the redware was recovered from the midden area, mostly in horizon two, 12% from the house area, and 4% from the east pen area. Seven of the ten other coarse earthenwares were recovered from the midden, two from horizon one, and five from horizon two. Five were recovered from the house area, and four from the east pen area, two from horizon one and two from horizon two.

Coarse Stoneware (N=76).

Coarse stoneware represents 6.8% of the total ceramics recovered. This includes Bristol glazed, Albany slipped, alkaline glazed, and salt-glazed ceramics.

Almost 40% or 30 sherds of the coarse stoneware was salt-glazed. Eight of these were recovered from the east pen area,

four from the house area, 14 from the midden area, and five from the west pen area.

Twenty-one sherds, or 28% of the coarse stoneware is Bristol glazed, which dates to the late nineteenth century. Fifteen of these came from the east pen area, three from the smokehouse area, two from the house area, and one from the midden. Fourteen percent of the coarse stoneware is Albany slipped. Nine of these came from the east pen area, one from the house area, and one from the midden area. Albany slip generally dates to 1870 or later.

Alkaline-glazed stoneware comprises only 4% or four sherds of the total stoneware and these were recovered from the midden area. Alkaline glaze was developed in 1810 in South Carolina, and was in use in North Carolina and Tennessee from about 1830 to 1910 (South 1970: 174). Slip glazed sherds represent 8% of the coarse stoneware and the six sherds were recovered from the east pen area, and one from the house area.

Interpretation of Ceramic Distribution

The most prevalent ceramic in the east and west pen areas, the smokehouse area and house area was whiteware. The most prevalent ceramic in the midden area was pearlware, comprising about 30% of the total, followed by whiteware, which comprised 26% of the total in this midden. Figures 10 and 11 illustrate the distribution of different ceramic wares within the site.

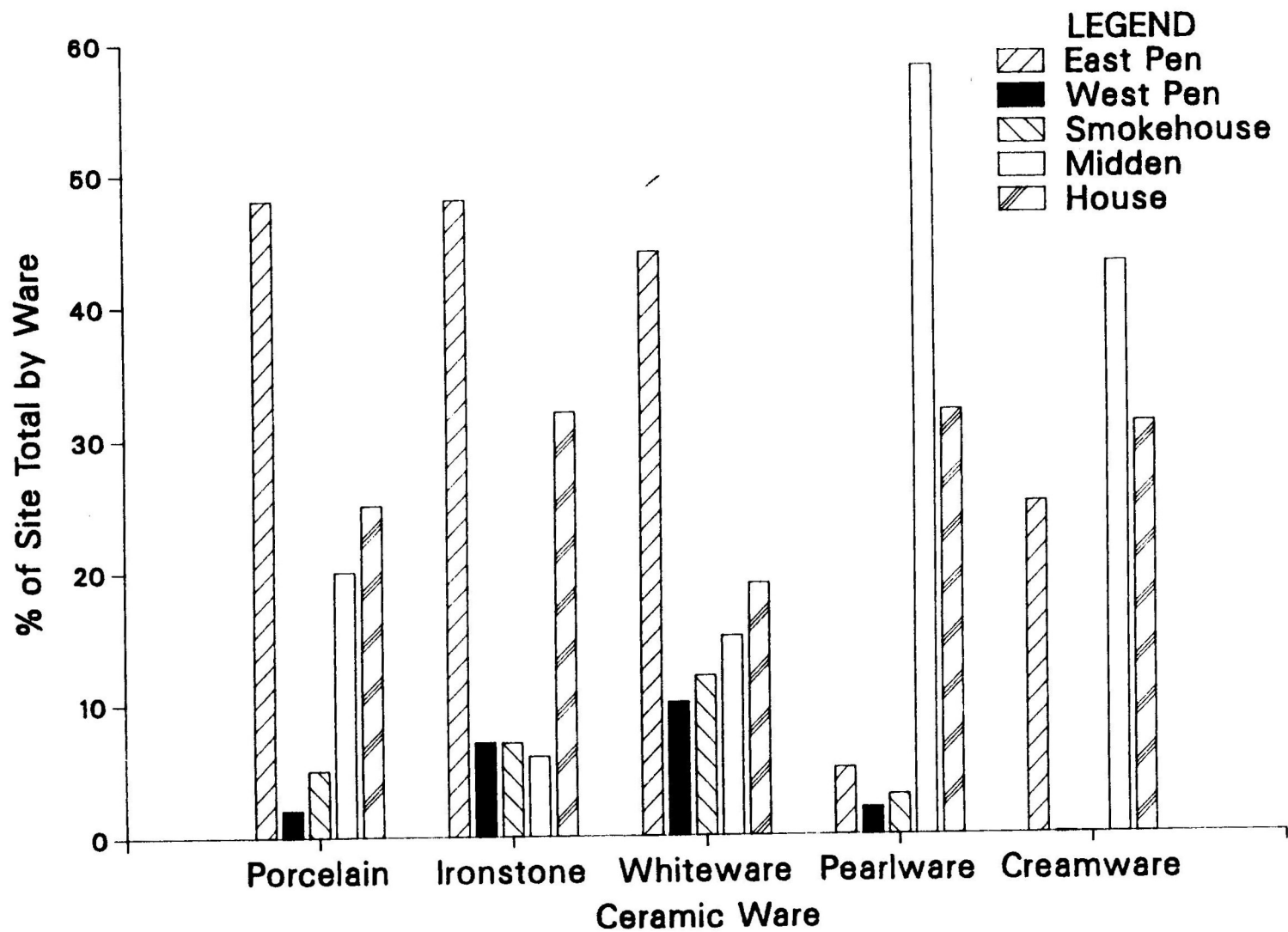


Figure 10. Distribution of refined wares within the site.

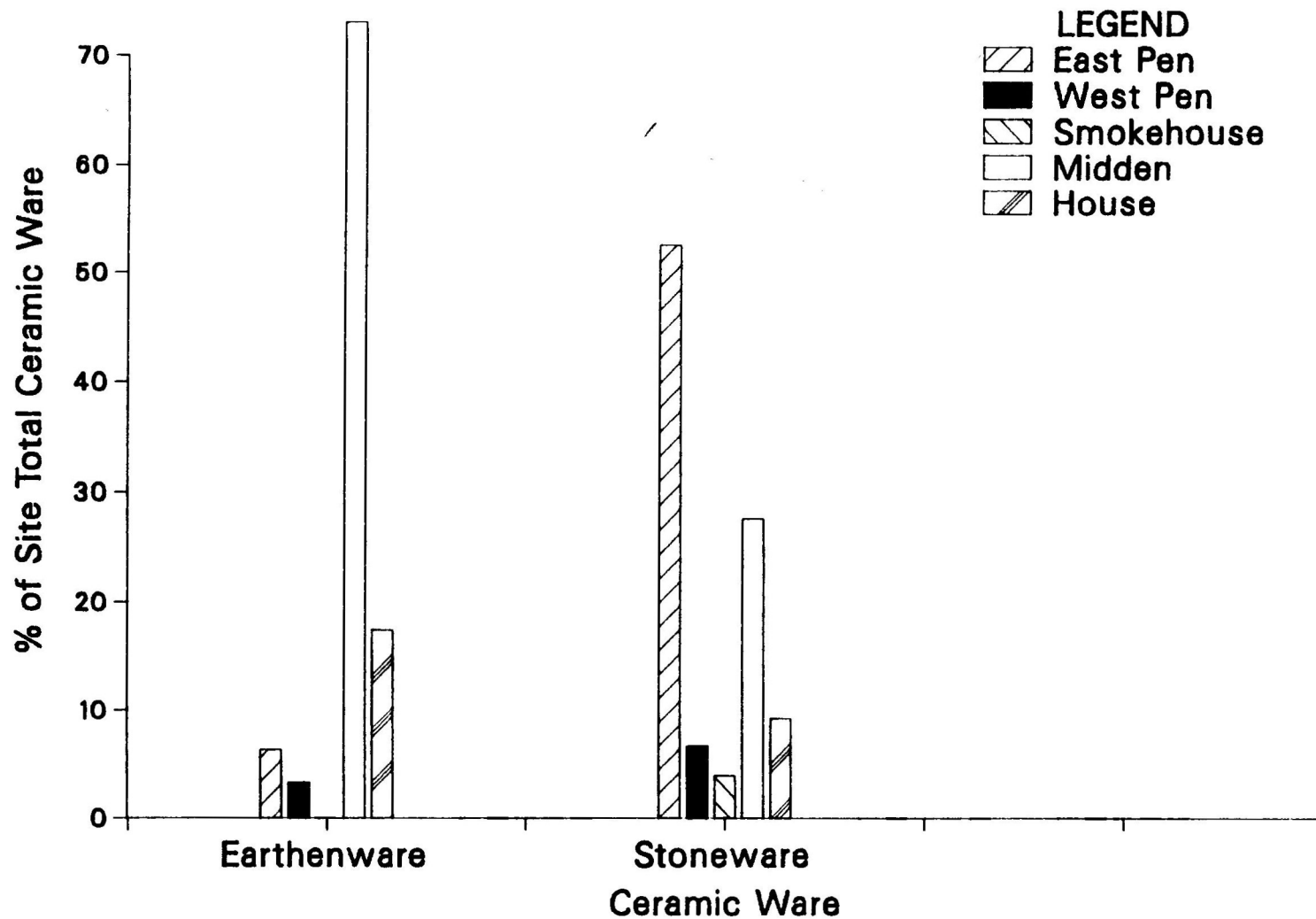


Figure 11. Distribution of coarse wares within the site.

While almost 20% of the total whiteware was found in the house area, actually under the structure, this area also yielded 32% of the pearlware, 31% of the creamware, 25% of the porcelain, and 32% of the ironstone from the site total. Twenty-five to thirty percent of the site total of each of the predominant refined wares was recovered in the house area. This area varies quite a bit from the east pen area, the difference being that the east pen area consists of units near the doorways of the east pen, and thus would contain the refuse from activities in and near this part of the structure. The house area includes the excavations beneath the east pen of the structure, and so contains items lost or discarded in the area before the east pen was built, as well as items swept or dropped through the floor, and items intentionally placed under the structure by humans or animals.

Although the two areas may represent the same functional area of the site, a food preparation and consumption area, at least during the later occupations, some aspects of the ceramic distribution are worth noting. The wares dating to earlier periods, creamware and pearlware, with respective median dates of 1791 and 1810 were found in both areas. Twenty-five percent of the site total of creamware was found in the east pen area, and 31% in the house area, and 5% of the total pearlware for the site was found in the east pen area, and 32% in the house area. The greater percentages were probably found under the structure

rather than around it for several reasons. The ceramics were probably deposited there when only the west pen of the structure existed on the site, before the east pen was added on. So the greater number of early ceramics in this area represents an earlier occupation of the site. It is also possible that the site formation processes impacted the east pen area, but not the house area due to its protection by the structure. Yard sweeping, trampling, erosion, construction and other activities may have removed early ceramics which would otherwise have been present in the east pen area. It has been determined that the two pens of the structure were built within a fairly short time period, probably within 10-15 years or less (Tichy 1987). It may be that the passage of even a short period of time was enough to change the type of ceramics being used at the site, and that the varying percentages of creamware and pearlware actually reflect cultural choice of the more popular wares through time.

It is thought that the protection offered by the structure shielded the house area from many site formation processes which did impact the east pen area, and so alter the archaeological record by removing some of the early ceramics. Other ceramic ware percentage differences in this area may also indicate differing site formation processes at work as well as different ware choices, and temporal changes. The house area yielded 31.7% of the total coarse earthenware and none was found in the east pen area. The house area yielded 9.2% of the total coarse

stoneware for the site, and the east pen, 52.6% It is believed that these differences reflect a temporal change in ware type. The redware and other coarse earthenware no doubt represent an earlier occupation. These ware types, often used for crocks, jugs, pitchers and heavy storage vessels, were fired at lower temperatures, were more easily produced, and were probably more available in frontier areas at an early date. The coarse stonewares required more production technology and became more widely available at a later time, particularly in undeveloped rural areas. The redware and other coarse earthenwares may have been present in the east pen area at one time, and as mentioned earlier, been removed by discard practices or other site formation processes. Or the absence of the early coarse earthenwares in the east pen area may be a result of later construction of the east end door which provided access for discard after the mid-nineteenth century. Early practice may have been to remove all or most refuse to another location, leaving it under represented in the archaeological record. However, the total percentages for any type of coarse ware in these two areas are of interest. Together, these two areas contained 43% of the coarse wares on the site. Forty-four, or 72% of these were in the east pen area and 17 or 27% were in the house area. Since a greater percentage of these wares was in the east pen area than in the house area, these data do not reflect a functional difference, but probably a temporal one.

It is believed on the basis of the archaeological distribution of all ware types that the east pen area and the house area were locations of food preparation, consumption, and possibly storage during all periods of occupation of the site. Differences in percentages of the different ware types are thought to represent temporal change and varying site formation processes. The occupants' perception of the yard and the resulting discard patterns may have shifted over time. For example, at one time the area around the structure may have been considered a surface to be kept clear and uncluttered so as not to interfere with the coming and going of guests and the operation of an inn. As time passed and a different generation of Carmichaels acquired the property, the area around the structure may have been regarded as a convenient and appropriate place for discarding refuse.

It is believed that the high percentage of pearlware in the midden area is a result of secondary refuse disposal, or possibly erosional wash from such an area. The midden area contained a fairly scattered concentration of artifacts datable to the early and first half the nineteenth century. Although it was not densely enough concentrated to be called a trash dump, it may be the erosional wash from one, or this may be where the debris was deposited if the yard around the inn was swept. The pearlware in the house area was probably associated with the very early occupation of the structure, with the food consumption

occurring in this part of the site and some disposal, too. Low frequencies of pearlware in the west pen, 2%, and smokehouse, 3%, probably represent differences in functional areas as well as differing formation processes. These areas were probably not food preparation or consumption areas.

The low percentage of pearlware (5.5%) in the east pen area is thought to be a result of formation processes although it may also reflect a functional activity area difference during the later occupation of the site. During this later occupation, when the east pen was used for food preparation and consumption, very little pearlware was still in use. Table 4 shows distribution of ceramic wares by area within the site.

A mean ceramic date for horizons two and three in the midden area was obtained using South's (1972) Mean Ceramic Date Formula. These dates were obtained from South (1972) and Smith (1983). The mean ceramic date obtained was 1823.5. In order to get a median occupation date, the mean ceramic date was used, ($Y=1823.5$) with the formula $Z=235.5 + .87Y$). A median occupation date of 1822 was obtained from the ceramic assemblage recovered from horizons two and three of the midden area. This indicates that the midden was deposited during the early 1820's, and represents refuse from activities on the site during that time period. Median ceramic dates used in the computation are shown in Table 5.

Table 4. Ceramic ware by area.

Ware	East Pen		West Pen		Smoke-house		Midden		House	
	N	%	N	%	N	%	N	%	N	%
Unid	1	0.1	0	0	0	0	31	2.8	2	0.2
Porc	21	1.9	1	0.1	2	0.2	9	0.8	11	1.0
Cream ware	0	0	0	0	0	0	2	0.9	14	1.3
Pearl ware	8	0.7	3	0.3	4	0.4	84	7.6	47	4.2
Iron stone	102	9.2	14	1.3	15	1.4	13	1.2	68	6.1
White ware	227	20.5	51	4.6	62	5.6	75	6.8	100	9.0
Yellow ware	1	0.1	0	0	0	0	3	0.3	0	0.0
Red ware	0	0.0	2	0.2	0	0	39	3.5	6	0.5
Coarse Earthen ware	4	0.4	0	0.0	0	0.0	7	0.6	5	0.5
Coarse Stone ware	40	3.7	5	0.5	3	0.3	21	1.9	7	0.6
Area Total	404	36.4	76	6.9	86	7.8	284	25.6	260	23.4

Table 5. Ceramic dates used to calculate mean ceramic date.

Type	Date Range	Median Date	Source
PORCELAIN			
Overglaze enamelled	1660-1800	1730	South 1972
WHITEWARE			
Undecorated	1820-1900+	1860	South 1972
Transfer printed	1830-1860+	1845	Smith 1983
Edge decorated	1830-1860+	1845	Smith 1983
Hand-painted polychrome	1830-1870	1850	Smith 1983
Mocha/Annular	1830-1870+	1850	Smith 1983
IRONSTONE	1840-1900+	1870	Smith 1983
YELLOWWARE	1830-1930	1880	Smith 1983
PEARLWARE			
Undecorated	1780-1830	1805	South 1972
Transfer printed	1795-1840	1818	South 1972
Underglaze polychrome (broadline)	1820-1840	1830	South 1972
Underglaze polychrome (fineline)	1795-1815	1805	South 1972
Underglaze blue hand painted	1780-1820	1800	South 1972
Embossed relief	1800-1820	1810	South 1972
Edge decorated	1780-1830	1805	South 1972
Mocha	1795-1890	1843	South 1972
Annular wares	1790-1820	1805	South 1972
CREAMWARE			
Undecorated	1762-1820	1791	South 1972

Vessel Types

When possible, ceramic sherds were also classified by vessel type, including cup, saucer, plate, bowl, serving vessel, teapot or other vessel. When specific vessel type could not be identified, sherds were classified as hollowware, flatware, or unknown. The distribution of vessels by unit, site area and total site was then determined.

Sixty-eight percent of the ceramic sherds recovered from the site was so small that they could not be distinguished as any particular vessel type, or even as hollowware or flatware. This is a very large percentage and the remaining 32% may not provide a representative sample of the vessels actually used on the site, but rather represent the durability of sherds from various vessel types. However, this 32% will provide information on some of the vessels that were utilized at the Carmichael Inn site. With these facts in mind, the interpretation of vessel form data is undertaken with caution.

About 10% of the total sherds recovered could be identified only as hollowware, 3% as flatware, 9% as plates, 3% percent as cups, 2% percent as saucers, 2% as bowls, 1% as other vessels and less than 1% each as serving vessels and teapots (see Table 6).

When all hollowware vessel categories are combined, including cups, bowls, teapots and hollowware, this constitutes a raw count of 172, or about 15% of the total ceramic sherds recovered. When all flatware vessel categories are combined,

including saucer, plate, serving platter and flatware, the raw count is 168, or about 15% of the total. Holloware and flatware vessels are represented almost equally among the total distinguishable sherds. Vessel type will be examined more closely by distribution on the site and by representation of various vessel types among the different wares.

Table 6. Vessel types.

Vessel	Freq	%
teapot	2	.18
cup	34	3.06
saucer	27	2.43
plate	103	9.28
bowl	20	1.80
serving	3	.27
other	13	1.17
hollowware	116	10.45
flatware	35	3.15
unknown	757	68.20
Total	1110	100.00

Cups (N=34).

Almost half (47%) of the sherds identifiable as cups were recovered in the house area, 26% in the east pen area, 18% in the midden area, and 9% in the west pen area. The high percentage of cup sherds found in the house area is at least partially a function of this area being protected from trampling. However, it is believed that the higher percentages of cups in both the

house area and the east pen area accurately indicate tea consumption in these areas. About 18% of the identified cup sherds are pearlware, associating them with the earlier occupations of the site.

Over half the cup sherds, 53%, are whiteware and 6% are porcelain. These two groups probably date to 1840-1860 or later. About 24% of the identified cup sherds are ironstone and probably date to 1860 or later. The heavy concentration of cup sherds of all wares in the house and east pen areas indicates that these areas were probably used for tea drinking during all periods of historic occupation of the site.

Saucers (N=27).

Saucer sherds were most heavily concentrated in the midden area of the site where 37% of these sherds was recovered. The house area yielded 33%; the west pen, 19%, the smokehouse, 7%; and the east pen, 4% of the saucer sherds. Possibly the higher percentages in the house and midden areas represent an early direct use of saucers to drink tea and the discard of broken ones. Later the cups were primarily used to consume this beverage. Of the 19% in the west pen (5 sherds), four are whiteware and one is ironstone. These saucer fragments in the west pen area date to the mid-nineteenth century and later occupations. The saucer sherds in the midden area were six pearlware, three porcelain and one ironstone. Although the

ironstone is most likely associated with the later occupations of the site, the pearlware and porcelain saucer fragments are probably secondary refuse associated with an earlier occupation of the site. The saucer sherds from the house area included five whiteware, two ironstone, one porcelain and one pearlware. It is believed that these saucer sherds are associated with the serving of tea, particularly from the mid-1800s and later.

Plates (N=103).

Of the identified plate sherds, 34% were recovered in the east pen area. Twenty of these were whiteware, 13 ironstone, and two pearlware. This supports the idea of this area as a food consumption area, particularly during the mid-nineteenth century and later occupations. A greater percentage of broken plates could be correlated with the serving of inn guests during the mid-nineteenth century.

The smokehouse area yielded 25% of the identified plate sherds from the site. This large percentage of plates in the smokehouse area is somewhat surprising, since less than 8% of the site totals for all other vessel types were recovered in this area. Fourteen of the plate fragments here were whiteware, ten were ironstone and one was pearlware. It is possible that the smokehouse area was used for dumping during the later periods of occupation.

The house area yielded 20 or 19% of the identified plate sherds from the site. Eleven were whiteware, seven were

ironstone, and two were pearlware. The midden area yielded 17% or 18 of the identified plate sherds from the site. Twelve were whiteware, three ironstone, and three pearlware. Four plate sherds, or 4% of the site total, were found in the west pen area. These were all four whiteware, and were recovered in front of the structure.

Bowls (N=20).

Of the twenty bowl sherds found, ten were from the east pen area, seven from the west pen area, two from the house area, and one from the midden area. In the east pen area, seven of the bowl sherds were whiteware, and three were ironstone. In the west pen area, all seven were ironstone, possibly from the same vessel. In the house area one bowl fragment was ironstone and one was pearlware. The one bowl fragment in the midden area was pearlware. The concentration of bowl sherds in the east pen area may have been related to increased use of such vessels during the period when the inn was in operation.

Serving Vessels (N=3).

Only three sherds of identifiable serving vessels were recovered. Two came from the midden area, one whiteware and one pearlware, both from platters. In the house area, one whiteware sherd from a serving platter was recovered.

Other (N=13).

This category included chamber pots, wash basins and any other identifiable vessels which do not fit into other categories.

Hollowware (N=116).

This category includes all sherds which could not be determined to be from specific vessel types, but could be determined to be from vessels that held liquid, such as bowls, cups, tureens, crocks, pitchers or teapots. Almost 40% of the hollowware on the site was recovered in the house area. The east pen area had 33%, and the midden area 22%. The west pen and smokehouse areas each had three sherds, or less than 3% of the hollowware on the site.

Flatware (N=35).

This category includes all sherds which could not be distinguished as parts of specific vessels, but could be determined to be from flat tableware, such as saucers, plates, or platters. About two thirds, (66%) of the total flatware sherds on the site were recovered from the house area. Eleven were whiteware, six creamware, three ironstone, two porcelain, and one pearlware. The midden yielded 26%, and each of the other areas, less than 3%. Again it is thought that because the house area was protected by the structure, the ceramic sherds in

this area remained larger, in more easily identifiable fragments.

It is notable that the house area has the lowest percentage (18%) of the site total of unidentifiable ceramic sherds. This further supports the idea that because this area was protected by the structure, it was not impacted by many of the formation processes which affected other areas of the site. It is thought that because this area was subjected to much less trampling than other areas, one of the results is an increased incidence of larger ceramic sherds, identifiable as to vessel form. While the west pen and smokehouse areas had only 7% of the total ceramic sherds identifiable as to vessel form, these areas contained only 7% and 8% respectively, of the site total ceramics.

Distribution of some vessel types by area is notable, such as two-thirds of the flatware being recovered in the house area. However, this may be as much a result of site formation processes as functional use of vessel type in the two pens.

Tableware

Knife or fork handles (N=3).

Two very heavy metal handles from eating utensils were found in horizon one in the east pen area. One polished bone handle, probably from a fork or spoon, with five attachment holes, was recovered during the dismantling of the structure.

Kitchenware

Crown caps (N=33).

Crown caps were found in the units near the doors of the structure in the east and west pen areas, particularly the units just off the front porch. Crown caps were patented in 1892; therefore, these artifacts postdate the Carmichael's occupation.

Canning jar lids (N=5).

Five canning jar lids were found in the units in the smokehouse area, one in horizon one, and four in horizon two. These zinc, screw-top jar lids were patented in 1858. The milk glass lid liners were invented in 1869. One of the lids recovered in horizon two contained a milk glass lid liner. It was learned from a twentieth century resident of the Carmichael Inn that his mother used the "smokehouse" building as a canning area (personal communication, Lewis Best). It is believed that the smokehouse area was used for secondary refuse during the later occupations of the site, which may further explain the presence of these items here.

Container Glass

Container glass from the Carmichael Inn site was analyzed by provenience, and the proveniences were grouped by area on the site. The glass was divided into three groups; bottles,

glassware, and other container glass. A total of 3,111 container glass sherds was recovered on the site.

Bottles (N=153).

Bottles were classified as wine bottles, pharmaceutical bottles, panel bottles, soda bottles and other bottles. They were also classified by color. In all cases, "bottles" actually refers to identifiable fragments of bottles. No intact bottles were recovered at the site. The "bottles" category accounts for 5% of the container glass recovered at the Carmichael Inn site.

Wine bottles (N=7). Wine bottles include the dark olive green glass used mainly for wine bottles during the eighteenth and nineteenth centuries. Wine bottle fragments were found in the midden area (3), and in the smokehouse area (4), but none were found in the areas closer to the structure. The wine bottle fragments were present in horizons one and two in the midden area, and horizon one in the smokehouse area.

Pharmaceutical bottles (N=4). Pharmaceutical bottle fragments were found in the east pen area, one in horizon two, and in the midden area, three in horizon two. These bottles were all either light blue or aqua.

Panel bottles (N=7). Panel bottles were represented in the east pen area, two from horizon one, and in the midden area, two from horizon one, and three from horizon two. Like the

pharmaceutical bottles, these were all either light blue or aqua. Panel bottles date to the 1860s and later.

Soda bottles (N=77). Soda bottles were well represented on the site. These date to the twentieth century occupations and were found in all areas of the site. The east pen area had 56, the midden, five; the smokehouse area, five; and the west pen area, 11. Although these bottles were found in horizons one and two, the majority came from horizon one, and were recovered in the areas near the structure.

Other bottles (N=61). This category includes fragments which could be positively identified as bottles, but not as specific types. Fragments of other bottles were recovered in all four areas, and in horizons one and two. Thirty-three other bottle fragments were found in the east pen area. Sixteen were found in the midden area, one in the smokehouse area, and 11 in the west pen area.

The distribution of total number of bottles was greatest in the east pen and midden areas (see Table 7). More soda bottles are present in the east and west pen areas, than in the midden and smokehouse areas. Pharmaceutical and panel bottles are more plentiful in the midden area than anywhere else on the site, supporting the designation of this area as an early trash dump, or the erosional wash from one.

Table 7. Bottle glass

prov	O	W	Ph	P	S	cl	lg	lb	aq	ab	am	ol	ot	Tot
East Pen area														
102	-	-	-	-	-	-	-	-	-	-	-	-	-	0
103L1	1	-	-	-	2	2	-	-	-	1	-	-	-	3
104L2	1	-	-	-	4	2	3	-	-	-	-	-	-	5
105L3	-	-	-	-	-	-	-	-	-	-	-	-	-	0
106L3a	3	-	-	-	1	4	-	-	-	-	-	-	-	4
107L4	2	-	-	-	-	2	-	-	-	-	-	-	-	2
108L5	-	-	-	-	-	-	-	-	-	-	-	-	-	0
113L1	5	-	-	-	21	16	5	-	-	-	1	-	4	26
114L2	1	-	-	-	1	-	2	-	-	-	-	-	-	2
115L3	8	-	-	-	2	3	2	3	-	1	1	-	-	10
116L4	1	-	1	-	-	-	-	1	1	-	-	-	-	2
117L4a	-	-	-	-	-	-	-	-	-	-	-	-	-	0
118L1	6	-	-	2	25	11	21	-	-	1	-	-	-	33
119L2	1	-	-	-	-	1	-	-	-	-	-	-	-	1
120L3	3	-	-	-	-	1	-	-	-	2	-	-	-	3
121L4	1	-	-	-	-	-	1	-	-	-	-	-	-	1
Total	33	0	1	2	56	42	34	4	1	5	2	0	4	92
Midden area														
122L1	1	-	-	1	-	-	1	-	1	-	-	-	-	2
123L2	1	1	-	-	1	1	1	-	-	-	-	1	-	3
124L3	-	-	1	2	-	-	-	1	2	-	-	-	-	3
125L4	2	-	-	-	-	1	-	-	-	-	-	1	-	2
126L1	1	-	-	-	-	-	-	-	-	-	1	-	-	1
127L2	3	-	-	1	1	4	-	1	-	-	-	-	-	5
128L3	4	-	-	-	-	1	-	-	-	2	-	1	-	4
129L4	1	-	1	-	-	1	-	1	-	-	-	-	-	2
135L1	-	2	-	-	1	1	-	-	-	-	-	2	-	3
136L2	1	-	1	-	1	-	-	1	1	-	-	-	-	3
140L1	-	-	-	-	1	1	-	-	-	-	-	-	-	1
141L2	1	-	-	-	-	-	-	-	-	1	-	-	-	1
142L3	-	-	-	-	-	-	-	-	-	-	-	-	-	0
144L1	1	-	-	1	-	2	-	-	-	-	-	-	-	2
146L3	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Total	16	3	3	5	5	12	2	4	4	3	1	5	0	32

Table 7 (Continued)

prov	O	W	Ph	p	s	cl	lg	lb	aq	ab	am	o	ot	Total
Smokehouse area														
109L1	-	-	-	-	-	-	-	-	-	-	-	-	-	0
110L2	-	1	-	-	-	-	-	-	-	-	-	1	-	1
111L1	-	-	-	-	-	-	-	-	-	-	-	-	-	0
112L2	1	-	-	-	5	-	5	-	1	-	-	-	-	6
Total	1	1	0	0	5	0	5	0	1	0	0	1	0	7
West Pen area														
101L1	1	-	-	-	4	3	2	-	-	-	-	-	-	5
131L1	2	-	-	-	5	1	6	-	-	-	-	-	-	7
132L2	7	-	-	-	2	6	2	-	-	-	-	1	-	9
133L3	1	-	-	-	-	-	-	1	-	-	-	-	-	1
Total	11	0	0	0	11	10	10	1	0	0	0	1	0	22
Site														
Total	61	4	4	7	77	64	51	9	6	8	3	7	4	153

Key

O=other bottle	W=wine bottle	Ph=pharmaceutical bottle
P=panel bottle	S=soda bottle	Cl=clear
lg=light green	lb=light blue	aq=aqua ab=amber
am=amethyst	ol=olive	ot=other (includes emerald green, cobalt blue, pink)

Glassware.

In this study, the glassware category (N=138) includes drinking glasses or tumblers, and other items such as glass bowls, stoppers, handles and unidentified glassware. Wine glasses and other stemware would normally be included in this category, but none were recovered. Distribution of glassware is shown in Table 8.

Tumblers (N=82). Tumbler fragments were most plentiful around the two pens of the structure, 58 in the east pen area, and 12 in the west pen area. The smokehouse and midden areas each had six tumbler fragments. All of these were clear and probably date to the twentieth century.

Other glassware (N=64). One clear glass stopper was found in the east pen area in horizon two. Two glass handles, probably from mugs, were found in the smokehouse area in horizon one. Glass bowl fragments were present only in the east pen area, where 12 were recovered.

Other Container Glass.

Jars (N=66). Almost half the jar fragments from the site (32) were found in the east pen area. These came predominantly from horizon one, and many probably date to the twentieth century occupations of the Carmichael Inn site. The midden area yielded

Table 8. Glassware.

prov	han	st	bo	tu	un	Total
East Pen area						
102S	-	-	-	-	-	0
103L1	-	-	1	3	1	5
104L2	-	-	-	2	-	2
105L3	-	-	1	-	2	3
106L3a	-	-	-	-	1	1
107L4	-	-	-	1	2	3
108L5	-	-	-	9	1	10
113L1	-	-	5	-	13	18
114L2	-	-	2	6	1	9
115L3	-	-	1	14	-	15
116L4	-	-	-	1	-	1
118L1	-	-	2	3	1	6
119L2	-	1	-	5	-	5
120L3	-	-	-	14	6	20
Total	0	1	12	58	28	98
Midden area						
122L1	-	-	-	-	-	0
123L2	-	-	-	1	1	2
124L3	-	-	-	-	-	0
125L4	-	-	-	1	-	1
126L1	-	-	-	2	-	2
127L2	-	-	-	-	1	1
128L3	-	-	-	-	-	0
129L4	-	-	-	-	-	0
135L1	-	-	-	-	-	0
136L2	-	1	-	-	-	1
140L1	-	-	-	1	-	1
141L2	-	-	-	-	-	0
142L3	-	-	-	-	-	0
144L1	-	-	-	-	-	0
146L3	-	-	-	-	-	0
Total	0	1	0	5	2	8

Table 8 (Continued)

prov	han	st	bo	tu	un	Total
Smokehouse area						
109L1	-	-	-	2	4	6
110L2	-	-	-	3	-	3
111L1	2	-	-	-	1	3
112L2	-	-	-	1	4	5
Total	2	0	0	6	9	17
West Pen area						
101L1	-	-	-	4	2	6
131L1	-	-	1	3	-	4
132L2	-	-	-	4	-	4
133L3	-	-	-	1	-	1
Total	0	0	1	12	2	15
Site						
Total	2	1	13	81	41	138

Key

han=handle

st=stopper

bo=bowl

tu=tumbler

un=unidentified glassware

yielded eleven jar fragments, the smokehouse area, six; and the west pen area 17. The jars were largely clear, screw top, or aqua Ball or Mason canning jars.

Twelve milk glass lid liners were found in the east pen area, in horizons two and three. Two lid liners came from the midden area in horizon one, 25 from the smokehouse area, 19 from horizon one and six from horizon two, and ten from the west pen area from horizon three. These were used inside the metal lids of jars to protect food from contamination, and date to 1869 or later. As previously mentioned, the smokehouse area was used for canning during the twentieth century. Distribution of jars and lid liners is shown in Table 9.

Unidentified container glass (N=2,706). Unidentified container glass was the largest group of glass artifacts from the site. This category includes glass fragments that could not be positively identified as glassware or bottles and is enumerated in Table 10. Over half the unidentified container glass (1505 sherds) was found in the east pen area. The midden area yielded 460, the smokehouse area 333, and the west pen area, 413.

Almost two-thirds of the unidentified container glass, (1,739) was clear, indicating a probable twentieth century date. The high concentrations of container glass in the areas around the structure indicate extensive use of glass vessels in these

Table 9. Jars and lidliners.

prov	jar	lid liner	prov	jar	lid liner
East Pen area			Midden area		
102S	-	-	122L1	1	-
103L1	3	-	123L2	3	-
104L2	-	-	124L3	-	-
105L3	1	-	125L4	-	-
106L3a	1	-	126L1	1	-
107L4	-	-	127L2	-	-
108L5	1	-	128L3	1	-
113L1	13	-	129L4	-	-
114L2	-	3	135L1	-	-
115L3	-	4	136L2	-	-
116L4	-	-	140L1	1	-
118L1	13	-	141L2	2	-
119L2	-	3	142L3	-	-
120L3	-	2	144L1	-	2
			146L3	1	-
Total	32	12	Total	11	2
Smokehouse area			West Pen area		
109L1	-	-	101L1	13	4
110L2	2	2	131L1	3	-
111L1	-	19	132L2	1	6
112L2	4	4	133L3	-	-
Total	6	25	Total	17	10
Site					
Total	65	49			

Table 10. Unidentified container glass.

prov	M	Cl	Op	Lg	Lb	Aq	Ab	Am	Ol	Y	Ot	Tot
East Pen area												
102S	-	-	-	-	-	-	-	-	-	-	-	0
103L1	-	43	1	-	-	1	3	-	-	-	22	70
104L2	-	18	-	2	-	-	-	-	-	-	-	20
105L3	-	23	-	1	-	1	1	1	1	-	-	28
106L3a	-	37	1	3	-	1	2	1	-	-	-	45
107L4	-	23	1	3	-	-	-	1	-	-	-	28
108L5	-	3	-	2	-	-	1	-	-	-	-	6
113L1	-	311	7	6	2	12	15	3	1	-	17	374
114L2	-	64	4	10	13	29	13	6	1	2	7	149
115L3	-	55	-	12	9	56	14	6	1	-	2	155
116L4	2	4	-	-	7	2	-	-	-	-	3	18
117L4a	-	-	-	-	-	-	-	-	-	-	-	-
118L1	-	265	8	23	-	2	11	2	-	-	20	331
119L2	-	60	-	1	-	-	2	-	-	-	-	63
120L3	-	77	3	30	-	31	15	15	-	-	2	173
121L4a	1	7	-	2	-	24	-	2	1	-	-	37
139L4	-	6	-	2	-	-	-	-	-	-	-	8
Total	3	996	25	97	31	159	77	37	5	2	73	1505
Midden Area												
122L1	1	7	-	-	-	-	-	-	-	-	-	8
123L2	2	27	-	2	1	1	6	3	-	-	-	42
124L3	-	16	-	1	-	1	5	2	-	-	-	25
125L4	1	5	-	1	-	2	-	-	2	-	-	11
126L1	1	11	-	2	-	1	2	1	-	-	-	17
127L2	3	19	-	4	-	1	3	1	1	-	-	32
128L3	-	20	-	1	-	-	-	-	1	-	-	28
129L4	-	4	-	2	2	-	1	1	-	-	-	10
135L1	1	47	-	13	1	1	19	-	-	-	-	82
136L2	-	-	-	-	-	2	2	-	4	-	-	8
140L1	-	17	-	3	2	3	11	-	-	-	2	38
141L2	-	52	2	8	-	3	18	1	4	-	-	88
142L3	-	6	-	-	-	-	1	-	2	-	-	9
144L1	1	21	-	1	-	4	12	3	3	-	-	45
146L3	1	8	-	2	-	2	4	-	-	-	-	17
Total	11	260	2	40	6	21	84	12	17	0	2	455

areas, particularly during the later occupations. The very high number of soda bottles in these areas may be from discard from the front porch.

ARCHITECTURE GROUP

The architecture group includes nails, window glass, construction hardware, bricks, mortar, and wooden, stone, and any other types of construction materials (N=3,933).

Nails

Percentages of wrought, cut and wire nails from the different areas of the site were tabulated and compared (see Table 11). Nails may be used as a general temporal bracketing tool because of changes in manufacturing technology. The earliest nails were wrought. Cut nails were produced as early as the 1790s but the transition from wrought to cut nails occurred over a period of time, from 1790 to 1830. Wrought nails continued to be used until at least 1820. Even after cut nails had become more widely accepted for general use, wrought nails were still used for certain tasks where nails had to be clinched (Nelson 1968).

Wire nails were manufactured as early as 1850 in America, and earlier in Europe (Nelson 1968). They were not perfected in America until the 1860s and 1870s, and did not become the dominant construction nail type until the 1890s (Nelson 1968). Cut nails are still used for specifics such as flooring.

Table 11. Nails.

prov	Unid.	Wire	Cut No hd	Cut M. hd	Cut H. hd	Wrt	Total
East Pen area							
102	1	3	-	-	-	-	4
103	14	8	-	-	-	-	22
104	22	7	-	-	-	1	30
105	32	3	-	-	-	-	35
106	69	-	-	-	-	-	69
107	58	-	-	-	-	-	58
108	15	-	-	-	-	-	15
113	109	11	5	-	-	-	125
114	120	4	2	-	-	-	126
115	130	1	-	-	-	-	131
116	74	-	-	-	-	-	74
117	18	-	1	-	-	-	19
118	18	36	1	-	-	-	55
119	51	5	1	-	-	-	57
120	59	7	-	-	-	-	66
121	70	-	1	-	-	-	71
139	-	-	-	-	-	-	0
153	-	-	-	-	-	-	0
Total	860	85	11	0	0	1	957
Smokehouse area							
109	10	14	2	-	-	2	28
110	2	14	11	-	-	-	27
111	5	11	-	-	-	-	16
112	41	18	1	-	-	2	62
Total	58	57	14	0	0	4	133

Table 11 (Continued)

prov	Unid.	Wire	Cut No hd	Cut M. hd	Cut H. hd	Wrt	Total
Midden area							
122	17	2	1	-	-	-	20
123	33	7	1	-	-	2	43
124	34	4	5	-	-	-	43
125	18	1	-	-	-	-	19
126	11	3	-	-	-	-	14
127	23	9	10	-	-	5	47
128	31	1	-	-	-	-	32
129	19	2	2	-	-	1	24
135	16	35	-	-	3	2	56
136	24	-	-	-	-	-	24
140	9	1	-	-	-	-	10
141	51	7	7	-	-	-	65
142	1	3	-	-	-	-	4
143	-	-	-	-	-	-	0
144	8	5	-	5	-	3	21
146	7	2	3	-	-	-	12
Total	302	82	29	5	3	13	434
West Pen area							
101	21	25	-	-	-	4	50
131	4	29	1	-	-	-	34
132	-	-	-	-	-	-	0
133	19	3	1	-	-	-	23
134	8	-	-	-	-	-	8
Total	52	57	2	0	0	4	115
Site							
Total	1272	281	58	5	3	26	1645

Key

Unid.=unidentified nails

Cut no hd.=cut nails without heads

Cut m. hd.=cut nails with machine applied heads

Cut h. hd.=cut nails with hand applied heads

Wrt.=wrought nails

Although 77% of the nails recovered at the Carmichael Inn site were too badly rusted to be identified as to type, 373 were identifiable, and their distribution is of interest, although they do not provide a great deal of information. If the structure that was formerly on the Carmichael Inn site was unavailable for inspection and had to be studied purely on the basis of the nails and window glass in the archaeological record, one would have quite a different idea of the time frame of construction and of the building type. Fortunately, this is not the case. Few nails were probably used in the construction of the first log pen, and the ground floor addition to it. The early window frames were installed with wooden pegs rather than nails. Nails were used for the ceiling, wall board and woodwork, and for applying the flooring. Later when the siding was put on the outside of the structure, the full length front porch added, and the back porch and shed addition (no longer in existence) added, many nails were used, mostly wire types. Thus it is not particularly remarkable that the site is littered with nails, 75% of the identifiable ones being wire nails. About 18% (66) of the identifiable nails are cut nails, and 58 of these have heads which cannot be distinguished as machine applied or hand applied. Five cut nails are machine headed and five are hand headed. Almost 7% of the identifiable nails are wrought.

Over half (58%) of the total nails recovered were found in the east pen area. About one fourth (26%) of the total nails

were recovered from the midden area. About 7% of the total nails were recovered from the west pen area, and 8% from the smokehouse area.

Over half the identified cut nails were recovered from the midden area, mostly in horizon two. These nails were most popular from 1820 to 1890. Half the identified wrought nails on the site were also recovered in the midden area, in horizon two. These were most widely used before 1820. Twenty-nine percent of the wire nails on the site were recovered in the midden area, from horizons one and two. Wire nails became most popular after 1890. Twenty-four percent of the unidentified nails were recovered in the midden area.

It is believed that the large concentrations of wire and unidentified nails in the east pen area are the result of the many modifications that have been made to the structure. The low concentrations of cut and wrought nails around the building may be a result of the practice of yard sweeping which would have cleared away these and any other architectural debris. The presence of one fourth of the total count of nails in the midden area was a surprise, although it may again be the result of yard sweeping and secondary refuse deposition, or some other discard pattern.

Window Glass

Roenke (1978) has studied fluctuations in window glass thickness over time in an attempt to develop a dating tool for

nineteenth century archaeological sites. As the nineteenth century progressed, changes in manufacturing technology, trade and economy facilitated the production of thicker window glass (Roenke 1978). Although his work was a regional study in the Pacific Northwest, the same general trend toward an increase in thickness of window glass over time is thought to occur in the eastern United States.

Roenke warns that data on window glass thickness does not provide precise dates for site occupation, and these data should be used to supplement other artifact chronologies and historical accounts (Roenke 1978). Roenke found that in the Pacific Northwest the thinner, early window glass generally less than 0.065" (or 1.65mm) thick was produced before 1855, and the thicker glass which was 0.065" or thicker was produced after 1855, as a general rule. Of course window glass thickness may vary, even within a single pane, particularly in older glass.

Window glass from the Carmichael Inn site was measured and tabulated (see Table 12). Predictably, most of the window glass on the site was found in areas closest to the structure. The east and west pen areas produced 1,775 pieces, or 94.7% of the total window glass recovered on the site. A total of 1,556 pieces of window glass was recovered from the east pen area, and 19% of these (299) were 1.6mm or less in thickness. All the thinner window glass in this area came from horizons two and three.

Table 12. Window glass thickness by site area.

prov	<1.3	1.4- 1.6	1.7- 1.9	2.0- 2.2	2.3- 2.5	>2.6	Total
East Pen area							
102	0	0	0	9	48	0	57
103	0	0	1	105	13	2	121
104	0	0	0	9	22	2	33
105	0	1	1	4	24	5	35
106	0	2	1	16	59	7	85
107	2	2	5	6	101	6	122
108	1	0	1	2	2	1	7
113	0	0	13	30	111	16	170
114	7	43	71	114	92	29	356
115	58	55	67	86	49	53	368
116	29	48	9	3	5	0	94
117	39	5	1	0	0	0	45
118	0	0	1	5	6	3	15
119	0	0	0	0	0	0	0
120	2	5	8	9	19	4	47
121	0	0	0	0	0	0	0
153	0	0	0	0	1	0	1
Total	138	161	179	398	552	128	1556
Midden area							
122	0	0	0	0	0	0	0
123	0	0	0	0	1	2	3
124	0	0	2	2	2	1	7
125	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0
127	0	0	2	0	1	2	5
128	0	2	1	1	0	0	4
129	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0
141	0	1	2	1	3	0	7
142	0	0	0	0	0	0	0
144	0	0	0	1	2	0	3
145	0	0	0	0	0	0	0
146	0	1	0	0	1	0	2
Total	0	4	7	5	10	5	31

Table 12 (Continued)

prov	<1.3mm	1.4- 1.6mm	1.7- 1.9mm	2.0- 2.2mm	2.3- 2.5mm	>2.6mm	Tot
Smokehouse area							
109	1	6	7	7	24	11	56
110	0	2	1	5	4	0	12
111	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0
Total	1	8	8	12	28	11	68
West Pen area							
101	2	7	18	56	25	9	117
131	2	1	5	15	8	4	35
132	1	2	12	7	27	1	50
133	1	2	2	6	1	1	13
134	3	0	1	0	0	0	4
Total	9	12	38	84	61	15	219
Site							
Total	148	185	232	499	651	159	1,874

The west pen area yielded 219 pieces of window glass, 21 of these being 1.6mm or less in thickness. The thinner window glass in this area was found in horizons one and three. The smokehouse area yielded 68 pieces of window glass, eight of them being 1.6mm or less in thickness. The midden area had only 31 pieces of window glass, four of them 1.6 mm or less in thickness.

These data support the rather obvious fact that construction activities occurred in the east and west pen areas. Although a structure is known to have existed in the smokehouse area, the archaeological presence of window glass is minimal. It is probable that the smokehouse had no windows and therefore not much window glass was present in the area. No structural remains were recovered in the midden area and the low incidence of window glass in this area further supports the absence of any construction there.

Since the site was continuously occupied for over 180 years, mean window glass thickness is not particularly meaningful. In most areas where quantities of early window glass (less than 1.6mm) were recovered, an equal or greater amount of window glass 1.7mm thick or thicker was also recovered. One exception was in the east pen area, in horizons two and three, just outside the gable end door of the structure. Here, 121 pieces of window glass equal to or less than 1.6mm thick were recovered, and 18 pieces of window glass equal to or greater than 1.7mm thick were recovered. These deeper horizons may have been the only ones

that did contain early thin window glass, were sealed soon after deposition and not disturbed by construction or other activities to any great extent.

The presence of fairly large amounts of early thin window glass in the lower horizons near the gable end door is of more than passing interest. Ceramics and bottle glass recovered from these same proveniences date to the mid-nineteenth century and later. Since the window glass predates the other artifacts in the unit, it is likely that the east pen, complete with thin glass in the windows, was standing for some time during the early 19th century, and that the gable end door was not cut until 1850 or later. Once the door was cut through, refuse such as broken ceramics and bottles was discarded just outside the doorway, mingling with the thinner early window glass whenever a window in this area was broken. In any case, the data on window glass thickness around this location indicates a pre-1855 date for construction of the east pen. This date is well supported by other artifact data and architectural detail.

FURNITURE GROUP

Ten artifacts from the furniture group were recovered at the Carmichael Inn site.

Door Latch

One metal part of a door latch from the east pen area, outside the rear door, was recovered. Since this rear door area

was disturbed by construction activity, horizons could not be defined.

Clock Parts

Three gears from alarm clocks were found in units in the east pen area, outside the front and east end doors in horizons two and three. A brass clock gear was found in the east pen area in horizon two, and a metal spacer from a clock was found in the smokehouse area in horizon two.

Butt Hinge

A small iron butt hinge (1" long) was found in the unit outside the east end door of the structure, in horizon two. This was probably from a cabinet door.

Brass Plate

One small (1" long) brass plate inscribed with the patent date 1907 was found in the unit outside the east rear door in a construction-disturbed stratum.

Doorknob Parts

Two doorknob parts from one doorknob were found in the west pen area in front of the structure in horizon one. The size of these parts indicates they were probably used on a small door to a cabinet or closet.

ARMS GROUP

Thirty artifacts from the arms group were recovered. These include bullets, cartridges, gunflints, a powder measure and pieces of lead sprew.

Lead Sprew

Two pieces of lead sprew were found in the smokehouse area, one each in horizons one and two. One was found in the east pen area in horizon two, and two were found in the midden area in horizon two.

Gun Flint

One honey-colored (French type) gunflint was found in the midden area in horizon one.

Conical Shot

One .32 caliber conical shot was found in the smokehouse area in horizon two. One .44-.55 caliber "minie ball" with three grooves on the base was found in the midden area in horizon one. The caliber was approximated due to condition of the artifact. This shot type dates to the Civil War period.

Brass Cartridges

Seventeen .22 caliber brass cartridges were recovered from the site. Five were from the west pen area, nine from the east pen area, one from the midden area and two from the smokehouse

area. Three .38 caliber brass cartridges were recovered from the east pen area, and one from the smokehouse area.

Powder Measure

One powder measure was recovered from the walls of the structure during dismantling. The measure was made from an animal horn and has a carved chamber from which it may have been suspended by a thong.

PERSONAL GROUP

Personal items dating to the nineteenth century and earlier are included in this group. Ten personal artifacts were recovered.

Slate Fragments

Slate fragments were found in the smokehouse, (3); east pen, (3); and midden (2) areas. All were recovered from horizon two. These may have been parts of slates used for schoolwork or other writing.

Watch Parts

One brass watch fob with the attached outer casing of the watch was found in the east pen area, in horizon two, in front of the structure.

Silver Ornament

One small silver decorative item (about 3/8" diameter) was found in the midden area in horizon one. This item is a flat disc, with a hole in the center, as if it could have been sewn or tacked onto another item for decoration.

CLOTHING GROUP

Seventeen artifacts from the clothing group were recovered. These include buttons, buckles and grommets.

Grommets

Both metal grommets, probably from shoes, were found in the smokehouse area in horizons one and two.

Buttons

Sixteen buttons were recovered, 15 metal and one bone. The bone button has four holes in the depressed center and was recovered in the east pen area. This button type dates from about 1800-1865 and was often used on underwear or trousers (South 1964: 121).

Four of the metal buttons recovered have a depressed center with four holes. Three were found in the east pen area, and one in the midden area bearing the words, "Extraordinary Quality". Metal buttons with four holes in the depressed center were popular from 1800 to 1865 and were often used as shirt buttons (South 1964: 124). Nine of the buttons are the three piece metal

type with attached back loop fasteners. Two of these were recovered from the smokehouse area from horizon one, and one from horizon two. Two are from the construction disturbed area in the east pen area, three are from horizon two in the east pen area, and one is from horizon one. The midden area yielded two 3-piece metal buttons with back loop fasteners, one from horizon one and one from horizon two. One metal button is rusted to such an extent as to make distinguishing the type impossible. This button was recovered in horizon two in the smokehouse area.

Buckle

One small, 1/2" square, lightweight, yellow metal buckle was recovered in the west pen area in horizon three.

ACTIVITIES GROUP

Tobacco Pipes

Four tobacco pipe fragments were recovered from the Carmichael Inn site. One kaolin pipe stem was recovered from the interface between horizons two and three in the east pen area, outside the gable end door.

The other three pipe fragments were found in the midden area. One glazed molded redware fragment of a pipe bowl was recovered from horizon one. Two fragments of two different grey earthenware stub stemmed pipes were recovered from horizon two.

Toys

Toys recovered from the Carmichael Inn site included marbles and one doll part. Four clay marbles, one glass marble, and one blue glazed ceramic marble were recovered from the site. Two unglazed clay marbles from the east pen area were recovered in horizon two. Two unglazed clay marbles were recovered from the house area, one bearing traces of green paint. One green glass early twentieth century marble was recovered from a construction disturbed stratum in the east pen area. One ceramic glazed marble was recovered in the walls of the east pen during the dismantling of the Inn.

The one hand-painted porcelain doll arm was recovered from horizon two in the east pen area. Porcelanous arms and legs on dolls are rare before 1860 and most date to after 1880 (Hume 1970: 317).

Stable and Barn

The stable and barn group includes all artifacts related to the operation of transportation vehicles such as carriages and wagons, and to the care and maintenance of horses and other livestock.

Buckles

Four rather heavy, rectangular buckles were recovered at the Carmichael Inn site. These were probably associated with

harnesses or other horse tack. One 1" long buckle and three 2" long buckles were recovered in horizon two in the east pen area.

Strap Fastener

One metal strap fastener was recovered in the midden area in horizon two.

MISCELLANEOUS HARDWARE

This class includes metal artifacts that may actually be associated with the architecture or the stable and barn group. Forty-eight artifacts of miscellaneous hardware were recovered.

U-Staples

Thirteen U-staples were found in the east pen area, five in the construction disturbed strata, and nine in horizon two. Three were found in the smokehouse area in horizon two. These staples could have been used to fasten a wire fence to a fence post, or any fairly small item to a wooden surface.

Wires

Fifteen pieces of wire were recovered, seven from the smokehouse area, 10 from the east pen area, and five from the midden area. All were in horizon two.

Fence Clips

Three fence clips were recovered, two from the east pen area and one from the midden area.

Hook

One 3" long heavy metal hook was recovered from the east pen area in horizon one.

Chain

One heavy metal chain with two inch long links was found in horizon two in the east pen area. The chain is approximately 15 inches long. One individual link (matches those in the chain) was recovered in horizon two (in a nearby excavation unit) in the east pen area.

Bolts and Washers

One large hexagonal bolt was found in horizon two of the east pen area. Two metal washers were found in horizon one of the smokehouse area.

FAUNAL GROUP

Of the 391 faunal elements recovered at the Carmichael Inn site, 195 or about half could be identified as to species. These included ten species of mammals, two of birds, one turtle, and five species of molluscs. Approximately 62% of the identified materials represent domestic animals such as pig, cow, and sheep, approximately 23% represent invertebrates, about 4% are birds, 7% small mammals, and 2% large wild mammals such as deer, and 2% represent reptiles. Frequency of faunal material by species is given in Table 13.

Distribution of Faunal Material

Pig (*Sus scrofa*) (N=117).

Over half the identified faunal remains (59%) recovered were from pig. About three-fourths of these (85) were found in the midden area, 84 were teeth, and one was a metapodial. This could be expected in a discard or butchering area. The actual count of pig remains in the midden area may be quite a bit higher, since the "indeterminate large mammal" count for this area is so high--37% of the faunal remains in the midden area; a number of these may be pig. About one-fourth (29) of the pig remains were found in the east pen area. These included 11 teeth and six foot bones in horizon three, five vertebra in horizon one and one in horizon two. Five pig rib fragments were found in horizon two, and one in horizon one of the east pen area. Although some persons ate pig feet and some persons made hogshead cheese, sometimes these parts of the animal were discarded during the butchering process. The vertebrae and ribs probably represent "better" cuts of meat, such as spare ribs and tenderloin. The east pen area yielded 23% of the pig remains from the site.

The west pen area yielded less than one percent of the pig remains from the site and the smokehouse area, less than two percent.

Table 13. Frequency of faunal material by site area.

	East Pen	West Pen	Smokehouse	Midden	Total
Cow	4	0	0	1	5
Pig	29	1	2	85	117
Artiodac.	1	0	0	2	3
Deer	0	0	0	1	1
Cat	1	0	0	0	1
Rabbit	5	0	0	0	5
Squirrel	2	2	0	0	4
Rat	2	0	0	0	2
Ovis	0	0	0	1	1
Groundhog	0	0	0	1	1
Turtle	4	0	0	0	4
Chicken	7	0	0	0	7
Bob-white	1	0	0	0	1
Ind. Bird	16	3	2	1	22
Ind. Vert.	13	2	0	9	24
Ind. Mam.	7	4	1	13	25
Lg. Mam.	36	3	2	79	120
Land Snail	4	9	5	9	27
Freshwater gastropod	5	4	0	0	9
Freshwater bivalve	4	0	1	4	9
Ind. bivalve	0	0	0	5	5
Total	141	28	13	211	391

Cow (*Bos taurus*) (N=5).

Only 2.6% of the identified faunal remains were identified as cow. Four of these were in the east pen area, all shoulder bones, recovered from horizon one. The one cow bone from the midden area, found in horizon two, was a skull part, possibly the discarded remains from butchering.

Sheep/Goat (*Ovis*) (N=1).

The one *Ovis* faunal element was recovered in the midden area, in horizon two, and was a tooth, again possibly the remains of butchering activities, or discard from another area.

Artiodactyla (N=3).

Artiodactyla is the order of mammals including sheep, pigs, goats, deer and others with an even number of toes. The order was represented on the Carmichael Inn site by three tooth fragments, one in the east pen area, and two in the midden area, all three being from horizon two.

Deer (*Odocoileus virginianus*) (N=1).

White-tailed deer was represented by one heavily worn premolar in the midden area, in horizon two.

Small Mammals (N=12).

The small mammals include both possible food species and commensal species. Eastern cottontail rabbit (*Sylvilagus floridanus*) was represented by three ischium fragments (pelvic

bones) and a tibia in the east pen area, in horizon two. Squirrel (Sciurus carolinensis) was represented by an ulna in horizon one, and a mandible in horizon two in the east pen area, and by a femur and a mandible in the west pen area in horizon one. One rat (Rattus) femur, and one rat tibia were found in the east pen area in horizons one and two. One cat (Felis domesticus) humerus was found in the east pen area between horizons two and three. One groundhog (Marmota monax) mandible was found in the midden area, in horizon one.

Turtle (Chelydra serpentina) (N=4).

Four marginal bones from a snapping turtle were found in the east pen area in an area disturbed by construction.

Birds (N=30).

Chicken (Gallus gallus) was represented by seven bones in the east pen area. These included fragments of a sternum (breastbone), two humerii, and a carpometacarpus from a disturbed area horizon one, and two radii and a coracoid from horizon one.

Bob white (Colinus virginianus) was represented by one ulna in the east pen area in horizon two.

Indeterminate birds were represented by 22 fragments. Sixteen of these were in the east pen area, three in the west pen area, two in the smokehouse area, and one in the midden area; almost all were in horizon two.

Molluscs (N=50).

The molluscs included land snails, freshwater snails, freshwater bivalves and indeterminate bivalves. This included two species of freshwater bivalves (N=9), two species of freshwater gastropods (N=9), 27 land snails, and five indeterminate bivalves. Almost two-thirds (N= 9) of the bivalves were recovered from the midden area, four from the east pen area, and one from the smokehouse area. Land snails were present in all areas, and freshwater gastropods were found in both the east (5) and west (4) pen areas.

Body Part

About 19% (75) of the total faunal materials recovered could not be identified as to body part. Over half of this unidentified group was found in the midden area. This is not surprising since much of the refuse in this area had been fragmented into very small pieces.

Skull fragments, including teeth, make up over 29% of the total faunal material. Most of these skull parts, (87%) (101 fragments), were recovered in the midden area. Twelve were recovered in the east pen area, two in the smokehouse, and one in the west pen area.

Feet and lower leg bones represent 4% (14) of the faunal elements that were identifiable as to body part. Thirteen of

these were recovered in the east pen area and one in the midden area.

Long bone fragments represent 23%, (90) of the faunal materials recovered. Over half these, 51%, were found in the midden area. The east pen area yielded 37% (33) of the long bone fragments, the west pen had 10%, and the smokehouse 2%.

Shoulder bones represented only 1% (5) of the faunal total. All five of these were found in the east pen area, four in the construction disturbed area, and one in horizon one. Three pelvic bone fragments (rabbit) were found in the east pen area in horizon two. This is less than 1% of the site faunal total. Vertebra fragments comprise 3% (13) of the site total. Almost all of these, (11) were found in the east pen area, eight in horizon two, and three in horizon one. One was found in the west pen area in horizon one, and one in the midden area in horizon two. Almost 7% of the total was rib fragments. Twenty-five of these were found in the east pen area, one in the west pen area and one in the midden area.

Two fragments of eggshell were recovered in the smokehouse area. This represents less than 1% of the total faunal material recovered.

Shells of gastropods and bivalves comprise almost 13% of the site total faunal material. This includes 27 land snails, nine freshwater snails, nine fresh water bivalves, and five indeterminate bivalves. While the gastropods are probably

incidental inclusions in the archaeological record, the bivalves may have been used as a food source, although they may have been collected for some other purpose such as button making.

Interpretation of Faunal Remains

Over one third the faunal material recovered at the site (36%) was found in the east pen area, and over half (54%) was found in the midden area. The smokehouse area yielded 3%, and the west pen area, 7% of the total. Based on the ceramic and faunal distribution, it is believed that the east pen area was the primary food preparation and consumption area throughout the historic occupation of the site. The midden area is believed to have been a discard area during the early occupation of the site, approximately 1800 to 1840 or 1850. Based on this information, the west pen and smokehouse areas were not used for food preparation, consumption, or regular discard. Although each of these areas yielded a small percentage of the site faunal material, several contributing factors can help to explain this. Land snails were included in the faunal material, and these account for about one-third of the fauna in both the west pen and smokehouse areas.

It is overwhelmingly apparent that pork formed an important part of the diet at the Carmichael Inn site. Pork is the most heavily represented animal food on the site. This is not surprising. Historic and ethnographic sources report that pork

was the most commonly eaten domestic animal on residential and tavern sites, at least for the lower and middle classes in the southeastern United States. One traveler remarked on the daily fare he encountered in rural taverns in the Southeast during the early nineteenth century, "In a new country pork is more easily raised than any other meat, and the Americans eat a great deal of pork, which renders the cooking in small taverns very greasy" (Marryat 1839: 108). Other sources also indicates that the nineteenth century southern diet was heavily dominated by pork (Hilliard 1972: 92).

Due to the continuing occupation of the site, and the formation processes that impacted the east pen area, these materials recovered there cannot be absolutely identified with any specific occupation. It is thought that they probably correlate with the occupations from 1850 and later, since this is the time frame identified with most artifacts found in this area of the east pen. Twenty-three percent of the pig remains were recovered in this area.

The high incidence of teeth and skull fragments in the midden area may indicate that this was a butchering area, or simply an area where the refuse from these activities was discarded. The midden area yielded over half (54%) the faunal material recovered from the site. It is believed that this area was receiving erosional wash from either a secondary refuse disposal area, or perhaps the material from the sweeping and clearing around the

east pen of the structure, where food preparation, possibly butchering and consumption activities were being carried out.

About 35% of the total faunal material was recovered in the east pen area. It has already been determined that this was an area of food preparation and consumption, based on ceramic distribution. The west pen area yielded 7% of the total faunal material, and half of this was in the form of bivalves and gastropods. The smokehouse area yielded less than 4% of the site total faunal material.

It is notable that 64% of the bivalve remains were recovered in the midden area where over half the faunal material on the site was found. This could be an indication that these molluscs were used as food, and thus the shells discarded with the other food waste. However, the molluscs may have been utilized for some non-food related activity and the shells simply discarded with other odoriferous food refuse in an area away from the structure.

Fifteen faunal remains were burned. Twelve of these were recovered in the midden area, one in horizon one, and eleven in horizons two and three, and two in a disturbed strata of the east pen area. The burned bone in the midden area represented indeterminate large mammal (N=7), pig (N=3), indeterminate vertebrate (1), and indeterminate mammal (1).

The burned bone in the east pen area represented artiodactyla and squirrel. The presence of burned bone from

potential food animals in these areas probably indicates food preparation and consumption activities, or the refuse from these activities which may have been swept into the fireplace and later discarded with the ashes.

A total of 43 or 11% of the total faunal elements exhibited identifiable butchering marks (see Table 14). These were described as knife cuts, saw cuts, or chop cuts. Knife cuts were found on 27 or 7% of the total faunal materials. Saw cuts were found on 4, or 1% of the materials, and chop cuts were found on 12, or 3% of the materials. Of the total 43 bones exhibiting butchering marks, 31 or 72% were found in the east pen area. Six, or 14% were found in the west pen area, and six were found in the midden area.

Table 14. Modification of faunal materials.

Modification	N	% of total
Saw cut	4	1.02
Knife cut	27	6.84
Chop cut	12	3.05
Burned	15	3.79
Gnawed (rodent or dog)	10	2.54

Table 15. Intersite faunal comparison.

	Carmichael Inn	Castalian Springs	Netherland Inn	James White	Gibbs House
Cow	2.6	18.2	12.2	25.3	11.0
Pig	60.0	55.8	52.9	66.9	62.0
Chicken	3.5	6.9	4.8	0.2	16.0
Total Ident.	195	1558	435	526	137
Total Faunal	391	6443	1025	1665	863

Pig remains represented over 50% of the total identified (to species level) faunal material at all of the five sites compared, the range being from 52.9% at the Netherland Inn site to 66.9% at the James White Second Home site (see Table 15). Cow remains accounted for much lower percentages at all of the sites, ranging from 2.6% at the Carmichael Inn to 25.3% at the James White Second Home site. Chicken comprised the lowest percentages of the three domestic animals, with percentages ranging from .2% at the James White Second Home site to 6.9% at Castalian Springs. The James White Second Home site has the highest percentages of both cow and pig remains with the cow being substantially higher than any of the other sites.

When studying these intersite comparisons, differences in sample size, and in different types of areas excavated must be considered. For example, at Castalian Springs, excavations included areas known to have been slave quarters, guest houses, a

school, an area near the mansion, and a trash pit. Excavations at the Netherland Inn also included a wide variety of areas including a stable, garden walkways, a trash pit and a fireplace. Excavations at the James White Second Home site included a fence row, the area around a residence, and a sorghum shed and furnace area. Excavations at the Carmichael Inn site included the area around the inn, a midden area, and the area under the inn.

One major differentiating factor was the excavation of large sealed trash pits at the Castalian Springs site and the Netherland Inn site. While such features may or may not have been present and undiscovered on the other three sites, and while they may or may not be distinctive for large public service establishments, they undoubtedly alter the composition of the recovered faunal data.

At Castalian Springs a large sealed refuse pit contributed 905 or 58% of the total 1558 identified faunal remains. The Netherland Inn excavations also included a trash pit, which yielded 292 or 67% of the total 435 identifiable faunal remains recovered. It appears that the inclusion of the faunal data from the refuse pits has several effects, the first and most obvious being that the sample size is increased. If these refuse pits simply altered the size, but not the composition of the faunal samples, then one could expect the percentages of the different species to remain fairly constant in proportion to one another. However, this is not the case.

The faunal material from the trash pit (Feature 12) at Castalian Springs accounts for 58% of the identifiable faunal material recovered on the site. Faunal material from this feature accounts for 63% of the pig remains, 89% of the cow remains, and 6% of the chicken remains. At the Netherland Inn the trash pit (Feature 13) accounts for 67% of the total identifiable faunal remains. This includes 84% of the pig remains, 68% of the cow remains, and 38% of the chicken remains.

At both Castalian Springs and the Netherland Inn, the inclusion of the faunal data from the trash pit greatly increases the percentage of pig remains in the total. At Castalian Springs only the percentage of cow remains is greatly affected by the inclusion of the refuse pit data. It is interesting that these two sites have the lowest percentages of pork remains, even with the inclusion of the trash pits.

If the refuse pits are simply characteristic of the public service hostelry establishments, the percentages of the different species may actually reflect ways that these inn and resort sites differ from residential sites. If, however, such trash pits exist unexcavated at any or all of the other sites, then the data under examination are not a truly representative sample of the faunal material at those sites. It is the opinion of this author that the large refuse pit is an identifying feature of the nineteenth century food-serving hostelry, and that the varying percentages of the cow, pig and chicken remains are a

result of the socioeconomic level of the site occupants and the type of activity (commercial and residential versus purely residential) on the site.

IX. TESTING THE PROPOSED HOSTELRY PATTERN

One of the predicted aspects of the Ridge and Valley rural nineteenth century inn was that inexpensive, sturdy, minimally decorated refined wares will be present in larger than average percentages on the inn site. For purposes of this work, minimally decorated wares include plain and edge decorated refined earthenware.

At the Carmichael Inn site, 50.8% of the total ceramics are minimally decorated refined earthenwares (see Table 16). Of this group, 440 or 78% were recovered from horizons two and three. In the east pen area, 186 minimally decorated ceramics were recovered, 77% of these were found in horizons two and three. Of the 38 minimally decorated ceramics in the west pen area, 58% came from horizon three. Of the 56 minimally decorated ceramics in the smokehouse area, 73% came from horizons two and three, and of the 134 in the midden area, 63% came from horizons two and three. The house area yielded 150 minimally decorated sherds, all from the one artifact bearing horizon there.

It is possible that the presence of plain ironstone sherds contributes substantially to the high percentages of minimally decorated ceramics. Since this ware has a median date of 1870 (Smith 1983), including it in the raw counts may distort the sample of early nineteenth century decorated wares. For this reason, the data on ironstone were removed and the sample of

Table 16. Minimally decorated ceramics by site area.

Area	East Pen	West Pen	Smokehouse	Midden	House
Total Ceramics	404	76	86	284	260
Minimally Decorated	*243	38	56	134	150
Horizon 1	43	18	15	50	N/A
Horizon 2	143 (77%)	20 (58%)	41 (73%)	84 (63%)	N/A
Minimally Decorated w/o ironstone	179	33	51	119	102
Horizon 1	41	13	14	44	N/A
Horizon 2	88 (49%)	20 (61%)	38 (75%)	82 (68%)	N/A

*57 sherds were recovered from the construction disturbed area of the east pen area.

minimally decorated wares retabulated. In only one area does this drastically reduce the percentage of minimally decorated wares recovered from horizons two and three. With the data on ironstone removed, the percentage of minimally decorated wares recovered in horizons two and three of the east pen area falls from 77% to 49% of the total for this area. In all the other areas the percentage of the total number of minimally decorated wares recovered from horizons two and three actually increases when ironstone is excluded from the count (see Table 16). The

horizon associated with the second half the nineteenth century and the twentieth century (horizon one) actually contains higher percentages of more elaborately decorated and therefore more expensive ceramics.

This pattern is of interest for a number of reasons. The less decorated the wares, the less costly, and so in some cases, the minimally decorated wares would be expected to correlate with a middle or lower socioeconomic level. This is notable because the Carmichaels were at their wealthiest (owned more land and slaves) during the early to mid-nineteenth century, the time periods that are associated with horizons two and three, where the less expensive, plainer wares were recovered. However, it is possible that these less decorated wares were the "business dishes", and were associated with the operation of the inn during this early time period. This does not conclusively prove that the Carmichael's operation of an inn determined their selection of largely plain wares, nor does it prove that a preponderance of minimally decorated ceramics is in fact a characteristic of the archaeological record of the early nineteenth century rural inn in the Ridge and Valley. However, it does lend some support to the idea.

It is possible that the greater percentages of the plainer wares recovered from horizons two and three are a result of the operation of an inn and the concomitant use of sturdy, inexpensive minimally decorated ceramics. However, other

explanations are possible. Due to the rural and somewhat isolated nature of the site it is possible that the finer, more elaborately decorated ceramics were not available to the site occupants during the early nineteenth century. The Carmichaels may not have had many opportunities to purchase fashionably decorated wares, although there are some handpainted and transfer printed wares on the site.

Often when decorated ceramic vessels are broken many of the resulting sherds are not truly representative of the vessels. For example, an annular ware decorated bowl will create many plain sherds when it breaks, even though it is a decorated vessel. In fact, the breakage of this bowl may produce more plain than decorated sherds, particularly if it is broken into many small pieces. Thus areas where there is a great deal of trampling and breakage may retain higher percentages of plain ceramics than protected areas.

It has been stated that the ceramics recovered in the house area were larger sherds, more readily identifiable as to vessel type. It should be noted that this area had more decorated wares, and the lowest percentage (39%) of minimally decorated wares. This may be a result of the structure shielding the archaeological record from trampling and other formation processes which break up decorated sherds and produce both plain and decorated sherds. Therefore, the higher percentages of minimally decorated wares in other areas of the site may be the

result of increased breakage of decorated ceramics and the creation of many plain sherds. Unfortunately, the fact that only one artifact bearing stratum exists in the house area prevents the differentiation of horizons one and two, and the possibility of associating the ceramics with specific periods of occupation, which might further clarify this pattern.

The distribution of minimally decorated ceramics raises some interesting questions. It is possible that these less decorated sherds associated with the early occupations of the site are a direct result of the operation of an inn. It is also possible that the pattern is a result of frontier living and few shopping alternatives, or of site formation processes.

A second aspect of the rural inn pattern being tested is the expectation of a substantial percentage of coarse wares on the site. The model proposes that coarse wares will account for 15% or more of the total ceramics count on sites which functioned as inns.

The coarse wares at the Carmichael Inn site account for 12.5% of the total ceramics. This does not fit the proposed pattern. However, when the different areas of the site are examined individually a different picture emerges (see Table 17). Coarse wares account for 10% or less of the ceramics in all areas except the midden area. Coarse wares represent almost one fourth of the ceramics here, and almost all were recovered from horizons two and three. While it cannot be determined with certainty,

the possibility exists that these coarse wares are a part of an archaeological pattern directly related to the activity of operating an inn.

Table 17. Refined and coarse ware distribution by area.

Area	Refined Wares		Coarse Wares		Total N
	N	%*	N	%	
East Pen	360	89.1%	44	10.9%	404
West Pen	69	90.8%	7	9.2%	76
Smokehouse	83	96.5%	3	3.5%	86
Midden	217	76.4%	67	23.6%	284
House	242	93.0%	18	7.0%	260

*Percentages refer to percent of all ceramics found in that specific area.

Serving vessels were expected to account for greater than 1% of the total ceramic assemblage at the Carmichael Inn site according to the proposed model. Serving vessels accounted for only 0.27% of the total ceramics at the Carmichael Inn site. Of the 353 identifiable vessel sherds, 0.84% (3) were from serving vessels. Taking the midden area ceramic assemblage separately, the sherds from serving vessels account for 0.6% of the total found in this area. Neither the total site ceramic assemblage nor the midden area ceramic assemblage fits the predicted pattern

of serving vessels accounting for more than 1% of the total ceramics.

Tobacco pipes were expected to account for greater than 0.1% of the total artifacts on the site. Only four pipe sherds were recovered, .05% of the total artifacts on the site. However, in the midden area, pipe fragments account for 0.2% of the 1483 total artifacts recovered.

A large secondary refuse deposit was not encountered at the Carmichael Inn site. Although the midden area is a secondary refuse deposit, the artifacts are too sparsely concentrated to be considered a refuse dump or pit. It has been posited that the midden area artifact distribution may be the erosional wash from such a refuse dump. The areas upslope from the midden were posthole tested and no concentrated refuse deposit was encountered. It is the opinion of this author that a large secondary refuse deposit does exist at the Carmichael Inn site and simply has not been located during excavations to date.

The Carmichael Inn site exhibited a great deal of refuse around the structure, as expected. However, most of these artifacts post-dated the mid-nineteenth century. It is possible that site formation processes such as construction, erosion and trampling are responsible for the absence of early nineteenth century materials around the Carmichael Inn itself. It is also possible that the low incidence of refuse materials around the structure is a part of the characteristic archaeological pattern

of the early nineteenth century rural inn. This is an interesting avenue for further study.

The Carmichael Inn was compared to Smith's Tennessee Domestic site Ceramic Ware Distribution pattern on several levels. The total ceramic percentages for the site were included and the percentages from the house and midden areas were each included separately. More intrasite comparisons for the Carmichael Inn site are included in Table 18. It is believed that the midden area is a more representative sample of the early Euro-American occupation of the site. Although this area is not actually a sealed deposit, it is the area least disturbed by the later occupations. The lowest percentages of ironstone and other modern wares were recovered here. The ceramic wares in the midden area included 3.2% porcelain, 73.2% refined earthenwares and 23.6% coarse wares, resulting in a 76.4% refined and 23.6% coarse wares, fitting solidly into the middle class with sites such as the Exchange Place in Sullivan County, on the residential scale. Other areas on the site include more material from later occupations and show a higher incidence of refined wares in proportion to coarse wares. This could indicate a raised socioeconomic status with the later occupations, but it could be the result of other factors, such as the operation of an inn.

Table 18. Smith's Tennessee domestic-site ceramic ware distribution.

East Tennessee Sites	Site Type and Social Status	Porcelain	Refined earthen ware	Coarse earthen ware
Ramsey House, Knox County, Dickson, 1974	late 18th c. upper class house, occup. into 20th c.	11.8%	79.1%	9.1%
Ramsey House, Knox County, National Heritage	kitchen area	9.0%	81.0%	10.0%
Ramsey House, Knox County Roberts, 1986	(same as above)	6.3%	74.5%	19.2%
Sam Houston Schoolhouse, Blount County Dickson, 1977	19th c. log school, also was private residence, ca. 1800-1930	11.5%	77.0%	11.5%
Carter House, Carter County, Smith, 1979	Late 18th c. "mansion" occup. until mid-20th c.	4.7%	83.2%	12.1%
Netherland Inn, Sullivan County, Benthall, 1973	Prominent 19th c. inn, used as multi-functional residence until mid-20th c.	6.4%	78.7%	14.9%
Exchange Place Sullivan County, Wentworth, 1973	19th c. "Frontier Plantation", most of sample from cook's cabin	1.6%	76.1%	22.3%
Davy Crockett Birthplace, Smith, 1980	ca. 1824-1892, middle-class farmer's log cabin site	0.6%	56.8%	42.6%
Davy Crockett Birthplace, Area C	ca. 1860-1943 middle-class farm house	0.0%	56.8%	43.2%
Roddy House, Knox County, Faulkner, 1986	early 19th c. middle class private residence until 1970	6.1%	74.6%	15.3%

Table 18 (Continued)

East Tennessee Sites	Site Type and Social Status	Por- celain	Refined earthen ware	Coarse earthen ware
Walker House, Knox County, Faulkner, 1985	early 19th c. middle class farmer's private residence	2.4%	89.4%	8.2%
Gibbs House Knox County, Faulkner, 1988	late 18th c. occup. to present middle class farmer's residence	1.2%	54.6%	44.2%
James White Second Home Site, Knox County Faulkner, 1984	late 18th - early 19th c. "plantation" farmstead	5.0%	83.3%	12.7%
Carmichael Inn, Loudon County, Wilson, 1988	Early 19th c. log structure, private residence and inn, occup. until 1973	4.0%	83.5%	12.5% *
Carmichael Inn, area under east pen of structure	same as above	4.2%	88.8%	6.9%
Carmichael Inn, midden area	associated with early to mid 19th c.	3.2%	73.2%	23.6%
Middle Tennessee Sites				
Hermitage, Davidson County, Main house bsmnt & kitchen Brown 1972	upper-class planta- tion mansion, 1822-1850's. home of Pres. Andrew Jackson. Minor occup. to 1890's.	30.7%	67.8%	1.5%
Castalian Springs, Sumner County, "School site" Smith 1975	19th c. mineral springs spa, log cabin used as guest cottage, dr's office, & school, ca. 1830-99	0.1%	95.5%	4.4%

Table 18 (Continued)

Middle Tennessee Sites	Site Type and Social Status	Porcelain	Refined earthen ware	Coarse earthen ware
Hermitage, Davidson County, Area A Smith 1976	log cabin complex, Jackson residence 1804-1820's, slave quarters 1820's-1850's	5.5%	86.4%	8.1%
Castalian Springs, Sumner County, Slave Cabin #2 Smith 1975	ca. 1830-1860 cabin one of several located west of spa inn	5.9%	85.6%	8.5%
Hermitage, Davidson County Area B Smith, et al	Brick cabins, slave occup. from 1830's, cont. black occup. to 1920's	4.8%	85.2%	10.0%
Castalian Springs Feature 12	Trash pit, late 1830's	17.4%	79.8%	2.8%

*Percentages do not add to 100 due to small component of unidentified wares.

With the development of industry and the mass production of ceramics, refined wares such as whiteware and ironstone became more readily available and affordable. Historical records do not indicate an increase in socioeconomic status for the Carmichael family. In fact, the 1874 court case of Hall vs. Carmichael mentions that James Carmichael, then living in the Carmichael Inn, had filed for bankruptcy in the early 1870s. Like many families in rural areas of the South, it appears that the Carmichaels had financial difficulties after the Civil War.

It is the opinion of this author that the higher percentages of refined ceramic wares in the east pen and house areas of the site are a result of the increased availability and affordability of these wares, the continuous occupation of the site for 160-170 years, and a change in discard patterns, rather than a move up the socioeconomic scale.

It is notable that the Netherland Inn was continuously occupied until the late 1960s and that over 15% of the total ceramic count from this site was ironstone or another recent ware (Benthall 1973). The Carmichael Inn site yielded a total of 19% ironstone. The ceramic comparison for the site total at the Carmichael Inn site of 87.45% refined wares and 12.52% coarse wares is quite similar to that for the Netherland Inn site, where 85.1% of the total ceramics were refined wares, and 14.9% were coarse wares. The Carter House, a "mansion" occupied during about the same time frame had a similar ratio, and was also

continuously occupied for over 150 years. These similarities may be more indicative of the effects of continuous site occupation well into the twentieth century than anything else.

The ceramic ware distribution at the Carmichael Inn site is remarkably similar to that of the James White Second Home site, and the Carter House site. All three sites have 4-5% porcelain, about 83% refined wares, and about 12% coarse wares. The James White Second Home site and the Carter House site were both occupied by upper-middle to upper socioeconomic level families. Both the Carmichael Inn and the Carter House sites were occupied well into the twentieth century, and this has no doubt contributed to the ceramic ware pattern for each site. Based on archival research and ceramic analysis, the Carmichael Inn site appears to have been occupied by persons in the upper-middle socioeconomic level (Wilson 1986; Groover 1988). When the total ceramic assemblage from the site is compared with Smith's Tennessee Domestic Site Ceramic Ware Distribution scale, the upper-middle level socioeconomic position is confirmed (see Table 18).

However, when the ceramic assemblage from the midden area alone is compared with Smith's scale, what one sees is a dramatic drop in socioeconomic level of the Carmichael Inn site. The midden area ceramic assemblage has ware percentages somewhat similar to those found at the Roddy House site, both having about 73-74% refined earthenwares, but the Roddy House site having

about 3% more porcelain, and the Carmichael Inn midden area having 8% more coarse wares. The Walker House site exhibits a higher percentage of refined wares, but less porcelain and much less coarse ware than the Carmichael Inn site midden area.

Robert's 1986 analysis of the Ramsey House ceramic assemblage produced some ceramic ware ratios which are surprising for an upper class site. Porcelain accounted for 6.3%, refined earthenware for 74.5%, and coarse wares, 19.2%. The two earlier assessments of ceramic data (admittedly smaller samples), had yielded ceramic ware ratios of about 10% porcelain, 80% refined earthenware and 9.5% coarse ware. Why then the change? It is possible that Robert's larger sample is more representative of the total ceramic assemblage on the site. It is also possible that Robert's sample, which includes the 1976 sample, contains more ceramics from the later occupations of the site. Robert's analysis yielded ceramic ware ratios not unlike those found in the midden area at the Carmichael Inn site.

The Gibbs House site was expected to have resembled the Carmichael Inn site a great deal more than it did. The two sites do have some characteristics in common, both were occupied from the late eighteenth century until past 1970, both Carmichael and Gibbs were substantial land owners and farmers. However, ceramics at the Gibbs House site were composed of 1.2% porcelain, 54.6% refined earthenware, and 44.2% coarse ware. The midden area at the Carmichael Inn site had 3.2% porcelain, 73.2% refined

earthenware, and 23.6% coarse ware. Archival research indicates that the Carmichaels owned a great deal more land than the Gibbs did, even during the late eighteenth century (Wilson 1986; Groover 1988). Traditional national lifeways may also have impacted the choice of ceramics. The Gibbs were of German ancestry and the Carmichaels were of Scotch-Irish ancestry.

The archaeological site that most closely matches the midden area at the Carmichael Inn site in ceramic ratio is the Exchange Place in Sullivan County. Both sites had 76-77% refined wares (porcelain and refined earthenwares combined) although the midden area had 3.2% porcelain and the Exchange Place had only 1.6% porcelain, and a slightly larger percentage of refined earthenwares. Both sites had 22-23% coarse wares.

It is thought that there may be some significance in the ceramic ware distribution pattern at the Carmichael Inn site, particularly in the midden area. The midden area is the only one to have greater than 3% porcelain as well as greater than 20% coarse wares. While a number of sites have higher percentages of porcelain (Roddy House, James White, Ramsey House, Hermitage, Castalian Springs), and some sites have higher percentages of coarse wares (Gibbs House, Davy Crockett birthplace), no site in this comparison has an equal or higher percentage of both porcelain and coarse wares.

Ceramic data from a few sites exhibit this same trend toward a moderate percentage of porcelain and a high percentage

of coarsewares. Robert's ceramic analysis from Ramsey house follows this trend with 6.3% porcelain, 74.5% refined earthenware, and 19.2% coarse ware. The Netherland Inn site ceramic assemblage shows a similar pattern with 6.4% porcelain, 78.7% refined earthenware, and 14.9% coarsewares.

This is an intriguing pattern, and it is tempting to interpret it as possible evidence of the operation of an inn. The fact that Robert's sample from the Ramsey House site exhibits the same general pattern is not entirely incongruous. Although the Ramsey House was a private residence, the public stature and popularity of the occupants drew many visitors and overnight guests. In fact, one of the ethnographic accounts of early travels through the Ridge and Valley includes amidst the description of various inns, a statement that the traveler "was kindly and comfortably entertained at Ramsey's excellent stone mansion" (Williams, ed. 1928: 312). Although purely speculation, it is possible that the frequent presence of overnight guests at the Ramsey House site contributed to the composition of the ceramic ware pattern found there, and caused it to resemble those found at inns in the area. Obviously, the operation of an inn contributed to the ceramic pattern at the Netherland Inn site.

CONCLUSIONS

The search for patterns in the archaeological record entails a complex set of assumptions, and several limitations. The

effects of a number of factors must be considered if valid pattern recognition or even pattern testing is to be possible. In this study, the proposed pattern is dependent on what sort of establishment was being run. Active operation of an inn, a ferry and stagecoach stop, a farm and a home were all carried out on the site or nearby. Attempting to discern a pattern resulting from any one of these activities involves the assumption that such activity actually was being carried out on a level sufficient to impact the archaeological record. The very brief historical documentation of the Carmichael's operation of an inn, ferry, stagecoach stop and farm left the author at a level of conjecture regarding the duration and magnitude of these business endeavors. This thesis proceeded on the assumption that the Carmichaels operated an inn during the early to mid-nineteenth century on a level that would be recognizable in the archaeological record. On the basis of archaeological work completed, this assumption was later revised.

The next level of assumption is that certain behaviors associated with the operation of an inn took place, creating recognizable archaeological patterns. These behaviors, particularly refuse discard behaviors, were the basis of the proposed hostelry pattern. Another aspect of the pattern was based on items that an innkeeper is thought to have owned, such as specific ceramic wares, types of wares, and types of vessels. While these assumptions may seem rather uncertain and difficult

to support, the testing of an inn model would be tremendously simplified if these were the only parameters being dealt with.

A number of formation processes affect the archaeological record and must be considered. These have a great deal to do with patterns that are created and the extent to which they are recognizable. Formation processes impacting the archaeological record at the Carmichael Inn were magnified by the continuous occupation of the site from the late eighteenth century through the 1970s.

Construction of porches, the second log crib, a cistern, a shed and outbuildings such as the smokehouse and chicken pen impacted the archaeological record. Most of these were also dismantled, causing further impact on the site.

Trampling of the site by humans and by stagecoach and wagon traffic was another formation process that affected the site. It is believed that sweeping around the inn impacted the archaeological record by removing, scattering and redepositing artifacts. Erosion and other natural processes such as freezing and thawing also affected the site.

Construction and trampling probably had several effects on the archaeological record. First, they redistributed artifacts on the site. In some areas, construction disturbed the soil strata, destroying archaeological context for artifacts found there. Secondly, these processes no doubt increased the amount of artifact breakage. This breakage increases the number of very

small ceramic sherds. The small size of the sherds has a significant effect on interpretation, making it less likely that specific vessel forms can be identified. As previously mentioned, the increased breakage also makes recognition of some decorated types impossible, and increases the count of undecorated ceramics. Overall, increased breakage has the effect of making ceramic identification and interpretation less accurate and less meaningful.

The continuous occupation has the effect of repeatedly subjecting the already disturbed archaeological record to more trampling, sweeping and construction and to different activities which may create additional archaeological patterns, often obscuring the earlier ones. The model for the hostelry pattern is unfortunately based on a number of unprovable assumptions. The research was also limited by a number of formation processes which had impacted the archaeological record. In spite of these limitations some valuable archaeological data were retrieved and some significant information obtained from these data.

The data from the Carmichael Inn site were found to support some components of the proposed hostelry model and to contradict other aspects of it. Data from the site as a whole were compared to the model and data from the midden area were compared also, as a separate group. The midden area is the least disturbed component of the site associated with the early to mid-nineteenth century when the Inn is thought to have been in operation.

The Carmichael Inn site did not yield the expected percentage of tobacco pipe fragments. The site had far fewer pipe fragments than expected, only 4, or .05% of the total artifacts recovered. Some of the comparative sites have also yielded surprisingly low numbers of pipe fragments. The James White Second Home site had only 13, or .09% of the total artifacts. The Castalian Springs site (Feature 12) had one pipe fragment, comprising 0.009% of the total artifact count, and the Netherland Inn site had 11, or .06% of the total artifact count. It is the opinion of this author that pipe discard patterns may be responsible for the low incidence of these fragments. It is also possible that cigars, which are not archaeologically visible, were the more popular smoking medium at the Carmichael Inn.

Expected percentages of serving vessels were not recovered at the Carmichael Inn site. It may be that the ceramic assemblage simply does not fit the expected pattern, or serving vessels may be represented by small sherds which are unrecognizable as to vessel type.

Another component of the proposed model which was not supported by this research was the presence of a large secondary refuse deposit. As previously stated, it is the opinion of this author that such a feature does exist and simply was not encountered. Although the results of archaeological investigations thus far at the Carmichael Inn do not support this

part of the model, they do not contradict it either. All that is known is that a large secondary refuse deposit does not exist in the areas that were archaeologically tested.

Percentages of minimally decorated wares dating to the early nineteenth century at this site support the theory that the rural nineteenth century inn in the Ridge and Valley might be archaeologically represented by a percentage of minimally decorated refined wares that is greater than or equal to 50% of the total ceramic assemblage. This is true for the total site assemblage and for the ceramic assemblages from all areas except the east pen area.

Percentages of porcelain at the Carmichael Inn site were slightly higher than the 3% called for in the model, for both the site total (4%) and the midden area (3.2%) assemblages. Percentages of coarse wares from the total site ceramic assemblage (12.5%), fell short of the greater than 15% expected in the model. However, coarse wares in the midden area comprised 23.6% of the ceramic assemblage there. It is believed that the total site ceramic assemblage approximates the expected pattern, and the midden area assemblage fits it precisely. This is felt to be significant since the midden area represents the least disturbed components associated with the early to mid-nineteenth century.

Few early to mid-nineteenth century artifacts were found in areas near the doorways of the structure. This does not fit the

proposed model and there are several possible explanations. It is possible that during the early to mid-nineteenth century, refuse was not discarded in these areas, because of the operation of the inn, or for other reasons. It is also possible that refuse was deposited here and was removed by sweeping, construction activities, trampling, or erosion. The practice of refuse disposal on the early nineteenth century rural inn site requires further clarification.

In conclusion, the archaeological remains at the Carmichael Inn site do not fit the proposed model for the rural nineteenth century inn in the Ridge and Valley. Historical and archaeological data indicate that this hostelry stood somewhere between the large formal inns such as Castalian Springs and the Netherland Inn, and the residential site that occasionally took in travelers. It is believed that the Carmichael Inn was operating on a casual level which is not discernible in the archaeological record. Aspects of the model have been supported by the data from the Carmichael Inn site (percentages of minimally decorated vessels, percentages of refined and coarse ceramic wares), aspects have been neither supported or refuted (large secondary refuse deposit), and some parts of the model have been contradicted (presence of refuse dating to the "inn period" around the doorways of the structure). Other components of the model such as expected frequencies of tobacco pipe

fragments and serving vessel sherds did not correlate with the model and require further investigation and possible revision.

The trends seen here are interesting and it is possible to view some of them as supporting a model for the rural nineteenth century inn in the Ridge and Valley. However, based on the archaeological work done at this site and historical records, it is believed that the operation of the Carmichael Inn was not the major part of the Carmichael's livelihood, that it was secondary to the agricultural activities. In this author's opinion, this casual operation of an inn is not manifested in the archaeological record on a level which differentiates it significantly from purely residential sites of the same socioeconomic level and time period. Further research on other inn or hostelry sites would be of interest and would help to more precisely place the Carmichael Inn within the continuum of formal inns and private homes hosting travelers. This work confirms that this is an area that warrants further investigation.

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