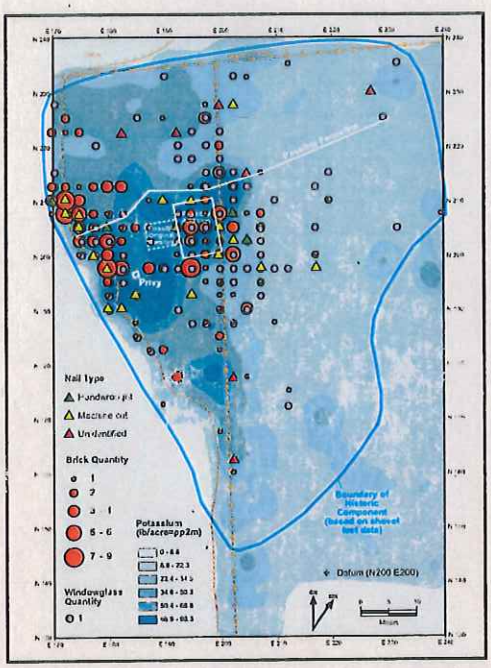
A PHASE III ARCHAEOLOGICAL DATA RECOVERY OF THE ANTEBELLUM VARDEMAN HOUSE SITE (15LI88), LINCOLN COUNTY, KENTUCKY (ITEM NO. 8-244.0)

Volume II



University of Kentucky
Program for Archaeological Research
Department of Anthropology

Technical Report No. 464

November 1, 2005

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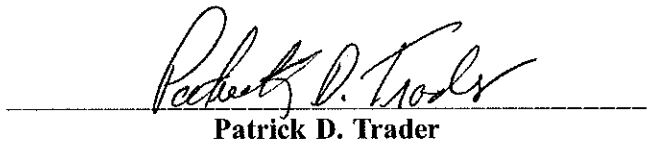
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Technical Report No. 464



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November 1, 2005

ABSTRACT/MANAGEMENT SUMMARY

At the request of the Kentucky Transportation Cabinet (KYTC), staff of the University of Kentucky's Program for Archaeological Research (UK-PAR) conducted a Phase III archaeological data recovery of Vardeman House Site as part of the Cedar Creek Lake and Dam and U.S. 150 Project in Lincoln County, Kentucky. The purpose of this final phase of field investigation was to mitigate the effects of the undertaking by archaeological data recovery, providing data integral to research on the early settlement period of the Bluegrass Cultural Landscape (Davis and Linebaugh 2000:17). The first stage of the Phase III data recovery was the excavation of close interval, systematic shovel tests to examine the cultural deposits at Vardeman House Site and to provide soil samples for soil chemical analyses. The second stage was the excavation of test units based on the artifact and soil chemistry distribution data derived from the shovel tests. The final stage was mechanical stripping of overburden/plowzone and the mapping and excavation of features.

Vardeman House Site is a multicomponent site with Early Archaic through Late Woodland/Late Prehistoric periods and late eighteenth and early nineteenth-century occupations situated on the bluff crest of a stream terrace overlooking the Cedar Creek floodplain. The historic occupation of the site covered approximately 6,300 m^2, the long axis of which measured approximately 90 m north/south. On the basis of archival research as well as multicomponent prehistoric lithic artifacts and historic ceramics, architectural materials, and other cultural debris recovered during Phase I and II investigations (Schock 1993; Sussenbach 2000), Vardeman House Site was considered eligible for inclusion on the National Register of Historic Places (NRHP) under Criterion D and possibly under Criteria A and B, and was recommended for avoidance or Phase III data recovery (Davis and Linebaugh 2000:16).

Vardeman House Site represents one of the few identified historic farmstead sites dating to the early settlement period in the Bluegrass Cultural Landscape. The site contains an intact midden, subsurface features, and retains a high degree of integrity. The presence of intact subsurface features, an intact sheet midden across some portions of the site, and the association of the site with Morgan Vardeman, a figure directly tied to the initial settlement of Kentucky all contribute to the significance of Vardeman House Site. The farmstead at Vardeman House Site bridges the gap between early settlement's need for defense and the emphasis on an antebellum participation in market economies. Currently, there appears to be no other identified, contemporary site in the Bluegrass Cultural Landscape that retains such a high degree of integrity. In addition, the recent excavations and bioarchaeological analysis at the Holmes-Vardeman-Stephenson Cemetery (Site 15LI105) increase the research potential of the site due to the presence of Morgan Vardeman and members of his family; several of the individuals excavated at Site 15LI105 occupied Vardeman House Site, presenting a unique opportunity for study.

The data recovery of the Vardeman house yielded an immense amount of significant archaeological data concerning early nineteenth century lifeways in rural Lincoln County, the high degree of participation of the Vardeman family in the acquisition of available locally produced and imported commercial goods which confirms that the Morgan Vardeman family members were active participants in the Georgian "consumer movement." This movement stressed individuality, status display, emulation and gentility through the acquisition and display of material goods (Deetz 1977). The Georgian period, ca. 1714-1820, ushered in a new sense of cultural norms combined with a reverence for gentile practices and social graces combined with new merchandising which created a fresh desire among the populous for newer and more fashionable consumer products. The newly established Georgian ideals were ushered in with a host of guidebooks, etiquette books, and courtesy books (Bushman 1992:41), which introduced the literate public to the virtues of the new ideals.

In light of the data recovered during the investigations of the Vardeman House site, old romanticized notions of a self-reliant, simple Kentucky frontier existence with few connections to the expanding world-wide market economy has recently been reassessed. Current historical scholarship indicates that early nineteenth-century rural Kentucky was within the market of European commodities and the expanding world economy (Perkins 1991:487). Former notions concerning the barrier imposed on economic exchange between the states east of the Appalachian Mountains and Kentucky now seem to have been exaggerated. The data from 15LI88 confirms this.

The data recovery bolsters the argument that by the early nineteenth-century rural Kentucky was within the regular sphere of economic trade of commodities from Europe and the eastern United States. For example, the archaeological record at Site15LI88 indicates the increased trade in commodities and the establishment of the Georgian ideals of individuality in America through the presence of a variety of matched tablewares. The presence of matching sets of royal pattern molded creamware tablewares, blue and green shell-edged pearlware tablewares, and transfer printed tablewares all reflect the typical Georgian transformation from communal eating to individual place settings, individual cuts of meat, and a set of ceramic vessels for each individual.

The data recovery of the Vardeman House site has provided a significant group of data which affirms the interconnectedness between rural early nineteenth century Kentucky, the Eastern seaboard and Europe. The unimpeded flow of ideas, newspapers, and consumer goods from the Far East, Europe and the east coast American states to rural Kentucky documents the rapidity with which early nineteenth century Kentucky moved from frontier to an integral portion of the American landscape populated not by backwoodsmen, but rural Americans actively engaged in social display, capital advancement and the creation of a sustained and successful antebellum agrarian economy.

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CHAPTER 7: Zooarchaeological Remains from The Vardeman House Site

by Tanya M. Peres

Introduction

This report discusses animal remains recovered as part of a Phase III data recovery performed by the University of Kentucky's Program for Archaeological Research, from the Vardeman House Site, located in Lincoln County, Kentucky. The site is multicomponent site with prehistoric and late eighteenth and early nineteenth-century occupations. A faunal assemblage was generated from these excavations, consisting of materials solely from a ¼" screening effort.

A total of 606 proveniences were analyzed as part of this phase of the project. Both wild and domesticated species were recovered from the site. These remains are most likely affiliated with historic deposits, and reflect the historic animal taxa that were used by the inhabitants of the Vardeman House Site.

Dr. Tanya M. Peres, Ms. Marcie Venter, and Mr. Brian Padgett (both under the supervision of Dr. Peres) performed the zooarchaeological analysis. Data entry was completed by Ms. Venter and laboratory assistant Ms. Michelle Lefebvre. The final report was prepared by Dr. Tanya M. Peres.

Zooarchaeological Methods

Faunal remains include both vertebrates and invertebrates, and preservation of the remains was good to excellent. Faunal remains were recovered using ¼" screens. Several studies (Gordon 1993; Shaffer 1992; Wing and Quitmyer 1985) have shown that soils screened with larger mesh sizes (½ in. or ¼ in.) are biased towards large animals (i.e., mammals), and give a skewed picture of the relative abundance and importance of one class of animals compared to another. The use of 1/8 in. and 1/16 in. meshes allows for a more complete recovery of delicate plant and animal remains (i.e., small invertebrates) while using finer sieves insures the recovery of many types of seeds.

The analysis of the faunal assemblage was performed using the Zooarchaeological Comparative Collection housed at the University of Kentucky's William S. Webb Museum of Anthropology (WSWMA). Standard zooarchaeological procedures were used in this analysis following Reitz and Wing (1999). All remains were initially rough sorted into broad taxonomic categories. All specimens were identified to *Genus* and *species* when possible. Identified elements were sided (i.e., left, right, axial) where appropriate. The taxonomy of higher vertebrates and birds follows the Zooarchaeological Comparative Collection at the WSWMA; fish taxonomy follows Robins et al. (1991); and invertebrate taxonomy follows Turgeon et al. (1998). Any evidence of use-wear, thermal alteration, or butchering was recorded. Weights and Number of Individual Specimens (NISP) were recorded for all specimens. All primary and secondary data were entered into EXCEL spreadsheets and are presented in Appendix E.

For comparative purposes elements were grouped by the cut of meat represented (i.e., fore

quarter roast) (following Davenport 2000). Elements from large mammals (pig, cow, deer) were divided into five groups representing low, medium, and high utility levels, based on the assumption that highly valued portions of an animal are those with the largest portions of meat (Reitz 1987). These five groups are: (1) head (including teeth), cranial bones and mandible (low utility; pig mandibles are considered medium utility); (2) axial—includes hyoid, ribs, vertebrae and sacrum (all high utility); (3) fore quarter—includes scapula, humerus (both high utility) and ulna and radius (medium utility); (4) hind quarter—includes the pelvis, femur, tibia and fibula (high utility); and (5) feet—includes the metacarpals, metatarsals, carpals, tarsals, and phalanges (low utility). It must be kept in mind that utility indices are subjective and depend on the consumer's food preferences. As Reitz (1987:108) has noted,

> Deposits of bones from non-meaty cuts, such as carpals, tarsals, metapodials, and phalanges, could be refuse from meat butchered for consumption by the planter; it could be refuse from slave consumption; it could be that these bones are all that survived deposition, or it could be that the planter family also ate pig's feet.

It is often assumed that the majority of bones recovered from archaeological sites are from animals that were used primarily as sources of protein. However, animals are often used for their secondary resources, such as milk, blood, hides, dung, and labor (Davis 1987:155). These uses are difficult, at best, to distinguish in the archaeological record. In addition, a number of factors including taphonomic, differential deposition, sampling strategies/techniques, identifiability, and analysis all affect the original deposit, and hence the diet that is being inferred (Reitz 1987).

Biomass estimates were calculated for this assemblage using the archaeological specimen weights and the regression formula described below. Sample biomass refers to the estimated total weight represented by the archaeological specimen (Reitz and Wing 1999). Calculating the biomass of an animal requires data on the correlations between skeletal weight and total body weight (Casteel 1974; Hale et al. 1987; Reitz et al. 1987; Reitz and Wing 1999). These data are collected on modern specimens for application to biomass estimates. In many cases, biomass estimates were calculated using values at the family or class level. These data are valid and important for dietary interpretations.

For the assemblage, biomass was estimated using specimen weight in the following allometric formula (Reitz and Wing 1999:224):

$$Y = aX^b$$

or

$$Y = \log_{10}a + b\,(\log_{10}X)$$

where:

Y = the estimated sample biomass (kg) contributed by the archaeological specimen for a taxon

X = specimen weight of the archaeological specimens for a taxon

a = the Y=intercept of the linear regression line

b = slope of the regression line

Biomass for each taxon was calculated using values from Reitz and Wing (1999:72) and Wing (2001). General class and/or family values were used in cases where values for specific taxa were not available.

The Minimum Number of Individuals (MNI) was determined using the standard accepted procedure: the most abundant diagnostic element of each taxon was counted as the MNI (Grayson 1984; Reitz and Wing 1999). If this element was a paired element (left and right), then the higher count

of the two was used. Size differences were also taken into account when appropriate. MNI was determined for each taxon within each context, and then recalculated by provenience (i.e., feature).

Preservation

Archaeofaunal preservation varies greatly between sites for reasons that are only partially understood. Two factors that influence preservation are soil drainage and chemical composition of midden deposits (such as soil pH and ash content). The circumstances surrounding bone carbonization, including firing temperature and the amount of oxygen reduction present, also influence preservation.

Preservation of faunal remains at the Vardeman House Site was good to excellent. Some of the remains were heavily carbonized. The lack of weathering suggests that remains were deposited rapidly and may have been recovered from primary contexts.

Documentary Evidence

Research of historic records conducted during the Phase III investigations of the Vardeman House Site yielded an 1849 bill of sale from Morgan Vardeman's Estate. Although the mean ceramic date of the features is ca. 1825, the *terminus post quem* (TPQ) dates for the features suggest that artifacts were deposited ca. 1830s (see Chapter 6). Thus, this document is slightly more recent in time. However, the information contained within the bill of sale is pertinent to this analysis. Among the sale objects listed were a number of personal items, agricultural implements, and livestock, and the corresponding price paid for each (Table 7.1). Of the 231 animals sold, sheep were the largest number of animals listed (n=105); fowl—chickens, turkeys, and geese—were next with a total of 52; pigs—sows and hogs—were represented by a total of 31 (plus an unspecified number of piglets); a total of 21 mules were listed as sold; a total of 13 horses—colts and mares—were listed as sold; and a total of 9 cattle—steers, cows, and bulls—were listed as sold. The mules sold at the highest price—$38.20 each. Chickens sold at the lowest price of $0.07 each. From this list of animals sold with the Morgan Vardeman Estate, it can be seen that a variety of livestock animals were raised and used at this particular farmstead.

Description of the Vardeman House Site Archaeofaunal Assemblage

The total analyzed faunal assemblage from the Vardeman House Site consists of 1,912 specimens weighing 5,002.46 g (see Chapter 7). The vertebrate faunal remains consist of 1,874 specimens weighing 4,981.5 g. The invertebrate faunal remains consist of 38 specimens weighing 20.96 g. Within the vertebrate assemblage, 12 different taxa are represented, consisting of 9 species and 1 order of mammals; and 1 family, and 2 species of bird (Table 7.2). In the invertebrate assemblage both bivalves and gastropods are represented.

Vertebrate Remains

Mammals. The majority of bone in this assemblage belongs to mammals (NISP=1,172; 4,794 g). The general category of Mammalia, which includes small, medium, and large mammals, makes up 39.8% of the entire assemblage (NISP=761; 1,112.2 g). Specimens placed in this category were both too small and fragmented or lacked diagnostic landmarks to secure a positive identification. Modified bone such as specimens with heavy cut marks (n=6) also fall into this category. Seven species of mammal were identified in this assemblage, including: dog (*Canis familiaris*), horse (*Equus caballus*), pig (*Sus scrofa*), white-tailed deer (*Odocoileus virginianus*), cow (*Bos taurus*), fox squirrel (*Sciurus niger*), eastern gray squirrel (*Sciurus carolinensis*) (see Table 7.2).

Table 7.1. Animals listed in the Morgan Vardeman Estate Sale Bill 1849, Lincoln County, Kentucky.

Animal	Quantity	Price Range
Horses		
colts	5	$3.56-7.06
mares	8	$8.00-35.00
Total Horses	**13**	**$194.68+**
Pigs		
sows	1	$6.25 plus piglets
hogs	30	$10.00/each
Total Pigs	**31+piglets**	**$306.25**
Cows		
steers	5	$7.25/each
cows	3	$10.00/each
bull	1	$12.00/each
Total Cows	**9**	**$78.25**
Mules		
mule	21	$38.20/each
Total Mules	**21**	**$802.20**
Sheep		
sheep	75	$0.13/each
choise sheep	10	$1.20/each
2nd choise sheep	10	$1.20/each
3rd choise sheep	10	$0.91/each
Total Sheep	**105**	**$42.85**
Fowl		
chickens	24	$0.07/each
turkeys	5	$0.12/each
geese	23	$0.12/each
Total Fowl	**52**	**$5.04**
Total Animals Sold at Auction	**231+piglets**	**$1,429.27+**

The dog (*Canis* sp. and *Canis familiaris*) is represented by 3 specimens, weighing 39.43 g (Appendix E). The identified elements are all post-cranial elements. The minimum number of individuals (MNI) represented is 1, based on the frequency of the left tibia. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

The horse is represented by 6 specimens, weighing 92.52 g. The identified elements are all tooth fragments, and the MNI is 1. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

The pig (*Sus scrofa* and cf. *Sus scrofa*) comprises the majority of the total assemblage

Table 7.2. Summary of faunal assemblage, Vardeman House Site.									
Taxon	**Common Name**	**NISP**		**Bone Weight**		**MNI**		**Biomass**	
		Qty.	**%**	**gms.**	**%**	**Total**	**%**	**gms.**	**%**
Vertebrata	**vertebrates**	117	6.12	151.14	3.02				
Mammalia	**mammals**	578	30.23	763.18	15.26			5180.41	62.85
Mammalia, Large	large mammals	140	7.32	277.65	5.55			2085.20	25.30
Mammalia, Medium	medium mammals	2	0.10	2.5	0.05			30.07	0.36
Mammalia, Small	small mammals	218	11.40	59.55	1.19			521.67	6.33
Canis sp.	dog	1	0.05	34.59	0.69			0.89	0.01
Canis familiaris	domestic dog	2	0.10	4.84	0.10	1	4.00	1.66	0.02
Equus caballus	domestic horse	6	0.31	92.52	1.85	1	4.00	4.59	0.06
Sus scrofa	pig	588	30.75	2150.82	43.00	9	36.00	287.78	3.49
cf. *Sus scrofa*	pig	3	0.16	105.18	2.10			2.53	0.03
Odocoileus virginianus	white-tailed deer	5	0.26	79	1.58	1	4.00	3.92	0.05
Bovidae	sheep, goat, cow, bison	2	0.10	165.53	3.31			1.66	0.02
Bos taurus	cow	29	1.52	987.8	19.75	1	4.00	19.22	0.23
Rodentia or Lagomorpha	rodents or rabbits	2	0.10	0.42	0.01			1.66	0.02
Sciurus sp.	squirrel	1	0.05	0.54	0.01			0.89	0.01
Sciurus carolinensis	eastern gray squirrel	14	0.73	4.58	0.09	2	8.00	9.93	0.12
Sciurus niger	fox squirrel	11	0.58	3.39	0.07	1	4.00	8.07	0.10
Aves	**birds**	99	5.18	46.83	0.94			48.98	0.59
Anatidae	ducks and geese	14	0.73	8.65	0.17			8.23	0.10
Branta canadensis	Canada goose	21	1.10	17.59	0.35	3	12.00	11.96	0.15
cf. *Branta canadensis*	Canada goose	2	0.10	2.51	0.05			1.35	0.02
Galliformes	bobwhites, prairie	8	0.42	5.02	0.10			4.98	0.06
Phasianidae	bobwhites	9	0.47	7.44	0.15	2	8.00	5.52	0.07
Meleagris gallopavo	turkey	2	0.10	10.23	0.20	1	4.00	1.35	0.02
Mollusca	**mollusks**	25	1.31	5.91	0.12				
Bivalvia	bivalves	6	0.31	14.24	0.28	1	4.00	0.47	0.01
Gastropoda*	"stomach footed"	6	0.31	0.32	0.01	1	4.00		
Helix sp.*	gardensnail	1	0.05	0.49	0.01	1	4.00		
Wild		68	10.93	139.52	2.79	13	52.00	40.04	0.49
Domestic		622	89.07	3541.28	70.79	12	48.00	318.33	3.86
Identified**		721	37.89	3493.54	69.84	25	100.00	354.14	4.30
Unidentified		1191	62.29	1446.42	28.91			7888.85	95.70
TOTALS		**1912**	**100.00**	**5002.46**	**100.00**	**25**	**100.00**	**8242.99**	**100.00**
*Taxa that are considered commensal; **Faunal specimens identifiable to Genus and species.									

(NISP=591, 2,203.6 g). The minimum number of individuals (MNI) represented is 9, based on the frequency of the left mandible. The identified pig elements are both cranial (n=306) and postcranial (n=285). Of the 591 individual bone specimens, 17 are thermally altered, 1 has cut marks present, and 44 are from immature individuals.

The white-tailed deer is represented by 5 specimens, weighing 79 g. The identified elements are all cranial (fragments of antlers). The MNI of the deer is 1. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

The cow is represented by 29 specimens, weighing 987.8 g. The identified elements are both cranial (n=17) and post-cranial (n=12). The MNI of the cow is 1. Of the 29 specimens, one has butchering/cut marks present. All elements, except 1, are from adult individuals.

The eastern gray squirrel is represented by 14 specimens, weighing 4.58 g. The identified elements are both cranial (n=1) and postcranial (n=13). The MNI of the gray squirrel is 2, based on the frequency of the right tibia. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

The fox squirrel is represented by 11 specimens, weighing 3.39 g. The identified elements are both cranial (n=3) and postcranial (n=8). The MNI of the fox squirrel is 1, based on the frequency of the right femur. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

Birds. A total of 147 specimens, weighing 92.17 g, are identified as bird. There are at least two species in this assemblage—Canada goose (*Branta canadensis*) and turkey (*Meleagris gallopavo*), two families – ducks and geese (Anatidae) and quails and bobwhites (Phasianidae), and one order that includes chickens, turkeys, and prairie-chickens (Galliformes) (see Table 7.2). The general category of Aves (n=95, 44.14 g) was used when specimens are both too small and fragmented, or lacked diagnostic landmarks to secure a positive identification.

The Canada goose is represented by 21 specimens, weighing 16.69 g. The identified elements are exclusively postcranial. The MNI of the Canada goose is 3, based on the frequency of the right tibiotarsus. Of the 7 individual bone specimens, 2 are thermally altered. All elements are from adult individuals.

The turkey is represented by 2 specimens, weighing 10.23 g. The identified elements are exclusively postcranial. The MNI is 1, based on the right carpometacarpus. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

Anatidae, the family of ducks and geese is represented by 14 specimens, weighing 8.65 g. The identified elements are both cranial (n=1) and postcranial (n=13). The MNI was not calculated for this family, as the specimens could not be ruled out as having come from the previously identified Canada goose. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

Galliformes, the order of chickens, turkeys, bobwhites, and prairie-chickens, is represented by 8 specimens, weighing 5.02 g. All elements were postcranial. The MNI was not calculated for this order, as the specimens could not be ruled out as having come from the previously identified Canada goose. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All elements are from adult individuals.

Phasianidae, the family of quails and bobwhites is represented by 9 specimens, weighing 7.44 g. All elements were postcranial. The MNI is 2, based on the occurrence of the right femur. There was no evidence of thermal alteration, butchering/ cut marks, and/or other modification. All elements are from adult individuals.

Invertebrate Remains

A total of 38 invertebrate specimens, weighing 20.96 g, were recovered from the Vardeman House Site (see Table 7.2). Two classes were identified: Bivalvia and Gastropoda. The gastropods are represented by 1 species. The general category of mollusk (Mollusca) (n=25, 5.91 g) was used when specimens are both too small and fragmented, or lacked diagnostic landmarks to secure a positive identification.

Bivalvia. A total of 7 specimens, weighing 14.24 g, are identified as bivalves. The general category of bivalve was used when specimens are both too small and fragmented, or lacked diagnostic landmarks to secure a positive identification.

Gastropoda. A total of 6 specimens, weighing 0.81 g are identified as gastropods. The general category of gastropod (Gastropoda) was used when specimens (n=6, 0.32 g) are both too small and fragmented, or lacked diagnostic landmarks to secure a positive identification. There was one gastropod identified to genus, *Helix* sp.

The helix is represented by 1 complete specimen. This individual could only be identified to genera, as there are no comparable specimens in the comparative collection. This terrestrial snail is commensal as it is non-native to North America, thus not part of the diet. Terrestrial snails recovered from archaeological sites often yield information pertinent to environmental reconstructions (Kirch 1985). In the case of this one specimen from the Vardeman House, the snail is non-native to this area, and made its way into the site after it was abandoned.

Description of the Archaeofaunal Assemblage from Selected Features

This section presents the faunal remains recovered from seven cultural features (Features 11, 16, 27, 39, 41, 42, and 110). These features were chosen because they include the six historic features (Features 11, 16, 27, 41, 42 and 110) interpreted as disposal/waste pits which yielded the majority of the intact, primarily deposited faunal remains, and they have associated mean ceramic dates. In addition, one prehistoric pit which also yielded faunal remains, Feature 39, was included within the analytical discussion of the faunal remains recovered from the Vardeman House Site. The mean ceramic dates for these features, ranging from 1824 to 1828.5 (x = 1825.92), place them in contemporaneous association with one another. The total number of faunal remains recovered from these 7 features consists of 1,487 specimens weighing 3,565.74g, 79.35% of the total faunal assemblage (Table 7.3). The faunal assemblage from each feature will be discussed individually followed by a discussion of all the features combined.

Feature 11. Feature 11 is defined as an historic disposal/waste pit feature. A total of 135 artifacts, including 35 prehistoric, 86 historic and 14 culturally indeterminate, were recovered from the excavation of Feature 11. The mean ceramic date for this feature is 1824. The total number of faunal remains recovered from Feature 11 is 60 (176.96 g). The general category of Mammalia, including small, medium, and large mammals, is represented by 5 specimens, weighing 1.79 g. Of these 5 specimens, all are thermally altered and one was from an immature individual.

The majority (n=55, 175.17 g) of the faunal remains from Feature 11 are identified as domestic pig (*Sus scrofa*). The minimum number of individuals (MNI) represented is 2, based on the frequency of the left dentary. The identified pig elements are both cranial (n=46) and postcranial (n=9). There was no evidence of thermal alteration,

butchering/cut marks, and/or other modification. All elements are from adult individuals.

Feature 16. Feature 16 is defined as an historic disposal/waste pit feature. A total of 74 artifacts, including 27 prehistoric, 44 historic, and three culturally indeterminate, were recovered during the excavation of Feature 16. The mean ceramic date for this feature is 1826.75. Both vertebrate and invertebrate faunal remains were recovered. The total number of vertebrate faunal remains identified in Feature 16 is 36 (135.14 g). The taxa represented in this feature include indeterminate mammals, pig, and mollusks. Mammalia, including small, medium, and large

Table 7.3. NISP, weight, and biomass calculations for taxa identified from selected features, Vardeman House Site.

Taxon	NISP	%	Weight	%	Biomass	%
Vertebrata	95	6.39%	79.14	2.22%	0.00	0.00%
Mammalia	440	29.59%	586.25	16.44%	4085.78	17.30%
Mammalia, large	140	9.41%	277.65	7.79%	2085.20	8.83%
Mammalia, medium	2	0.13%	2.50	0.07%	30.07	0.13%
Mammalia, small	218	14.66%	59.55	1.67%	521.67	2.21%
Canis sp.	1	0.07%	0.05	0.00%	0.89	0.00%
Canis familiaris	2	0.13%	0.10	0.00%	1.66	0.01%
Equus caballus	6	0.40%	0.31	0.01%	4.59	0.02%
Sus scrofa	375	25.22%	1656.80	46.46%	10407.42	44.07%
cf. *Sus scrofa*	3	0.20%	0.16	0.00%	2.53	0.01%
Odocoileus virginianus	5	0.34%	79.00	2.22%	672.77	2.85%
Bovidae	2	0.13%	0.10	0.00%	1.66	0.01%
Bos taurus	16	1.08%	720.80	20.21%	4920.77	20.84%
Rodentia or Lagomorpha	2	0.13%	0.42	0.01%	6.04	0.03%
Sciurus sp.	1	0.07%	0.05	0.00%	0.89	0.00%
Sciurus carolinensis	14	0.94%	4.58	0.13%	51.85	0.22%
Sciurus niger	11	0.74%	3.39	0.10%	39.55	0.17%
Total Mammalia	**1333**	**89.64%**	**3470.85**	**97.34%**	**22833.35**	**96.68%**
Aves	97	6.52%	45.65	1.28%	354.89	1.50%
Anatidae	14	0.94%	8.65	0.24%	78.11	0.33%
Branta canadensis	19	1.28%	16.69	0.47%	142.05	0.60%
cf. *Branta canadensis*	2	0.13%	0.10	0.00%	1.35	0.01%
Galliformes	8	0.54%	5.02	0.14%	47.60	0.20%
Phasianidae	9	0.61%	7.44	0.21%	68.10	0.29%
Meleagris gallopavo	2	0.13%	10.23	0.29%	90.99	0.39%
Total Aves	**151**	**10.15%**	**93.78**	**2.63%**	**783.08**	**3.32%**
Bivavia	3	0.20%	1.11	0.03%	1.12	0.00%
Total Bivalves	**3**	**0.20%**	**1.11**	**0.03%**	**1.12**	**0.00%**
Total Assemblage	**1487**	**100.00%**	**3565.74**	**100.00%**	**23617.54**	**100.00%**

mammals, is represented by 1 specimen, weighing 0.26 g. This specimen showed no sign of thermal alteration or modification.

The pig is represented by 35 specimens (134.88 g), with an MNI of 2. Of these specimens, 1 exhibited cut marks, and 1 was from an immature individual. Invertebrate remains consisted solely of unidentified minute shell fragments (<1 mm) that weighed a total of 0.13 g.

Feature 27. Feature 27 is defined as an historic disposal/waste pit feature. A total of 443 artifacts, including 17 prehistoric, 239 historic and 187 culturally indeterminate, were recovered from the excavation of Feature 27. The mean ceramic date for this feature is 1828.5. Only vertebrate faunal remains are identified from this feature. The total number of vertebrate specimens identified in Feature 27 is 145 (820.3 g). Mammalia, including small, medium, and large mammals, is represented by 124 specimens, weighing 102.11 g. Of these 124 specimens, 50 are thermally altered, 1 has cut marks, and 2 are from immature individuals.

The pig is represented by 19 specimens, weighing 523.63 g. The MNI represented is 1, based on the frequency of the right dentary. The identified pig elements are both cranial (n=7) and postcranial (n=12). Of the 19 individual bone specimens, 3 are from immature individuals.

The cow is represented by one specimen, a left humerus, weighing 194.07 g. The MNI of the cow is 1, and the humerus is from an adult individual. The remaining bone specimen (n=1, 0.49 g) is assigned to Vertebrata as it is too small and fragmented to be identified as any one class of animal.

Feature 39. Feature 39 is defined as a prehistoric pit, or possibly a thermal feature containing limestone chunks. A total of 278 artifacts, including 260 prehistoric, 10 historic and 8 culturally indeterminate, were recovered during the excavation of Feature 39. Only vertebrate remains are identified in this sub-assemblage. The total number of vertebrate specimens identified in Feature 39 is 15 (158.26 g). Mammalia, including small, medium, and large mammals, is represented by 3 specimens, weighing 8.64 g. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

The pig is represented by 4 specimens, weighing 10.6 g. The MNI represented is 1. The identified pig elements are both cranial (n=3) and postcranial (n=1). There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. All specimens were from adult individuals.

The deer is represented by 5 specimens, weighing 79 g. The MNI represented is 1. The identified deer elements are all cranial (antler fragments). There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

The cow is represented by 3 specimens, weighing 60.02 g. The MNI of the cow is 1. There was no evidence of thermal alteration, butchering/ cut marks, and/or other modification. All specimens were from adult individuals.

Feature 41. Feature 41 is defined as an historic disposal/waste pit feature. A total of 2,274 artifacts, including 383 prehistoric and 961 historic and 930 culturally indeterminate, were recovered from the excavation of Feature 41. The mean ceramic date for Feature 41 is 1825.78. The total number of specimens in Feature 41 is 1,114 (1,861.41 g); 1,109 vertebrates and 5 invertebrates, over 50% of the total faunal assemblage. Vertebrata, including specimens that are both too small and fragmented to secure a positive identification, is represented by 94 specimens, weighing 77.84 g. Mammalia, including small, medium, and large mammals, is represented by 635 specimens, weighing 735.24 g. Of these 635 specimens, 20 are thermally altered and 1 is from an immature individual.

The pig is represented by 254 specimens, weighing 478.39 g. The MNI for pig is 2, based on the frequency of the left humerus. The identified specimens are both cranial (n=77) and postcranial (n=177). Of these 254 specimens, 38 are from immature individuals.

The cow is represented by 12 specimens, weighing 466.71 g. The MNI for cow is 1. The identified elements are both cranial (n=6) and postcranial (n=6). One specimen was from an immature individual. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

Two canine teeth were identified to Rodentia/ Lagomorpha. There are two species of squirrel represented, the eastern gray (*Sciurus carolinensis*) and the fox (*Sciurus niger*). The eastern gray squirrel is represented by 14 specimens, weighing 4.58 g. The MNI of the eastern gray squirrel is 2, based on the frequency of the right tibia. The identified elements are both cranial (n=1) and postcranial (n=13). There was no evidence of thermal alteration, butchering/cut marks, and/or other modification. The fox squirrel is represented by 11 specimens, weighing 3.39 g. The MNI of the fox squirrel is 1. The identified elements are both cranial (n=3) and postcranial (n=8). There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

Aves, including specimens that are both too small and fragmented, or lacked diagnostic landmarks to secure a positive identification, is represented by 107 specimens, weighing 44.14 g. Of these 107 specimens, 8 are eggshell fragments. Originally 126 specimens of eggshell were catalogued, however only 8 were located and included in this analysis. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

Anatidae, the family of ducks, swans, and geese, is represented by 14 specimens, weighing 8.65 g. The MNI is 1, based on the occurrence of a tibiotarsus. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

The Canada goose (*Branta canadensis*) is represented by 19 specimens, weighing 16.69 g. The MNI is 3, based on the occurrence of the right tibiotarsus. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

Galliformes, the order of chicken-like birds including chickens, bobwhites, prairie chickens, and turkeys, is represented by 8 specimens, weighing 5.02 g. The MNI is 3 based on the occurrence of the left carpometacarpus. Phasianidae, the quail family, is represented by 9 specimens, weighing 7.44 g. The MNI is 1 for this family.

The turkey (*Meleagris gallopavo*) is represented by 2 specimens, weighing 10.23 g. The MNI of the turkey is 1, based on the occurrence of the right carpometacarpus. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

The general category of Mollusca is represented by 14 specimens. Bivalvia is represented by 3 specimens, weighing 1.11 g. The MNI of bivalves is 1. Gastropoda is represented by 3 specimens, weighing 0.18 g. The MNI of gastropods is 3. There was no evidence of thermal alteration and/or other modification.

Feature 42. Feature 42 is defined as an historic disposal/waste pit feature. The mean ceramic date for Feature 42 is 1826.43. Both vertebrate and invertebrate remains were identified in this sample. Mammalia, including small, medium, and large mammals, is represented by 22 specimens, weighing 42.91 g. The MNI for mammals is 1, based on the presence of a small mammal tibia.

Pigs are represented by 5 specimens, weighing 277.22 g. The MNI is 1, and there was no evidence of thermal alteration, butchering/cut marks, and/or other modification. Mollusca are represented by 8 specimens, weighing 2.34 g.

Feature 110. Feature 110 is defined as an historic disposal/waste pit feature. The mean ceramic date for Feature 110 is 1825.96. Only vertebrate remains are identified in this sub-assemblage. The total number of vertebrate specimens identified in Feature 110 is 31 (101.15 g). Mammalia, including small, medium, and large mammals, is represented by 1 specimen, weighing 0.68 g. There was no evidence of thermal alteration, butchering/cut marks, and/or other modification.

Pig is represented by 30 specimens, weighing 100.47 g. The MNI of the pig is 1. The identified pig elements are both cranial (n=9) and postcranial (n=21). Of these 30 specimens, 16 are thermally altered, and all are from adult individuals.

Interpretation of Selected Features Assemblage

Vertebrate Remains

Of the 1,487 faunal specimens included in the analysis of selected cultural features, 721 were identifiable to genus and species (see Table 7.3). Information on these species habitats, lifestyles, and ranges are discussed in this section.

Mammals. Mammals recovered from the feature assemblage include both wild and domestic animals such as eastern gray squirrel, fox squirrel, deer, pig, and cow. The eastern gray squirrel can live in all types of wooded habitats (Brown 1997:98-99). They feed mainly on acorns, but also eat fruits, mushrooms, buds, insects, bird eggs, and berries (Brown 1997:98-99). These squirrels are diurnal and are active the entire year. Traditionally, the eastern gray squirrel is an important small-game species in the southeast (Brown 1997:100).

The fox squirrel is larger than its gray counterpart; the two rarely occur together in great numbers and they do not interbreed. The fox squirrel inhabits open forests (hardwoods, pine flatwoods, pine-oak, and oak-hickory woodlands) (Brown 1997:101). Fox squirrels spend more of their time foraging on the ground compared to the eastern gray squirrel. They feed on many of the same items as the eastern gray squirrel in addition to tubers, buds, and bulbs (Brown 1997:101). The fox squirrel is also diurnal and active the entire year, but prefers to forage slightly later in the day than the gray squirrel. These two squirrels' range includes the eastern half of North America. Both squirrels have a beneficial affect on the environment because their storing of seeds and nuts for food results in the germination of a number of tree species (i.e., oaks, hickories, pecans, walnuts, pines, and beech) (Brown 1997:100-101). Squirrels are ubiquitous in archaeological faunal assemblages from across the southeastern United States.

White-tailed deer are common throughout the United States, especially the southeastern region. They tend to be most abundant in habitats on the edges of forests (Brown 1997:182). Their diet consists of fruits, berries, mushrooms, twigs, leaves, grasses, and tender shoots of trees and shrubs (Brown 1997:182). Through much of prehistoric through modern times the white-tailed deer has been recognized as the number one big-game species. In this assemblage, only five antler fragments were identified. It appears that deer was of little subsistence importance at the Vardeman House during the historic period.

Pigs are one of the four domestic animal species (pig, cattle, horse, and dog), and one of two species that were likely consumed (pig and cattle) represented in this assemblage. In terms of importance at the Vardeman House Site, pigs were the most abundant animals in the feature assemblage, comprising 55.76% of the identified faunal assemblage. Pigs also had the highest MNI (n=9) of any of the identified faunal remains. Six of the nine individuals identified in this assemblage

were immature. Of the 402 specimens identified to pig, only 264 could be assigned to specific elements, and thus used in the utility table. Approximately 58% of the pig remains were from the head, 20% from the feet, 16% from the axial skeleton, 4.5% from the hindquarter, and 2% from the fore quarter. This is roughly an even distribution of skeletal elements in comparison to the skeleton. While it may appear that there are a disproportionate number of head and feet elements compared to other areas of the skeleton, it must be noted that a higher number of bones make up the head (cranium, jaw, teeth) and feet (metacarpals/ tarsals, carpals/tarsals, phalanges). These parts, especially teeth, are diagnostic, even when highly fragmented.

The use of head and foot parts of pig reflects the greater number of edible parts of pig such as the brain, jowls, snout, and feet. The high ratio of immature to adult pigs (6:3) suggests that young animals were being consumed. The documentary evidence has shown that a number of sows, hogs, and piglets were raised on the farm (see Table 7.1). In light of this it seems likely that pigs were being raised and slaughtered at the Vardeman House Site, versus the purchase of particular cuts of pork from elsewhere. In terms of pigs versus other animals present in the assemblage (and thus the diet), pigs may have been abundant for a number of economic and cultural reasons. One main factor that makes swine attractive livestock for subsistence is their lack of a specialized diet, thus making them very easy to care for. Domesticated pigs are easy to raise, relatively inexpensive, and eat most anything. Furthermore, their ability to mature quickly makes them a favored farm animal as a food source and a market commodity (Bowen 1978). The meat yield of pigs (65-80% of their weight) is higher than for other domestic livestock (cattle 50-60%; sheep 45-55% of their weight) (Brown and Andrews 1999:B-11). Every part of the pig was used, including the tongue, heart, sweetbread, lung, kidney, brain, and other organs. This made pigs highly profitable in terms of the effort/yield ratio. What meat could not be eaten fresh was smoked, salted, pickled or potted for future consumption (Brown and Andrews 1999:B-11).

The cow is represented by a total of 16 elements, comprising 2.22% of the identified faunal assemblage, and had an MNI of 1. Fifty-six percent (56%) of all cow remains came from the head, 18.75% from the feet, 12.5% from the axial skeleton, and 6.25% each from the fore and hind quarters. This is roughly an even distribution of skeletal elements in comparison to the skeleton. All stages of utility are present. This may be indicative of animals being processed at the site. Often animals are kept as secondary food resources (i.e., milk, blood, labor, dung), and thus are not represented by any great quantity in the archaeological record. Animals that are used for secondary food sources are viewed as "renewable," in that they are more valuable alive than dead. It is possible that the cows at the Vardeman House Site were used for milk rather than flesh and, therefore, were not slaughtered on a regular basis or were raised to be sold at market. The 1849 Morgan Vardeman estate sale bill lists 9 cattle (5 steers, 3 cows, and 1 bull) in the inventory (see Table 7.1).

Birds. The birds are represented by two positively identified species, Canada goose (*Branta canadensis*), represented by 19 specimens, and the turkey (*Meleagris gallopavo*), represented by 2 specimens. Other avian remains in this assemblage were identified to more general categories that ultimately subsume the goose and the turkey (i.e., Galliformes), thus they are not discussed below. However, in the 1849 Morgan Vardeman Estate sale bill, 24 chickens were listed in the inventory.

The Canada goose is found over the majority of North America. These geese prefer open grasslands and fields, especially near or around lakes, bays, rivers, and marshes (Bull and Farrand 1994). They are migratory birds that fly south to Mexico and the Gulf Coast for the winter. A total

of 23 geese (although type was not specified) were listed in the 1849 estate sale bill of Morgan Vardeman. If the geese that were sold were wild Canada geese, the animals may have migrated to the area every winter, were caught, and eaten, or the Vardemans may have tried to lay claim to these migratory geese and sold them at auction with the rest of the estate. It is possible that the archaeofaunal specimens are from domestic geese, as they are common on European medieval sites. It has been noted that domestic geese need less water than ducks, and they are advantageous to property owners in that they make a lot of noise (i.e., similar to guard dogs) (Crabtree 1989). Unfortunately, osteological distinctions between domestic geese (*Anser* spp.) and wild Canada goose (*Branta canadensis*) are often difficult to make, particularly with a small sample size (NISP=19).

The turkey (*Meleagris gallopavo*) is found throughout the southeastern United States. Its preferred habitats are pine-oak forests and oak woodlands (Bull and Farrand 1994:450-451). Traditionally the wild turkey has been a preferred game animal throughout the southeast. Domesticated turkeys are often raised for food, and are easy to keep. Osteologically it is very difficult to differentiate between the domestic and wild species, thus no distinction is made here. However, it is known from the documentary evidence that 5 turkeys were sold with the Morgan Vardeman estate, thus it is possible that theVardeman's may have been raising turkeys as a food source. However, turkeys as a domesticated flock were highly susceptible to diseases common to domestic avian flocks, and were problematic for farmers to raise until the early twentieth century. It is possible that the turkeys recovered at the Vardeman House Site, as well as those listed in the Morgan Vardeman Estate sale bill were at least tamed individuals, if not outright domesticates.

The only way to differentiate between domestic stock and their wild progenitors is by using comparative morphological characteristics (i.e., for the domesticates –shorter, stockier, poorly developed bone), or morphometric characteristics (Elizabeth J. Reitz, personal communication 2003). There is no one general database for these morphometric characteristics, and data needs to be collected and analyzed on a regional or local basis. Rarely in any one site is the sample size large and specific enough to allow for a definitive answer to this question. At this time, no such database exists for Central Kentucky, and very little data has been collected. It is recommended that standard measurements for geese and turkeys be outlined, data recorded from every site of a similar time period to build a regional database, and only then may the question of the appearance of the first domesticated geese and turkeys be answered for Central Kentucky.

Invertebrate Remains

A total of 38 invertebrate specimens were recovered from the Vardeman House cultural feature assemblage. The general category of mollusc (Mollusca) (n=25) was used when specimens are both too small and fragmented, or lacked diagnostic landmarks to secure a positive identification. Two classes were identified: Bivalvia and Gastropoda, and one genera (*Helix* sp.). The bivalves are represented by 6 specimens, and the gastropods are represented by 6 specimens. The gardensnail (*Helix* sp.) is represented by one specimen, and is considered a commensal. Invertebrates did not play a large role in the subsistence economy of the site, and the gastropods are most likely commensals.

Wild vs. Domestic Taxa

A variety of both domesticated and wild animals were present in the Vardeman House cultural feature assemblage (Table 7.4). The diversity of wild animals in the assemblage is greater than that of the domesticated fauna, and specifically includes deer, gray and fox squirrels, bob-whites, ducks, and bivalves. While the species diversity is greater, wild animals only make up

10.93% of the total faunal assemblage, based on NISP (see Table 7.2). The domesticated species consist of pig and cow, although based on historic documents the identified turkeys and geese may have also been domestic species. However, since their status cannot be determined at this time, they are not included in either the wild or domestic category. The domesticated group of animals represents 89.07% of the total faunal assemblage, based on NISP (see Table 7.2). Not included in these counts are animals considered to be commensal (i.e., moles, rats and voles, land snails), animals probably not used as food (horse and dog), animals that can not be determined to be either wild or domesticated (geese, turkey), and animals grouped in broad categories (i.e., Aves, Mammalia, Vertebrata). While the domesticated animals played a larger role in the diet at the Vardeman House, wild taxa seemed to have augmented a diet that was mostly reliant on pork.

Patterns of Consumption and Status

Archival evidence has shown that the economy followed at the Vardeman House Site consisted of cow and pig husbandry, which falls in line with the Upland South cultural tradition (McCorvie 1987; Mitchell 1972, 1978; O'Brien and Majewski 1989). This social and agrarian complex is the fusion of elements from two regions: southeastern Pennsylvania, where corn, wheat, and livestock are emphasized, and the Chesapeake region, where tobacco, hemp, and slavery are dominant. Key elements of this system included the cultivation of corn, wheat, and rye, and an emphasis on pig and cattle husbandry. One of the principal traits of the Upland South tradition is an emphasis on pork consumption versus beef. The large number of identified pig remains and the extremely low number of cow remains in the Vardeman House sample, along with the presence of various local wild animals, support the hypothesis that the site's occupants may have followed the Upland South cultural tradition. This diversified farming and hunting complex allowed farmers to be relatively self-sufficient.

Faunal remains can be useful in answering questions of status, but they have clear limitations (Lyman 1987; Reitz 1986, 1987). The use of the

Table 7.4. Wild vs. domesticated species by MNI, identified at the Vardeman House Site.

Taxon	Common Name	Wild/Domesticated	MNI	%
Canis familiaris	domestic dog	domesticated	1	4.00
Equus caballus	domestic horse	domesticated	1	4.00
Sus scrofa	pig	domesticated	9	36.00
Bos taurus	cow	domesticated	1	4.00
Odocoileus virginianus	white-tailed deer	wild	1	4.00
Sciurus carolinensis	eastern gray squirrel	wild	2	8.00
Sciurus niger	fox squirrel	wild	1	4.00
Branta canadensis	Canada goose	wild	3	12.00
Phasianidae	bobwhites	wild	2	8.00
Meleagris gallopavo	turkey	wild	1	4.00
Bivalvia	bivalves	wild	1	4.00
Gastropoda*	"stomach footed"	wild	1	4.00
Helix sp.*	gardensnail	wild	1	4.00
Total MNI			**25**	**100.00**
*Taxa that are considered commensal.				

term "status" can be problematic if not defined clearly. Some archaeologists use the terms "social status, "socioeconomic status," and "class differentiation," interchangeably, although they do not always mean the same thing (Lyman 1987; Schulz and Gust 1983). A person's socioeconomic status may be defined by their income level, and thus controls consumer choices, but their social status may have no direct correlation to income level.

To relate a person's social status to consumer choice as reflected in the zooarchaeological record is dependent upon a number of variables. These variables include, but are not limited to, ethnicity, cost (in terms of time, effort, labor, opportunity, technology) of product/service, time period, environment, and site function (Reitz 1987:105-107). Many of these variables are interrelated, and if looked at individually may produce data patterns that are similar to those produced by other variables. Reitz (1987:108) recommends that status interpretations be based on multiple lines of evidence including documentary, architectural, and material culture, in addition to faunal remains. The use of a single line of evidence, instead of multiple lines, may lead to misleading interpretations of diet and subsistence at a site. Faunal remains, nor historical documents, alone may not reflect the original diet or deposit, and other factors that operate directly on archaeofaunal assemblages must be taken into consideration such as taphonomy, disposal, and recovery of the remains.

For this study, biomass was calculated for the identified taxa included in the selected features sub-assemblage (see Table 7.3). The use of biomass in this type of assemblage can give us an idea of relative dietary importance of individual taxa in relationship to one another. Mammals make up 96.68% of the biomass, and birds 3.32%. Of the individual taxa, pig comprises 44.07% (10,407.42g) of the biomass, cow is 20.84% (4,920.77g), and indeterminate mammals comprise 28.47% (2,641.89g). From this analysis, pig contributed the most biomass to the diet of the Vardeman House inhabitants.

For the comparative analysis of the Vardeman House features sub-assemblage, elements of selected mammals were grouped by the cut of meat represented (i.e., fore quarter roast) (following Davenport 2000), and then compared with three nineteenth-century farmstead sites from Central Kentucky. Elements from a number of large mammals (pig, elk, deer, sheep/goat, and cow) recovered from the Vardeman House and three comparative sites were divided into five groups representing low, medium, and high utility levels. These five groups are: (1) head (including teeth), cranial bones, and mandible (low utility; pig mandibles are considered medium utility); (2) axial—includes hyoid, ribs, vertebrae and sacrum (all high utility); (3) fore quarter—includes scapula, humerus (both high utility) and ulna and radius (medium utility); (4) hind quarter—includes the pelvis, femur, tibia and fibula (high utility); and (5) feet—includes the metacarpals, metatarsals, carpals, tarsals, and phalanges (low utility). It must be kept in mind that utility indices are subjective and dependent on the consumer's food preferences. It is often assumed that the majority of bones recovered from archaeological sites are from animals that were used primarily as sources of protein. However, animals are also frequently used for their secondary resources, such as milk, blood, hides, dung, and labor (Davis 1987:155). These uses are difficult, at best, to distinguish in the archaeological record.

The utility assignments presented are only estimates, as cooking techniques or food preferences might transform a low utility element into a high utility element and vice versa. Another bias of utility indices is that they do not take into account skeletal fragmentation and differential preservation. Both of these directly affect the analyst's ability to identify elements that have fewer diagnostic landmarks. To overcome this bias, elements for each animal were tabulated to give

the reader a better understanding of element distribution (Table 7.5). As Reitz (1987:116) notes, "the heavy use of pigs' heads and lower legs may be nothing more than a combination of a high survival rate plus enhanced identifiability."

Not surprisingly, pig, the dominant taxa in the assemblage, had the most elements representative of high utility meat cuts (n=56) (Table 7.6). Also, not surprisingly, the pig had the most elements representative of low utility meat cuts (n=186). The cow had elements that represented both high (n=2) and low (n=14) utility cuts of meat. As shown in Table 7.5, individual skeletal elements of the pig support the idea that whole pigs are represented in this assemblage. Thus, the low utility cuts of meat are indicative of whole animals that were raised and/or butchered on-site, instead of individual cuts of processed meat (i.e., salted or dried) that was bought elsewhere and brought into the site. The lack of sawn bones in the assemblage supports the on-site butchery interpretation. Thus the utility indices do not aid in interpreting status at this site, rather the utility numbers for pig suggest that entire individuals are represented in this assemblage, and is supported by the types and numbers of skeletal elements represented.

Diet, Economy, and Status at the Vardeman House Site

When the taxa represented in both the archaeofaunal record and those listed as "sold" in the 1849 Morgan Vardeman Estate bill of sale are taken into consideration, one can gain a closer look at the diet, economy, and status of the individuals of the Vardeman House Site. As stated above, the *diet* of the occupants of the Vardeman House Site, as illustrated through the archaeofaunal remains, followed the Upland South cultural tradition and consisted mainly of pork with other domestic and wild animals as supplements. The total site MNI of the pig is 9 (the highest of all identified animals). As listed in the estate sale bill of 1849, there were 31 pigs (plus an indeterminate number of piglets) sold from the Vardeman House Site. It is not surprising that at the Vardeman House Site pigs would be in the majority. Pigs were the number one animal raised in Kentucky. As discussed above, pigs are easy to keep; they can be turned out to forage in the forest, or they can scavenge in the cornfields after the cattle have eaten (Harrison and Klotter 1997:138). The popularity of the pig as a main dietary staple rose after the large game animals were over-hunted in the area (Harrison and Klotter 1997:138). In addition to supplying food for the family, bacon and cured hams could be sold or bartered.

The *economy* of the farmstead, on the other hand, encompassed much more than swine husbandry. The historical documentation, although slightly later in time than the date-of-deposition of the features, states that the estate of Morgan Vardeman sold, in addition to pig and cattle, horses, mules, sheep, chickens, turkeys, and geese. The addition of these animals that were not identified in the archaeological record raises some interesting questions. First, 105 sheep were listed on the sales record, yet none were identified archaeologically. There are several possible explanations as to why sheep were not identified in the archaeological record, yet were recorded as having been present at the farmstead. The first, and most likely explanation, is that sheep were raised on the farmstead for their secondary resources. Sheep produced wool that was used in the home by women to manufacture homespun cloths and linens (Harrison and Klotter 1997:138). Kentuckians practiced a traditional division of labor, with the women in the family spinning, weaving, and knitting cloth from wool to use in the family's clothing or to trade in local stores for imported fabrics (Harrison and Klotter 1997:138; Perkins 1991:507). Additionally, listed in the estate sale bill are "2 sheet of wool...$6.76" and items that were used in the manufacture of textiles and clothing (Table 7.7).

The second explanation is that sheep were being raised for sale at market. However, it seems

Table 7.5. Number of Skeletal Elements of Selected Mammals Recovered from Selected Features, Vardeman House Site.

Feature No.	Elements									
	Skull	Teeth	Pelvis	Vertebrae	Scapula	Long Bones	Ribs	Feet	Indet. Fragments	Total
Pig (*Sus scrofa*)										
11	34	12	0	0	0	2	0	0	7	*55*
16	15	5	0	0	0	2	0	0	13	*35*
27	3	4	5	0	1	3	0	2	1	*19*
39	0	3	0	0	0	0	0	1	0	*4*
41	34	33	1	6	0	8	32	50	91	*255*
42	3	0	1	0	0	1	0	0	0	*5*
110	0	9	0	0	0	3	0	0	18	*30*
Total	*89*	*66*	*7*	*6*	*1*	*19*	*32*	*53*	*130*	*403*
Cow (*Bos taurus*)										
11	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	1	0	0	0	1
39	3	0	0	0	0	0	0	0	0	3
41	0	6	0	2	0	1	0	3	0	12
42	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0
Total	*3*	*6*	*0*	*2*	*0*	*2*	*0*	*3*	*0*	*16*

that compared to other animals owned by Morgan Vardeman, sheep did not bring in a high price. The 1849 estate sale bill lists 75 sheep at $0.13 each, 10 "3rd choise sheep" at $0.91 each, 10 "2nd choise sheep" at $1.20 each, and 10 "choise sheep" at $1.20 each (see Table 7.1). The only animals that brought a lower price were fowl, with prices that ranged from $0.07 to $0.12 each (see Table 7.1).

A third explanation is that Morgan Vardeman, while following the Upland South cultural tradition, expanded his animal husbandry practices to include sheep (Andrew Madsen, personal communication 2003). Harrison and Klotter (1997:138) note that in Kentucky, sheep were never raised as extensively "as hogs or admired as much as horses." Sheep were not favored by Kentuckians because they required more attention than hogs, and were easy prey for wolves and wild dogs. Apparently this was a problem in Kentucky because a number of people had an "obsession with sheep-killing dogs," which ultimately led to several feuds (Harrison and Klotter 1997:138).

A final explanation is that sheep were eaten at the Vardeman House Site. However, skeletal elements from sheep were not recovered during the archaeological excavations at the site. This may be due to due to differential deposition and preservation of the remains.

Table 7.6. Utility Indices of Selected Mammals, Vardeman House Site.				
Species	**Low Utility**	**Medium Utility**	**High Utility**	**Total**
pig (*Sus scrofa*)				
head	132			**132**
axial			39	**39**
fore quarter	1		5	**6**
hind quarter			12	**12**
feet	53			**53**
TOTAL	***186***	***0***	***56***	***242***
white-tailed deer (*Odocoileus virginianus*)				
head	5			**5**
axial				**0**
fore quarter				**0**
hind quarter				**0**
feet				**0**
TOTAL	***5***	***0***	***0***	***5***
cow (*Bos taurus*)				
head	9			**9**
axial	2			**2**
fore quarter			1	**1**
hind quarter			1	**1**
feet	3			**3**
TOTAL	***14***	***0***	***2***	***16***

Mules were also listed in the 1849 Morgan Vardeman Estate bill of sale. Harrison and Klotter (1997:137) note that mules became important to Kentucky's livestock industry after 1830. The Kentucky-bred mules were from Spanish, Maltese, and French stock, and within a few generations were taller than their European contemporaries (Harrison and Klotter 1997:137). Some advantages of mules over horses include: mules are longer lived than horses, mules require less food, and were better adapted to a hot climate. Demand from "cotton-growing South" for Kentucky mules drove prices up, and on some farms, mules became the most profitable agricultural product (Harrison and Klotter 1997:137). In the 1849 bill of sale 21 mules were listed as being sold for $38.20 each (see Table 7.1). These animals brought the highest price out of the 231 animals sold at the estate sale.

The *status* of the individuals associated with the Vardeman House Site can be determined through both the archaeofaunal record and the historic documents. The use of utility indices for cuts of meat did not seem to shed light on the status of the consumers. However, the *absence* of skeletal remains of certain animals in the archaeofaunal record, and their appearance in the 1849 Morgan Vardeman Estate Auction bill of sale, does speak to the status of the Vardeman family as middle to upper middle class. The large number

Table 7.7. Items purchased at the Morgan Vardeman Estate Auction used in the manufacture of textiles and clothing.		
Item	**Quantity**	**Price ($)**
set spools	1	0.50
flax wheel	1	3.00
loomb&aperatus	1	2.75
flax wheel	1	1.00
wheel (spinning?)	1	0.62

of sheep (n=105) and animals (i.e., mules) that may have been raised solely for their economic profitability listed in the bill of sale supports the status of the Vardeman family. The above-average land holdings of Morgan Vardeman would have allowed him to have had the "luxury" of raising non-subsistence animals. The sheep and "2 sheet of wool" listed in the historic documents suggests that the Vardemans raised these animals for their wool, while their absence from the zooarchaeological record suggests they were not consumed. A number of items were also listed in the sale records that would have been used in the manufacture of cloth, textiles, and clothing (see Table 7.7). The horses (n=13) listed in the sales record were sold for $4.00 – 35.00 each, or an average of about $15.00 each. It is unclear if these horses were kept for transportation, as beasts-of-burden, or for racing, and it is unlikely that they were consumed. The mules listed in the estate records suggest that the Vardeman's were raising these animals for one or more purposes. Mules may have been used for their beasts-of-burden qualities, or sold to farmers and plantation owners in the south, for work on the cotton plantations. The high prices paid for the mules at the Morgan Vardeman Estate Auction belie their economic importance on this farmstead (see Table 7.1).

Comparison With Other Central Kentucky Farmsteads

Research has shown that pig, cattle, and other domestic livestock, as well as a variety of local wild animals, were important to antebellum farmstead economies in Kentucky and the surrounding region. An account of livestock kept on Judge Adam Beatty's plantation in Mason County notes, "large, stout horses and mules are mostly used for the farm work; the cows for milk, and the cattle for fattening, are principally a high cross of the Durham, the swine a greater or less inter-mixture of Irish Grazier or Berkshire; and the sheep of pure or mixed Merino blood" (Schwab 1973:302). The tradition that emphasized the cultivation of corn, wheat, and rye, cow and pig husbandry, and the consumption of pork versus beef, has been coined the "Upland South cultural tradition" by geographers and archaeologists (McCorvie 1987; Mitchell 1972, 1978; O'Brien and Majewski 1989). This social and agrarian complex is the fusion of elements from two regions: southeastern Pennsylvania, where corn, wheat and livestock were emphasized, and the Chesapeake region, where tobacco, hemp, and slavery were dominant. Key elements of this system included the cultivation of corn, wheat, and rye, and an emphasis on pig and cattle husbandry. These ideals and preferences rapidly spread from western Virginia to Central Kentucky after 1780 (Mitchell 1972:741, 1978:81), but also flourished in the Carolinas, Tennessee, northern Georgia, and Alabama, and eventually spread into southeastern Illinois (McCorvie 1987). The economic mindset of the time stressed land acquisition as a way of increasing one's social status. Social stratification was key, with two distinct groups of agriculturalists having existed in the Bluegrass region, the yeoman

farmers, owning small parcels of land and 1 or no slaves, and small planters, owning larger tracts of land and 2-10 slaves; both were dependent on the labor of the lowest class – slaves (Mason 1984:91; Mitchell 1978:83). The occupants of the Vardeman House, like many nineteenth-century rural farmers in Kentucky appear to have followed this tradition by raising swine and cattle on their property and incorporating a variety of wild animals into the diet. This section will compare the Vardeman House faunal assemblage to faunal assemblages from three nineteenth-century farmsteads.

William Whitley House State Historic Site (15LI55), Lincoln County, Kentucky

The William Whitley State Historic Site is located in Lincoln County, Kentucky. Recent investigations were restricted to the period from 1827 to 1919, when the site was occupied by Ephraim Pennington and his family (Linebaugh and Loughlin 2003). Pennington was a farmer and a magistrate, and information in the 1870 federal census indicates that he was well-to-do, with real property in excess of $29,000 and personal property valued at more than $19,000. The census also indicates that Pennington owned numerous slaves.

The faunal assemblage from the William Whitley Site consists of 1,127 specimens weighing 1,453.73 g. Selected contexts, including portions of Test Units 18 and 19, were analyzed. Faunal remains recovered from Test Unit 18, Strata VIb and VIc, and Test Unit 19, Strata Vc&d, and Ve are from an intact sheet midden dating from the 1830s, and were the focus of the analysis. The majority of the analyzed faunal specimens (NISP=784) were recovered during the excavation of the intact midden deposit located in Test Units 18 and 19. Out of this assemblage, 110 specimens were identified to a specific family or genus and species. Specific taxa identified (and the MNI of each) are: opossum (MNI=1), pig (MNI=1), white-tailed deer (MNI=1), cow (MNI=1), eastern cottontail rabbit (MNI=1), chicken (MNI=1), largemouth bass (MNI=1), gastropod (MNI=1) and bivalve (MNI=1) (Table 7.8). Pig elements comprise 71.82% of the identifiable faunal assemblage, cow 7.27%, and chicken 9.1%.

As with the Vardeman House faunal assemblage, elements (NISP) of selected mammals were grouped by the cut of meat represented. The mammals include pig, cow, and deer. The pig had the most elements representative of high utility meat cuts (n=26) (Table 7.9). The pig also had the most elements representative of low utility meat cuts (n=50). The cow had elements that represented high (n=7), medium (n=1), and low (n=4) utility cuts of meat. White-tailed deer elements were assigned to both high (n=1) and low (n=1) utility categories (see Table 7.9). As with the Vardeman House assemblage the presence of low utility pig elements in this particular site is not necessarily indicative of socioeconomic status. As noted above, these elements preserve well and are easily identifiable, even when broken into very small fragments. The type and quantity of skeletal elements that are represented (Table 7.10), in addition to the ratio of high to low utility elements (long bones and vertebrae versus head and feet) for pig, represent what would be expected if animals were raised and butchered on-site, instead of individual cuts of processed meat (i.e., salted, dried, sawn) purchased elsewhere and brought onto the site.

A variety of both domesticated and wild animals were present in the assemblage. The diversity of wild animals (both vertebrate and invertebrate) in the assemblage is greater than that of the domesticated fauna, and includes opossum, deer, eastern cottontail rabbit, largemouth bass, and bivalves. While the species diversity is greater, wild animals only make up 18.33% of the total identified faunal assemblage, based on NISP. The domesticated species consist of pig, cow, and chicken. The domesticated group of animals represents 81.67% of the total identified faunal assemblage, based on NISP. Not included in these counts are animals considered to be commensal (i.e., land snails), and animals grouped in broad

Table 7.8. Identified species from sites discussed in the text.					
Taxon	**Common Name**	**Vardeman House**	**William Whitley**	**Site 15BH212**	**Logan's Fort**
Mammalia	mammals	X		X	
Didelphis virginiana	opossum		X	X	X
Talpidae	moles			X	
Parascalops breweri	hairy-tailed mole			X	
Canis sp.	dog	X			
Canis familiaris	domestic dog	X			
cf. *Felis domesticus*	domestic cat			X	
Mustelidae	weasels, minks, skunks, otters			X	
Mustela sp.	mink			X	
cf. *Ursus americanus*	black bear			X	
Ursus americanus	black bear	X	X		X
Equus caballus	horse	X	X	X	X
Sus scrofa	pig	X	X	X	X
Cervidae	elk, deer			X	
Cervus canadensis	eastern elk, wapiti			X	
Odocoileus virginianus	white-tailed deer	X	X	X	X
cf. Bovidae	sheep, goat, bison, cows			X	
Bovidae	sheep, goat, bison, cows	X			
Ovis/Capra sp.	sheep/goat			X	
Bos taurus	domestic cattle	X	X	X	X
Rodentia	rodents	X			
Sciuridae	chipmunks, squirrels, muskrats			X	
cf. *Tamias* sp.	chipmunk			X	
Sciurus sp.	squirrel	X		X	
cf. *S. carolinensis and niger*	gray and fox squirrel			X	
Sciurus carolinensis	gray squirrel	X	X	X	X
Sciurus niger	fox squirrel	X		X	
Cricetidae	rats and voles			X	
Lagomorpha	rabbits	X			
Sylvilagus sp.	rabbit			X	
Sylvilagus floridanus	eastern cottontail rabbit	X		X	X
Aves	birds	X	X	X	X
Anatidae	ducks, geese	X		X	

Table 7.8. Identified species from sites discussed in the text.					
Taxon	**Common Name**	**Vardeman House**	**William Whitley**	**Site 15BH212**	**Logan's Fort**
Branta canadensis	Canada goose	X		X	
Galliformes	chickens, turkeys	X		X	
Gallus gallus	domestic chicken		X	X	X
Phasianidae	bobwhites	X			
Meleagris gallopavo	turkey	X		X	
Testudines	turtles		X		X
Amphibia	amphibians			X	
Ranidae/Bufonidae	frogs/toads			X	
Osteichthyes	bony fishes		X	X	X
Icatluridae	freshwater catfishes			X	
Bivalvia	bivalves	X		X	
Gastropoda	gastropods	X		X	
Anguispira alternata	flamed tiger snail			X	
Anguispira cumberlandiana	Cumberland tiger snail			X	
Helix sp.	gardensnail	X			
Stenotrema sp.	slitmouth snail			X	
Stenotrema stenotrema	inland slithmouth			X	
Mollusca	molluscs	X		X	

categories (Aves, Mammalia, Vertebrata). The biomass calculations also suggest that domesticated animals, especially pig, were the mainstay of the Pennington diet. Pig comprised 22.30% of the biomass (2,680.80g), cow 12.62% (1,517.93g), indeterminate mammals 49.57% (5,960.27g), Bovidae (the family of cows, sheep and goats) 10.09% (1,213.29g), and chicken 1.04% (125.56g). The wild taxa comprised only 3.86% of the assemblage biomass. These numbers show that pig was most heavily relied on in terms of meat weight. While the domesticated animals played a larger role in the diet of the Pennington's, the wild taxa seemed to have augmented a diet that was mostly reliant on pork.

The faunal assemblage recovered from the Pennington occupation of the William Whitley House suggests that the economy of the Upland South cultural tradition was generally followed, comprising a fairly restricted diet. The Pennington's were subsisting mainly on pork (71.82% of the identified assemblage) and chicken (9.1% of the identified assemblage). A number of chicken bones and avian eggshells (although not identified specifically to chicken) were recovered from the William Whitley House site. The extremely low number of cow remains (7.27% of the identified assemblage) recovered from the intact sheet midden may be evidence that cows were used for their secondary resources, such as dairy, labor, or sale at market.

Table 7.9. Utility Indices of Selected Mammals, William Whitley House (15LI55).				
Species	**Low Utility**	**Medium Utility**	**High Utility**	**Total**
pig (*Sus scrofa*)				
head	26			**26**
axial			18	**18**
fore quarter		1		**1**
hind quarter			7	**7**
feet	22			**22**
TOTAL	***48***	***1***	***22***	***74***
white-tailed deer (*Odocoileus virginianus*)				
head				**0**
axial				**0**
fore quarter				**0**
hind quarter			1	**1**
feet	1			**1**
TOTAL	***1***	***0***	***1***	***2***
cow (*Bos taurus*)				
head	4			**4**
axial			7	**7**
fore quarter		1		**1**
hind quarter				**0**
feet				**0**
TOTAL	***4***	***1***	***7***	***12***

Site 15BH212, Bath County, Kentucky

The major component at Site 15BH212, located in Bath County, Kentucky, represents a rural domestic occupation that potentially spanned 75 years (ca. 1775-1850), based on temporally diagnostic historic ceramics deposited at the site (Peres 2003). However, the primary focus of the investigation was largely restricted to the period from 1817 to 1850, when the Duckworth family owned the property. Several factors suggest that features and artifacts recovered from Site 15BH212 represent a slave context: the presence of two root/pit cellars, the location of the site on a sloping hillside, the presence of a more suitable level area for the main residence to the north of the project area, and the similarities of the excavated features and artifact assemblage to contemporaneous sites occupied by slaves in Kentucky. The cellar features and artifacts can be attributed to two buildings that may have had several functions, including a kitchen that may have housed slaves, a slave dwelling, or some other ancillary building that housed slaves.

The calculated mean ceramic date for the entire site, based on 2,046 diagnostic ceramics, is 1825. The faunal assemblage (n=5,104; 8,644.69 g) from Site 15BH212 was potentially discarded by slaves that worked and lived on the farm. A diet

Table 7.10. Number of skeletal elements of selected mammals recovered from selected features, William Whitley House Site (15LI55).

Context	Elements									
	Skull	Teeth	Pelvis	Vertebrae	Scapula	Long Bones	Ribs	Feet	Indet. Frags	Total
Pig (*Sus scrofa*)										
Midden Deposit	2	24	1	15	0	8	1	24	2	*77*
Total	***2***	***24***	***1***	***15***	***0***	***8***	***1***	***24***	***2***	*77*
Cow (*Bos taurus*)										
Midden Deposit	0	0	0	0	0	1	1	0	0	*2*
Total	***0***	***0***	***0***	***0***	***0***	***1***	***1***	***0***	***0***	*2*
Deer (*Odocoileus virginianus*)										
Midden Deposit	0	0	0	0	0	1	0	0	0	*1*
Total	***0***	***0***	***0***	***0***	***0***	***1***	***0***	***0***	***0***	*0*

consisting of primarily domestic animals, especially pork was augmented by wild taxa, supporting the hypothesis that the Duckworth farm generally followed the Upland South cultural tradition. The floral assemblage recovered from Site 15BH212 supports a potentially lower social status interpretation, particularly the identified specimens of gourd rind, elderberry, and serviceberry (Rossen 2003). Other lines of evidence recovered from the site, including the presence of two root cellars and architectural evidence related to impermanent structures, the location of the site on a sloping hillside, the presence of a more suitable level area for the main residence to the north of the project area, and the similarities of the excavated features and artifact assemblage to contemporaneous sites in Kentucky, support an African-American slave interpretation (Peres 2003).

A variety of both domesticated and wild animals were present in the assemblage. The diversity of wild animals (both vertebrate and invertebrate) in the assemblage is greater than that of the domesticated fauna, and includes opossum, mink, black bear, elk, deer, gray and fox squirrels, eastern cottontail rabbit, wild turkey, Canada goose, frogs/toads, catfishes, and bivalves (see Table 7.8). While the species diversity is greater, wild animals also represent a larger percentage (33.8%) of the total Site 15BH212 faunal assemblage, than at the other sites. The domesticated species consist of pig, cow, chicken, horse, and sheep/goat, representing 66.2% of the total faunal assemblage. Not included in these counts are animals considered to be commensal (moles, rats and voles, land snails), and animals grouped in broad categories (Aves, Mammalia, Vertebrata). Notably, the percentage of wild vs. domestic taxa is approximately twice as great in the Site 15BH212 assemblage compared to all others.

The biomass estimates for the faunal assemblage recovered from Site 15BH212 correlate with the other quantification methods used

in the analysis. The majority of the biomass of the assemblage is made up of indeterminate mammals (40.38%, 21,669.22g). Of the domesticated taxa, pig comprised 24.07% of the biomass, or 12,917.19g represented, cow comprised 14.38% (7,714.10g), sheep/goat comprised 0.94% (506.50g), and chicken comprised 1.89% (1,011.46g) of the biomass. Of the wild taxa, elk, deer, turkey, and possum had the greatest biomass contributions. Elk comprised 4.56% (2,446.16g) of the assemblage biomass, deer 3.80% (2,040.50g), possum 1.30% (695.40g), and turkey 1.03% (553.89g). Again, the biomass estimates support the idea that the pig played an important role in the diet, followed by cow, chicken, and sheep/goat. Wild animals also played a role in the diet, but to a much lesser degree.

The identified faunal assemblage (including only those specimens that could be identified to *Genus* and *species*) was 973, based on NISP. Of these 973, wild animals are represented as follows: opossum 3.49% of the NISP, black bear 0.10%, elk 0.31%, white-tailed deer 2.88%, chipmunk 0.21%, squirrels 17.47%, rabbits 1.85%, goose 0.10% and turkey 1.75%. The domesticated animals are represented as follows: pig 54.68%, chicken 15.31%, cow 1.23%, sheep/goat 0.21%, horse 0.10%. While the diet reflected in this faunal assemblage is comprised of a variety of wild taxa, domesticated taxa are represented by few species. However, one of these species dominates the assemblage – pig (54.68% of the identified faunal assemblage).

Utility indices were assigned to selected mammals from the Site 15BH212 faunal assemblage (pig, sheep/goat, cow, elk, and white-tailed deer), and elements for each animal were tabulated to give the reader a better understanding of element distribution (Tables 7.11 and 7.12). The pig had the most elements representative of high utility meat cuts (n=81). The pig also had the most elements representative of low utility meat cuts (n=366). The sheep/goat and cow only had elements representative of high utility meat cuts. The elk elements were assigned to the low utility category. White-tailed deer elements could be assigned to all three utility categories (low – 20; medium – 4; and high – 3). The presence of numerous cranial, ankle, and foot bones of mammals in this assemblage (especially pigs) may serve to support a low socioeconomic class diet (i.e., slaves). The pig feet bones may be a result of pickled pigs' feet or knuckles, which are still popular in the south today, or they may have been used in soups or stews. However, as mentioned above, these elements may also represent on-site butchering of entire animals.

The faunal assemblage from Site 15BH212 was likely deposited by the slaves that worked and lived on the farm. A diet consisting of domestic animals, especially pork (almost half of the identified assemblage) was augmented by wild taxa, supporting the hypothesis that the Duckworth slaves followed the Upland South cultural tradition. The domestic animal portion of the slave diet may have been rationed by the master, bought, stolen, or raised by the slaves. The larger proportion of wild species suggests that slaves may have had enough free time to hunt these animals and/or felt the need to secure their own identities by doing so.

Logan's Fort (15LI95), Lincoln County, Kentucky

A small faunal assemblage (n=742, 8,004.3 g) from the Logan's Fort site was recovered from cultural features and an identified midden. Information about this assemblage is summarized from Christian Davenport's analysis (Davenport 2000). The Logan's Fort contexts selected for inclusion in this comparative analysis include STP 18 and Test Units 3, 6, 7, 9, 10, 14, and 17. The total number of bone recovered from these contexts was 425. Identified taxa from these contexts include seven species of mammals and one species of bird, as well as the general categories of turtles, bony fishes, and birds. The mammals include opossum (*Didelphis virginiana,* originally identified as

Table 7.11. Utility Indices of Selected Mammals, Site 15BH212.				
Species	**Low Utility**	**Medium Utility**	**High Utility**	**Total**
pig (*Sus scrofa*)				
head	98			**98**
axial			53	**53**
fore quarter			3	**3**
hind quarter			256	**256**
feet	84			**84**
TOTAL	***182***	***0***	***312***	***494***
elk/wapiti (*Cervus canadensis*)				
head	3			**3**
axial				**0**
fore quarter				**0**
hind quarter				**0**
feet				**0**
TOTAL	***3***	***0***	***0***	***3***
white-tailed deer (*Odocoileus virginianus*)				
head	8			**8**
axial				**0**
fore quarter		4		**4**
hind quarter			3	**3**
feet	12			**12**
TOTAL	***20***	***4***	***3***	***27***
sheep/goat (*Ovis/Capra* sp.)				
head				**0**
axial				**0**
fore quarter				**0**
hind quarter			2	**2**
feet				**0**
TOTAL	***0***	***0***	***2***	***2***
cow (*Bos taurus*)				
head				**0**
axial				**0**
fore quarter				**0**
hind quarter			4	**4**
feet				**0**
TOTAL	***0***	***0***	***4***	***4***

Table 7.12. Number of Skeletal Elements of Selected Mammals Recovered from Selected Features, Site 15BH212.

Feature No.	Elements									
	Skull	**Teeth**	**Pelvis**	**Vertebrae**	**Scapula**	**Long Bones**	**Ribs**	**Feet**	**Indet. Frags.**	**Total**
Pig (*Sus scrofa*)										
2	34	157	1	48	3	25	5	4	0	*277*
10	8	82	0	50	2	13	0	81	0	*236*
Total	***42***	***239***	***1***	***98***	***5***	***38***	***5***	***85***	***0***	***513***
Cow (*Bos taurus*)										
2	0	0	0	1	0	1	1	1	0	*4*
10	0	0	0	0	0	0	0	0	0	*0*
Total	***0***	***0***	***0***	***1***	***0***	***1***	***1***	***1***	***0***	***4***
Deer (*Odocoileus virginianus*)										
2	0	0	0	0	0	0	0	0	0	*0*
10	1	7	0	0	0	6	0	12	2	*28*
Total	***1***	***7***	***0***	***0***	***0***	***6***	***0***	***12***	***2***	***28***
Sheep/Goat (*Ovis/Capra* sp.)										
2	0	1	0	0	0	0	0	0	0	*1*
10	0	0	0	0	0	0	0	0	0	*0*
Total	***0***	***1***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1***

Didelphis marsupialis), black bear (*Ursus americanus*), pig (*Sus scrofa*), white-tailed deer (*Odocoileus virginianus*), cow (*Bos taurus*), squirrels (*Sciurus* spp.), and eastern cottontail rabbit (*Sylvilagus floridanus*). The one identified bird species is chicken (*Gallus gallus*) (see Table 7.8).

There are both wild and domesticated animals in this assemblage. The diversity of wild animals in the assemblage is greater than that of the domesticated fauna, and includes opossum, black bear, deer, gray squirrel, turtles, and bony fishes. While the species diversity is greater, wild animals only make up 18.3% of the total faunal assemblage. The domesticated species consist of pig, cow, and chicken. The domesticated group of animals represents 81.72% of the total faunal assemblage. Not included in these counts are animals grouped into the general category of Aves. Of the identified faunal assemblage (n=383), pig comprises 61%, cow 21.9%, and chicken 1%. Pig is more numerous in this assemblage, but cow most likely comprised the bulk of the diet in terms of biomass. Chickens seem to play a smaller role in the diet. However, this interpretation may be due to the small size of the assemblage.

As with the other faunal assemblages discussed in this report, elements of selected mammals were grouped by the cut of meat represented, and elements for each animal were tabulated to give the reader a better understanding of element distribution (Tables 7.13 and 7.14). The mammals include pig, cow, and deer. The pig had the most elements representative of low utility meat

cuts (n=194). The pig also had elements representative of high utility (n=35) and medium utility (n=15) meat cuts. Since all stages of utility are present, entire pigs were probably brought to and processed at the site. The cow had the most elements that represented high utility meat cuts (n=44). Elements of the cow also represented medium utility (n=5) and low utility (n=37) cuts of meat. All stages of utility are present in roughly equal proportions, which is indicative of an animal being processed at the site. White-tailed deer elements were assigned to high (n=6), medium (n=3), and low (n=7) utility categories. Again, all stages of utility are present, thus deer were probably brought to and processed at the site.

The faunal assemblage recovered from the specific contexts listed above was lumped together by Davenport (2000:92), and contains materials from both the fort and subsequent nineteenth-century farmstead occupations. The faunal assemblage from Logan's Fort is considered to be typical of a small eighteenth- or nineteenth-century farmstead. The majority of the diet was based on domestic mammals that were brought to, or raised at, the site, and subsequently processed. The one difference between Logan's Fort and the other sites is that there seems to be a heavier reliance on beef versus pork, however this could be a function of sample size.

Discussion of Comparative Analysis

The zooarchaeological records from selected contexts within four nineteenth-century sites in Central Kentucky (Site 15BH212, William Whitley

Table 7.13. Utility Indices of Selected Mammals, Logan's Fort Site.

Species	Low Utility	Medium Utility	High Utility	Total
pig (*Sus scrofa*)				
head	112	8		**120**
axial			25	**25**
fore quarter		6	7	**13**
hind quarter		1	3	**4**
feet	82			**82**
TOTAL	194	15	35	***244***
white-tailed deer (*Odocoileus virginianus*)				
head	1			**1**
axial	1			**1**
fore quarter		3	1	**4**
hind quarter			4	**5**
feet	5			**5**
TOTAL	7	3	5	***16***
cow (*Bos taurus*)				
head	23			**23**
axial			34	**34**
fore quarter		5	2	**7**
hind quarter			8	**8**
feet	14			**14**
TOTAL	37	5	44	***86***

Table 7.14. Number of Skeletal Elements of Selected Mammals Recovered From Selected Contexts, Logan's Fort Site.

Context	Elements									
	Skull	Teeth	Pelvis	Vertebrae	Scapula	Long Bones	Ribs	Feet	Indet. Frags.	Total
Pig (*Sus scrofa*)										
STP 18	0	0	1	0	0	0	0	1	0	*2*
Unit 3	3	19	0	0	1	3	0	9	0	*35*
Unit 6	0	0	0	0	0	1	0	1	0	*2*
Feature 8	2	28	1	3	0	2	6	3	0	*45*
Unit 7	0	4	0	0	0	0	0	4	0	*8*
Unit 9	5	14	0	1	0	3	7	45	0	*75*
Feature 7	1	4	0	3	1	4	2	2	0	*17*
Unit 10	4	7	1	0	0	1	0	3	0	*16*
Unit 14	0	0	0	0	1	0	0	1	0	*2*
Unit 17	15	6	0	0	0	0	0	7	0	*28*
Total	***30***	***82***	***3***	***7***	***3***	***14***	***15***	***76***	***0***	***230***
Cow (*Bos taurus*)										
STP 18	0	0	0	0	0	0	0	0	0	*0*
Unit 3	1	1	1	0	0	1	4	1	0	*9*
Unit 6	0	0	0	0	0	0	0	0	0	*0*
Feature 8	3	7	0	1	0	0	2	3	0	*16*
Unit 7	0	0	0	0	0	5	0	2	0	*7*
Unit 9	1	4	0	0	1	1	1	2	0	*10*
Feature 7	1	1	2	7	1	4	12	4	0	*32*
Unit 10	0	1	0	0	0	0	1	2	0	*4*
Unit 14	0	0	0	0	0	0	0	0	0	*0*
Unit 17	0	1	0	0	0	1	0	1	0	*3*
Total	*6*	*15*	*3*	*8*	*2*	*12*	*20*	*15*	*0*	***81***
Deer (*Odocoileus virginianus*)										
STP 18	0	0	0	0	0	1	0	2	0	*3*
Unit 3	0	0	0	0	0	0	0	1	0	*1*
Unit 6	0	0	0	0	0	0	0	0	0	*0*
Feature 8	0	0	0	0	0	3	0	0	0	*3*
Unit 7	0	0	0	0	0	0	0	0	0	*0*
Unit 9	0	0	0	0	0	0	0	0	0	*0*
Feature 7	0	0	1	0	0	1	0	0	0	*2*
Unit 10	0	0	0	0	0	0	0	0	0	*0*
Unit 14	0	0	0	0	0	0	0	0	0	*0*
Unit 17	0	0	0	0	0	0	0	1	0	*1*
Total	*0*	*0*	*1*	*0*	*0*	*5*	*0*	*4*	*0*	***10***

House, Logan's Fort, and Vardeman House) were used to explore the regional foodway phenomenon associated with the Upland South cultural tradition. One of the main traits of the diet portion of the Upland South tradition is an emphasis on pork versus beef consumption (Martin and Richmond 1992:284). A number of studies have already demonstrated that pork is a fundamental part of the Upland South diet (Breitburg 1976, 1983; McCovie 1987; Martin 1986; Price 1985). However, McBride and McBride (1990:676) call on zooarchaeologists to study faunal remains from a variety of contexts to identify: (1) the range of taxa exploited at these sites; (2) the types of sites that show the highest or lowest occurrence of pork usage; and (3) which environmental, cultural, regional, or economic factors can explain this variation, if any, in the reliance on pork.

The first issue to be addressed is one of species diversity within an assemblage and between assemblages. The diversity of an assemblage is dependent on the number of different taxa represented. The present analysis compares the species diversity of the four assemblages, using only the vertebrate taxa (see Table 7.8). The most diverse assemblage is that from Site 15BH212 with 20 taxa represented. The Vardeman House is the next in diversity with 12 taxa represented, Logan's Fort had 11 taxa, and the William Whitley House is the least diverse with 8 taxa represented. These numbers again may be due to sample size, but also may be due to other causes discussed above such as cultural and economic factors in play at the time of use and deposition, differential deposition, length of occupation of the site, taphonomic factors, and analytical decisions, among others.

In addition to overall diversity of taxa, the assemblages are made up of a variety of both wild and domesticated animals. The Site 15BH212 slave assemblage has the highest wild to domesticated ratio (33.8% to 66.2%) of the four sites (Figures 7.1 and 7.2). Wild taxa represented at this site include opossum, mink, black bear, elk, deer, gray and fox squirrels, cottontail rabbit, turkey, Canada goose, frogs/toads, catfish, and bivalves. Pig, cow, chicken, and sheep/goat represent the domestic taxa. The William Whitley midden assemblage is much lower with 18.33% wild taxa to 81.67% domestic taxa. The wild taxa in this assemblage are represented by opossum, deer, cottontail rabbit, largemouth bass, and bivalves. The domesticated taxa are represented by pig, cow, and chicken. The Logan's Fort assemblage is similar to the William Whitley assemblage in terms of the ratio of identified wild to domesticated taxa (18.3% to 81.7%). Wild taxa represented at this site include opossum, black bear, deer, squirrels, eastern cottontail rabbit, turtles, and bony fishes. The domestic taxa are represented by pig, cow, and chicken. The Vardeman House assemblage is comprised predominantly of domestic animals (89% domestic to 11% wild). The wild taxa are represented by deer, gray and fox squirrels, ducks, and bivalves. The domesticated taxa are represented by pig and cow. What is most interesting about the Vardeman House faunal assemblage is the low number of domesticated species that are represented. We know from documentary evidence that at least six different domesticated animals (horses, pigs, cows, mules, sheep, and chickens) were being raised at the farmstead, yet only two of these (pig and cow) are definitively represented in the archaeofaunal record. Again, this may be due to food preferences, economic vs. dietary importance of an animal, sample size, deposition, or differential preservation.

The second issue addressed in this analysis is the occurrence of pork at each of these sites (Figure 7.3). The Site 15BH212 faunal assemblage was recovered from two root cellar features that were probably used by slaves. Pig is represented by 494 specimens, or 54.68% of the identified faunal assemblage. Cows are represented by 13 specimens, or 1.23 % of the identified faunal assemblage. There were two specimens of sheep/ goat, representing 0.21% of the identified faunal assemblage. Chickens are represented by 149 bony elements (15.31%). There were numerous eggshell fragments present in the assemblage, however they

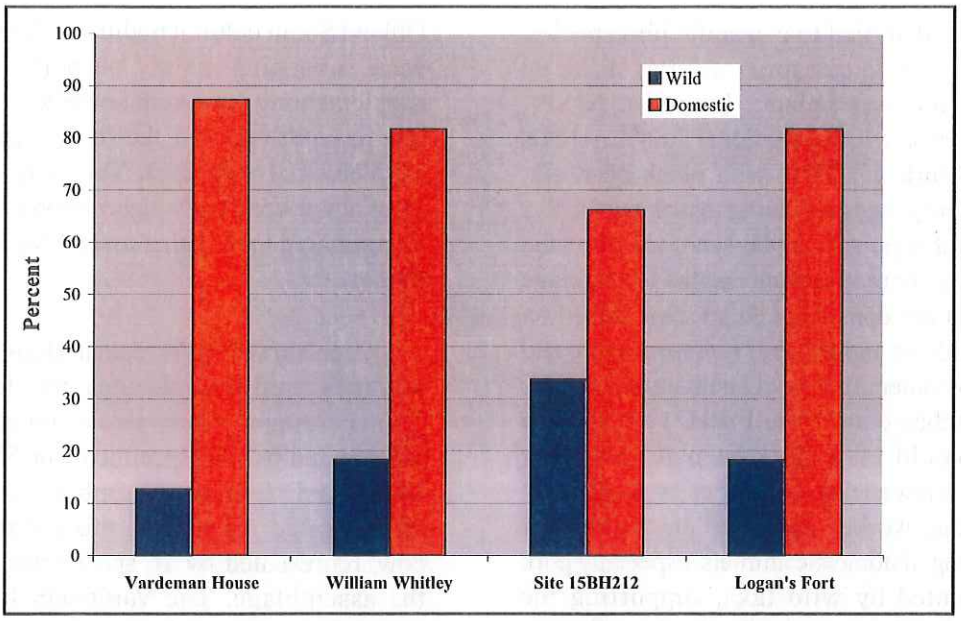


Figure 7.1. Percentage of wild and domesticated taxa identified in the four assemblages discussed in the text.

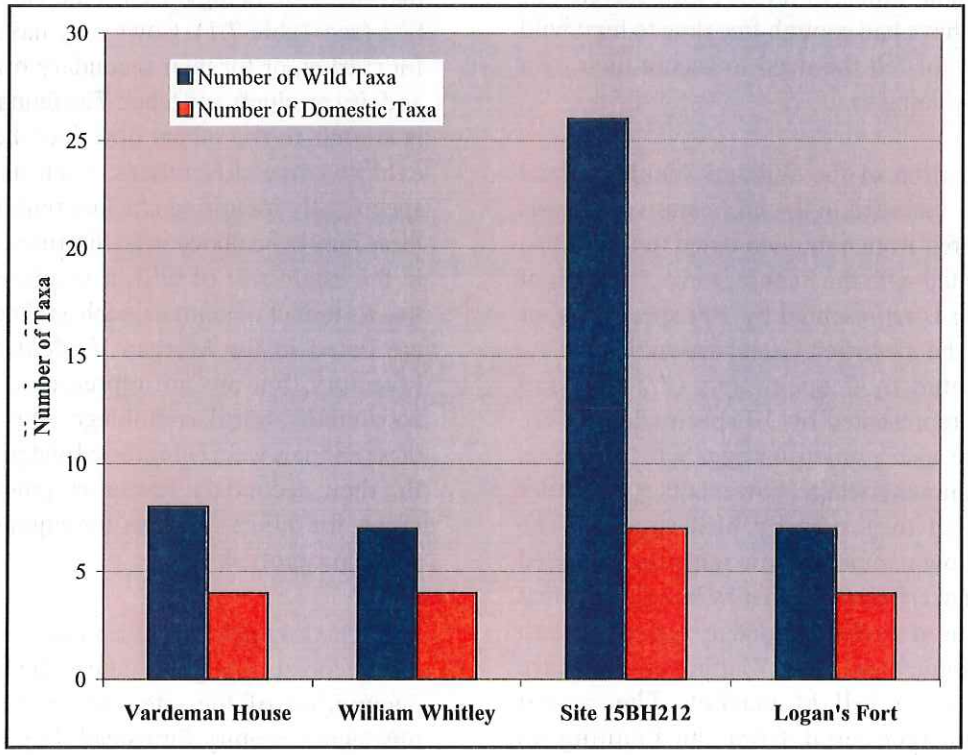


Figure 7.2. Number of wild and domesticated taxa identified in the four assemblages discussed in the text.

could not be identified to a specific bird species. From the wild taxa category, squirrels make up 17.47% of the assemblage (based on NISP), opossum 3.49%, white-tailed deer 2.88%, rabbits 1.85%, and turkey 1.75%, with black bear, elk, chipmunk, and goose combining to make up 0.72% of the assemblage. As can be seen, many of the wild taxa are more abundant in this assemblage than most of the domesticated species. Based on the utility indices and skeletal representation, and supported by other artifactual and feature data, the faunal assemblage from Site 15BH212 suggests a diet that would may have been followed by members of a low socioeconomic class, most likely the slaves that worked and lived on the farm. A diet consisting of domestic animals, especially pork was augmented by wild taxa, supporting the hypothesis that the slaves at the Duckworth farm followed a modified Upland South cultural tradition, in which wild animals were regularly used to supplement the diet. The domestic animal portion of the slave diet may have been rationed by the master, bought, stolen, or raised by the slaves. The slaves may have had enough free time to hunt wild animals and/or felt the need to secure their own identities by doing so.

The portion of the William Whitley faunal assemblage included in the comparative analysis was recovered from a midden dated to the 1830s, and associated with the Pennington occupation of the site. Pig is represented by 100 specimens, or 71.82% of the identified faunal assemblage. Cow is represented by 7 specimens (7.27%), and chicken is represented by 10 specimens (9.1%). There were also numerous eggshell fragments present in the assemblage, however they could not be identified to a specific bird species. The extremely low number of cow remains recovered from the intact sheet midden may be evidence that cows were used for their secondary resources, such as dairy products and labor. Cattle may also have been raised to sell at market. The faunal assemblage recovered from the Pennington occupation of the William Whitley House suggests a fairly restricted diet, one that closely follows the Upland South cultural tradition. The Pennington's were subsisting mainly on pork and chicken, supplementing these with few wild animals, in fact this assemblage had the lowest percentage of supplemental wild taxa. This may speak to the Pennington's relatively higher socioeconomic status as compared to the other assemblages included in this analysis.

A portion of the Vardeman House assemblage was recovered from features with terminus post quems during the early nineteenth century. Pig is represented by 402 specimens, or 55.76% of the identified faunal assemblage. The other domesticated mammal in this assemblage is the cow, represented by 16 specimens, or 2.22% of the assemblage. The Vardeman House faunal assemblage shows a heavy reliance on domestic mammals, particularly pigs. The Vardeman's were subsisting mainly on pork, using few wild taxa to augment the diet. Beef seemed to have played a very small role in the diet, even though we know that cattle are being raised at the Vardeman House Site (see Table 7.1). Cows may have been raised for market, or for their secondary resources, such as dairy products and labor. The faunal assemblage is similar to the others described here, but does exhibit some differences, such as the lack of specifically identified chicken remains (although these may be included in Galliformes, and are listed in the estate sale of bill). It is interesting to note that a number of animals, such as sheep and mules, are listed in the Morgan Vardeman estate sale inventory, but are not represented at all in the zooarchaeological assemblage. This suggests that these animals were being raised and potentially used for their secondary resources (sheep for wool; mules for labor; chickens for eggs) or were their economic profitability.

The Logan's Fort assemblage was recovered from deposits thought to date to the frontier or fort occupation of the site and to the subsequent nineteenth-century farmstead. Pig is represented by 244 specimens, or 55.6% of the identifiable faunal assemblage. Cow is represented by 86

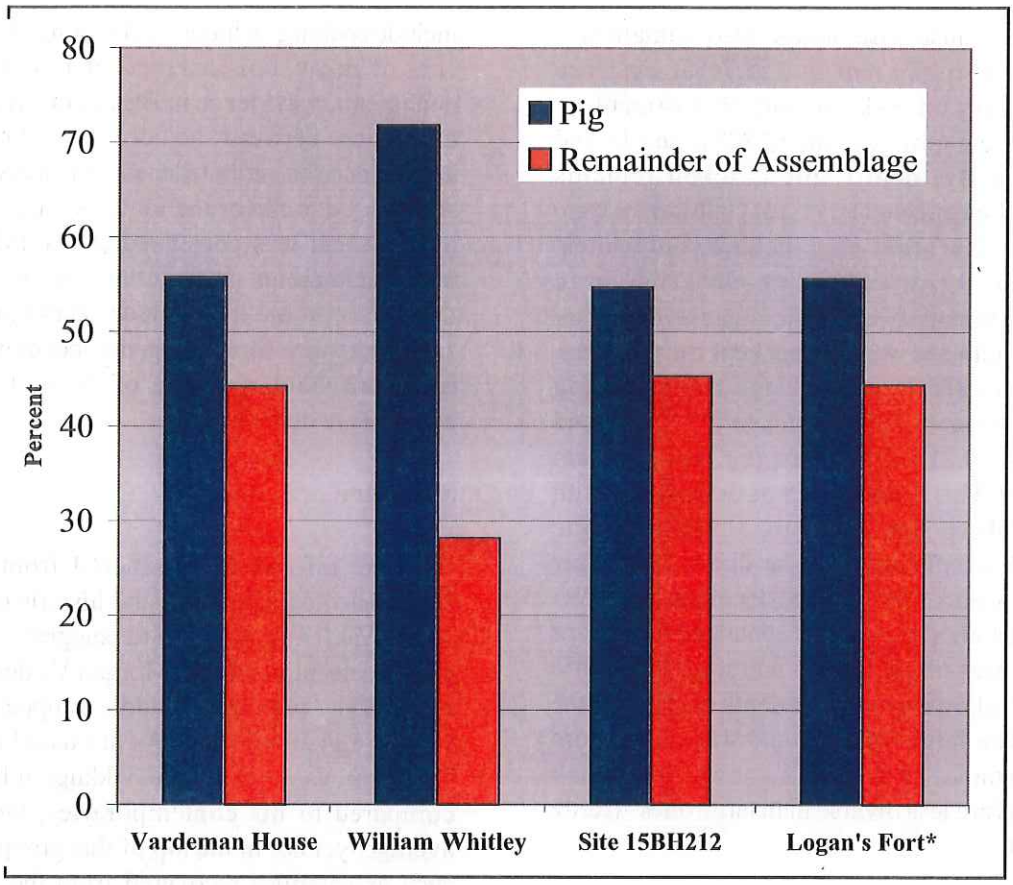


Figure 7.3. Percentage of pig in each of the four assemblages discussed in the text.

specimens (19.6%), horse is represented by 1 specimen (0.23%), and chicken by 4 specimens (0.91%). The assemblage from Logan's Fort is primarily composed of domestic taxa, especially pork. The faunal assemblage from Logan's Fort is considered to be typical of a small eighteenth- or nineteenth-century farmstead. The majority of the diet was based on domestic mammals that were brought to, or raised at, the site, and subsequently processed. The one difference between Logan's Fort and the other sites is that there seems to be a slightly heavier reliance on beef versus pork (in terms of biomass), however this may be a function of sample size.

The comparison of these four historic faunal assemblages supports the view that pork was very important in the Upland South cultural tradition practiced in Kentucky in the nineteenth century. All four faunal assemblages had a variety of wild and domestic taxa represented, and all four assemblages showed a preponderance of pig remains (Table 7.15). The identifiable portion of the William Whitely faunal assemblage contained the largest percentage of pig remains (71.82%), relative to cow (7.27%) and chicken (9.1%). The identified Logan's Fort assemblage contained the next largest percentage of pig remains (61%), relative to cow (21.9%), and chicken (1%). The data suggest that pig and cow were both consumed, however problems such as the likely mixing of the fort and farmstead deposits and the small sample size, make it difficult to draw conclusions specific to the nineteenth-century farmstead. The

Vardeman House assemblage also contained a large number of pig remains (55.76%), evidence of a diet heavy on pork. Notably, this assemblage contained few cow remains (2.22%) and lacked unequivocally identifiable chicken remains (although 8 specimens (1.11%) of Galliformes were identified, the order that includes bobwhites, turkeys, chickens, and prairie-chickens), even though documentary evidence suggests that other domestic animals were being kept on the farm. The Site 15BH212 assemblage contained pig (54.68%), cow (1.23%), chicken (15.31%), and sheep/goat (0.21%), however pig was the main component. This assemblage was the only one with identified sheep/goat. The composition of the Site 15BH212 assemblage may be due to the larger sample size and types of deposits excavated. Two large undisturbed root cellars contained the bulk of the well-preserved faunal material from Site 15BH212, allowing for an in-depth analysis of the sample. The large size also allowed for a more diverse sample, as it is well known that "small collections are less diverse than large ones" (Reitz 1987:116).

It appears that small-scale regional variation does occur in the Upland South diet. The variation in diet between the four Central Kentucky sites compared here is minor, and likely attributed to economic and cultural factors, sampling techniques, and/or sample size. Economic factors may include socioeconomic status of the consumers (i.e., slaves vs. wealthy landowners), type of farming operation (subsistence vs. for-profit), and/or size of farm. Dietary preferences may also be involved and might include cooking techniques, flavoring of foods, and cuts of meat. For instance, it is known from documentary evidence in Britain that many of the differences between the cooked food of the rich and poor can be attributed to the expensive imported spices used to flavor the food, as much as the cut of meat that was consumed (Dyer 1983; Grant 2002; Hammond 1993). Other factors that may have affected the diet include access to weapons and leisure time for hunting, number of individuals in a household, and size of the archaeofaunal assemblage deposited.

Summary

The information gathered from both the zooarchaeological record and historic documents of the Vardeman House Site suggests that in the mid-nineteenth-century, Morgan Vardeman was a rural farmer within the middle to upper middling class in Lincoln County. As discussed in Chapter 7, Morgan Vardemans' land holdings in 1840, when compared to his contemporaries, were above average, yet not in the top of this group. Artifacts such as ceramics recovered from the Vardeman House Site suggest that a variety of new, more fashionable ceramic table and teawares were being purchased. Both the economy and subsistence of the Vardeman House Site can be interpreted from data gathered during this study. By combining the zooarchaeological data (subsistence) and historical documentation (economy and subsistence), it is clear that a number of animals were being raised and kept at the Vardeman House Site for both economic and subsistence purposes. Both wild and

Table 7.15. Percentage of pig by NISP identified from sites discussed in the text.

	Vardeman House	William Whitley	Site 15BH212	Logan's Fort
Pig	55.76	71.82	54.68	55.60
Remainder of Assemblage	44.24	28.18	45.32	44.40

domesticated animals were used for food, including pig, cattle, deer, squirrel, turkey, geese, and other galliforms birds (i.e., chickens, bobwhites, etc.). It is clear from the data gathered that Morgan Vardeman and his family followed the Upland South cultural tradition, especially with their dietary preferences. Other animals were identified in the zooarchaeological record, but were likely not consumed as food, such as the dog and horse. Interestingly, several animals were not identified in the zooarchaeological record, but were listed in the historical documentation for the site. These animals include sheep, mules, and chickens. It is likely that sheep and mules, as well as cattle, were raised for secondary resources (i.e., wool, dairy) or for economic profitability.

Selected portions of faunal assemblages from four sites were compared to assess the degree of regional variability in the Upland South diet in Central Kentucky. In comparing inter-regional rural subsistence patterns, one would expect pronounced differences in diet composition. Comparing the selected portions of faunal assemblages from the Vardeman House Site, William Whitley House, Site 15BH212, and Logan's Fort, this is not true. It appears that the Vardeman House faunal assemblage is similar in variety of taxa represented to other assemblages from contemporaneous sites in the region. All of the portions of the faunal assemblages compared were comprised of mainly domestic animals, with the addition of a variety of wild animals (but in lower numbers). A heavy reliance on domestic mammals, particularly pigs, was observed in the Vardeman House faunal assemblage, as well as at other sites within the region. The farm animals that were processed at the Vardeman House Site were mostly from adult individuals, although some of the pig specimens (n=44) and one of the cow specimens were from immature individuals, suggesting raising and slaughtering of the animals on the farm, which is supported by archival evidence. Archaeological evidence and historical documentation suggests that these four sites represent people from different socioeconomic classes (slaves, wealthy landowners, middle to upper middle class farmers). The zooarchaeological data suggest that these groups of people may have been consuming similar cuts of meat, however these cuts of meat may have been prepared in different ways, and held very different social and economic values. At the very least, the diets (with the exception of Site 15BH212, which may simply may be due to issues of sampling size/techniques) were made up of the same general types of animals, and follow the pattern described as the Upland South cultural tradition. Other studies (Reitz 1987) have noted that different classes of people living in similar environments maintained similar diets due to restricted access to purchased foods. Thus, individuals had to depend on locally available animals and plants, locally raised hogs, cattle, and chicken. The representation of elements, and lack of sawn bones recovered from the Vardeman House Site suggests that animals were raised at, or brought to, the site for processing. This is in contrast to cuts of meats being processed at other locations (i.e., professional butcher shop), purchased by the consumer, and then brought to the site for consumption. The faunal assemblage from the Vardeman House Site is a good representation of the diet prescribed by the Upland South cultural tradition that was practiced in Kentucky during the antebellum period.

CHAPTER 8: Archaeological and Historical Reconstruction of The Vardeman House Site

by Andrew Madsen

In this chapter an historical and interpretive overview of the Vardeman family occupation at the Vardeman House Site is presented, followed by a discussion of specialized analytical techniques, which aided in the interpretation. Artifactual data from the materials recovered chapter are integrated in this chapter with the primary and secondary historical documentation, the soil chemistry data, and social histories of the early Federal period and compared with contemporaneous archaeological assemblages located in the eastern United States and Kentucky.

Interpretive Discussion of the Historic Component

The Vardeman House Site is a multicomponent site with prehistoric and late eighteenth- and early nineteenth-century occupations located in the Cedar Creek stream valley in Lincoln County, Kentucky. The site is approximately one mile southwest of the confluence of Cedar Creek with the Dix River and is situated on the bluff crest of a stream terrace overlooking the Cedar Creek floodplain (see Figure 1.2). The historic occupation of the site covered approximately 6,300 m^2, the long axis of which measured approximately 90 m north/south. Archival research indicated that the Vardeman House Site was initially occupied during the historic period by early Kentucky pioneers who assisted in establishing the Wilderness Trail, a thoroughfare for settlement of Kentucky via the Cumberland Gap and southwestern Virginia. William Menifee first occupied the property in 1781, subsequently selling it to his father-in-law, John Vardeman, Jr. in 1789. The property remained in the Vardeman family until Jeremiah Vardeman sold it to Ephraim Pennington in 1851. Due to the association with individuals involved with the blazing of the Wilderness Trail and with the early pioneer occupation of Kentucky, as well as multicomponent prehistoric lithic artifacts and historic ceramics, architectural materials, and other cultural debris recovered during Phase I and II investigations (Schock 1993; Sussenbach 2000), the Vardeman House Site was considered eligible for nomination to the National Register of Historic Places (NRHP) under Criterion D and possibly under Criteria A and B, and was recommended for avoidance or Phase III data recovery (Davis and Linebaugh 2000:16).

Much of the immigration to Kentucky during the late eighteenth century was a result of settler's leaving Virginia and North Carolina. Settlers from these states typically arrived in Kentucky via Martin's Station near the Cumberland Gap, located at the confluence of present-day Kentucky, Tennessee, and West Virginia. Settlers then continued by foot or on horseback along the Wilderness Road into various parts of Kentucky, including the vicinity of the the Vardeman House Site along Cedar Creek in Lincoln County. A large portion of the late eighteenth-century settlement in Lincoln County, Kentucky, was a result of claims to land by veterans of the French and Indian War. Upon completion of service, veterans were often compensated with land, called a preemption, rather than cash payment. The land amount awarded to each veteran varied, but was generally based upon their rank in service, a custom most likely adapted from the English system (Hay 1977:2). Although it

is unclear whether John Vardeman, Sr. filed for a preemption, the chain of title for the Vardeman homeplace indicates that his son, John Vardeman, Jr., purchased a portion of his son-in-law William Menifee's preemption in Lincoln County, Kentucky, in 1789.

Fortified "stations" often consisting of little more than a cluster of families were constructed at strategic points on the Kentucky frontier to protect settlers' families and provide a sense of security. "Any family settling on a frontier point and strengthening themselves as they could, was called a frontier station," said settler William Boyd, in an interview by early oral historian John Dabney Shane. "None of these was anything more than a collection of families, with sometimes a hired guard and hunters, in dangerous times" (Perkins 1998:62). Recently scholars have begun the process of rethinking the term "station" and "fort" as the most accurate terms to describe the variability of early Kentucky settlement (Day and Clay 2002:3-2, 3-3). The terms "station" and "fort" are value laden and serve to reinforce the frontier mythology which has been utilized to characterize early Kentucky settlement for generations. The terms "station" and "fort" are utilized in this discussion, however the authors realize that variability within early Kentucky settlement existed. To keep consistent with accounts of early settlement and the terms used by other scholars the terms "station" and "fort" are used within this report.

Nancy O'Malley has documented more than 150 such station sites in central Kentucky, most of them active into the early decades of the nineteenth century (O'Malley 1987). Often, these frontier stations were also bases of operation for loosely organized militias. Not only did they defend the stations, they also took part in "retaliatory raids" against British allied and independent Native American villages north of the Ohio River (O'Malley 2000:15). John Vardeman, Sr. was part of one such military company lead by Captain John Boyle in 1780 (Collins 1968[1847]:12). The military companies established stations on and near Dick's River in present-day Garrard, Lincoln, and Boyle counties. Although the scattered stations of early Lincoln County settlers were often in relative isolation, they quickly became close-knit communities. The creation of fortified stations also served to forge family alliances and provided the vital socialization needed by these early families.

Lincoln County, Kentucky, was formed in 1780. Its borders extended westward from Virginia to the Ohio River, encompassing 21,280 square miles. While the boundaries for Jefferson and Fayette counties were carved out of Kentucky County, Virginia, and specified clearly in the 1776 act, Lincoln County delineated its own boundaries by incorporating all remaining land in Kentucky County (Long & DeBoer 1994). By the time Kentucky attained statehood in 1792, Lincoln County had already lost 2,880 square miles of territory to Madison and Mercer counties, which were created by Virginia in 1786. Despite this reduction in size, Lincoln County remained sizeable with 18,400 square miles and approximately 6,500 inhabitants in 1790 (Kentucky Department of Commerce 1975:4).

The newly defined Lincoln County, Kentucky, went on to became an important destination along the Wilderness Road as one of the nation's earliest overland transportation links from Virginia to the western frontier. Crab Orchard, a major hub on the Wilderness Road, was located in the northeast corner of Lincoln County, and appears on Filson's 1784 *Map of Kentucke.* The fertile lands of the area yielded bountiful harvests, which proved to be the county's most sustainable industry.

Land had been claimed quickly by enterprising settlers in the years prior to the creation of Lincoln County, a process that was documented dramatically by the census records. The population was 6,548 in 1790, according to the earliest census taken in Lincoln County. By 1800, the population of Lincoln County had risen to 8,621, and overlapping land claims became a serious issue.

Agriculture continued to be the primary economic activity in Lincoln County well into the nineteenth century. As the county's infrastructure became more stable and better methods of transportation became affordable, farmers found distant markets for their considerable surplus. Several key products, for subsistence as well as profit, were grown in Lincoln County during this period. Corn, the first staple of the region, was a key to the local economy in many ways. It served as proof of one's industry on a preemption claim, fed both the settlers and their livestock, was one of the first commodities for trade, and were key ingredient for distilling whiskey.

Historical records document that during the early Federal and antebellum periods the area including the Vardeman House Site was owned by four successive members of the Vardeman family. William Menifee (the son-in-law of John Vardeman, Jr.) owned the property from 1781-1789, John Vardeman, Jr. owned the property from 1789-1803, Morgan Vardeman owned the property from 1803-1843, and Jeremiah Vardeman, Jr. owned the property from 1843 to 1851. The lands containing the Vardeman House Site passed out of ownership of the Vardeman family with the transfer of the site area from Jeremiah Vardeman to his brother-in-law, Ephraim Pennington, in 1851. No historic occupation of the property was documented during the post-1851 period, although subsequent agricultural and hunting related use likely continued during the late nineteenth and twentieth centuries. The temporal nature of the diagnostic historic materials recovered from the Vardeman House Site associates the majority of the archaeologically recovered historic artifacts directly with the ca. 1803-1847 Morgan Vardeman occupation of the Vardeman House Site. The interpretive cultural and historic discussion of the artifacts, historic features, and soil chemistry data is considered to primarily reflect the historic occupation of Morgan Vardeman and his family during the first half of the nineteenth century.

The archaeological data recovery at the Vardeman House Site resulted in the identification of the late eighteenth- and early nineteenth-century rural domestic Vardeman family occupation in addition to a substantial prehistoric component extending from the Early Archaic through Late Prehistoric periods. The prehistoric component is likely associated with seasonally occupied camps and living spaces, rather than an area of lithic resource procurement. Historic artifacts were contained within the prehistoric features and prehistoric artifacts were recovered from historic cultural features, indicating a degree of mixing within the cultural features. The primary historic occupation consists of a spatially confined rural domestic homelot initially occupied by William Menifee as early as 1781. The historic documentation and diagnostic historic artifacts document that the property was occupied primarily during the period 1781-1851 and this is the period on which the interpretive discussion is centered.

The rural domestic function of the Vardeman House Site was confirmed by the historic artifact assemblage recovered in conjunction with the data recovery. The historic assemblage consists primarily of domestic food preparation/consumption (n=4,093; 43.07%) and architectural-related items (n=4,369; 45.97%) including ceramics, brick, bone, glass, and nails (see Table 6.3). It also includes some faunal/floral-related items specifically associated with the historic occupation (n=754; 7.93%), clothing-related items (n=38; .39%), activities related items (n=16; .16%), arms-related items (n=14; .14%), personal items (n=10; .10%), domestic activity items (n=5; .05%), smoking items (n=5; .05%), medicinal/hygene items (n=4; .04%), furniture items (n=1; .01%), and unassigned materials (n=194; 2.04%). A minimum total of 263 historic ceramic vessels were identified in the assemblage (Table 8.1).

The historic feature types associated with the period of significance identified at the Vardeman House Site are also largely consistent with a rural domestic occupation, although no intact architectural-related structural elements were

Table 8.1. Vardeman House Site, Minimum Vessel Count by Ceramic Type.		
Ceramic Type	**Number of Vessels**	**Percentage of Vessels**
American brown stoneware	1	0.38
American grey stoneware	2	0.76
Bone china	14	5.32
Chinese export porcelain	2	0.76
Coarse earthenware	26	9.88
Creamware	10	3.8
Ironstone	11	4.18
Pearlware	64	24.33
Rockingham/Bennington-type	1	0.38
Unidentified hard-paste porcelain	10	3.8
Unidentified refined earthenware	11	4.18
Whieldon-type	1	0.38
White saltglazed stoneware	1	0.38
Whiteware	108	41.06
Yellowware	1	0.38
Total Vessels, Vardeman House Site	**263**	**100%**

recorded. The domestic historic features associated with the period of significance include trash/waste pits (n=7), a privy recorded by Sussenbach (2000), and postmolds/postholes (n=7). Four additional features may also be postmolds/postholes associated with a west-east oriented fenceline.

The configuration of these features in relation to their geographic and topographic settings combined with the soil chemistry data and the distribution of the archaeological artifacts recovered from the shovel tests suggest the possible location of the domestic structure associated with the Vardeman House Site. The location of the privy in the southwestern portion of the site, in an area east of the slope that descended in elevation to Cedar Creek, the location of historic pit features along the western and northern portions of the site, and the low number of pit features in the eastern portion of the site suggests that the domestic structure was likely oriented toward the east. The western and central portions of the site were likely the primary locations of waste disposal. This pattern of waste disposal, largely confined to the rear of the house, was bolstered by the soil chemistry data which indicated concentrations of phosphorous, calcium, and magnesium in a configuration that would suggest hearth and other ash disposal south and west of the area in which the domestic structure was possibly located. The configuration of the historic trash pit features, the location of the privy, the dispersal of trace elements characteristic of waste disposal identified by the soil chemistry analysis, and the lower density of historic materials documented in the northeastern and eastern portions of the site, in conjunction with the historical documentation and topographic setting, bolster the interpretation of the Vardeman House Site as a rural domestic homelot. Based on these data, the location of the Vardeman family dwelling has been postulated. The specific detail of the location are discussed later in this chapter.

Historical records indicate that Morgan Vardeman owned between 1 and 9 slaves between 1794 and 1840 as well as between 60 acres of

land in 1796 and as many as 1,605 acres of land in 1840. Therefore, it is likely that the boundaries of the entire historic occupation once extended well beyond the limits of the site, as currently defined, into the surrounding fields. The entire complex likely included slave dwellings and possibly other support buildings that may have been constructed some distance from the primary domestic dwelling.

Morgan Vardeman was a landed agrarian slaveholder within the middling to upper middling socio-economic strata of mid-nineteenth-century Lincoln County as suggested by the historical records and artifactual data. Unfortunately, no archaeological data associated with a possible dwelling at the site remained at the time of the data recovery. This is likely due to deep agricultural plowing.

The economic scaling of the identified imported British ceramic vessels associated with the Morgan Vardeman occupation suggests a socio-economic status similar to middling level urban residents of Baltimore, Maryland; Christiana and Wilmington, Delaware; and rural Chesapeake, Virginia. The Vardeman household's material goods were largely typical of other contemporaneous late eighteenth- and early nineteenth-century middling households in Kentucky, Virginia, New Jersey, and Delaware. However, given that the Vardeman House Site was located within Lincoln County, Kentucky, a part of the United States which was less established than Delaware, Maryland, or Virginia, it is possible that the Morgan Vardeman household enjoyed a slightly higher socio-economic status in Kentucky relative to other middling residents of rural Kentucky. An extended discussion of the economic scaling applied to the Vardeman House Site and the socio-economic interpretive discussion on this subject is detailed later in this chapter.

The archaeological features, geographic location of the site, and material goods recovered from the Vardeman House Site document life in rural Kentucky during the early nineteenth century following the change in settlement from fortified stations to dispersed rural settlement by individual families. Safety and security by the early nineteenth century in rural Lincoln County must not have been as much of a concern as was the case during the previous generation. The new dispersed settlement pattern was accompanied by westward expansion and the availability of a diverse array of domestic market commodities. The archaeological record suggests that by the early nineteenth century, domestic goods common to homes in cities along the Eastern seaboard, such as Baltimore, Maryland and Wilmington, Delaware, were also readily available to rural residents of Kentucky, what was then the country's western frontier. There appears to have been little delay in the diffusion of new consumer products imported from Britain to the eastern United States and then inland to Kentucky. By the early nineteenth century, difficulties concerning the limited availability of commodities in rural Kentucky had largely been replaced by the proliferation and general availability of new imported goods.

The archaeological record confirms that the Morgan Vardeman family members were active participants in the Georgian "consumer movement." This movement stressed individuality, status display, emulation, and gentility through the acquisition and display of material goods (Deetz 1977). The Georgian period, ca. 1714-1820, ushered in a new sense of cultural norms that embraced a reverence for gentile practices and social graces combined with new merchandising that created a fresh desire among the populous for newer and more fashionable consumer products. The newly established Georgian ideals were ushered in with a host of guidebooks, etiquette books, and courtesy books (Bushman 1992:41), which introduced the literate public to the virtues of the new ideals.

Old romanticized notions of a self-reliant, simple Kentucky frontier existence with few connections to the expanding worldwide market economy has recently been reassessed. Current historical scholarship indicates that early

nineteenth-century rural Kentucky was within the market of European commodities and the expanding world economy (Perkins 1991:487). Former notions concerning the barrier imposed on economic exchange between the states east of the Appalachian Mountains and Kentucky now seem to have been exaggerated.

The archaeological record bolsters the argument that by the early nineteenth-century rural Kentucky was within the regular sphere of economic trade of commodities from Europe and the eastern United States. For example, the archaeological record at the Vardeman House Site indicates the increased trade in commodities and the establishment of the Georgian ideals of individuality in America through the presence of a variety of matched tablewares. The presence of matching sets of royal pattern molded creamware tablewares, blue and green shell-edged pearlware tablewares, and transfer printed tablewares all reflect the typical Georgian transformation from communal eating to individual place settings, individual cuts of meat, and a set of ceramic vessels for each individual. They also suggest the knowledge to use these more "complicated" settings in social ways to communicate their social position in society and reaffirmation of notions of gentility (e.g., Bushman 1992, Carson 1990).

The variety of once matching tablewares recovered at the Vardeman House Site indicates that the family likely replaced old, outdated, or mismatched table and teawares with newer, more fashionable wares. It may also be the case that one set of table and teawares could have been utilized for daily food consumption, while a second group of table and teawares may have been saved for special occasions or Sunday meals. The idea of a common and special set of ceramics is best reflected in the teawares from the Vardeman House Site. Handpainted pearlware teawares may have been the preferred everyday teawares, while the more costly bone china teawares may have been reserved for special occasions or when guests visited the family (Figure 8.1).

The presence of numerous types of matching tablewares may also have been a result of multiple generations of Vardemans living at the site. The 1840 census record suggests the possibility that an adult child of Morgan Vardeman who married and

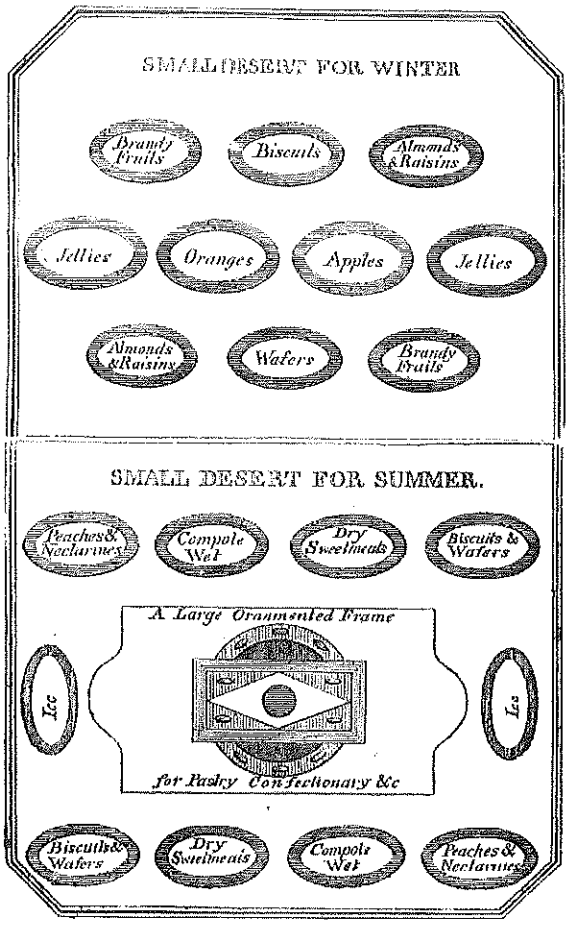


Figure 8.1. "Small Desert for Winter" and "Small Desert for Summer," engraved plate in Duncan Macdonald, The New London Family Cookbook, 1808 (Library of Congress). Many well-to-do Americans seem to have varied the elaborate rules illustrated in nineteenth century cookbooks for the placement and serving of food. An English visitor noted in 1822, "Tarts, fruit and cheese are always put on the table at the same time in this country, except at quite dress parties, when the fruit is a separate concern." (Carson 1990)

then may have moved back in with Morgan at the Vardeman House Site, or that Morgan and his wife had allowed a family to move in with them. Additionally, it is not clear that John Vardeman, Jr. moved away from the site when Morgan Vardeman purchased the property from him in 1803. Furthermore, although Morgan sold the property to Jeremiah Vardeman during the period of his financial difficulties in 1843, he likely remained at the property until his death in 1847. The changing configuration of the household may have brought to the site multiple tablewares which ultimately became part of the archaeological record at the site.

The presence of teawares at the Vardeman House Site is especially reflective of the spread of the Georgian ideals of individualized food and beverage consumption. It indicates the social importance of "taking tea" as participation in Anglo-American behaviors and customs associated with gentility and refinement (Bushman 1992, Carson 1990, Roth 1961). The presence of a variety of matching sets of archaeologically recovered teawares from the Vardeman House Site bolsters Perkin's (1991) argument that, "even on the rude frontier of eighteenth-century Kentucky, a remarkably sophisticated, international pattern of consumption laid a cultural base for American life" (Perkins 1991:499) (Figure 8.2).

Historic documentation also suggests that the established Georgian ideals of civility, gentility, and emulation were likely generally practiced in early nineteenth-century Kentucky. Alexis de Tocqueville during his 1830-1831 travels throughout the United States was particularly impressed with the dichotomy between the poor physical condition of the housing in Kentucky and the gentile nature of the rural families. On this subject de Tocqueville commented that, "there is no farmer in Kentucky or Tennessee so poor but can represent a fine



Figure 8.2. Sketch of a groupe for a drawing of Mount Vernon by Benjamin Henry Latrobe, pencil, pen and ink, 1796 (collection of the Maryland Historical Society). By the end of the eighteenth century, the daily serving of tea was an accepted social ritual practiced by Americans at home. Martha Washington's tea equipage included a large silver urn filled with boiling water for making tea on the spot. (Carson 1990)

example of the country gentleman of old Europe" (de Tocqueville 1959:267). This observation concerning the rural residents of Kentucky is significant. It suggests the pervasiveness of the Georgian notions of gentility and the desire for the emulation of the customs and ways of the gentility in spite of the physical limitations of wealth and social position. It is likely that behaviors once considered the practice of the upper classes, such as tea drinking and the social importance attached to the consumption of tea, became the practice of all social classes within antebellum Kentucky society.

The social importance of tea drinking during the Georgian and post-Georgian periods in Anglo-America cannot be understated. Initially extremely expensive and a beverage of the elite, tea consumption became the norm in British and American households of all economic levels by the late eighteenth century. The universality of tea consumption in Kentucky, regardless of social position, during the late eighteenth century is reflected in the purchases of tea from two Kentucky stores, one in Louisville and one in Lexington, between 1794 and 1796. The store ledgers reflect that 40% of the customers who frequented the stores owned no land (a group including one slave and five free women). In addition, 36% of the customers included those within the bottom third economic group of customers purchasing tea (Perkins 1991:498). The bottom third group included individuals paying a tax of 0.0.0 to 0.3.6 English pounds.

Although drinking tea as a marker of status withered by the turn of the nineteenth century, the social and cultural importance of tea drinking in Anglo-America persisted. As an accessible visual element to signify gentility and social refinement, antebellum Kentuckians within all social classes participated in tea drinking and the social aspects of "taking tea." This was a way to signal to the community that although they may not necessarily be members of the upper class, they could emulate the practices and social graces of members within positions in Kentucky society above their own.

Drinking tea inspired social gatherings, aided to create a perceived gentility, and was the beverage of choice while visiting with family and friends. Together the elements of tea drinking were utilized during what was called "the tea ceremony." This distinctly British tradition brought with it a numerous array of ceramic vessels. Potential ceramic vessels associated with tea drinking that could be encountered archaeologically not only included tea bowls and saucers but also cream jugs, slop/waste bowls, teapots, spoon trays, and sugar bowls. Although the only vessels associated with the tea equipage archaeologically recovered from the Vardeman House Site were tea bowls and saucers, the 1849 sale record of the estate of Morgan Vardeman (see Appendix B) included teaspoons, a sugar (sugar bowl), and a cream pitcher. This documents some of the tea equipage commonly used. In summary, the presence of matching table/dinner wares and teawares illustrates the establishment of the Georgian status conscious ideals and individualized Anglo-American worldview in rural Kentucky during the late eighteenth and early nineteenth centuries.

The historic archaeological assemblage recovered from the Vardeman House Site clearly illustrates that although Lincoln County, Kentucky, consisted of primarily dispersed rural settlements with an agrarian economic base during the early nineteenth century, the county was within the economic sphere of the eastern United States and Britain. Although distance from the eastern seaboard states did stress economic and social ties between Kentucky and these states (Perkins 1991:488), the limited availability and reduced access by Kentucky consumers to imported goods has been overly accentuated in the past. It has been demonstrated that mercantile activities and outlets accompanied the first settlers to Kentucky and that a store was documented as early as 1775, the first year of continuous Anglo-American

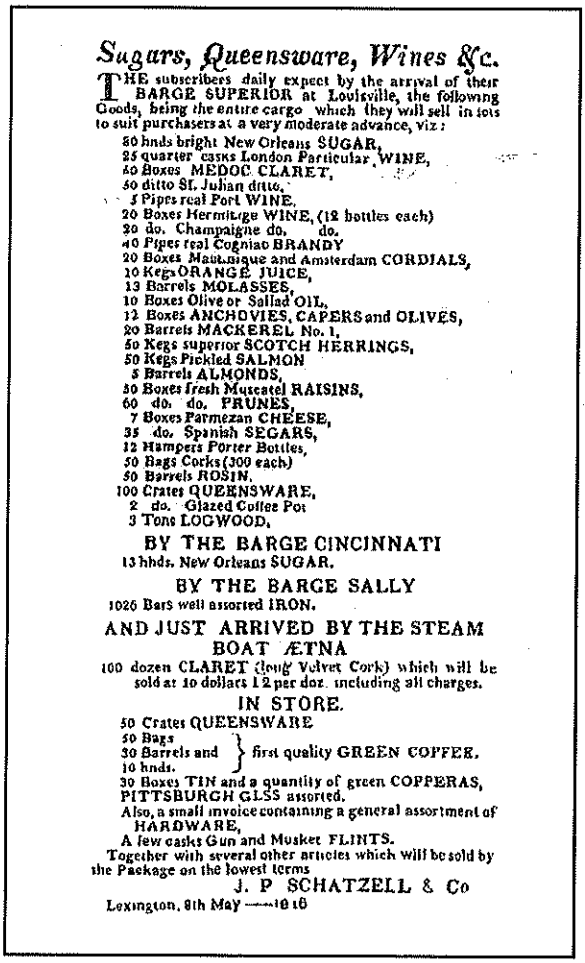
settlement at Fort Boonesborough (Perkins 1991:489). English refined earthenwares have been observed to have been available in the "major trade centers" of Kentucky "by the 1790s" and later in more rural areas (O'Malley 1995:183). Far from being an economic backwater of self-sufficient, independent, and isolated settlers, the early nineteenth-century residents of Lincoln County were participating in largely the same market economy as Americans in Wilmington, Delaware; Baltimore, Maryland; or Chesapeake, Virginia, and had available to them a wide choice of imported consumer goods. The distribution of highly decorated pearlwares and Chinese export wares to Prestonsburg in Floyd County in the southeastern portion of Kentucky by the 1820s, and the records of James Graham's store during the first two decades of the nineteenth century which included ceramics that were likely British imports, signaled that imported commodities from across the world were reaching even mountain locales (O'Malley 1995).

The ease with which information and goods flowed throughout early nineteenth-century America was commented on by Alexis de Tocqueville during his 1830-1831 travels throughout America. De Tocqueville commented that, "I have no doubt that it would take longer and be more expensive to have ten sacks of wheat sent from some village in Lower Brittany to Paris than to have all the sugar of the colonies sent to the same place" (de Tocqueville 1959:270). De Tocqueville also commented that in Kentucky homes there was "...often some books and almost always a newspaper..." (de Tocqueville 1959:266). Ideas, news, and advertisements for goods and services spread to rural, early nineteenth-century America via not only newspapers but by the postal service. Alexis de Tocqueville commented on the postal service during this period as surprisingly efficient, writing that "...there is no cabin so isolated, no valley so wild but that letters and newspapers arrive at least once a week" (de Tocqueville 1959 [1831]:270). Effective and efficient construction of roads, canals, and railroads during the early nineteenth century as well as the ease of transport of goods on the Mississippi and Ohio rivers ensured that few communities were beyond the area into which new and fashionable goods from the eastern United States and Europe were available. Given the quick diffusion of ideas, goods, and advertisements for new products contained in the newspapers of the period it is not surprising that although Lincoln County was a rural, agriculturally based community, it was nonetheless likely closely connected with the rest of Kentucky and the United States through newspapers and the postal service.

Improved transportation networks and enterprising entrepreneurial merchants brought a diverse array of imported goods to Kentucky during the early Federal period. For example, steam powered boats brought imported goods to Lexington by 1816 (*The Reporter*, May 22, 1816:1). The unique geographic location of Kentucky made the state a burgeoning market for consumer commodities during the period. Kentucky was uniquely located in relation to the Ohio River, which carried trading vessels from New Orleans bringing imported goods from the deep south as well as the Caribbean and the eastern United States. The geographic location of Kentucky also allowed for mercantile contacts with the east coast of the United States, via river, canal, and overland routes, which brought imported goods from Europe and China via Boston, Philadelphia, and Baltimore.

Lexington newspapers of the early Federal period document a wide array of commodities imported from around the world and available to Kentuckians during the period. The early availability of exotic imported foreign consumables in Kentucky was evidenced by an advertisement published in the September 8, 1787 issue of the Lexington *Kentucky Gazette* by Thomas January indicating that he had for sale a wide variety of imported goods from "a fresh cargo," including "...a complete assortment of dry goods, also, coffee, tea, loaf sugar, raisins, Jamaica sprits, wine, lime

juice &c. &c. &c...." (*Kentucky Gazette* 1787:3). A more extensive list of goods offered by this merchant which also included varieties of textiles, books, glassware, tools, ceramics, and combs appears on the front page of the April 12, 1788, issue (*Kentucky Gazette* 1788:1). In the September 22, 1787, issue of the *Kentucky Gazette* Thomas January had competition, since on the same page as his ad, merchant George Tegarden listed for sale "...a compleat assortment of linen and stuffs. Also, coffee, tea, chocolate, mulcovado sugar, pepper, allspice, nutmegs, ginger, indigo, copperas, rosin, resons [raisins?], rice, china and queen's ware, glass tumblers, West India rum, writing paper, cotton cards, eight penny nails, &c. &c. &c." (*Kentucky Gazette* 1787:3). Frederick Hise, a merchant of Lexington, advertised in both the December 7, 1804, and January 16, 1805, issues of the Lexington *Independent Gazette* that he had for sale in addition to sugar, coffee, chocolate, and tea; allspice, ginger, pepper as well as sherry, Lisbon, port, Teneriffe, and Malaga wines. Also in Hise's ad were "Jamaica spirits," French brandy, and whisky. Another Lexington merchant, Alexander Parker, announced in an advertisement published December 7, 1804, and February 8, 1805, in the Lexington *Independent Gazette*, "...just imported from Philadelphia, and opened at their store in Lexington, on Main Street, opposite the courthouse, a very extensive and general assortment of merchandise consisting of dry goods, groceries, hardware, queen's, glass and China wares...." (*Independent Gazette* 1804:2; *Independent Gazette* 1805:1). In 1810 Kentuckians could purchase from Mrs. White's millinery store India muslin, "Philadelphia whitesoap," English Durham mustard, Nova Scotia red herrings, "...fancy and black Ostridge [Ostrich] feathers," and plant seeds from China and Prussia, in addition to pictures of views of France, Spain, Germany, Italy, England, and Ireland (*Kentucky Gazette* 1810:3). Also available in 1810 at the store of Waldemand Mentelle in Lexington was flanders linen, Spanish whiting, Madiera wine, and French brandy (Kentucky Gazette 1810:3). Typical of the diverse array of goods available to early nineteenth-century Lexington consumers was an advertisement in the Wednesday, May 22, 1816, issue of *The Reporter* (*The Reporter* May 22, 1816:2) (Figure 8.3). An advertisement in *The Reporter* of November 12th of that year proclaimed that "just received, from New Orleans, via Shippingport, a consignment of 10 quarter casks Sherry wine, 10 ditto do. 4th proof Jamaica spirits, 12 crates edged ware, assorted 12 boxes sheet tin, 2 bbls. Copperas, 2 do brimstone for sale on very moderate terms" (*The Reporter* November 12, 1817:12). By February 14, 1835, there were more than 25 advertisements in the *Kentucky Gazette* by general store merchants hawking or announcing the



Sugars, Queensware, Wines &c.

THE subscribers daily expect by the arrival of their BARGE SUPERIOR at Louisville, the following Goods, being the entire cargo which they will sell in lots to suit purchasers at a very moderate advance, viz:

50 hhds bright New Orleans SUGAR,
25 quarter casks London Particular WINE,
40 Boxes MEDOC CLARET,
50 ditto St. Julian ditto,
5 Pipes real Port WINE,
20 Boxes Hermitage WINE, (12 bottles each)
30 do. Champaigne do. do.
40 Pipes real Cogniac BRANDY
20 Boxes Maraschique and Amsterdam CORDIALS,
10 Kegs ORANGE JUICE,
13 Barrels MOLASSES,
10 Boxes Olive or Sallad OIL,
12 Boxes ANCHOVIES, CAPERS and OLIVES,
20 Barrels MACKEREL No. 1,
50 Kegs superior SCOTCH HERRINGS,
50 Kegs Pickled SALMON
5 Barrels ALMONDS,
50 Boxes fresh Muscatel RAISINS,
60 do. do. PRUNES,
7 Boxes Parmezan CHEESE,
35 do. Spanish SEGARS,
12 Hampers Porter Bottles,
50 Bags Corks (300 each)
50 Barrels ROSIN,
100 Crates QUEENSWARE,
2 do. Glazed Coffee Pot
3 Tons LOGWOOD,

BY THE BARGE CINCINNATI

13 hhds. New Orleans SUGAR.

BY THE BARGE SALLY

1026 Bars well assorted IRON.

AND JUST ARRIVED BY THE STEAM BOAT ÆTNA

100 dozen CLARET (long Velvet Cork) which will be sold at 10 dollars 12 per doz. including all charges.

IN STORE.

50 Crates QUEENSWARE
50 Bags
30 Barrels and 10 hhds. } first quality GREEN COFFEE.
30 Boxes TIN and a quantity of green COPPERAS,
PITTSBURGH GLSS assorted.
Also, a small invoice containing a general assortment of HARDWARE,
A few casks Gun and Musket FLINTS.
Together with several other articles which will be sold by the Package on the lowest terms

J. P SCHATZELL & Co

Lexington, 8th May ——1816

Figure 8.3. J.P. Schatzell & Co. advertisement from the May 22, 1816, issue of the Lexington, Kentucky newspaper, The Reporter.

availability of clothes, furniture, fruit, medicines, soap, lamps, hardware, in addition to glassware and English and French ceramics (*Kentucky Gazette* 1835).

Notions of fashion and style permeated early nineteenth-century Kentucky fueling the consumer movement. Early nineteenth-century Kentucky was socially and economically transformed with improvements to the transportation network, and the resulting efficient diffusion of both goods and ideas via the newspaper and postal service. Consequently notions of style, fashion, emulation, and gentility, which swept the eastern United States, permeated Kentucky during the early nineteenth century. The interest in acquiring the latest in fashion and stylish consumer goods by Kentuckians was often catered to by merchants advertising in Lexington newspapers during the early nineteenth century. In an ad in the *Kentucky Gazette* of March 21, 1809, Thomas D. Owings who opened a new general store in Lexington boasted that his store had for sale, "...a large and elegant assortment of fancy goods, particularly purchased for the most fashionable ladies and gentlemen of Kentucky..." (*Kentucky Gazette* 1809:5). In an advertisement published in the December 18, 1810, issue of the *Kentucky Gazette* millinery store proprietor Mrs. White of Lexington advertised "...an extensive and elegant assortment of fancy goods..." (*Kentucky Gazette* 1810:3). Lexington merchant James and Brother's advertisement in the *Kentucky Gazette* of February 14, 1835, proclaimed for sale, "...rich English china tea sets of the latest and most approved patterns...." (*Kentucky Gazette* 1835:5). In another ad in the same newspaper the same merchant advertised, "Celtic china dinner sets, various colors and newest patterns" (*Kentucky Gazette* 1835:5). A tailor in Lexington, J.T. Frazer, announced in his advertisement in the same issue of the *Kentucky Gazette* that he had for sale "[a]...complete assortment of cloths, cassimeres and vestings of the most fashionable shades and best quality" (*Kentucky Gazette* 1835:5). The perception of isolated, fortified "stations" with sparse accommodation and few commercially available goods during the last quarter of the eighteenth century was replaced during the early nineteenth century by dispersed settlement, the acquisition of new and fashionable domestic goods, the relatively rapid exchange of information and ideas, and the inclusion of rural Kentucky within the economic sphere of the eastern seaboard and Britain.

The wide availability of consumer goods including varieties of imported ceramics from Europe and China during the early Federal period and the active participation by rural Kentuckians in the market economy of the period was exemplified by the ceramic acquisitions of the occupants of the Vardeman House Site. The ceramics from the Vardeman House Site, which primarily date to the period of site occupation by Morgan Vardeman, ca. 1803-1847, include a diverse array of locally produced utilitarian lead glazed, coarse earthenwares, and stonewares which were likely utilized for dairying activities, butter making, food preparation, and storage. The utilitarian wares were accompanied by elements of a variety of primarily imported English table and teawares. The identified diagnostic ceramics document that as the nineteenth century progressed undecorated royal pattern creamware tablewares were replaced by successive varieties of blue and green shell-edged tablewares. Undecorated creamware and shell-edged wares were among the least expensive decorated tablewares available during the early nineteenth century. The shell-edged wares were likely replaced during the 1830s by a variety of color transfer printed tablewares. Additionally, a variety of teawares were present at the Vardeman House Site and, as with the tablewares, may have reflected an increased expenditure on ceramics over time. Handpainted pearlware teawares may have been supplanted by more expensive transfer printed pearlware teawares and undecorated bone china as the Vardeman household gained more disposable income during the early nineteenth century. The presence of undecorated, hard paste porcelain teawares, which although unattributed, may have

been less expensive French imports, may indicate the preference for a common, everyday set of less expensive French teaware. The more expensive bone china teawares may have been reserved for special occasions and/or use when family, friends or other members of the community visited the Vardeman family.

A correlation was noted between the socio-economic status of Morgan Vardeman as documented by the calculation of the ceramic economic index and the types of features recorded at the Vardeman House Site. The historic features consisted primarily of trash/disposal pits (n=7) and postholes/postmolds (n=7). One limestone wall was also recorded but was determined to postdate the period of significance. Additionally, four other features were potentially associated with a west-east oriented fence line. The historic features recorded also include the privy excavated by Sussenbach (2000) as Feature 1. Features anticipated, but not encountered at the Vardeman House Site, which would have contributed to the evaluation of the socio-economic status of the Vardeman occupation include wells and architectural and other features related to a domestic dwelling. Agricultural plowing at the Vardeman House Site during the recent historic period truncated the upper portions of existing cultural features and may have displaced any remaining architectural-related features associated with the early nineteenth-century historic occupation. The remaining intact portions of the features recorded are consistent with an occupation associated with a middling to upper middling socio-economic status occupation. The privy recorded by Sussenbach (2000), although truncated by plowing, was not documented to have been lined, or modified in any way other than to have been excavated into the natural subsoil. This type of privy was basic, functional, and without any lining, or other special modifications, which would have required additional financial investment. The trash pits documented at the Vardeman House Site appear to largely consist of the disposal of kitchen and architectural-related domestic materials placed into depressions in the soil along with natural chunks of limestone, which may have been added to reduce the smell of decaying organic materials as well as to expedite the composting of the refuse. Comparable early nineteenth-century features have been documented at Site 15LO168, Logan County, Kentucky (Andrews and Stetar 1995).

Although the majority of the historic artifacts recovered from the Vardeman House Site were associated with the ca. 1803-1847 Morgan Vardeman occupation, a small number of artifacts have terminal production and availability dates ca. 1780. Consequently, these items were possibly brought to Kentucky and likely associated with either the William Menifee occupation, ca. 1781-1789, or the John Vardeman, Jr. occupation, ca. 1789-1803. Artifacts which likely predate the Morgan Vardeman occupation include two fragments of Whieldon-type refined earthenware; a fragment of a white salt-glazed stoneware hollowware with a debased scratch blue decoration; a fragment of an opaque white twist winestem drinking glass; a two-tined, bone handled fork; and a "pistol" grip style cutlery handle (see Figure 6.29).

Whieldon-type earthenware is a variety of refined earthenware produced in England primarily during the period between approximately 1750 and 1775 (see Figure 6.29c and d). Whieldon-type refined earthenware was named after Thomas Whieldon, an English potter in Little Fenton. He experimented in glazing earthenwares with a variety of colored lead glazes, which created a mottled, tortoiseshell appearance. Whieldon-type wares were produced in a variety of table, tea, and decorative vessels.

White salt-glazed stoneware originated in Staffordshire, England, and was produced in its earliest forms during the 1710s and continued in production until approximately 1775. The fragment of white salt-glazed stoneware recovered from the Vardeman House Site is from a hollowware vessel and was embellished with a scratch blue, debased

decoration. This type of decoration was created by incising lines into the leather hard, unfired ceramic vessel atop of which cobalt blue decoration was loosely applied in the general vicinity of the incised lines. The fragment from the Vardeman House Site has the characteristic cobalt blue "debased" coloring (see Figure 6.29e). However, the incised lines which typically accompany the debase blue decoration are not present on the fragment from the Vardeman House Site due to the small size of the fragment. This vessel likely dates to the pre-1795 period.

The fragment of an opaque white twist winestem is a type of decorative lead glass stemmed drinking vessels popular during the 1760s and 1770s (see Figure 6.29f). The mostly complete fork with two tines and riveted bone plates for handles with incised decoration dates from the mid-eighteenth century (Hume 1969: 182). The "pistol grip" bone cutlery handle dates from the early eighteenth century (Hume 1969:182).

Since the terminal manufacture dates for these artifacts, except for the white salt glazed stoneware fragment, predates the historic occupation of the property in 1781, they are items which are interpreted as having been brought to the site by the earliest historic occupants of the site. Social historians have documented that during the late eighteenth-century settlers venturing into Kentucky brought with them goods that reminded them of the area they left behind (Perkins 1991:489). Although stores and traders marketing domestic goods are first documented historically in Kentucky as early as 1775 at Fort Boonesborough (Perkins 1991:489), settlers to Kentucky were documented to have brought with them goods, such as a punch bowl, quilt, and silver spoons (Perkins 1991:489). Even as late as 1843 immigrants to America from England were advised to bring with them "crockery" since it was believed to have been expensive to acquire ceramics in America (Ewins 1997:42). These few domestic artifacts dating to the third quarter eighteenth century were likely transported west with either William Menifee or John Vardeman, Jr. through the Cumberland Gap and into Lincoln County. It is thought that such items were transported not just as practical domestic utilitarian commodities, but as familiar elements of the homes they left behind, symbolic reminders of their world, and signs of the hope of establishing a gentile society in Kentucky (Perkins 1991:489).

The Historic Ceramic Analysis, the Vardeman House Site

Introduction

In addition to the standard cataloguing analysis of the ceramic assemblage from the Vardeman House Site, more specific types of ceramic analyses were performed on the ceramics recovered in order to assist with the interpretation of site and feature development through time as well as to assess the potential for temporal and functional relationships between intact cultural features and possible activity areas located within the Vardeman House Site. The more specialized analyses performed included crossmending of the ceramics to evaluate the potential for temporal and functional associations between features; vesselization to establish a minimum vessel count for the historic ceramics recovered from both test unit and feature contexts; and economic scaling to establish an economic index value for the imported British produced teawares, tablewares, and bowls included within the minimum vessel count. An evaluation of the percentage of hollowware to flatware vessels was performed to evaluate the potential social status implications of vessel form as discussed by Otto (1984). The total percentage of each individual historic ceramic waretype recovered from the Vardeman House Site was compared with entirely or partially contemporaneously occupied historic sites in Kentucky, Delaware, and Virginia, to evaluate the potential for variations in eastern seaboard and Kentucky ceramic availability, acquisition, and use during the antebellum period. Additionally, each of the temporally diagnostic historic ceramics was

utilized in the calculation of a mean ceramic date for the Vardeman House Site as a whole and also for specific feature contexts. The results of each of the specialized historic ceramic analyses conducted are discussed below.

Comparative Discussion of the Historic Ceramics Recovered from The Vardeman House Site

The lack of intact architectural features and components related to the dwelling house at the Vardeman House Site makes the detailed comparative analysis on the artifacts recovered from the Vardeman House Site very important to understanding the nature of the occupation at the Vardeman House Site and how the occupation relates to other contemporaneously occupied sites in Kentucky and the eastern seaboard states of Delaware and Virginia. For substantive discussion of the comparability of the Vardeman House Site (15LI88) historic occupation to other partially contemporaneously occupied historic sites in Kentucky percentages of recovered historic ceramics from fourteen previously investigated sites in Kentucky, Delaware, and Virginia were compared (Figure 8.4). These sites were selected as the comparable group because all sites had historic occupation periods which overlapped with the Vardeman occupation at the Vardeman House Site and because the level of archaeological investigation of these sites extended beyond Phase I level site survey and identification.

The nine sites located in Kentucky include one site in Bath County (15BH212), the George Duckworth Site, with historic occupation extending from as early as 1775 to approximately 1850 and investigated at the Phase II level by UK-PAR (Peres 2003). One site in Bourbon County, the McConnell Homestead Site (15BB75), occupied from the 1780s through the 1880s, was investigated at the Phase II/III level by Cultural Resource Analysts, Inc. (Day and Clay 2002). One site in

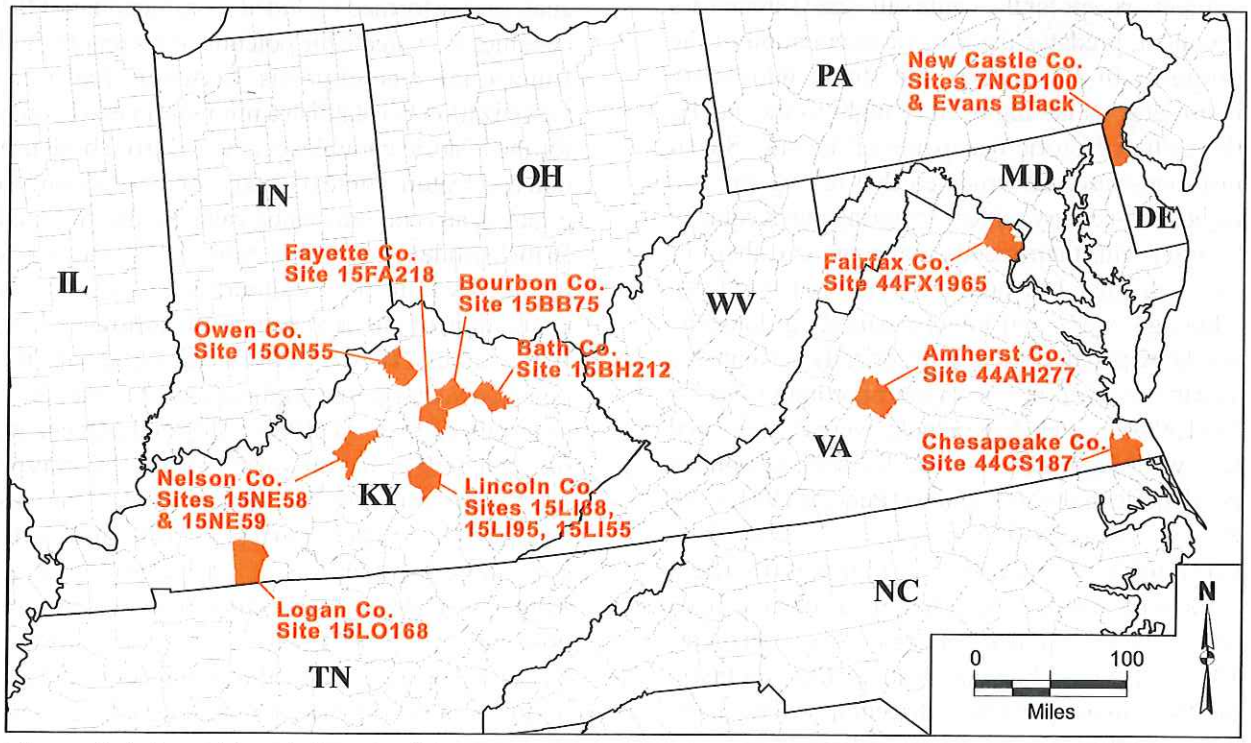


Figure 8.4. Location of sites used in comparative ceramic interpretative discussion.

Fayette County, the Boone Station Site (15FA218), with historic occupation dating from ca. 1779 through the mid-nineteenth century, was investigated by the University of Kentucky, Program for Cultural Resource Assessment (O'Malley and Hudson 1993) and the University of Kentucky field school. Two sites are located in Lincoln County, Logan's Fort (15LI95), with historic occupation dating from ca. 1776 through the nineteenth century, was investigated by the Kentucky Archaeological Survey (McBride and McBride 2000), and the William Whitley Site (15LI88), with historic occupation dating from the late eighteenth through twentieth centuries, was investigated by UK-PAR (Linebaugh and Loughlin 2002). One site in Owen County, the Enos Hardin Farmstead (15ON55), with historic occupation dating from ca. 1825-1873, was investigated at the Phase III level by Wilbur Smith Associates (Andrews and Sandefur 2002). One site in Logan County (15LO168), the Arnold farmstead, with historic occupation dating from 1780 to 1860, was investigated at the Phase II level by Wilbur Smith Associates (Andrews and Stetar 1995). Two sites in Nelson County, Sites 15NE58 and 15NE59, were both investigated at the Phase II level by the University of Kentucky, Program for Cultural Resource Assessment (Davis et al. 1997). Site 15NE58, the Thomas Gwynn Site, included historic occupation dating from the late eighteenth through nineteenth centuries. Site 15NE59 included historic occupation dating from the late eighteenth century through ca. 1860.

The two sites located in Delaware were both located in New Castle County and both investigated at the Phase III level by the University of Delaware, Center for Archaeological Research. These sites are the Evans-Black Tenant House occupied from 1792 to 1846 (Catts and Custer 1990) and the Whitten Road Site (7NC-D-100) occupied from the third quarter of the eighteenth century through the early nineteenth century (Shaffer et al. 1988). The three sites located in Virginia include Site 44AH477, located in Amherst County, occupied during the late eighteenth through the late nineteenth centuries, and investigated at the Phase III level by the William and Mary Center for Archaeological Research (Pullins and Downing 1996); The Lane Period Assemblage from Site 44FX1965, located in Fairfax County occupied from 1778-1810, and investigated at the Phase III level by the William and Mary Center for Archaeological Research (Higgins et al. 1997); and Site 44CS187, the Thomas Happer Site, located in Chesapeake, Virginia and occupied during the late eighteenth and early nineteenth centuries. The Happer Site was investigated at the Phase III level by R. Christopher Goodwin & Associates, Inc. (Hornum et al. 1997).

The number of recovered examples of each of the twenty-eight historic ceramic waretypes was totaled by site. The total historic ceramic fragment count was converted to a percentage of the total ceramic assemblage which each waretype constituted (Figure 8.5). Except for two sites, comparisons were made based on the percentages of ceramic waretypes present as reflected by the fragment count rather than by vessel. As no specific sherd level counts were available for two sites, the Evans-Black Site in Delaware and the Thomas Happer Site in Virginia, sherd counts were replaced in the calculations by minimum vessel counts.

Comparisons of ceramic percentages by fragment count, rather than by vessel, has the potential to introduce some measure of error into the analysis as a result of differential fragmentation of ceramic types, but this potential problem is considered minimal. Other considerations which might affect the reliability of the comparative interpretation discussed within this section include the level of competence of the ceramic analysts who originally evaluated the assemblages, variability within the group of burned ceramics from the sites (many of the burned ceramics were unidentifiable as to ceramic waretype), and variations in sample size of the historic ceramics recovered from the sites within the comparative groups. Also complicating the analysis could be the partially contemporaneous nature of the occupations

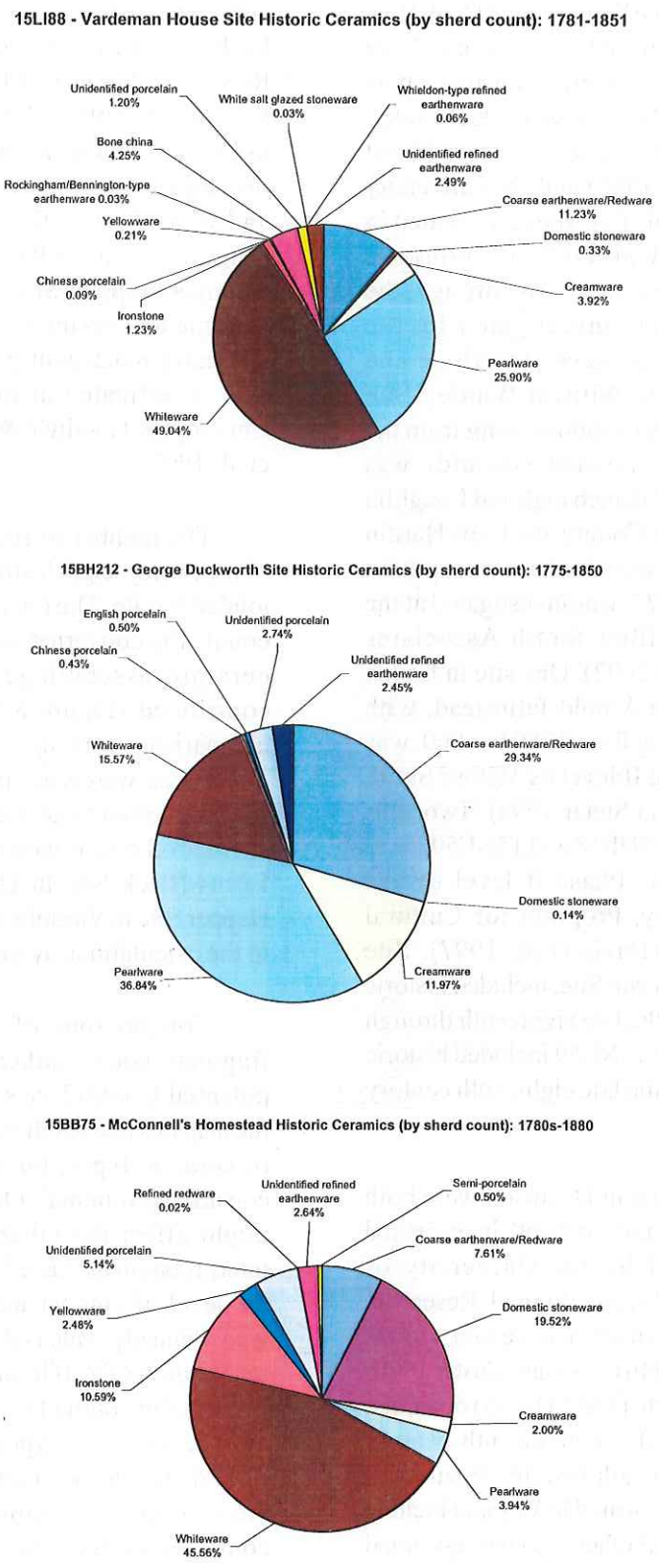
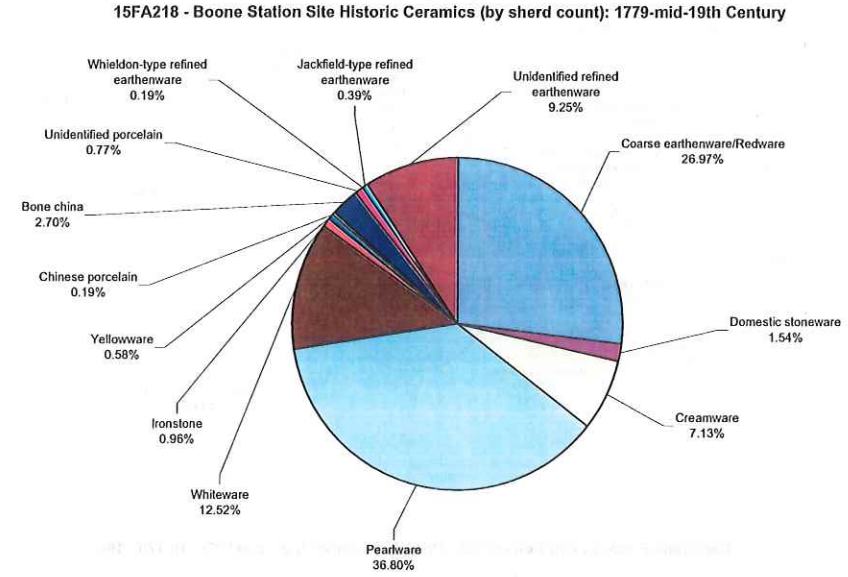


Figure 8.5. Pie charts of historic ceramics from the sites used in the comparative interpretation.



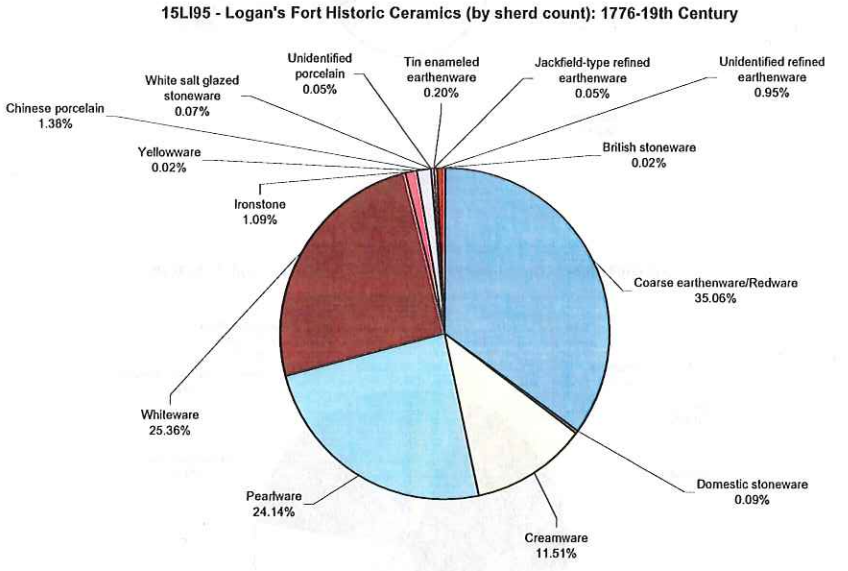
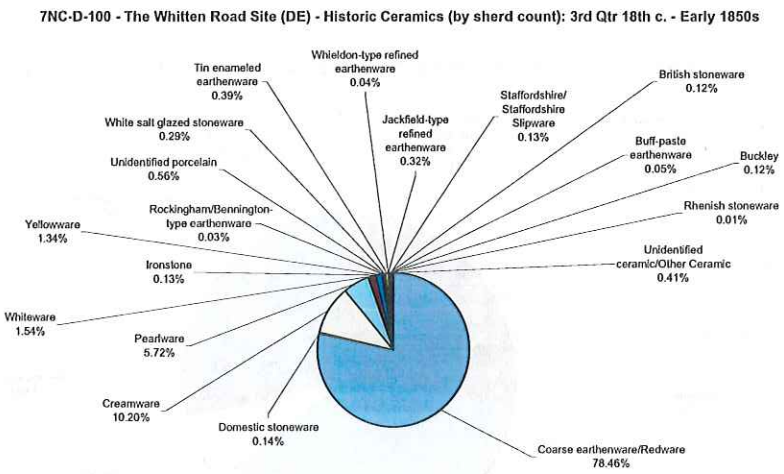
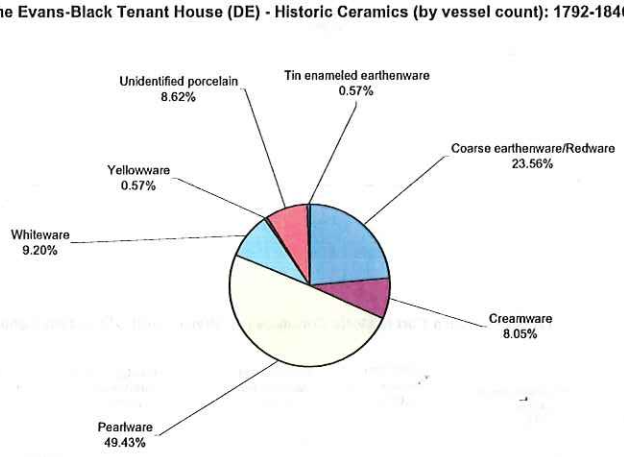


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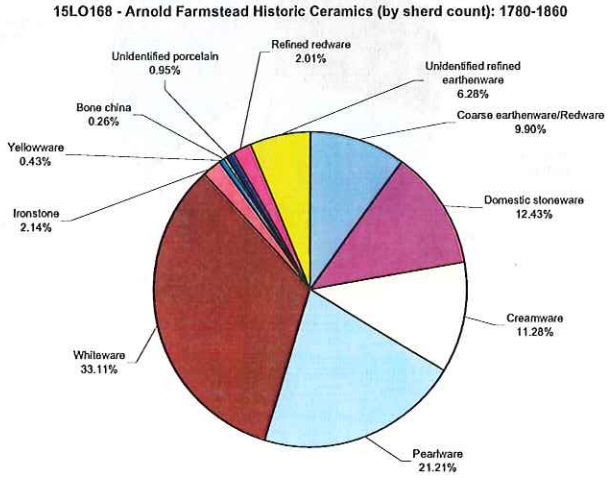
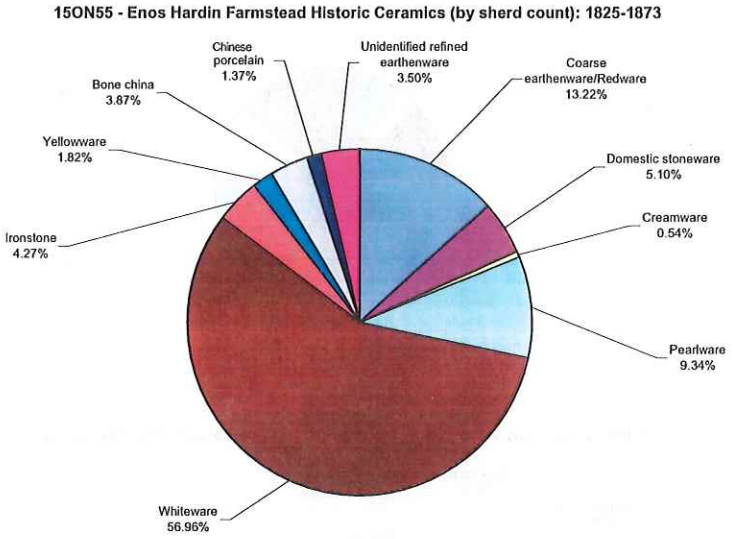


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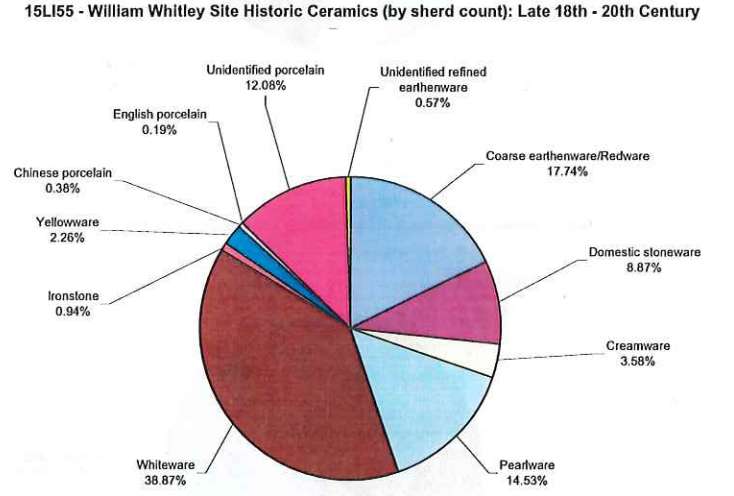
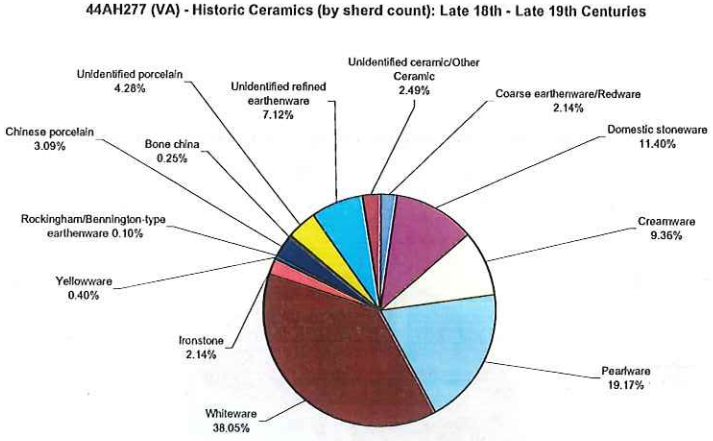
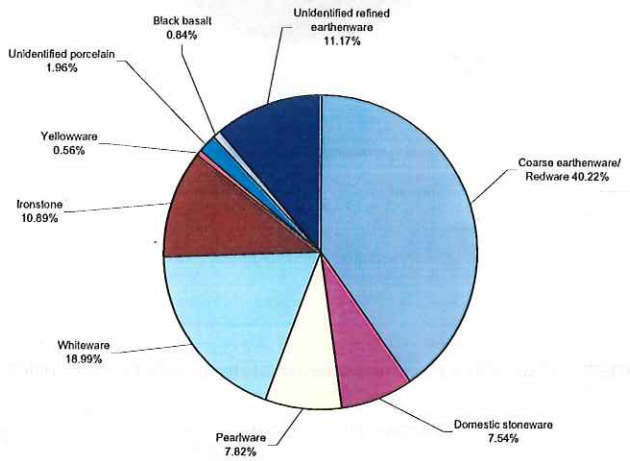


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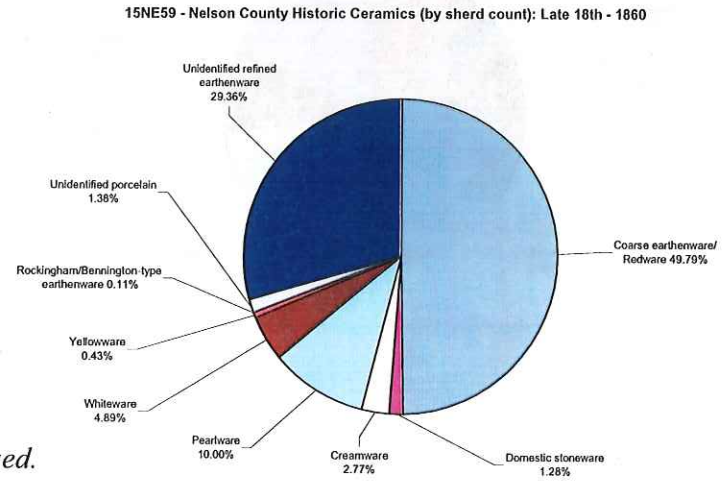
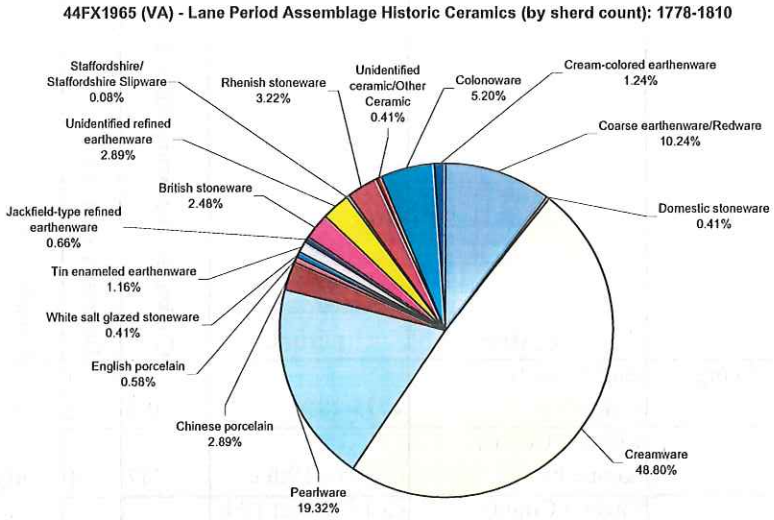


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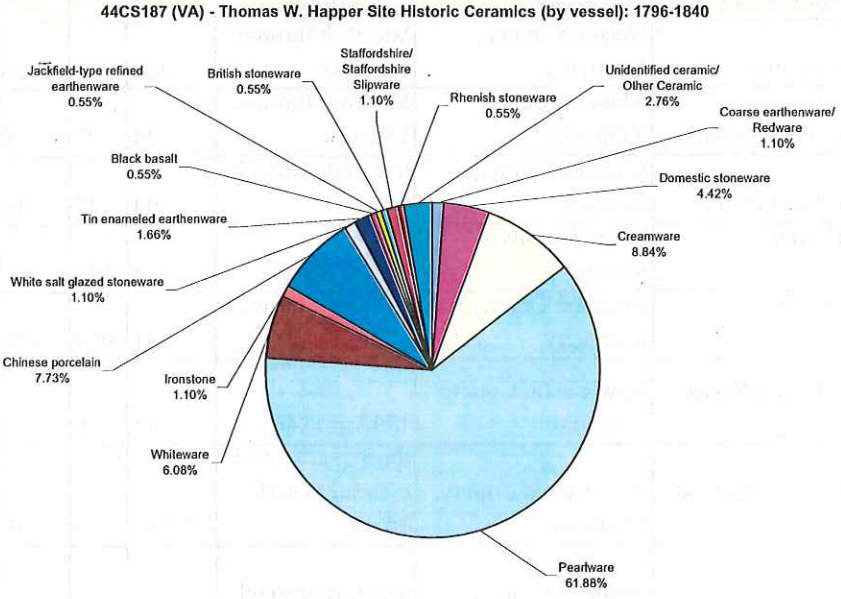


Figure 8.5. Continued.

Table 8.2. Count of Fragments of Selected Historic Ceramics

Site	Location	Occupation period	Coarse earthenware/Redware	Domestic stoneware	Creamware	Pearlware	Whiteware	Ironstone
15BH212 (F2 & F10) - George Duckworth Site	Bath County, Kentucky	1775-1850	407	2	166	511	216	0
15LI95 - Logan's Fort	Lincoln County, Kentucky	ca.1776-19th c.	1547	4	508	1065	1119	48
15FA218 - Boone Station Site	Fayette County, Kentucky	ca.1779-mid 19th c.	140	8	37	191	65	5
15LO168	Logan County, Kentucky	1780-1860	301	378	343	645	1007	65
15LI88 - Vardeman House Site	**Lincoln County, Kentucky**	**1781-1851**	**375**	**11**	**131**	**865**	**1638**	**41**
15NE59 - Nelson County	Nelson County, Kentucky	late 18th through ca. 1860	468	12	26	94	46	0
15NE58 - Thomas Gwynn Site	Nelson County, Kentucky	late 18th through 19th c.	144	27	0	28	68	39
15LI55 - William Whitley Site	Lincoln County, Kentucky	late 18th through 20th c.	94	47	19	77	206	5
15ON55 - Enos Hardin Farmstead	Owen County, Kentucky	ca. 1825-1873	464	179	19	328	2000	150
15BB75 - McConnell's Homestead	Bourbon County, Kentucky	ca. 1780s through 1880	381	977	100	197	2280	530
The Evans-Black Tenant House (F12)	New Castle County, Delaware	1792 to 1846	41	0	14	86	16	0
7NC-D-100 - The Whitten Road Site	New Castle County, Delaware	third quarter 18th c. through early 1850s	25757	45	3348	1878	506	43
44AH277	Amherst County, Virginia	late 18th through late 19th c.	43	229	188	385	764	43
44FX1965 - Lane Period Assemblage	Fairfax County, Virginia	1778-1810	124	5	591	234	0	0
44CS187 - Thomas W. Happer Site	Chesapeake, Virginia	1796 to 1840	2	8	16	112	11	2

Recovered from Sites in Kentucky, Delaware, and Virginia.

Yellowware	Rockingham/Bennington-type earthenwar	Chinese porcelain	Bone china	English porcelain	Unidentified porcelain	White salt glazed stoneware	Tin enameled earthenware	Whieldon-type refined earthenware	Refined redware	Black basalt	Jackfield-type refined earthenware	British stoneware	Unidentified refined earthenware	Buckley	Staffordshire/Staffordshire Slipware	Rhenish stoneware	Buff-paste earthenware	Unidentified ceramic/Other Ceramic	Colonoware	Cream-colored earthenware	Semi-porcelain
0	0	6	0	7	38		0	0	0	0	0	0	34	0	0	0	0	0	0	0	0
1	0	61	0	0	2	3	9	0	0	0	2	1	42	0	0	0	0	0	0	0	0
3	0	1	14	0	4	0	0	1	0	0	2	0	48	0	0	0	0	0	0	0	0
13	0	0	8	0	29	0	0	0	61	0	0	0	191	0	0	0	0	0	0	0	0
7	**1**	**3**	**142**	**0**	**40**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**83**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4	1	0	0	0	13	0	0	0	0	0	0	0	276	0	0	0	0	0	0	0	0
2	0	0	0	0	7	0	0	0	0	3	0	0	40	0	0	0	0	0	0	0	0
12	0	2	0	1	64	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
64	0	48	136	0	0	0	0	0	0	0	0	0	123	0	0	0	0	0	0	0	0
124	0	0	0	0	257	0	0	0	1	0	0	0	132	0	0	0	0	0	0	0	25
1	0	0	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
441	9	0	0	0	185	94	128	13	0	0	105	40	0	40	42	3	18	135	0	0	0
8	2	62	5	0	86	0	0	0	0	0	0	0	143	0	0	0	0	50	0	0	0
0	0	35	0	7	0	5	14	0	0	0	8	30	35	0	1	39	0	5	63	15	0
0	0	14	0	0	0	2	3	0	0	1	1	1	0	0	2	1	0	5	0	0	0

compared; the sites occupied into the late nineteenth century would likely yield higher percentages of ceramics which are characteristic of the postbellum period (ironstone, for example) than sites with terminal occupation during the antebellum period such as the Vardeman House Site. More specific comparison between tightly dated contemporaneous contexts has the potential to cross-check the observations discussed within the comparative analysis discussed in this section of the report. These potential problems considered, the resulting percentages of each waretype relative to other waretypes recovered within each site was calculated and the results displayed visually for comparative purposed in pie charts (see Figure 8.5).

The total number of recovered examples of each of the twenty-eight ceramic waretypes is displayed along with site location within Kentucky, Delaware, or Virginia, and the period of occupation for each site in Table 8.2. The ceramic types compared include coarse earthenware/redware, domestic stoneware, creamware, pearlware, whiteware, ironstone, yellowware, Rockingham/ Bennington-type earthenware, Chinese porcelain, bone china, English porcelain, unidentified porcelain, white salt glazed stoneware, tin enameled earthenware, Whieldon-type refined earthenware, refined redware, black basalt (Egyptian black), Jackfield-type refined earthenware, British stoneware, unidentified refined earthenware, Buckley-type earthenware, Staffordshire/ Staffordshire slipware, Rhenish stoneware, buff-paste earthenware, unidentified ceramic/other ceramic, colonoware, cream-colored earthenware, and semi-porcelain.

The comparative analysis of the percentages of ceramic types recovered from the fourteen comparative sites with the Vardeman House Site formed the basis of some interesting insights into ceramic preferences, availability of goods, and use of imported ceramics during the late eighteenth and early nineteenth centuries in Kentucky, Delaware, and Virginia. The analysis demonstrated the pervasiveness of imported English ceramics in rural Kentucky, Delaware, and Virginia, during the late eighteenth and early nineteenth centuries. Ceramic assemblages from five Kentucky sites with known terminal occupation dates of 1873 or earlier (Sites 15BH212, 15FA218, 15LO168, 15ON55 and 15LI88) were comprised primarily of refined earthenwares imported from Britain during the late eighteenth and nineteenth centuries (see Figure 8.5).

The single exception to this pattern was Site 15NE59 in Nelson County. Although having a terminal occupation date of ca. 1860, this site was dominated by the presence of locally manufactured coarse earthenware/redware, which constituted almost 50% of the recovered historic ceramics (see Figure 8.5). The anomalous ceramic assemblage from Site 15NE59 may be due to geography, isolation from mercantile stores and imported British ceramics, and/or the preference for and proximity to locally available earthenwares.

The pattern observed of the pervasiveness of imported English ceramics documented from the five Kentucky sites with terminal occupation dates of 1873 or earlier was also observed within the Lane Period Assemblage from Site 44FX1965 and the ceramics from the Thomas Happer Site (44CS187) which both had terminal occupation dates of 1840 or earlier. The comparative analysis displayed the pervasive diffusion of imported English ceramics (creamware, pearlware, and whiteware) into rural regions of Kentucky as well as the eastern seaboard colonies of Delaware and Virginia during the late eighteenth and early nineteenth centuries. Within Kentucky the diffusion of English produced ceramics during the late eighteenth and first three quarters of the nineteenth century extended beyond the Vardeman House Site and Lincoln County and include the sites included within this comparison, which are located in Bath, Bourbon, Fayette, and Logan counties.

Interestingly, although there is an observed prevalence in the percentage of imported English produced ceramics on sites within Kentucky,

Delaware, and Virginia, occupied during the pre-1873 period, there is a noticeable difference in the diversity of British produced ceramics recovered from these largely contemporaneously occupied sites. The ceramic comparison resulted in the observation that a greater diversity of imported ceramics, dominated by British ceramics, typified the historic occupations from the Delaware and Virginia comparative groups than was observed from the Kentucky sites. Particular types of imported ceramics including Buckley-type coarse earthenware, Staffordshire/Staffordshire slipware, and Rhenish stoneware were observed in small quantity from the Whitten Road site in Delaware and Staffordshire/Staffordshire slipware and Rhenish stoneware were observed in small quantity from two sites in Virginia, the Lane Period Assemblage from Site 44FX1965 and Site 44CS187, the Thomas Happer Site. These varieties of imported ceramics were not recovered from any of the eleven sites in Kentucky, including the Vardeman House Site. Additionally, other imported ceramic types including tin enameled earthenware, Jackfield-type refined earthenware, British stoneware, Chinese export porcelain, and white salt-glazed stoneware were either not recovered at all or only recovered in small quantities from the eleven sites in Kentucky with the exception of Logan's Fort Site (15LI95). However, these ceramic types constituted a small, but fairly consistent presence within the majority of the Delaware and Virginia assemblages studied (see Figure 8.5). Based on the greater diversity of imported English ceramics present within the Virginia and Delaware assemblages, it is likely that within the eastern seaboard colonies (Delaware and Virginia) a greater diversity of imported ceramics was available to the late eighteenth- and

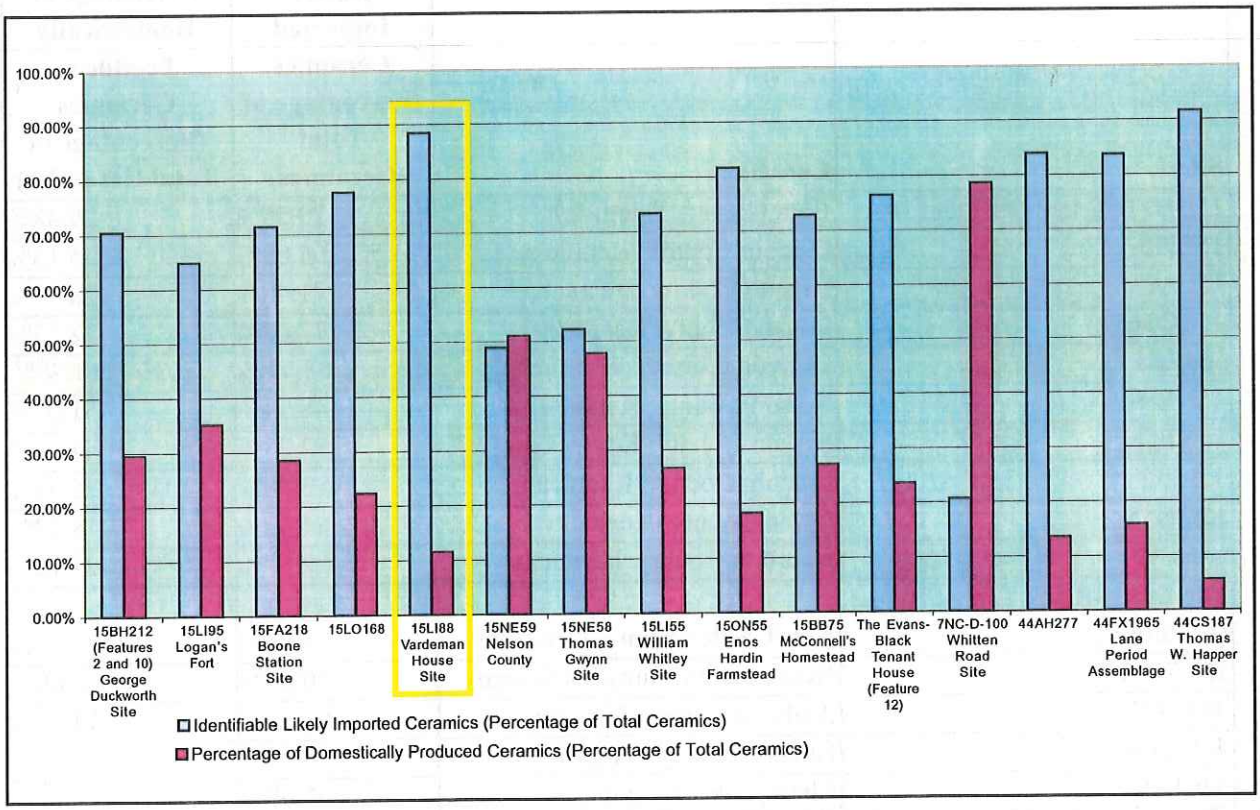


Figure 8.6. Likely imported and domestic ceramics recovered from the Vardeman House Site, compared with 14 other sites.

early nineteenth-century consumer than was brought to Kentucky for sale. The majority of the imported ceramics recovered from the Delaware and Virginia sites which were not recovered from the Kentucky sites in any but the smallest of quantities, were waretypes more characteristic of the pre-1800 period (tin enameled earthenware, white salt-glazed stoneware, and Buckley earthenware, for example). Although trade in ceramics was noted in Kentucky during the late eighteenth century in Lexington, the trade may have included a limited variety of imported ceramic waretypes that would be available in stores in Delaware and Virginia.

Comparisons were made between the percentage of historic ceramics which were likely imported (predominately from Britain, possibly France, and to a lesser extent China) and the percentage of fragments of domestically produced coarse earthenware/redware and stonewares for each of the fourteen sites within the comparative group and the Vardeman House Site (Figure 8.6; Table 8.3). This comparison was seen as illustrative of the degree to which the Vardeman family had access to and acquired imported goods in relation to others in Kentucky and eastern seaboard states. The calculations of the percentages of likely imported and domestically produced ceramics were

Table 8.3. Percentage of Likely Imported to Domestic Historic Ceramics Recovered from Nine Sites in Kentucky, Virginia, and Delaware.*

Site	Location	Identifiable Likely Imported Ceramics (Percentage of Total Ceramics)	Percentage of Domestically Produced Ceramics (Percentage of Total Ceramics)
15BH212 (Features 2 and 10)	Bath County, Kentucky	70.50%	29.48%
15LI95	Lincoln County, Kentucky	64.89%	35.15%
15FA218	Fayette County, Kentucky	71.48%	28.51%
15LO168	Logan County, Kentucky	77.67%	22.33%
15LI88	**Lincoln County, Kentucky**	**88.44%**	**11.56%**
15NE59	Nelson County, Kentucky	48.93%	51.07%
15NE58	Nelson County, Kentucky	52.23%	47.76%
15LI55	Lincoln County, Kentucky	73.40%	26.61%
15ON55	Owen County, Kentucky	81.67%	18.32%
15BB75	Bourbon County, Kentucky	72.87%	27.13%
The Evans-Black Tenant House (Feature 12)	New Castle County, Delaware	76.44%	23.56%
7NC-D-100	New Castle County, Delaware	20.69%	78.60%
44AH277	Amherst County, Virginia	83.96%	13.54%
44FX1965	Fairfax County, Virginia	83.73%	15.85%
44CS187	Chesapeake, Virginia	91.69%	5.52%

*The percentages listed for both the Evans-Black Tenant House and Site 44CS187 are based on minimum vessel counts.

based on the total number of fragments of each ceramic type recovered from the site and the total counts by site for each likely imported ceramic waretype and domestically produced ceramic waretype combined. The exception to this was the ceramics from the Evans-Black Tenant Site in Delaware and the Thomas Happer Site in Virginia (44CS187) which were compared by the percentage of minimum vessels identified from these assemblages. For example, total fragment counts for creamware, pearlware, whiteware, etc. were considered to fall within the group of likely imported ceramic wares; total fragment counts for coarse earthenware/redware and domestic stonewares were combined to arrive at the total percentage of the ceramic assemblage that constitutes the likely imported and domestically produced groups.

Unidentified refined earthenware, such as whiteware, pearlware, creamware, ironstone, and unidentified porcelain were considered likely imported because although American production of refined wares has been documented during the early nineteenth century (Stradling and Stradling 2001), imported ceramics from Britain continued to dominate the American market into the 1880s, the terminal occupation period of many of the sites within the comparative group assessed here. As evidence of the dominance of the British ceramic industry in America into the 1880s, American wholesale ceramic dealers H. Leonard & Sons of Grand Rapids, Michigan, complained to James Moses, President of the Mercer Pottery Company of Trenton, New Jersey, during the early 1880s that Leonard & Sons could acquire imported white granite (ironstone) wares from Staffordshire for a better price than the domestically produced wares offered by Mercer (Ewins 1997:13). It is possible that some of the ceramics included within the likely imported category were produced in America, however given the occupation date range of the sites within the comparative group, which largely date from the late eighteenth through mid-nineteenth century, it is likely that the vast majority of the recovered refined ceramics (refined earthenwares and porcelains) were imports. Sites 15LI95 (Logan's Fort), 15NE58 (Thomas Gwynn Site), 15LI88 (William Whitley Site), and 44AH277 in Virginia all include occupation through the nineteenth century and/or into the twentieth century, and therefore, may include some domestically produced refined wares. The comparative analysis was undertaken with the understanding that the precise impact of early domestic refined earthenware production on the ceramic market of antebellum Kentucky remains unclear. The extent and impact of domestically produced refined earthenwares, such as the products of the Vodrez pottery in Louisville (Stradling and Stradling 2001), is at present unknown, and thus, some of the ceramics within the "likely imported" category could be domestically produced.

Some scholars (Day and Clay 2002) have suggested that there might be a perceptible shift from ceramic assemblages primarily dominated by imported wares during the pre-1830 period to more domestically produced wares visible during the post-1830 period. The analysis conducted for the data recovery of the Vardeman House Site compared the broad patterns of ceramic acquisition and percentage of likely imported ceramic to domestically produced wares within the comparative site group without attempting to separate temporally discrete elements within assemblages. Ceramic scholar Neil Ewins (1997) recognizes the continued dominance of the British refined wares within the American market into the early 1880s. Thus, comparison with pre- and post-1830 ceramic assemblages or contexts may not yield perceptibly different percentages of imported to domestic ceramics until after 1880. Since 1880 is near the terminal date of the sites within the comparative group it was not considered that comparing pre- and post-1830 contexts within the comparative group would be likely to yield substantive results.

It is recognized here that the domestic ceramic production dominated the utilitarian (dairying, food storage) ceramic market in Kentucky during the

late eighteenth and nineteenth centuries. Local production of coarse earthenwares, and to a much lesser extent until the post-1850 period stonewares, satisfied the Kentucky consumers needs for utilitarian forms. Although British utilitarian wares were exported to America, they are not well represented among the Kentucky site assemblages. In the pie charts some of the total percentages of ceramic fragments from individual assemblages do not total 100% due to rounding, and/or not including ceramics which cannot be placed into one of the two categories (likely imported or domestically produced).

The comparison of the likely imported to domestically produced ceramic waretypes illustrates the dominance of imported European (predominately British) ceramic wares throughout most of the nineteenth century as well as the degree of interconnectedness between rural Kentucky locales and the widening economic sphere of imported European commodities. The data illustrates that at all of the sites within the comparative group, except for Site 15NE59 located in Nelson County, Kentucky, and the Whitten Road Site in Delaware, likely imported ceramic waretypes constitute greater than 50% of the total ceramic assemblage. More typically, the percentage of likely imported ceramics was in the 70% range or greater.

The range of percentages of likely imported ceramics from the nine Kentucky sites and the Vardeman House Site include as little as 48.93% of the ceramic assemblage from Site 15NE59 to as great as 88.44% of the ceramic assemblage from the Vardeman House Site (see Table 8.3 and see Figure 8.6). Several of the Kentucky sites within the comparative group yielded likely imported ceramics in the 70% range. These sites include Site 15BH212 – 70.50%, Site 15LI55 – 73.40%, Site 15LO168 – 77.67%, and Site 15BB75 – 72.87%. The ceramics from two Kentucky sites, Sites 15FA218 and 15ON55, had likely imported ceramics in the 80% range, 81.12% and 81.67% respectively. Likely imported ceramics from the Vardeman House Site constituted 88.44% of the total recovered historic ceramics. Aside from Site 15NE59, just two of the Kentucky sites in the comparative group contained total likely imported ceramic waretypes in concentrations of less than 70% of the total ceramic assemblage. A total of 52.23% of the total ceramic waretypes recovered from Site 15NE58 were likely imported waretypes; 64.89% of the total ceramic waretypes recovered from Site 15LI59 were likely imported waretypes. Interestingly, the two sites with the lowest percentage of likely imported ceramic waretypes were both located in Nelson County. As previously mentioned this may be due to a combination of factors including geography, isolation from mercantile stores selling imported British ceramics, and/or the preference for and proximity to locally available earthenwares.

Within the two Delaware sites in the comparative group, imported ceramics accounted for 76.44% of the historic ceramics from the Evans-Black Tenant House, Feature 12 and just 20.69% of the total historic ceramics from the Whitten Road Site (7NC-D-100) (see Table 8.3 and see Figure 8.6). With just two sites in Delaware compared, each yielding widely differing percentages it is difficult to integrate the Delaware results with those from Kentucky, however it is a strong possibility that the Whitten Road Site represents an atypical ceramic assemblage for the time period and geographic region based on the extraordinarily high percentage of locally made coarse earthenwares/redwares recovered relative to the other ceramic types.

The three Virginia sites within the comparative group have yielded extremely interesting results. Although separated geographically in Virginia, the three sites all yielded likely imported ceramics percentages greater than 80%, Site 44AH277– 83.96%, Site 44FX1965 – 83.73%, and Site 44CS187 – 91.69%. These results indicate that while imported ceramic forms typically constituted greater than 70% of the likely imported ceramics within the Kentucky comparative site group, within

the Virginia comparative site group, an even greater reliance, or preference for, likely imported ceramics was observed. Interestingly, the percentage of likely imported ceramics from the Vardeman House Site was 88.44% which was more similar to the Virginia sites. The high percentage of likely imported ceramics recovered from the Vardeman House Site could be due to the proximity of the Vardeman House Site to the Wilderness Road, a principal late eighteenth- and early nineteenth-century transportation corridor. The close proximity of the William Whitley Site (15LI55) to the Wilderness Road and the lower percentage of likely imported ceramics recovered there may call into question the interpretation that the high percentage of likely imported ceramics from the Vardeman House Site was possibly due to the proximity of the site to the Wilderness Road. Although the observations discussed here are tentative, the comparative results noted here indicate that although Kentucky very quickly became part of the sphere of regular mercantile exchange with the eastern seaboard states and Europe, reliance on imported ceramics marked by a greater diversity of imported ceramic waretypes and a typically greater percentage of imported ceramics utilized at the site was not quite as great in Kentucky as Virginia during the period.

Domestically produced coarse earthenware/ redware and stonewares constituted a notable percentage of total ceramic waretypes recovered from all of the Kentucky sites in the comparative group, except for Site 15NE59. Domestically produced coarse earthenwares/redware and domestically produced stoneware together constituted 51.07% of the ceramics recovered from this site (see Figure 8.5). Percentages of domestically produced ceramic waretypes ranged from as low as 11.56% of the ceramic assemblage from the Vardeman House Site to as high as 51.07% from Site 15NE59. With the exception of the two Nelson County sites, domestic ceramics typically represented approximately 25% of the total ceramics recovered from the sites within the comparative site group. A total of 22.33% of the total ceramics from Site 15LO168 were comprised of domestically produced waretypes. The percentages for the other Kentucky sites in the comparative group are as follows: Site 15ON55 – 18.32%, Site 15BB75 – 24.36%, the Vardeman House Site – 26.61%, Site 15BB75 (McConnell's Homestead) – 27.13%, Site 15FA218 – 28.51%, Site 15BH212 – 29.48%, and Site 15LI95 – 35.15%.

Within the three Virginia sites domestically produced ceramics rarely constituted greater than 15% of the total historic ceramic assemblage. The percentage of domestically produced ceramics from the Virginia sites ranged from a low of 5.52% of the total ceramics from Site 44CS187 to a high of 15.85% from Site 44FX1965. The percentage of domestic produced ceramics recovered from Site 44AH277 was 13.54% (see Table 8.3 and see Figure 8.6).

The data suggests that there were either slight differences in ceramic preference and availability of locally produced and imported ceramics, or slight differences in the nature and function of Kentucky and Virginia sites causing the moderately greater reliance on locally produced ceramics in Kentucky. The author would suggest that the less well developed trade in imported ceramics in Kentucky during the late eighteenth century accounted largely for the differences in the percentage of likely imported to domestic ceramics from Kentucky and Virginia sites, rather than differences in site function, or the availability of locally produced ceramics.

Within the Kentucky sites the percentage of likely imported to domestically produced ceramic waretypes did not seem to vary between the sites containing fort or station components (Sites 15LI95 and 15FA218) and rural domestic sites (Sites 15BH212, 15LO168, 15ON55, 15LI88, 15BB75 – McConnell's Homeplace, 15NE58, 15NE59, and 15LI88). The two Nelson County sites within the comparative group returned results which differed from the ceramic assemblages recovered from the other sites within the comparative group. It was

observed that both Nelson County rural domestic sites yielded percentages of domestically produced ceramics far in excess of both the other rural domestic and fort, or station sites. The lack of differentiation between percentages of likely imported to domestically produced goods from the sites containing fort or station components and the predominately rural domestic sites is likely due to the long period of occupation of the fort or station sites by generations of rural occupants throughout the nineteenth century. The occupation of the majority of the fort or station sites into the antebellum and postbellum period contributed to the overall ceramic pattern represented at these sites, and thus, limiting substantive discussions between exclusively frontier period occupied fort or station sites and predominately antebellum through postbellum rural domestic sites. Selective analysis of individual temporally sensitive contexts attributable exclusively to the frontier period within the sites might have the potential to offer more refined insights into the distinction in changing consumption patterns, economic trade, and networks between fort or station sites and rural domestic sites.

Not surprisingly, sites within the comparative group, which were occupied more heavily during the late eighteenth and early nineteenth century, had the highest percentage of ceramics, which date to the late eighteenth and early nineteenth centuries. Relative to the percentage of other ceramics recovered by site, Sites 15BH212, 15LI95, 15FA218, 15LO168 and 15LI88 in Kentucky, the Evans-Black Tenant House in Delaware, the Lane Period Assemblage from Site 44FX1965 and Site 44CS187, both located in Virginia, had the highest percentage of pearlware compared with the other recovered ceramics. Pearlware, one of the most widely available and utilized domestic ceramics during the period between ca. 1775 and 1830 constituted 36.84% of the total ceramic assemblage from Site 15BH212, 24.14% of the total ceramic assemblage from Site 15LI95, 36.80% of the total ceramic assemblage from Site 15FA218, 21.21% of the total ceramic assemblage from Site 15LO168 and 25.90% of the total ceramic assemblage from the Vardeman House Site. All of these sites, with the exception of Site 15LI95, had terminal occupation dates of ca. 1860 or earlier. The single exception to the pattern of pearlware constituting greater than 20% of the percentage of historic ceramics recovered from sites with terminal occupation dates of ca. 1860 was Site 15NE59 in Nelson County. Pearlware from Site 15NE59 constituted just 10% of the ceramic assemblage recovered, less than half the amount typical of the other five contemporaneously occupied sites. The aberrant nature of the amount of pearlware recovered from Site 15NE59 may be explained because 29.36% of the ceramic assemblage was classified as unidentified refined earthenware. It is likely that fragments of pearlware are included within this unidentified group.

Creamware was recovered from all of the Kentucky sites within the comparative group except for Site 15NE58, the Thomas Gwynn site in Nelson County. Creamware constituted 11.97% of the total ceramic assemblage from Site 15BH212, 11.51% of the total ceramic assemblage from Site 15LI95, 7.13% of the total ceramic assemblage from Site 15FA218, 11.28% of the total ceramic assemblage from Site 15LO168, and 3.92% of the total ceramic assemblage from the Vardeman House Site. Not surprisingly, sites with documented occupation extending beyond 1860 documented creamware in reduced quantity relative to the other ceramics recovered. This pattern was observed at the two sites in Nelson County, which were occupied throughout the nineteenth century. Site 15NE58, the Thomas Gwynn site, yielded no creamware. At Site 15NE59 creamware constituted just 2.77% of the total historic ceramic assemblage. Site 15LI55, the William Whitley Site, which has occupation dating through the twentieth century, documented creamware as comprising 3.58% of the total recovered historic ceramic assemblage. Interestingly, the Enos Hardin Farmstead (15ON55), occupied until ca. 1873, yielded a very small percentage of creamware, just .54% of the historic ceramic assemblage. McConnell's

Homestead, occupied until ca. 1880, also yielded a small percentage of creamware, comprising just 2% of the historic ceramic assemblage. The quantity of creamware as a percentage of the total historic ceramics from the two Delaware sites and the three Virginia sites was comparable with creamware accounting for between approximately 8 to 10% of the total ceramic assemblage except for Site 44FX1965 which yielded a high percent of creamware (48.80%) (see Figure 8.5), likely a result of the early terminal date of 1810 documented for the historic occupation at this site.

Although the historic occupation at both Nelson County sites, 15NE58 and 15NE59, dated back to the late eighteenth century, both sites yielded a small percentage of creamware and pearlware relative to the other historic ceramics recovered. Although it is likely that both creamware and pearlware are represented within the unidentified refined earthenware category from both sites, geography, potential limited availability of imported English ceramics in Nelson County, and the high percentage of coarse earthenware/ redware recovered (40.22% and 49.79% for Sites 15NE58 and 15NE59 respectively) may all have combined to result in a small quantity of creamware and pearlware from the Nelson County sites relative to the other sites within the comparative group. One possible explanation for the unusually high percentage of domestically produced ceramics from the two Nelson County sites may be that these sites may have been located some distance from mercantile stores and/or trade networks. This would likely result in a reliance on other ceramic types including coarse earthenwares. These were likely produced by potter Philip Anthony who was documented to be producing ceramics in Bardstown from approximately 1799 to 1815 (Davis et al. 1997:254). The high percentage of coarse earthenware/redware recovered from the two Nelson County sites relative to the other ceramics recovered is significant when compared with the other seven sites within the comparative group. Of the other Kentucky sites, including the Vardeman House Site, coarse earthenware/ redware constituted between 7.61% and 35.06% of the ceramic assemblage (see Figure 8.5).

Whiteware was recovered from each of the Kentucky sites within the comparative group, comprising various percentages of each of the ceramic assemblages. Percentages of whiteware relative to the other historic ceramics recovered from each site ranged from a low of 4.89% at Site 15NE59 to a high of 56.96% at the Enos Hardin Site (15ON55). The percentage of whiteware recovered from the Vardeman House Site was 49.04% (see Figure 8.5). Recovered percentages of whiteware within the Kentucky assemblages did not seem to vary in quantity based on their being occupied earlier, or exclusively during the pre-1860 period. That is to say that sites with known terminal occupation dates of 1860 or earlier did not necessarily yield a lower percentage of whiteware relative to the other ceramic types recovered than the sites that had documented historic occupation extending through the nineteenth and into the twentieth centuries. For example, at the Vardeman House Site, which had a terminal documented historic occupation date of 1851, whiteware comprised the largest single variety of ceramic represented, comprising 49.04% of the total recovered historic ceramic assemblage. Conversely, Site 15NE58, one of the Nelson County sites with occupation extending through the nineteenth century, documented whiteware as comprising a comparatively small 18.99% of the total ceramic assemblage. The presence of sizeable percentages of whiteware even at sites with terminal occupation dates of 1860 or earlier suggest that either the most intensive period of occupation postdated 1820 and/ or that the acquisition of consumer goods, or replacement of old, broken, or outdated ceramics at the sites was quite pronounced during the post-1820 period. This is likely the case with the Vardeman Site, which although occupied as early as 1781, yielded whiteware as the most numerous variety of ceramic recovered indicating significant acquisition of ceramics, or replacement of old, broken, or outdated ceramics during the post-1820 period. Within the Delaware sites, whiteware

constituted a relatively small percentage of the total ceramics recovered, just 1.54% from the Whitten Road Site and 9.20% of the Evans-Black Tenant House (Feature 12). The low percentages of whiteware likely relate to the relatively early terminal occupation dates of the early nineteenth century and 1848 for the Whitten Road Site and the Evans-Black Tenant site respectively. The Virginia sites yielded low percentages of whiteware; 6.08% for 44CS187 and 0% for 44FX1965, a result of the relatively early terminal occupation date of 1810 for the Lane Period Assemblage (Site 44FX1965) and 1840 for Site 44CS187. The exception was Site 44AH277, which yielded whiteware as 30.05% of the total historic ceramic assemblage. Site 44AH277 was occupied through the late nineteenth century, accounting for the large percentage of whiteware.

The pervasiveness of imported British ceramic waretypes within late eighteenth- and early nineteenth-century assemblages recovered from historic sites in Lincoln, Bath, Bourbon, Fayette, and Logan counties further substantiates the early nineteenth-century social and economic transformation of Kentucky. This transformation resulted in the efficient dispersal of a vast array of consumer goods including imported ceramics. Notions of style, fashion, emulation, and gentility which swept into Lincoln County during the early nineteenth century, as exemplified by the imported wares recovered from the Vardeman House Site, also permeated Bath, Bourbon, Fayette, Logan, Owen, and to a lesser extent Nelson County, if Sites 15NE58 and 15NE59 can be considered representative of this part of Kentucky. The general availability of consumer goods, which was dominated by varieties of imported ceramics primarily from Britain during the early Federal period and the active participation by rural Kentuckians in the market economy of the period, was exemplified by the ceramic acquisitions of the occupants of the Kentucky sites within the comparative site group (see Figure 8.5). The comparison of the likely imported to domestically produced ceramic waretypes illustrates the dominance of imported European (predominately British) ceramic wares throughout most of the nineteenth century. It also documents the degree of interconnectedness between rural Kentucky locales and the widening economic sphere of imported European commodities.

Historic Ceramic Crossmend Analysis

Ceramic crossmend analyses have been shown to offer great potential not only to understand the diversity of ceramic vessel forms recovered from archaeological sites, but also in the elucidation of chronological change and development of archaeological sites and features over time. Furthermore, this analysis can assist in evaluating potential temporal and functional relationships between archaeological deposits and, more specifically, intact archaeological features related to the period or occupation under study. Crossmends between archaeological contexts demonstrates temporal and functional relationships between features, specifically illustrating temporal relationships between levels or strata within a feature allowing for the reconstruction of the filling sequence of the features or contexts under evaluation. For example, if crossmends are recorded between the top level or strata in "Feature 1" and the bottom level or strata within "Feature 2" at the site, absent other crossmends between ceramics recovered from these two features, the crossmend data would suggest that Feature 1 would have been almost completely filled at the same time at which Feature 2 was initially being filled. Demonstrating the crossmends between specific levels and/or strata within intact archaeological deposits has the promise of yielding data concerning the changing utilization of space, the sequence of discard events and hence the sequence of deposition and possibly differences in depositional patterns over time within the historic site under investigation. The crossmend data is just one technique to indicate temporal and functional relationships between features. The crossmend data should always be placed into context by evaluating the crossmend data with the specific

archaeological context information, the excavation sequence, level of disturbance at the site, the morphology of the features under study, and the mean ceramic data obtained for the contexts under comparison. Crossmends between disturbed contexts and intact portions of features can document disturbance or truncation of features as a result of agricultural plowing, grading, or other subsurface impact of the cultural deposits.

A crossmend analysis was conducted on the ceramic assemblage recovered from the test units, mechanical stripping, and feature excavation. A total of 26 crossmends were identified (Table 8.4). Unfortunately, no crossmends between features were documented. The absence of crossmends between features does not necessarily indicate that the features were not filled during the same, or relatively the same time period. The extent of agricultural plowing at the Vardeman House Site truncated the features subsuming potential crossmend pieces into non-feature and plowzone-related contexts. The majority of crossmends were between plowzone contexts and include crossmends between sherds from test units and features, test unit to test unit, and the plowzone to surface. The purpose of this analysis was to provide information on site and feature development and to ascertain potential functional and temporal relationships between the features documented at

Table 8.4. Crossmends Identified Between Historic Ceramics from Various Contexts, Vardeman House Site.

Ceramic Waretype	Context Number	Provenience
American Stoneware	1127, 1156	SE Quad; General Surface
Bone China	1027, 1142	TU 1, SE/1; SE Quad
Bone China	1035, 1127	TU 4, SE/1; SE Quad
Pearlware	1064, 1072	TU 12, E/1; TU 24, W/2
Pearlware	1029, 1106	TU 5, SE/1; TU 30, W/1
Pearlware (edged)	1106, 1121	TU 30, W/1; SW Quad
Pearlware - banded	1121, 1161	SW Quad; Feature 41
Pearlware - polychrome hand painted	1064, 1020	TU 12, E/1; TU 5, NW/1
Pearlware - polychrome hand painted	1016, 1023	TU 1, SW/1; TU 5, NE/1
Pearlware - polychrome hand painted	1064, 1067	TU 12, E/1; TU 12, W/2
Pearlware - transfer printed blue	1034, 1063	TU 3, SW/1; TU 3, NW/2
Pearlware - transfer printed blue	1121, 1127, 1128, 1146, 1187	SW Quad; SE Quad; General Surface; Feature 41
Whiteware	1012, 1104	TU 2, SW/2; TU 15/2
Whiteware	1093, 1178	TU 25, NE/1; Backdirt Pile
Whiteware	1092, 1103	General Surface; TU 30, E/1
Whiteware - (edged)	1106, 1121	TU 30, W/1; SW Quad
Whiteware - Sprigged polychrome hand painted	1130, 1134, 1145	NE Quad; Feature 42
Whiteware - flow mulberry	1128, 1169	General Surface; Feature 110
Chinese export porcelain	1012, 1128	TU 2, SW/2; General Surface
Unidentified earthenware (burned)	1134, 1140	Feature 42
Unidentified earthenware (burned)	1130, 1134, 1140	NE Quad; Feature 42

the site. Given that no crossmends were identified between features, the explanatory value of this analysis is limited at the Vardeman House Site. The crossmends identified between features and plowzone contexts bolsters the conclusion that the features identified have been truncated largely due to plowing.

Historic Ceramic Vesselization Analysis (Minimum Vessel Count)

A minimum vessel analysis of the total ceramics recovered from the test unit and feature contexts at the Vardeman House Site was completed and resulted in the identification of a minimum total of 263 ceramic vessels (see Table 8.1; Table 8.5). Vesselization is important in historical archaeology because it allows for the evaluation of the range of vessels utilized at the site, diversity of activities practiced at the site, and the extent of matching sets of ceramics and the variety and change of ceramic wares utilized at the site over time. Ceramic waretype frequencies as reflected in the minimum vessel count of 263 is displayed in Figure 8.7.

To arrive at the total minimum number of vessels for the site the ceramics were initially sorted by ceramic waretype. Crosssmends between contexts were then attempted. Subsequently, the rims and bases from each ceramic waretype were grouped together and analyzed to arrive at the total minimum historic ceramic vessels present at the Vardeman House Site. Although rims were the primary determinant of the identification of individual vessels, ceramic waretypes not represented by rims but represented by a base, or body fragment were considered to represent a unique vessel and were included within the minimum vessel count. The analysis resulted in the identification of a minimum total of 263 historic ceramic vessels from the Vardeman House Site. Given the documented historic occupation of the Vardeman House Site, which spanned approximately 70 years, extending from 1781 to 1851, this resulted in the average breakage and disposal of slightly fewer than 4 vessels per year (3.757 vessels). Of the total of 263 minimum vessels identified within the the Vardeman House Site assemblage, 234 were identified as refined wares (creamware, pearlware, Chinese export porcelain, etc.) and 29 were identified as utilitarian/ coarse vessels (domestic stoneware and coarse earthenware). The breakdown of the minimum ceramic vessels by ceramic waretype is as follows: domestic stoneware (3), bone china (14), Chinese export porcelain (2), creamware (10), ironstone (11), pearlware (64), Rockingham/Bennington-type earthenware (1), whiteware (108), yellowware (1), coarse earthenware (26), Whieldon-type refined earthenware (1), white salt glazed stoneware (1), unidentified porcelain (10), and unidentified refined earthenware (11) (see Table 8.1). Specific vessel forms identified within each ceramic waretype category are detailed below.

A total of one vessel of American brown stoneware (Vessel #260), comprising .38% of the total identified minimum vessels from the Vardeman House Site, was identified. Two vessels of American gray stoneware embellished with Albany-type slip (Vessel #29 and 259), comprising .76% of the total identified minimum vessels from the Vardeman House Site was identified. The single vessel of American brown stoneware (Vessel #260) was an unidentified hollowware. One vessel of American gray stoneware (Vessel #29) was identified as a storage jar/crock and the other vessel of American gray stoneware (Vessel #259) was an unidentified hollowware.

A total of 14 vessels of bone china (Vessel #224-236, and 261) comprising 5.32% of the total identified minimum vessels from the Vardeman House Site were identified. The fourteen vessels of bone china were identified as saucers (Vessel #228, 232, 233, and 261; n=4), unspecified hollowwares (Vessel #224, 225, 227, 231, and 235; n=5) and vessels of unidentified form (Vessel #226, 229, 230, 234, and 236; n=5).

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.			
Vessel Number	**Provenience**	**Ceramic Waretype**	**Vessel Form**
1	SHOVEL SCRAPE, NW QUAD	Bennington-type	Hollowware
2	UNIT 003 NE	Whieldon-type	Unidentified
	UNIT 027 S	Whieldon-type	Unidentified
3	FEATURE 041	Coarse earthenware: Local Lead Glaze	Hollowware
4	UNIT 006	Coarse earthenware: Local Lead Glaze	Hollowware
5	FEATURE 041	Coarse earthenware: Local Lead Glaze	Hollowware
6	GENERAL SURFACE, SW QUAD	Coarse earthenware: Local Lead Glaze	Hollowware
7	FEATURE 110	Coarse earthenware: Local Lead Glaze	Hollowware
8	UNIT 004 NE	Coarse earthenware: Local Lead Glaze	Hollowware
9	UNIT 002 SE	Coarse earthenware: Local Lead Glaze	Bowl
	UNIT 012	Coarse earthenware: Local Lead Glaze	Bowl
10	BACKDIRT PILE FROM MECHANICAL REMOVAL	Coarse earthenware: Local Lead Glaze	Hollowware
11	UNIT 003 NW	Coarse earthenware: Local Lead Glaze	Hollowware
12	FEATURE 110	Coarse earthenware: Local Lead Glaze	Hollowware
13	SHOVEL SCRAPE, SW QUAD	Coarse earthenware: Local Lead Glaze	Hollowware
14	UNIT 008	Coarse earthenware: Local Lead Glaze	Hollowware
15	GENERAL SURFACE	Coarse earthenware: Local Lead Glaze	Bowl
16	SHOVEL SCRAPE, SW QUAD	Coarse earthenware: Local Lead Glaze	Hollowware
17	SHOVEL SCRAPE, SE QUAD	Coarse earthenware: Local Lead Glaze	Jar
18	UNIT 003 NW	Coarse earthenware: Local Lead Glaze	Hollowware

(Table 8.5: Page 1 of 13)

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.			
Vessel Number	**Provenience**	**Ceramic Waretype**	**Vessel Form**
19	SHOVEL SCRAPE, SE QUAD	Coarse earthenware: Local Lead Glaze	Jar
20	SHOVEL SCRAPE, NE QUAD	Coarse earthenware: Local Lead Glaze	Hollowware
21	UNIT 002 SE	Coarse earthenware: Local Lead Glaze	Hollowware
	UNIT 030 E	Coarse earthenware: Local Lead Glaze	Hollowware
	UNIT 030 W	Coarse earthenware: Local Lead Glaze	Hollowware
22	UNIT 003 NW	Coarse earthenware: Local Lead Glaze	Unidentified
23	FEATURE 040	Coarse earthenware: Local Lead Glaze	Unidentified
24	UNIT 022	Coarse earthenware: Local Lead Glaze	Hollowware
25	UNIT 024 E	Coarse earthenware: Local Lead glazed green	Hollowware
26	UNIT 015	Coarse earthenware: Local Lead Glaze	Hollowware
27	UNIT 009	Coarse earthenware	Hollowware
28	FEATURE 041	Coarse earthenware: Local Lead Glaze	Hollowware
29	GENERAL SURFACE	Stoneware: American grey	Crock
	SHOVEL SCRAPE, SE QUAD	Stoneware: American grey	Crock
30	UNIT 008	Yellowware	Hollowware
31	UNIT 006	Creamware	Plate
32	FEATURE 041	Creamware	Saucer
	UNIT 006	Creamware	Saucer
	UNIT 026 E	Creamware	Saucer
33	UNIT 003 SE	Creamware	Unidentified
	UNIT 005 SE	Creamware	Unidentified
34	UNIT 011	Creamware	Unidentified
	UNIT 027 N	Creamware	Unidentified
35	FEATURE 041 N	Creamware	Hollowware
36	UNIT 024 N	Creamware	Plate
37	UNIT 012 E	Creamware	Unidentified
38	UNIT 024 E	Creamware	Unidentified

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.

Vessel Number	Provenience	Ceramic Waretype	Vessel Form
	UNIT 024 W	Creamware	Unidentified
39	GENERAL SURFACE	Creamware	Plate
	UNIT 028 S	Creamware	Plate
40	UNIT 015	Creamware	Plate
	UNIT 028 S	Creamware	Plate
41	UNIT 032	Ironstone	Saucer
42	SHOVEL SCRAPE, SW QUAD	Ironstone	Plate
43	SHOVEL SCRAPE, SE QUAD	Ironstone	Saucer
	UNIT 007	Ironstone	Saucer
44	UNIT 021 E	Ironstone	Unidentified
45	SHOVEL SCRAPE, SW QUAD	Ironstone	Hollowware
46	SHOVEL SCRAPE, SW QUAD	Ironstone	Flatware
47	FEATURE 041	Ironstone	Hollowware
48	UNIT 015	Ironstone	Unidentified
49	UNIT 028 S	Ironstone	Unidentified
50	UNIT 025 NE	Ironstone	Unidentified
51	UNIT 027 N	Ironstone	Unidentified
52	UNIT 026 E	Pearlware	Unidentified
53	UNIT 011	Pearlware	Unidentified
54	UNIT 024 E	Pearlware	Hollowware
55	BACKDIRT PILE FROM MECHANICAL REMOVAL	Pearlware: shell edged	Platter
	SHOVEL SCRAPE, NW QUAD	Pearlware: shell edged	Platter
	UNIT 015	Pearlware: shell edged	Platter
56	SHOVEL SCRAPE, SW QUAD	Pearlware: shell edged	Plate
	UNIT 030 W	Pearlware: shell edged	Plate
57	BACKDIRT PILE FROM MECHANICAL REMOVAL	Pearlware: shell edged	Plate
	FEATURE 041	Pearlware: shell edged	Plate
	UNIT 002 SW	Pearlware: shell edged	Plate
	UNIT 005 SE	Pearlware: shell edged	Plate
	UNIT 012	Pearlware: shell edged	Plate
	UNIT 030 W	Pearlware: shell edged	Plate
58	GENERAL SURFACE	Pearlware: shell edged	Plate
	UNIT 001 NW	Pearlware: shell edged	Plate
	UNIT 021 W	Pearlware: shell edged	Plate
59	UNIT 006	Pearlware: shell edged	Plate
60	FEATURE 042	Pearlware: shell edged	Plate

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.

Vessel Number	Provenience	Ceramic Waretype	Vessel Form
	SHOVEL SCRAPE, NW QUAD	Pearlware: shell edged	Plate
	UNIT 028 S	Pearlware: shell edged	Plate
61	BACKDIRT PILE FROM MECHANICAL REMOVAL	Pearlware: shell edged	Plate
	FEATURE 027	Pearlware: shell edged	Plate
	FEATURE 041	Pearlware: shell edged	Plate
	UNIT 002 NW	Pearlware: shell edged	Plate
	UNIT 006	Pearlware: shell edged	Plate
	UNIT 011	Pearlware: shell edged	Plate
	UNIT 015	Pearlware: shell edged	Plate
	UNIT 017 S	Pearlware: shell edged	Plate
	UNIT 027 N	Pearlware: shell edged	Plate
62	UNIT 002 SW	Pearlware: shell edged	Plate
	UNIT 012	Pearlware: shell edged	Plate
63	UNIT 024 N	Pearlware: shell edged	Plate
64	UNIT 005 SE	Pearlware: shell edged	Plate
65	UNIT 012	Pearlware: shell edged	Plate
	UNIT 024 E	Pearlware: shell edged	Plate
	UNIT 024 N	Pearlware: shell edged	Plate
	UNIT 027 S	Pearlware: shell edged	Plate
66	FEATURE 041	Pearlware: shell edged	Plate
	SHOVEL SCRAPE, SW QUAD	Pearlware: shell edged	Plate
	UNIT 030 W	Pearlware: shell edged	Plate
67	SHOVEL SCRAPE, SE QUAD	Pearlware: shell edged	Flatware
	UNIT 002 SE	Pearlware: shell edged	Flatware
68	UNIT 007	Pearlware: embossed edge	Plate
69	SHOVEL SCRAPE, SW QUAD	Pearlware: embossed edge	Plate
	UNIT 002 NW	Pearlware: embossed edge	Plate
	UNIT 005 SE	Pearlware: embossed edge	Plate
	UNIT 006	Pearlware: embossed edge	Plate
	UNIT 026 W	Pearlware: embossed edge	Plate
70	UNIT 009	Pearlware: embossed edge	Unidentified
71	UNIT 002 NW	Pearlware: painted	Saucer
	UNIT 006	Pearlware: painted	Saucer
72	UNIT 001 NE	Pearlware: painted	Tea cup
73	UNIT 006	Pearlware: painted	Saucer
	UNIT 012 E	Pearlware: painted	Saucer
74	UNIT 012	Pearlware: painted	Saucer

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.			
Vessel Number	**Provenience**	**Ceramic Waretype**	**Vessel Form**
75	SHOVEL SCRAPE, NW QUAD	Pearlware: painted	Saucer
	UNIT 027 N	Pearlware: painted	Saucer
76	SHOVEL SCRAPE, SW QUAD	Pearlware: painted	Saucer
77	FEATURE 041	Pearlware: painted	Saucer
78	UNIT 015	Pearlware: painted	Tea cup
79	UNIT 024 N	Pearlware: painted	Saucer
80	UNIT 002 NW	Pearlware: painted	Hollowware
81	SHOVEL SCRAPE, NW QUAD	Pearlware: painted	Saucer
	UNIT 002 SW	Pearlware: painted	Saucer
82	BACKDIRT PILE FROM MECHANICAL REMOVAL	Pearlware: painted	Unidentified
83	UNIT 003 NE	Pearlware: painted	Unidentified
84	UNIT 002 NE	Pearlware: painted	Saucer
	UNIT 006	Pearlware: painted	Saucer
85	GENERAL SURFACE, SW QUAD	Pearlware: painted	Tea bowl
	UNIT 021 E	Pearlware: painted	Tea bowl
86	UNIT 001 SE	Pearlware: painted	Saucer
	UNIT 002 NE	Pearlware: painted	Saucer
	UNIT 006	Pearlware: painted	Saucer
	UNIT 012	Pearlware: painted	Saucer
87	UNIT 019	Pearlware: painted	Saucer
88	SHOVEL SCRAPE, NW QUAD	Pearlware: bright polychrome	Saucer
	SHOVEL SCRAPE, SW QUAD	Pearlware: bright polychrome	Saucer
	UNIT 002 SW	Pearlware: bright polychrome	Saucer
	UNIT 005 NW	Pearlware: bright polychrome	Saucer
	UNIT 011	Pearlware: bright polychrome	Saucer
	UNIT 012	Pearlware: bright polychrome	Saucer
	UNIT 012 E	Pearlware: bright polychrome	Saucer
	UNIT 012 W	Pearlware: bright polychrome	Saucer
	UNIT 024 W	Pearlware: bright polychrome	Saucer
89	GENERAL SURFACE	Pearlware: bright polychrome	Hollowware
	UNIT 001 SW	Pearlware: bright polychrome	Hollowware
	UNIT 002 NW	Pearlware: bright polychrome	Hollowware
	UNIT 005 NE	Pearlware: bright polychrome	Hollowware
90	UNIT 002 SW	Pearlware: bright polychrome	Saucer
91	SHOVEL SCRAPE, SW QUAD	Pearlware: bright polychrome	Saucer
92	UNIT 024 E	Pearlware: bright polychrome	Saucer

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.

Vessel Number	Provenience	Ceramic Waretype	Vessel Form
93	UNIT 007	Pearlware: bright polychrome	Saucer
94	UNIT 002 SE	Pearlware: bright polychrome	Flatware
	UNIT 024 W	Pearlware: bright polychrome	Flatware
95	FEATURE 011	Pearlware: bright polychrome	Unidentified
96	FEATURE 041	Pearlware: printed blue	Tea cup
	GENERAL SURFACE	Pearlware: printed blue	Tea cup
	GENERAL SURFACE, SW QUAD	Pearlware: printed blue	Tea cup
	SHOVEL SCRAPE, SW QUAD	Pearlware: printed blue	Tea cup
	UNIT 012 W	Pearlware: printed blue	Tea cup
	UNIT 024 N	Pearlware: printed blue	Tea cup
	UNIT 024 W	Pearlware: printed blue	Tea cup
	UNIT 030 W	Pearlware: printed blue	Tea cup
	UNIT 032	Pearlware: printed blue	Tea cup
97	FEATURE 110	Pearlware: printed blue	Saucer
98	UNIT 009	Pearlware: printed blue	Plate
	UNIT 030 W	Pearlware: printed blue	Plate
	UNIT 032	Pearlware: printed blue	Plate
99	UNIT 024 N	Pearlware: printed blue	Hollowware
100	UNIT 019	Pearlware: printed blue	Unidentified
101	UNIT 003 NW	Pearlware: printed blue	Hollowware
102	UNIT 012 E	Pearlware: printed blue	Unidentified
103	UNIT 012 E	Pearlware: printed blue	Unidentified
104	SHOVEL SCRAPE, NW QUAD	Pearlware: printed blue	Saucer
105	FEATURE 041	Pearlware: printed blue	Plate
106	FEATURE 042	Pearlware: printed blue	Plate
107	SHOVEL SCRAPE, SE QUAD	Pearlware: printed blue	Jug
108	FEATURE 041	Pearlware: printed blue	Saucer
109	UNIT 005 SW	Pearlware: printed blue	Unidentified
110	FEATURE 041 N	Pearlware: printed blue	Flatware
	UNIT 005 SW	Pearlware: printed blue	Flatware
111	GENERAL SURFACE	Pearlware: printed blue	Saucer
	SHOVEL SCRAPE, SW QUAD	Pearlware: printed blue	Saucer
112	UNIT 005 NW	Pearlware: printed blue	Hollowware
	UNIT 012 E	Pearlware: printed blue	Hollowware
	UNIT 024 E	Pearlware: printed blue	Hollowware
	UNIT 032	Pearlware: printed blue	Hollowware
113	FEATURE 110	Pearlware: printed blue	Hollowware

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.			
Vessel Number	**Provenience**	**Ceramic Waretype**	**Vessel Form**
	SHOVEL SCRAPE, SW QUAD	Pearlware: printed blue	Hollowware
114	UNIT 003 SE	Pearlware: printed blue	Flatware
	UNIT 024 E	Pearlware: printed blue	Flatware
115	BACKDIRT PILE FROM MECHANICAL REMOVAL	Pearlware: printed blue	Saucer
	SHOVEL SCRAPE, SE QUAD	Pearlware: printed blue	Saucer
116	SHOVEL SCRAPE, NW QUAD	Whiteware	Plate
	UNIT 024 N	Whiteware	Plate
	UNIT 030 E	Whiteware	Plate
117	GENERAL SURFACE	Whiteware	Platter
	SHOVEL SCRAPE, SW QUAD	Whiteware	Platter
	UNIT 030 E	Whiteware	Platter
	UNIT 032	Whiteware	Platter
118	UNIT 002 SE	Whiteware	Unidentified
	UNIT 003 NE	Whiteware	Unidentified
	UNIT 007	Whiteware	Unidentified
	UNIT 024 N	Whiteware	Unidentified
	UNIT 024 W	Whiteware	Unidentified
119	UNIT 030 W	Whiteware	Unidentified
120	FEATURE 042	Whiteware	Hollowware
121	UNIT 032	Whiteware	Plate
122	FEATURE 041	Whiteware	Unidentified
	GENERAL SURFACE	Whiteware	Unidentified
123	GENERAL SURFACE	Whiteware	Hollowware
	SHOVEL SCRAPE, SW QUAD	Whiteware	Hollowware
	UNIT 018	Whiteware	Hollowware
	UNIT 026 E	Whiteware	Hollowware
	UNIT 032	Whiteware	Hollowware
124	FEATURE 041	Whiteware	Plate
	UNIT 015	Whiteware	Plate
125	GENERAL SURFACE	Whiteware	Unidentified
	SHOVEL SCRAPE, SW QUAD	Whiteware	Unidentified
126	SHOVEL SCRAPE, SE QUAD	Whiteware	Plate
	UNIT 015	Whiteware	Plate
	UNIT 030 W	Whiteware	Plate
127	UNIT 002 SW	Whiteware	Unidentified
	UNIT 003 SE	Whiteware	Unidentified
	UNIT 030 E	Whiteware	Unidentified

(Table 8.5: Page 7 of 13)

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.

Vessel Number	Provenience	Ceramic Waretype	Vessel Form
	UNIT 032	Whiteware	Unidentified
128	UNIT 024 N	Whiteware	Unidentified
129	UNIT 003 SE	Whiteware	Unidentified
130	FEATURE 041 N	Whiteware	Unidentified
	GENERAL SURFACE, WEST OF F41	Whiteware	Unidentified
	UNIT 011	Whiteware	Unidentified
	UNIT 019	Whiteware	Unidentified
	UNIT 024 N	Whiteware	Unidentified
131	UNIT 012 E	Whiteware	Unidentified
	UNIT 024 N	Whiteware	Unidentified
132	UNIT 024 W	Whiteware	Hollowware
133	BACKDIRT PILE FROM MECHANICAL REMOVAL	Whiteware	Saucer
	UNIT 025 NE	Whiteware	Saucer
134	UNIT 032	Whiteware	Flatware
135	SHOVEL SCRAPE, SE QUAD	Whiteware	Saucer
136	UNIT 025 SW, W 1/2	Whiteware	Flatware
137	FEATURE 027	Whiteware	Unidentified
	UNIT 030 W	Whiteware	Unidentified
138	GENERAL SURFACE, SW QUAD	Whiteware	Unidentified
139	FEATURE 027	Whiteware	Hollowware
	SHOVEL SCRAPE, SE QUAD	Whiteware	Hollowware
140	FEATURE 041	Whiteware	Unidentified
141	GENERAL SURFACE	Whiteware	Unidentified
	SHOVEL SCRAPE, SW QUAD	Whiteware	Unidentified
	UNIT 004 SW	Whiteware	Unidentified
142	UNIT 025 SW, W 1/2	Whiteware	Saucer
143	FEATURE 041	Whiteware	Plate
144	UNIT 030 W	Whiteware	Hollowware
145	UNIT 001 NE	Whiteware	Hollowware
	UNIT 012 E	Whiteware	Hollowware
146	BACKDIRT PILE FROM MECHANICAL REMOVAL	Whiteware	Unidentified
	UNIT 006	Whiteware	Unidentified
147	UNIT 003 NW	Whiteware	Hollowware
148	FEATURE 027	Whiteware	Unidentified

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.			
Vessel Number	**Provenience**	**Ceramic Waretype**	**Vessel Form**
149	GENERAL SURFACE, SW QUAD	Whiteware	Unidentified
150	FEATURE 041	Whiteware	Flatware
	FEATURE 041 N	Whiteware	Flatware
	SHOVEL SCRAPE, SW QUAD	Whiteware	Flatware
151	FEATURE 041 N	Whiteware	Plate
	GENERAL SURFACE, SW QUAD	Whiteware	Plate
	SHOVEL SCRAPE, SW QUAD	Whiteware	Plate
152	UNIT 026 W	Whiteware	Saucer
153	FEATURE 041	Whiteware	Hollowware
	UNIT 005 NE	Whiteware	Hollowware
154	UNIT 005 SE	Whiteware	Hollowware
155	UNIT 015	Whiteware	Plate
	UNIT 032	Whiteware	Plate
156	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Plate
157	FEATURE 041	Whiteware: edged and molded	Unidentified
	UNIT 026 E	Whiteware: edged and molded	Unidentified
158	FEATURE 041 N	Whiteware: edged and molded	Platter
	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Platter
	UNIT 006	Whiteware: edged and molded	Platter
159	BACKDIRT PILE FROM MECHANICAL REMOVAL	Whiteware: edged and molded	Plate
	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Plate
	UNIT 030 W	Whiteware: edged and molded	Plate
160	UNIT 008	Whiteware: edged and molded	Plate
	UNIT 015	Whiteware: edged and molded	Plate
161	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Plate
162	GENERAL SURFACE, SW QUAD	Whiteware: edged and molded	Unidentified
	UNIT 003 NW	Whiteware: edged and molded	Unidentified
163	FEATURE 041	Whiteware: edged and molded	Plate
	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Plate
164	UNIT 005 NE	Whiteware: edged and molded	Plate
	UNIT 019	Whiteware: edged and molded	Plate
165	UNIT 005 NW	Whiteware: edged and molded	Plate
	UNIT 009	Whiteware: edged and molded	Plate
166	UNIT 005 SE	Whiteware: edged and molded	Plate

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.

Vessel Number	Provenience	Ceramic Waretype	Vessel Form
167	UNIT 024 W	Whiteware: edged and molded	Plate
	UNIT 026 W	Whiteware: edged and molded	Plate
168	UNIT 030 W	Whiteware: edged and molded	Plate
169	FEATURE 110	Whiteware: edged and molded	Plate
	GENERAL SURFACE	Whiteware: edged and molded	Plate
	UNIT 024 N	Whiteware: edged and molded	Plate
170	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Plate
	UNIT 015	Whiteware: edged and molded	Plate
171	FEATURE 041	Whiteware: edged and molded	Plate
	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Plate
	UNIT 032	Whiteware: edged and molded	Plate
172	SHOVEL SCRAPE, SW QUAD	Whiteware: edged and molded	Plate
173	UNIT 015	Whiteware: edged and molded	Plate
174	GENERAL SURFACE	Whiteware: edged and molded	Plate
175	UNIT 015	Whiteware: embossed edge	Hollowware
176	UNIT 006	Whiteware: embossed edge	Plate
177	UNIT 012 E	Whiteware: embossed edge	Plate
178	BACKDIRT PILE FROM MECHANICAL REMOVAL	Whiteware: embossed edge	Plate
179	UNIT 006	Whiteware: embossed edge	Plate
180	SHOVEL SCRAPE, NW QUAD	Whiteware: dipped	Hollowware
181	FEATURE 041	Whiteware: dipped	Hollowware
182	FEATURE 041	Whiteware: dipped	Jug
	SHOVEL SCRAPE, SW QUAD	Whiteware: dipped	Jug
183	UNIT 006	Whiteware: painted	Unidentified
184	UNIT 007	Whiteware: painted	Unidentified
185	UNIT 003 NE	Whiteware: painted	Flatware
186	UNIT 003 SE	Whiteware: painted	Unidentified
187	UNIT 006	Whiteware: painted	Flatware
188	UNIT 027 S	Whiteware: painted	Unidentified
189	FEATURE 042	Whiteware: painted	Tea cup
190	UNIT 024 W	Whiteware: painted	Plate
191	UNIT 024 E	Whiteware: painted	Unidentified
	UNIT 024 N	Whiteware: painted	Unidentified
192	UNIT 003 NW	Whiteware: painted	Hollowware
	UNIT 012 W	Whiteware: painted	Hollowware
	UNIT 021 E	Whiteware: painted	Hollowware
193	FEATURE 042	Whiteware: painted	Tea cup

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.			
Vessel Number	**Provenience**	**Ceramic Waretype**	**Vessel Form**
194	FEATURE 042	Whiteware: painted	Saucer
	SHOVEL SCRAPE, NE QUAD	Whiteware: painted	Saucer
195	FEATURE 042	Whiteware: painted	Saucer
196	UNIT 003 NW	Whiteware: painted	Hollowware
197	SHOVEL SCRAPE, SW QUAD	Whiteware: painted	Saucer
198	SHOVEL SCRAPE, SW QUAD	Whiteware: painted	Flatware
199	SHOVEL SCRAPE, SW QUAD	Whiteware: painted	Saucer
200	SHOVEL SCRAPE, SW QUAD	Whiteware: painted	Saucer
201	GENERAL SURFACE	Whiteware: painted	Hollowware
202	UNIT 002 SW	Whiteware: painted	Saucer
203	FEATURE 042	Whiteware: printed blue	Plate
204	FEATURE 041	Whiteware: printed blue	Plate
	GENERAL SURFACE	Whiteware: printed blue	Plate
	UNIT 004 NW	Whiteware: printed blue	Plate
	UNIT 006	Whiteware: printed blue	Plate
205	UNIT 015	Whiteware: printed blue	Unidentified
206	SHOVEL SCRAPE, SW QUAD	Whiteware: printed blue	Saucer
207	UNIT 024 N	Whiteware: printed blue	Hollowware
208	UNIT 002 SE	Whiteware: printed blue	Unidentified
209	FEATURE 042	Whiteware: printed other	Plate
	GENERAL SURFACE, SW QUAD	Whiteware: printed other	Plate
	UNIT 028 S	Whiteware: printed other	Plate
210	FEATURE 042	Whiteware: printed other	Platter
	UNIT 026 E	Whiteware: printed other	Platter
211	UNIT 015	Whiteware: printed other	Hollowware
212	FEATURE 042	Whiteware: printed other	Plate
	GENERAL SURFACE, SW QUAD	Whiteware: printed other	Plate
213	SHOVEL SCRAPE, SW QUAD	Whiteware: printed other	Plate
	UNIT 003 NW	Whiteware: printed other	Plate
	UNIT 015	Whiteware: printed other	Plate
	UNIT 032	Whiteware: printed other	Plate
214	UNIT 003 NW	Whiteware: printed other	Plate
215	SHOVEL SCRAPE, SW QUAD	Whiteware: printed other	Plate
	UNIT 024 E	Whiteware: printed other	Plate
216	GENERAL SURFACE	Whiteware: printed other	Plate
	SHOVEL SCRAPE, SE QUAD	Whiteware: printed other	Plate

(Table 8.5: Page 11 of 13)

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.

Vessel Number	Provenience	Ceramic Waretype	Vessel Form
	SHOVEL SCRAPE, SW QUAD	Whiteware: printed other	Plate
	UNIT 001 NW	Whiteware: printed other	Plate
	UNIT 001 SW	Whiteware: printed other	Plate
	UNIT 003 SE	Whiteware: printed other	Plate
	UNIT 021 W	Whiteware: printed other	Plate
	UNIT 023	Whiteware: printed other	Plate
217	FEATURE 042	Whiteware: printed other	Plate
218	SHOVEL SCRAPE, SW QUAD	Whiteware: printed other	Plate
219	UNIT 024 E	Whiteware: printed other	Plate
	UNIT 030 E	Whiteware: printed other	Plate
220	FEATURE 110	Whiteware: printed other	Plate
	GENERAL SURFACE	Whiteware: printed other	Plate
	UNIT 001 NW	Whiteware: printed other	Plate
221	BACKDIRT PILE FROM MECHANICAL REMOVAL	Whiteware: flow mulberry	Flatware
	SHOVEL SCRAPE, SW QUAD	Whiteware: flow mulberry	Flatware
	UNIT 001 SE	Whiteware: flow mulberry	Flatware
	UNIT 005 NW	Whiteware: flow mulberry	Flatware
	UNIT 015	Whiteware: flow mulberry	Flatware
	UNIT 024 E	Whiteware: flow mulberry	Flatware
	UNIT 030 W	Whiteware: flow mulberry	Flatware
222	UNIT 024 W	Chinese porcelain	Saucer
223	UNIT 024 N	Chinese porcelain	Unidentified
224	SHOVEL SCRAPE, SE QUAD	Bone china	Hollowware
	UNIT 004 SE	Bone china	Hollowware
225	UNIT 005 NE	Bone china	Hollowware
226	UNIT 021 W	Bone china	Unidentified
227	UNIT 003 NW	Bone china	Hollowware
	UNIT 026 E	Bone china	Hollowware
228	UNIT 025 NE	Bone china	Saucer
229	FEATURE 041	Bone china	Unidentified
230	UNIT 027 N	Bone china	Unidentified
231	SHOVEL SCRAPE, SE QUAD	Bone china	Hollowware
232	BACKDIRT PILE FROM MECHANICAL REMOVAL	Bone china	Saucer
	UNIT 007	Bone china	Saucer
233	UNIT 024 W	Bone china	Saucer
234	GENERAL SURFACE	Bone china	Unidentified

Table 8.5. Summary of Minimum Vessels Identified During Data Recovery, Vardeman House Site.			
Vessel Number	**Provenience**	**Ceramic Waretype**	**Vessel Form**
235	SHOVEL SCRAPE, SE QUAD	Bone china	Hollowware
236	UNIT 025 NE	Bone china	Unidentified
237	UNIT 023	Porcelain	Unidentified
238	UNIT 002 SW	Porcelain	Saucer
	UNIT 012	Porcelain	Saucer
239	GENERAL SURFACE	Porcelain	Saucer
	UNIT 007	Porcelain	Saucer
240	UNIT 015	Porcelain	Unidentified
241	GENERAL SURFACE	Porcelain	Saucer
	UNIT 030 W	Porcelain	Saucer
242	SHOVEL SCRAPE, SW QUAD	Porcelain	Hollowware
243	SHOVEL SCRAPE, SW QUAD	Porcelain	Hollowware
244	GENERAL SURFACE	Porcelain	Unidentified
	SHOVEL SCRAPE, SW QUAD	Porcelain	Unidentified
245	BACKDIRT PILE FROM MECHANICAL REMOVAL	Porcelain	Hollowware
246	UNIT 006	Porcelain	Saucer
247	FEATURE 042	Refined earthenware	Tea cup
248	FEATURE 042	Refined earthenware	Saucer
	SHOVEL SCRAPE, NE QUAD	Refined earthenware	Saucer
249	FEATURE 027	Refined earthenware	Tea cup
250	UNIT 015	Refined earthenware	Saucer
251	FEATURE 042	Refined earthenware	Saucer
252	UNIT 026 W	Refined earthenware	Unidentified
253	UNIT 015	Refined earthenware	Hollowware
254	UNIT 006	Refined earthenware	Unidentified
255	UNIT 015	Refined earthenware	Unidentified
256	UNIT 015	Refined earthenware	Unidentified
257	UNIT 024 W	Refined earthenware	Unidentified
258	BACKDIRT PILE FROM MECHANICAL REMOVAL	White saltglazed	Hollowware
259	GENERAL SURFACE	Stoneware: American grey	Hollowware
260	FEATURE 040	Stoneware: American brown	Hollowware
261	UNIT 25 SW, E 1/2	Bone china	Saucer
262	GENERAL SURFACE	Whiteware	Saucer
263	UNIT 25 SW, E 1/2	Whiteware: edged and molded	Plate

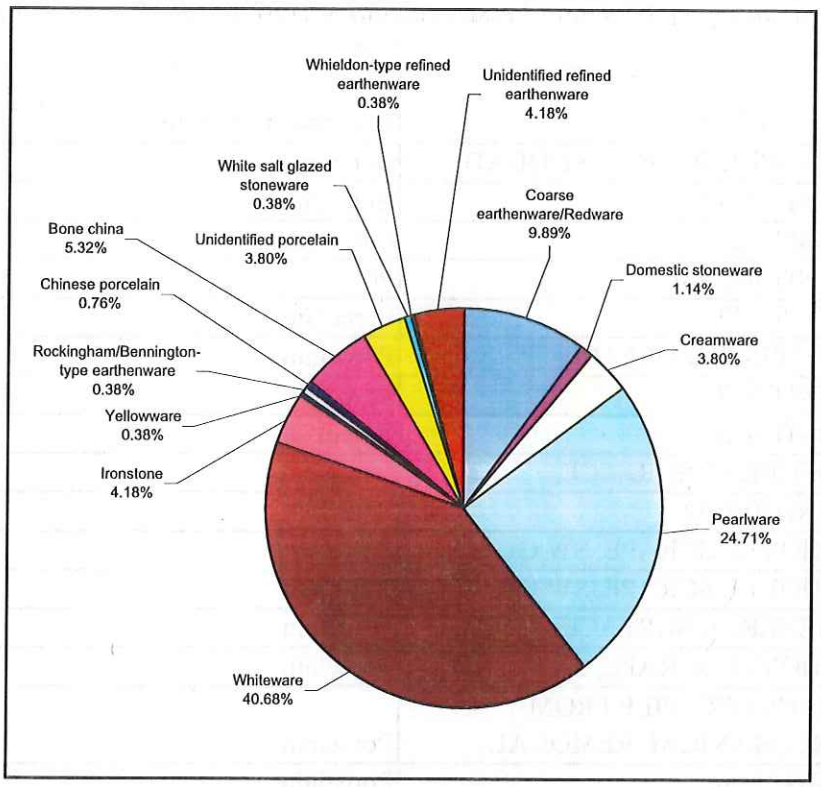


Figure 8.7. Percent of identified vessels by ceramic waretype, the Vardeman House Site.

A total of 2 vessels of Chinese export porcelain (Vessel #222 and 223) comprising .76% of the total identified minimum vessels from the Vardeman House Site were identified. The two vessels of Chinese export porcelain were identified as a saucer (Vessel #222) and a vessel of unidentified form (Vessel #223).

A total of 10 vessels of creamware (Vessel #31-40) comprising 3.8% of the total identified minimum vessels from the Vardeman House Site were identified. The ten vessels of creamware were identified as plates (Vessel #31, 36, 39 and 40; n=4), a saucer (Vessel #32), an unidentified hollowware (Vessel #35) and vessels of unidentified form (Vessel #33, 34, 37 and 38; n=4).

A total of 11 vessels of ironstone (Vessel #41-51) comprising 4.18% of the total identified minimum vessels from the Vardeman House Site were identified. The eleven vessels of ironstone were identified as a plate (Vessel #42), saucers (Vessel #41 and 43; n=2), an unidentified flatware (Vessel #46), unidentified hollowwares (Vessel #45 and 47; n=2) and vessels of unidentified form (Vessel #44, 48-51; n=5).

A total of 64 vessels of pearlware (Vessel #52-115) comprising 24.33% of the total identified minimum vessels from the Vardeman House Site were identified. The sixty-four vessels of pearlware were identified as an unidentified polychrome handpainted flatware (Vessel #94), blue transfer printed flatwares (Vessel #110, 114: n=2), a blue shell-edged flatware (Vessel #67), an undecorated hollowware (Vessel #54), a polychrome handpainted hollowware (Vessel #89), a blue handpainted hollowware (Vessel #80), blue transfer

printed hollowwares (Vessel #99, 101, 112 and 113: n=4), a blue transfer printed jug (Vessel #107), embossed edge plates (Vessel #68, 69; n=2), blue transfer printed plates (Vessel #98, 105 and 106; n=3), shell-edged pearlware plates (Vessel # 56-66; n=11), a shell-edged platter (Vessel #55), polychrome handpainted saucers (Vessel #88, 90-93; n=5), blue handpainted saucers (Vessel #71, 73-77, 79 and 81; n=8), a brown handpainted tea bowl (Vessel #85), brown handpainted saucers (Vessel # 84, 86 and 87; n=3), blue transfer printed saucers (Vessel #97, 104, 108, 111, and 115; n=5), a blue handpainted tea bowl (Vessel #85), blue handpainted tea cups (Vessel #72 and 78; n=2), a blue transfer printed tea cup (Vessel #96), undecorated vessels of unidentified form (Vessel #52 and 53; n=2), a polychrome handpainted vessel of unidentified form (Vessel #95), an edged vessel of unidentified form (Vessel # 58), blue handpainted vessels of unidentified form (Vessel #82 and 83; n=2), and blue transfer printed vessels of unidentified form (Vessel #100, 102, 103 and 109; n=4).

One vessel of Rockingham/Bennington-type earthenware (Vessel #1) comprising .38% of the total identified minimum vessels from the Vardeman House Site was identified. The single vessel of Rockingham/Bennington-type earthenware was identified as an unidentified hollowware vessel.

A total of 108 vessels of whiteware (Vessel #116-221, 262, and 263) comprising 41.06% of the total identified minimum vessels from the Vardeman House Site were identified. The one hundred and eight vessels of whiteware were identified as undecorated unidentified flatwares (Vessel #134, 136, and 150; n=3), a flow mulberry flatware (Vessel #221), handpainted unidentified flatwares (Vessel #185, 187, and 198; n=3), undecorated unidentified hollowwares (Vessel #120, 123, 132, 139, 144, 145, 147, 153, and 154; n=9), dipped unidentified hollowwares (Vessel #180 and 181; n=2), an embossed edge unidentified hollowware (Vessel #175), handpainted unidentified hollowwares (Vessel #192, 196 and 201; n=3), a blue transfer printed unidentified hollowware (Vessel #210), a red transfer printed unidentified hollowware (Vessel #211), a dipped jug (Vessel #182), undecorated plates (Vessel #116, 121, 124, 126, 143, 151, and 155; n=7), an edged and molded plate (Vessel #263), embossed edge plates (Vessel #176-179; n=4), a handpainted plate (Vessel #190), blue transfer printed plates (Vessel #203 and 204; n=2), a green transfer printed plate (Vessel #209), red transfer printed plates (Vessel #212-218; n=7), black transfer printed plates (Vessel #219 and 220; n=2), shell-edged plates (Vessel #156, 159, 160, 161, 163-174; n=16), an undecorated platter (Vessel #117), a green transfer printed platter (Vessel #210), a shell-edged platter (Vessel #158), undecorated saucers (Vessel #133, 135, 142, 152, and 262; n=5), handpainted saucers (Vessel #194, 195, 197, 199, 200 and 202; n=6), a blue transfer printed saucer (Vessel #206), handpainted tea cups (Vessel #189 and 193), undecorated vessels of unidentified form (Vessel #118, 119, 122, 125, 127-131, 137, 138, 140, 141, 146, 148 and 149; n=16), handpainted vessels of unidentified form (Vessel #183, 184 186, 188, and 191; n=5), blue transfer printed vessels of unidentified form (Vessel #205 and 208; n=2), and shell-edged vessels of unidentified form (Vessel #157 and 162; n=2).

One vessel of yellowware (Vessel #30) comprising .38% of the total identified minimum vessels from the Vardeman House Site was identified. The single vessel of yellowware was identified as an unidentified hollowware vessel.

A total of 26 vessels of coarse earthenware (Vessel #3-28) comprising 9.88% of the total identified minimum vessels from the Vardeman House Site were identified. The twenty-six vessels of coarse earthenware were identified as bowls (Vessel #9 and 15; n=2), unidentified hollowwares (Vessel #3-16, 18, 20, 21, 24-28; n=20), storage jars (Vessel #17 and 19; n=2), and vessels of unidentified form (Vessel #22 and 23; n=2). The coarse earthenwares recovered from the Vardeman House Site comprise a range of utilitarian

forms largely related to dairying activities and food storage.

One vessel of Whieldon-type refined earthenware (Vessel #2) comprising .38% of the total identified minimum vessels from the Vardeman House Site was identified. The single vessel of Whieldon-type refined earthenware was identified as a vessel of unidentified form.

The white salt-glazed stoneware from the Vardeman House Site comprised .029% of the total ceramic assemblage. One vessel of white salt-glazed stoneware (Vessel #258) comprising .38% of the total identified minimum vessels from the Vardeman House Site was identified. The single vessel of white salt-glazed stoneware was identified as a hollowware vessel of unidentified form.

A total of 10 vessels of unidentified hard paste porcelain (Vessel #237-246) comprising 3.8% of the total identified minimum vessels from the Vardeman House Site were identified. The ten vessels of unidentified porcelain were identified as saucers (Vessel #238, 239, 241 and 246; n=4), unidentified hollowwares (Vessel #242, 243 and 245; n=3), and vessels of unidentified form (Vessel #237, 240 and 244; n=3). The unidentified porcelains recovered may be imported French products due to the documented influx of French porcelains during the 1830s, which were often cheaper than British porcelains (Ewins 1997). It is doubtful that the unidentified porcelains are domestic products as domestic hard paste porcelain production did not fully mature until the third quarter of the nineteenth century.

A total of 11 vessels of unidentified refined earthenware (Vessel #247-257) comprising 4.18% of the total identified minimum vessels from the Vardeman House Site were identified. The eleven vessels of unidentified refined earthenware were identified as teacups (Vessel #247 and 249; n=2), saucers (Vessel #248, 250 and 251; n=3), an unidentified hollowware (Vessel #253) and vessels of unidentified form (Vessel #252, 254, 255, 256 and 257; n=5). The unidentified refined earthenware vessels likely comprise creamware, pearlware, whiteware, and possibly ironstone waretypes. However, due to degradation of the glaze and fabric as a result primarily of having been burned, firm attribution by ceramic waretype is not possible for these vessels.

The identified vessels from the Vardeman House Site were placed into one of six functional categories according to George Miller's classifications (Miller et al. 1994). Miller's six functional categories include food storage and preparation, tableware, tea and table service, teaware, unidentified, and utilitarian undetermined. Vessels from the Vardeman House Site were interpreted as including vessels within the food storage and preparation, tableware, tea and table service, teaware, and unidentified categories. None of the 263 minimum vessels from the Vardeman House Site were associated with the utilitarian undetermined category.

The food storage and preparation category comprised a total of 28 identified vessels, constituting 10.64% of the minimum identified vessels and include 24 coarse earthenware, 3 American stoneware, and 1 yellowware vessel (Table 8.6). These vessels were predominately utilitarian vessel forms typically used in the production of dairy products, food preparation, and in the case of the stoneware vessels, likely for the storage of foodstuffs. These items are typical of antebellum rural farmsteads in Kentucky and their presence at the Vardeman House Site is not surprising.

The tableware category comprised a total of 74 identified vessels, constituting 28.13% of the minimum identified vessels and include 4 creamware, 2 ironstone, 20 pearlware, and 48 whiteware vessels (see Table 8.6). The ceramic tablewares illustrate a gradual progression in the acquisition of more expensive and more highly decorated forms over time during the antebellum

occupation period at the Vardeman House Site. The earliest tablewares present were the undecorated creamware plates with the simple but popular Royal Pattern shape. These may have been replaced with simple blue and green shell-edged tablewares. Shell-edged molding and coloring constituted one of the least expensive decorated imported British ceramics available to consumers in Kentucky. It is possible that the shell-edged tablewares were replaced with more highly decorated and consequently, more expensive transfer printed whitewares.

The tea and table service category comprised a total of 6 identified vessels, constituting 2.28% of the minimum identified vessels and include 2 pearlware and 4 whiteware vessels (see Table 8.6). These vessels were predominately used in food service and were jugs and platters used as part of the table service in dining. Not surprisingly, like the tableware category, the platters from the Vardeman House Site suggest a progression in the acquisition of more expensive and more highly decorated forms over time during the antebellum occupation period at the Vardeman House Site. The earliest platter present was the shell-edged platter which constituted one of the least expensive decorated imported British platters available to consumers in Kentucky. It is possible that the shell-edged pearlware platter was replaced with the more highly decorated and consequently, more expensive transfer printed pearlware platter and transfer printed whiteware platter.

The teaware category comprised a total of 56 identified vessels, constituting 21.29% of the minimum identified vessels and include 4 bone china, 1 Chinese export porcelain, 1 creamware, 2 ironstone, 25 pearlware, 4 unidentified hard-paste porcelain, 5 unidentified refined earthenware, and 14 whiteware vessels (see Table 8.6). These vessels include primarily handless teabowls, handled teacups, and saucers used in the "taking" of tea. The ceramic teawares, like the tablewares and platters, also illustrate a gradual progression in the acquisition of more expensive and more highly decorated forms over time during the antebellum occupation period at the Vardeman House Site. Some of the earliest teawares present were the Chinese export porcelain and creamware vessels. These two vessels may have been part of an everyday creamware tea service and a more special Chinese porcelain tea service used for entertaining guests or on special occasions. These teawares may have been replaced with both transfer printed and polychrome handpainted pearlware teawares used for everyday use and the bone china teawares likely used for entertaining and special occasions. During the later occupation period at the Vardeman House Site the pearlware and bone china teawares may have been replaced by handpainted and transfer printed whiteware teawares used for everyday occasions and the unidentified hard-paste porcelain teawares used for special occasions. The unidentified hard-paste porcelain may have been an affordable French imported ware popular in America during the 1830s. Thus, it is conceivable that three groups of everyday and special occasion teawares were present at the Vardeman House Site, each of the initial sets replaced by subsequently newer and more fashionable teawares.

The unidentified category comprised a total of 99 identified vessels, constituting 37.64% of the minimum identified vessels and include 10 bone china, 1 Chinese export porcelain, 2 coarse earthenware, 5 creamware, 7 ironstone, 17 pearlware, 1 Rockingham/Bennington-type earthenware, 6 unidentified hard-paste porcelain, 1 Whieldon-type refined earthenware, 1 white salt glazed stoneware, 6 unidentified refined earthenware, and 42 whiteware vessels (see Table 8.7). These vessels likely include elements of the previously discussed catregories, however, because of the size and condition of the fragments, firm attribution to one of the functional categories was not possible.

Within the tableware, tea and table service, and unidentified categories there were several varieties of edge molded earthenware vessels,

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.

Functional Group	Waretype	Vessel Number	Percentage of Total Vessels
Food Storage and Preparation	Coarse earthenware	3	
		4	
		5	
		6	
		7	
		8	
		9	
		10	
		11	
		12	
		13	
		14	
		15	
		16	
		17	
		18	
		19	
		20	
		21	
		24	
		25	
		26	
		27	
		28	
	Stoneware: American brown	260	
	Stoneware: American grey	29	
		259	
	Yellowware	30	
Food Storage and Preparation Group Total		**28**	**10.64%**
Tableware	Creamware	31	
		36	
		39	
		40	
	Ironstone	42	
		46	
	Pearlware: bright polychrome	94	
	Pearlware: embossed edge	68	

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.			
Functional Group	**Waretype**	**Vessel Number**	**Percentage of Total Vessels**
		69	
	Pearlware: printed blue	98	
		105	
		106	
		110	
		114	
	Pearlware: shell edged	56	
		57	
		58	
		59	
		60	
		61	
		62	
		63	
		64	
		65	
		66	
		67	
	Whiteware	116	
		121	
		124	
		126	
		134	
		136	
		143	
		150	
		151	
		155	
	Whiteware: edged and molded	263	
	Whiteware: embossed edge	176	
		177	
		178	
		179	
	Whiteware: flow mulberry	221	
	Whiteware: painted	185	
		187	
		190	
		198	

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.			
Functional Group	**Waretype**	**Vessel Number**	**Percentage of Total Vessels**
	Whiteware: printed blue	203	
		204	
	Whiteware: printed other	209	
		212	
		213	
		214	
		215	
		216	
		217	
		218	
		219	
		220	
	Whiteware: shell edged	156	
		159	
		160	
		161	
		163	
		164	
		165	
		166	
		167	
		168	
		169	
		170	
		171	
		172	
		173	
		174	
Tableware Group Total		**74**	**28.13%**
Tea and Table Service	Pearlware: printed blue	107	
	Pearlware: shell edged	55	
	Whiteware	117	
	Whiteware: dipped	182	
	Whiteware: printed other	210	
	Whiteware: shell edged	158	
Tea and Table Service Group Total		**6**	**2.28%**
Teaware	Bone china	228	

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.			
Functional Group	**Waretype**	**Vessel Number**	**Percentage of Total Vessels**
		232	
		233	
		261	
	Chinese export porcelain	222	
	Creamware	32	
	Ironstone	41	
		43	
	Pearlware: bright polychrome	88	
		90	
		91	
		92	
		93	
	Pearlware: painted blue	71	
		72	
		73	
		74	
		75	
		76	
		77	
		78	
		79	
		81	
		84	
		85	
		86	
		87	
	Pearlware: printed blue	96	
		97	
		104	
		108	
		111	
		115	
	Unidentified hard-paste porcelain	238	
		239	
		241	
		246	
	Unidentified refined earthenware	247	
		248	

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.

Functional Group	Waretype	Vessel Number	Percentage of Total Vessels
		249	
		250	
		251	
	Whiteware	133	
		135	
		142	
		152	
		262	
	Whiteware: painted	189	
		193	
		194	
		195	
		197	
		199	
		200	
		202	
	Whiteware: printed blue	206	
Teaware Group Total		**56**	**21.29%**
Unidentified	Bone china	224	
		225	
		226	
		227	
		229	
		230	
		231	
		234	
		235	
		236	
	Chinese export porcelain	223	
	Coarse earthenware	22	
		23	
	Creamware	33	
		34	
		35	
		37	
		38	
	Ironstone	44	
		45	

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.			
Functional Group	**Waretype**	**Vessel Number**	**Percentage of Total Vessels**
		47	
		48	
		49	
		50	
		51	
	Pearlware	52	
		53	
		54	
	Pearlware: bright polychrome	89	
		95	
	Pearlware: embossed edge	70	
	Pearlware: painted blue	80	
		82	
		83	
	Pearlware: printed blue	99	
		100	
		101	
		102	
		103	
		109	
		112	
		113	
	Rockingham/Bennington-type	1	
	Unidentified hard-paste porcelain	237	
		240	
		242	
		243	
		244	
		245	
	Unidentified refined earthenware	252	
		253	
		254	
		255	
		256	
		257	
	Whieldon-type	2	
	White saltglazed stoneware	258	
	Whiteware	118	

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.

Functional Group	Waretype	Vessel Number	Percentage of Total Vessels
		119	
		120	
		122	
		123	
		125	
		127	
		128	
		129	
		130	
		131	
		132	
		137	
		138	
		139	
		140	
		141	
		144	
		145	
		146	
		147	
		148	
		149	
		153	
		154	
	Whiteware: dipped	180	
		181	
	Whiteware: embossed edge	175	
	Whiteware: painted	183	
		184	
		186	
		188	
		191	
		192	
		196	
		201	
	Whiteware: printed blue	205	
		207	
		208	

Table 8.6. Vardeman House Site: Total Minimum Ceramic Vessels by Functional Group.			
Functional Group	**Waretype**	**Vessel Number**	**Percentage of Total Vessels**
	Whiteware: printed other	211	
	Whiteware: shell edged	157	
		162	
Unidentified Group Total		**99**	**37.64%**
Total Minimum Vessels, Site 15LI88		**263**	**100%**

predominately dinner plates which are chronologically significant (Miller and Hunter 1990: 202-204; Hunter and Miller 1994: 433-435). Edged vessels within the assemblage include 7 vessels with the embossed edge (1820-1835) style, Vessel #68-70, 176-179; 9 vessels with the even-scalloped, curved lines (1800-1840) style, Vessel #55, 57, 58, 61, 63, 65, 67, 168 and 174; 5 vessels with the even-scalloped, straight lines (1810-1835) style, Vessel #56, 59, 60, 66 and 173; 15 vessels with the unscalloped rim with impressed lines (1830-1860) style, Vessel #157-160, 162-171, and 5 edged vessels with unidentified edged style, Vessel #62, 64, 161, 172 and 175 (Figure 8.8; Table 8.7).

Mean Ceramic Date Calculation

The historical records document that the Vardeman House Site was owned by William Menifee from 1781 to 1789 and then by members of the Vardeman family from ca. 1789 to 1851. The calculation of a mean ceramic date for the historic occupation at the Vardeman House Site provided a test of the validity and utility of South's mean ceramic date formula (South 1977) in assessing the mean period of historic occupation. The Mean Ceramic Date formula initially devised by Stanley South (1977) uses presence frequencies of historic ceramics with known dates of initial and terminal manufacture, or availability date ranges, to calculate the mean occupation date of an historic site with the assumption that the assemblage for which a mean ceramic date is being calculated is known to have been continuously occupied rather than occupied heavily at an early and late date with no occupation during the middle period. Given the large sample of temporally diagnostic historic ceramics recovered (n=3,218) and the understanding that the Vardeman House Site was believed to have been occupied continuously from ca. 1781 to 1851, it was anticipated that the mean ceramic date calculated for the historic assemblage would closely mirror the occupation dates established from the primary historic documentation.

Since the intent of the mean ceramic date calculation is to produce a mean occupation date for the site, and initial and terminal occupation dates for the Vardeman House Site are known, 1781 and 1851 respectively, initial and terminal dates for diagnostic ceramic types were adjusted to fit the known historic occupation dates with the goal of returning a more accurate mean ceramic date for the site. For example, UK-PAR recognizes that undecorated whiteware is common to historic sites largely from ca. 1820 to the present, but since the terminal date of occupation at the Vardeman House Site was 1851, the date range for whiteware used in the calculation of the mean ceramic date for the Vardeman House Site was adjusted to 1820-1851. Conversely, UK-PAR recognizes that undecorated creamware was available in North American between approximately 1762 and 1820, however

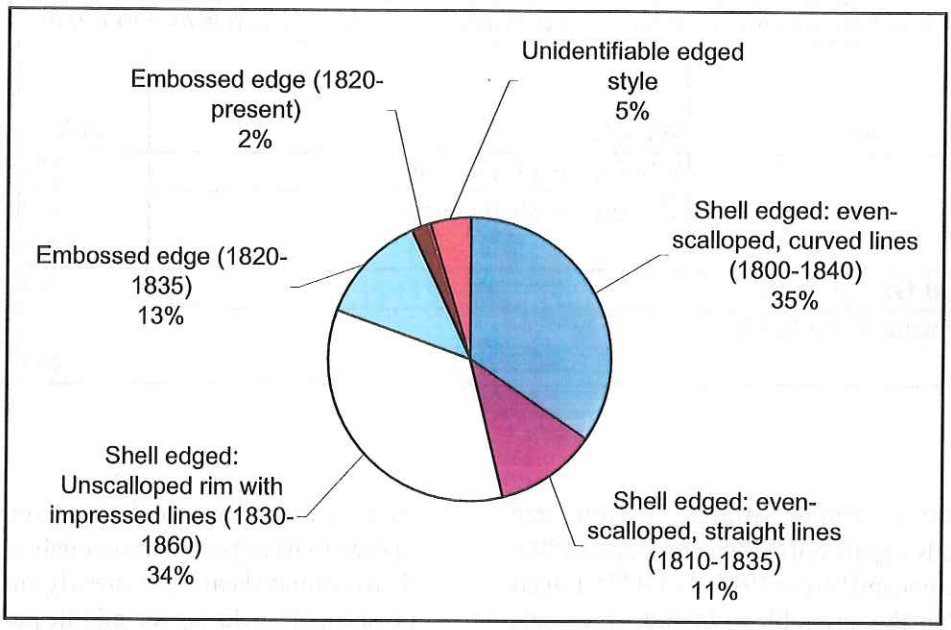


Figure 8.8. Percent of edge styles from identified flatware vessels, the Vardeman House Site (edge styles as defined by Miller 1990, 1994).

the mean ceramic date was adjusted to 1781-1820 based on 1781 being the initial year of historic occupation of the property. The three diagnostic historic ceramic types with terminal dates that predated the initial historic occupation in 1781 were not included in the calculation of the mean ceramic date since their presence is not the result of acquisition during the site occupation period, but were likely pieces brought with the Vardeman family to the property.

The mean ceramic date for all contexts containing diagnostic historic ceramics at the Vardeman House Site was 1825.44 based on the total number of temporally diagnostic ceramics (n=3,218) recovered. The overall mean ceramic date is slightly later than the known median occupation date of 1816, but relatively consistent with the Morgan Vardeman period of occupation at the Vardeman House Site.

Mean ceramic dates were calculated for each of the four historic artifact concentrations documented from the shovel testing phase of the data recovery (see Figure 5.18) to attempt to understand if the artifact concentrations reflected temporally distinct elements at the Vardeman House Site, or contemporaneous loci of historic activity. The mean ceramic date calculated for the central historic artifact shovel test concentration was 1826.29 (n=85). The mean ceramic date calculated for the northern historic artifact shovel test concentration was 1832.09 (n=11). The mean ceramic date calculated for the southern historic artifact shovel test concentration was 1828.47 (n=36). The mean ceramic date calculated for the western historic artifact shovel test concentration was 1827.81 (n=170). The mean ceramic dates for the four artifact concentrations were largely consistent with the mean ceramic date calculated for the overall assemblage. The slightly later mean ceramic date calculated for the northern artifact concentration is likely due to the small number of diagnostic ceramics recovered from the concentration rather than a slightly later occupational element of the site.

Table 8.7. Shell-edge and Embossed Edged Vessels, Vardeman House Site.			
Edge Type (from Miller and Hunter 1991, 1994)	**Vessel Number**	**Context**	**Number of Vessels**
Embossed edge (1820-1835)	68	UNIT 007	1
	69	SHOVEL SCRAPE, SW QUAD	
		UNIT 002 NW	
		UNIT 005 SE	
		UNIT 006	
		UNIT 026 W	1
	70	UNIT 009	1
	176	UNIT 006	1
	177	UNIT 012 E	1
	178	BACKDIRT PILE FROM MECHANICAL REMOVAL	1
	179	UNIT 006	1
Total Vessels with Embossed edge (1820-1835)			**7**
Even-scalloped, curved lines (1800-1840)	55	BACKDIRT PILE FROM MECHANICAL REMOVAL	
		SHOVEL SCRAPE, NW QUAD	
		UNIT 015	1
	57	BACKDIRT PILE FROM MECHANICAL REMOVAL	
		FEATURE 041	
		UNIT 002 SW	
		UNIT 005 SE	
		UNIT 012	
		UNIT 030 W	1
	58	GENERAL SURFACE	
		UNIT 001 NW	
		UNIT 021 W	1
	61	BACKDIRT PILE FROM MECHANICAL REMOVAL	
		FEATURE 027	
		FEATURE 041	
		UNIT 002 NW	
		UNIT 006	
		UNIT 011	
		UNIT 015	

Table 8.7. Shell-edge and Embossed Edged Vessels, Vardeman House Site.			
Edge Type (from Miller and Hunter 1991, 1994)	**Vessel Number**	**Context**	**Number of Vessels**
		UNIT 017 S	
		UNIT 027 N	1
	63	UNIT 024 N	1
	65	UNIT 012	
		UNIT 024 E	
		UNIT 024 N	
		UNIT 027 S	1
	67	SHOVEL SCRAPE, SE QUAD	
		UNIT 002 SE	1
	168	UNIT 030 W	1
	174	GENERAL SURFACE	1
Total Vessels with Even-scalloped, curved lines (1800-1840) Total			**9**
Even-scalloped, straight lines (1810-1835)	56	SHOVEL SCRAPE, SW QUAD	
		UNIT 030 W	1
	59	UNIT 006	1
	60	FEATURE 042	
		SHOVEL SCRAPE, NW QUAD	
		UNIT 028 S	1
	66	FEATURE 041	
		SHOVEL SCRAPE, SW QUAD	
		UNIT 030 W	1
	173	UNIT 015	1
Total Vessels with Even-scalloped, straight lines (1810-1835)			**5**
Unidentified	62	UNIT 002 SW	
		UNIT 012	1
	64	UNIT 005 SE	1
	161	SHOVEL SCRAPE, SW QUAD	1
	172	SHOVEL SCRAPE, SW QUAD	1
	175	UNIT 015	1
Total Vessels with Unidentified Edged Style			**5**
Unscalloped rim with impressed lines (1830-1860)	156	SHOVEL SCRAPE, SW QUAD	1
	157	FEATURE 041	

Table 8.7. Shell-edge and Embossed Edged Vessels, Vardeman House Site.			
Edge Type (from Miller and Hunter 1991, 1994)	**Vessel Number**	**Context**	**Number of Vessels**
		UNIT 026 E	1
	158	FEATURE 041 N	
		SHOVEL SCRAPE, SW QUAD	
		UNIT 006	1
	159	BACKDIRT PILE FROM MECHANICAL REMOVAL	
		SHOVEL SCRAPE, SW QUAD	
		UNIT 030 W	1
	160	UNIT 008	
		UNIT 015	1
	162	GENERAL SURFACE, SW QUAD	
		UNIT 003 NW	1
	163	FEATURE 041	
		SHOVEL SCRAPE, SW QUAD	1
	164	UNIT 005 NE	
		UNIT 019	1
	165	UNIT 005 NW	
		UNIT 009	1
	166	UNIT 005 SE	1
	167	UNIT 024 W	
		UNIT 026 W	1
	169	FEATURE 110	
		GENERAL SURFACE	
		UNIT 024 N	1
	170	SHOVEL SCRAPE, SW QUAD	
		UNIT 015	1
	171	FEATURE 041	
		SHOVEL SCRAPE, SW QUAD	
		UNIT 032	1
Total Vessels with Unscalloped rim with impressed lines (1830-1860) Total			**14**
Total Shell-Edge and Embossed Edge Vessels, Vardeman House Site			**40**

Economic Scaling and the Comparison of Archival and Material Culture Indicators of Socio-Economic Status Regarding the Ceramic Assemblage from the Vardeman House Site

Ceramics are one of the most common archaeologically recovered artifacts, easily breakable, easily identifiable when fragmented, once broken are not generally recycled or fashioned into new items, and they embody evolving decorative styles and ceramic technologies. These qualities in part make historic ceramic analysis important in assessing notions of consumerism, fashion/style, and social emulation in addition to observations concerning the economic level of the occupants at historic sites. Ceramics are generally accepted as indicative of the socio-economic status of occupants at an historic site (Majewski and O'Brien 1987). The economic scaling index developed by George Miller (1980) and refined by him in 1991 offers a unique avenue, if used properly, to compare the relative investment in ceramics by occupants at an historic site with other contemporaneous occupations. Miller calculated an index value for British refined earthenwares and bone china produced from approximately 1780 to 1880 based on the price fixing lists of the potters in conjunction with the premise that an undecorated refined earthenware, called "CC" ware, was the least expensive earthenware and valued consistently through time at 1.0. Prices for decorated wares and various sizes of vessels fluctuated through time and Miller has taken these fluctuations into account, indexing the values for decorated wares in relation to the undecorated refined earthenware, always indexed at 1.0. Miller's economic index is generally applied to three categories of vessels: cups and saucers, plates, and bowls.

Application of the economic scaling technique is not without potential problems. For many individual years during the nineteenth century, no index values exist. To work around this problem researchers select a date close to the date of study for which index values are listed. Selection of the index value list date to use is typically accomplished by establishing the mean ceramic date for the site and selecting the index values for that year. However some researchers have utilized *terminus post quems* as their working date instead of the mean ceramic date and this difference in dates used to establish the index year has the potential of yielding somewhat differing results. Additionally, the economic index was intended to be utilized for the group of minimum vessels established for the assemblage rather than for a sherd, or fragment level analysis.

Application of the economic index on a fragment level assemblage has the potential of yielding a lower economic index value as many vessels during the period 1780-1880 were decorated only on the rim; differential breakage will yield more undecorated fragments reducing the economic index value. Miller also points out that economic index values should be calculated only once vessels are grouped by known household, or occupation by one family. Combining several generations and/or families in the calculation of one economic index value will yield misleading economic scaling results. Further Miller cautions that the calculation of an average index value for grouped assemblages which represent greater than 20 years of occupation, "...seems to be a meaningless exercise"(Miller 1991:4). Additionally, the economic scaling index was only devised for British produced ceramics and as such economic scaling index values assigned to domestically produced wares (Hornum et al. 1997: 235) have been misapplied and inject a measure of error into the resulting economic scaling value. This error has been integrated into the calculation of the economic index value for one site included within the economic scaling index comparison, Site 44CS187, the Thomas Happer Site located in Chesapeake, Virginia (Hornum et al. 1997). These potential problems considered, the calculation of the economic scaling index value has the potential

to offer a unique avenue with which to compare issues of socio-economic status of historic site occupants.

A total of 115 of the minimum number of 263 identified vessels from the Vardeman House Site were included in attempts to calculate an economic index value for the four occupation periods at the Vardeman House Site per Miller (1980, 1991): 1781-1789 William Menifee; 1789 - 1803 John Vardeman, Jr.; Morgan Vardeman 1803 - 1847; and Jeremiah Vardeman 1847 - 1851. No vessels that were suitable for inclusion in the economic scaling analysis could be associated with either the William Menifee (1781-1789) or John Vardeman, Jr. (1789-1803) occupations. The vessels included in the economic scaling index assessment and their interpreted association with both the Jeremiah and Morgan Vardeman occupations is detailed in Table 8.8. Vessels were associated with the occupations, where possible, so that the economic scaling index would reflect meaningful cultural units associated with the Vardeman House Site. The 115 vessels included in the economic scaling assessment were selected because: 1) the ceramic waretype and vessel form was identified, 2) the ceramic type and vessel form was a known British produced type included in Miller's index values (Miller 1980, 1991), and 3) the ceramic vessel was of a ceramic type produced between 1787 to 1880, the period for which British ceramics were scaled by Miller.

Potential associations between the individual ceramic vessels and occupants of the site were deduced by the temporal association of the ceramic type when matched with the period of individual occupation. The association of specific vessels with occupants at the Vardeman House Site is not without problems. Many ceramic types date to a period covering multiple occupations at the site. Individual ceramic vessels with periods of production which overlapped multiple occupations were associated with individual occupations which occupied the property during the largest period of production for each ceramic vessel. It is possible that vessels, which were economically indexed as part of Morgan Vardeman's assemblage, were actually associated with the occupation of John Vardeman, Jr. or Jeremiah Vardeman. Given that Morgan Vardeman occupied the property for the greatest duration of the four owners the majority of the vessels are likely associated with his household. Also potentially complicating the economic scaling calculations is the fact that it appears as though adult children of Morgan Vardeman potentially resided at the site in addition to Morgan, and thus, it is possible that the ceramic assemblage represents more than one contemporaneous household. Additionally, it is not clear that John Vardeman Jr. left the property after his sale of the farmstead to Morgan Vardeman in 1803. It is also possible that Morgan Vardeman continued to reside at the Vardeman House Site after his sale of the property in 1843 to Jeremiah Vardeman. Morgan was said to have had some financial difficulties during this period and may have sold the property to a family member to ease his debts.

The economic index value calculated for the Morgan Vardeman occupation was based on the group of minimum identified vessels rather than all of the individual sherds. Often decoration was only exhibited on the rims of vessels, and individual sherds are more likely to exhibit no decoration, potentially creating a much lower economic index value. This situation has been suggested as the possible reason for the low index values calculated for several sites in Kentucky including the Prater Site in Floyd County (Huser 1993), both the Skaggs Site and the Wellman Sites located in Lawrence County (Redmond and Hughes 1991), the Adams Site also located in Lawrence County (Kerr et al. 1990) as well as the McKenzie Site in Johnson County (McBride 1994). The range of index values from this group of Kentucky sites ranged from a low of 1.05 for one of the two Adam's related components to a high of 1.37 for the McKenzie site. The sherd level economic index values calculated for these sites is likely artificially low as

Table 8.8. Imported British Ceramic Vessels Included in Economic Scaling, Vardeman House Site.

Association	Vessel #	Ceramic Waretype & Decoration	Vessel form	Miller index value (Miller 1991)	Vessel Total
Jeremiah Vardeman (1843-1851)	41	Ironstone	Saucer	1	
	42	Ironstone	Plate	1	
	43	Ironstone	Saucer	1	
Jeremiah Vardeman Vessels Total					**3**
Morgan Vardeman (1803-1847)	31	Ceramic, Creamware	Plate	1	
	32	Ceramic, Creamware	Saucer	1	
	36	Ceramic, Creamware	Plate	1	
	39	Ceramic, Creamware	Plate	1	
	40	Ceramic, Creamware	Plate	1	
	55	Ceramic, Pearlware: shell edged	Platter	1.33	
	56	Ceramic, Pearlware: shell edged	Plate	1.33	
	57	Ceramic, Pearlware: shell edged	Plate	1.33	
	58	Ceramic, Pearlware: shell edged	Plate	1.33	
	59	Ceramic, Pearlware: shell edged	Plate	1.33	
	60	Ceramic, Pearlware: shell edged	Plate	1.33	
	61	Ceramic, Pearlware: shell edged	Plate	1.33	
	62	Ceramic, Pearlware: shell edged	Plate	1.33	
	63	Ceramic, Pearlware: shell edged	Plate	1.33	
	64	Ceramic, Pearlware: shell edged	Plate	1.33	
	65	Ceramic, Pearlware: shell edged	Plate	1.33	
	66	Ceramic, Pearlware: shell edged	Plate	1.33	
	68	Ceramic, Pearlware: embossed edge	Plate	1.33	
	69	Ceramic, Pearlware: embossed edge	Plate	1.33	
	71	Ceramic, Pearlware: painted blue	Saucer	1.5	
	72	Ceramic, Pearlware: painted blue	Tea cup	1.5	
	73	Ceramic, Pearlware: painted blue	Saucer	1.5	
	74	Ceramic, Pearlware: painted blue	Saucer	1.5	
	75	Ceramic, Pearlware: painted blue	Saucer	1.5	
	76	Ceramic, Pearlware: painted blue	Saucer	1.5	
	77	Ceramic, Pearlware: painted blue	Saucer	1.5	
	78	Ceramic, Pearlware: painted blue	Tea cup	1.5	
	79	Ceramic, Pearlware: painted blue	Saucer	1.5	

Table 8.8. Imported British Ceramic Vessels Included in Economic Scaling, Vardeman House Site.					
Association	**Vessel #**	**Ceramic Waretype & Decoration**	**Vessel form**	**Miller index value (Miller 1991)**	**Vessel Total**
	81	Ceramic, Pearlware: painted blue	Saucer	1.5	
	84	Ceramic, Pearlware: painted blue	Saucer	1.5	
	85	Ceramic, Pearlware: painted blue	Tea bowl	1.5	
	86	Ceramic, Pearlware: painted blue	Saucer	1.5	
	87	Ceramic, Pearlware: painted blue	Saucer	1.5	
	88	Ceramic, Pearlware: bright polychrome	Saucer	1.43	
	90	Ceramic, Pearlware: bright polychrome	Saucer	1.43	
	91	Ceramic, Pearlware: bright polychrome	Saucer	1.43	
	92	Ceramic, Pearlware: bright polychrome	Saucer	1.43	
	93	Ceramic, Pearlware: bright polychrome	Saucer	1.43	
	96	Ceramic, Pearlware: printed blue	Tea cup	3	
	97	Ceramic, Pearlware: printed blue	Saucer	3	
	98	Ceramic, Pearlware: printed blue	Plate	2.67	
	104	Ceramic, Pearlware: printed blue	Saucer	3	
	105	Ceramic, Pearlware: printed blue	Plate	2.67	
	106	Ceramic, Pearlware: printed blue	Plate	2.67	
	108	Ceramic, Pearlware: printed blue	Saucer	3	
	111	Ceramic, Pearlware: printed blue	Saucer	3	
	115	Ceramic, Pearlware: printed blue	Saucer	3	
	116	Ceramic, Whiteware	Plate	1	
	117	Ceramic, Whiteware	Platter	1	
	121	Ceramic, Whiteware	Plate	1	
	124	Ceramic, Whiteware	Plate	1	
	126	Ceramic, Whiteware	Plate	1	
	133	Ceramic, Whiteware	Saucer	1	
	135	Ceramic, Whiteware	Saucer	1	
	142	Ceramic, Whiteware	Saucer	1	
	143	Ceramic, Whiteware	Plate	1	
	151	Ceramic, Whiteware	Plate	1	
	152	Ceramic, Whiteware	Saucer	1	
	155	Ceramic, Whiteware	Plate	1	

Table 8.8. Imported British Ceramic Vessels Included in Economic Scaling, Vardeman House Site.

Association	Vessel #	Ceramic Waretype & Decoration	Vessel form	Miller index value (Miller 1991)	Vessel Total
	156	Ceramic, Whiteware: shell edged	Plate	1	
	157	Ceramic, Whiteware: shell edged	Plate	1	
	158	Ceramic, Whiteware: shell edged	Platter	1	
	159	Ceramic, Whiteware: shell edged	Plate	1	
	160	Ceramic, Whiteware: shell edged	Plate	1	
	161	Ceramic, Whiteware: shell edged	Plate	1	
	162	Ceramic, Whiteware: shell edged	Plate	1	
	163	Ceramic, Whiteware: shell edged	Plate	1	
	164	Ceramic, Whiteware: shell edged	Plate	1	
	165	Ceramic, Whiteware: shell edged	Plate	1.33	
	166	Ceramic, Whiteware: shell edged	Plate	1.33	
	168	Ceramic, Whiteware: shell edged	Plate	1.33	
	169	Ceramic, Whiteware: shell edged	Plate	1.33	
	170	Ceramic, Whiteware: shell edged	Plate	1.33	
	171	Ceramic, Whiteware: shell edged	Plate	1.33	
	172	Ceramic, Whiteware: shell edged	Plate	1.33	
	173	Ceramic, Whiteware: shell edged	Plate	1.33	
	174	Ceramic, Whiteware: shell edged	Plate	1.33	
	176	Ceramic, Whiteware: embossed edge	Plate	1.33	
	177	Ceramic, Whiteware: embossed edge	Plate	1.33	
	178	Ceramic, Whiteware: embossed edge	Plate	1.33	
	179	Ceramic, Whiteware: embossed edge	Plate	1.33	
	189	Ceramic, Whiteware: painted	Tea cup	1.43	
	190	Ceramic, Whiteware: painted	Plate	2.17	
	193	Ceramic, Whiteware: painted	Tea cup	1.43	
	194	Ceramic, Whiteware: painted	Saucer	1.43	
	195	Ceramic, Whiteware: painted	Saucer	1.43	
	197	Ceramic, Whiteware: painted	Saucer	1.43	
	199	Ceramic, Whiteware: painted	Saucer	1.43	
	200	Ceramic, Whiteware: painted	Saucer	1.43	
	202	Ceramic, Whiteware: painted	Saucer	1.43	
	203	Ceramic, Whiteware: printed blue	Plate	2.67	

Table 8.8. Imported British Ceramic Vessels Included in Economic Scaling, Vardeman House Site.					
Association	**Vessel #**	**Ceramic Waretype & Decoration**	**Vessel form**	**Miller index value (Miller 1991)**	**Vessel Total**
	204	Ceramic, Whiteware: printed blue	Plate	2.67	
	206	Ceramic, Whiteware: printed blue	Saucer	3	
	209	Ceramic, Whiteware: printed other	Plate	2.67	
	210	Ceramic, Whiteware: printed other	Platter	3.82	
	212	Ceramic, Whiteware: printed other	Plate	2.67	
	213	Ceramic, Whiteware: printed other	Plate	2.67	
	214	Ceramic, Whiteware: printed other	Plate	2.67	
	215	Ceramic, Whiteware: printed other	Plate	2.67	
	216	Ceramic, Whiteware: printed other	Plate	2.67	
	217	Ceramic, Whiteware: printed other	Plate	2.67	
	218	Ceramic, Whiteware: printed other	Plate	2.67	
	219	Ceramic, Whiteware: printed other	Plate	2.67	
	220	Ceramic, Whiteware: printed other	Plate	2.67	
	228	Ceramic, Bone china	Saucer	3.7	
	232	Ceramic, Bone china	Saucer	3.7	
	233	Ceramic, Bone china	Saucer	3.7	
	261	Ceramic, Bone china	Saucer	3.7	
	262	Ceramic, Whiteware	Saucer	1	
	263	Ceramic, Whiteware: edged and molded	Plate	1.33	
Morgan Vardeman Vessels Total					**112**
Total Vessels Included in Economic Scaling, Vardeman House Site					**115**

a result of the decoration on many vessels only occurring on the rim.

To calculate the Miller economic scaling index for the occupations at the Vardeman House Site an index value was assigned based on the specific occupation, the ceramic vessel form, size, decoration, and median occupation, or ceramic availability date for each vessel. The product of assigned index values for each ceramic type was divided by the total number of vessels associated with each occupation to arrive at an average index value for the occupation. More specific index values were calculated for the dinner/tablewares (plates and platters) and teawares (cups and saucers) so that comparisons could be made with other sites occupied during the same period along the eastern seaboard. Miller (1980, 1991) concluded that higher index values reflect higher expenditures on ceramics, possibly representing higher socio-economic status occupations. Since the potter's records largely reflect pricing based on decorative embellishment rather than by ceramic waretype, Miller's index values reflect the indexed cost differences of particular vessels based on their type of decoration. With this in mind, index values from 1823 were assigned for pearlware vessels and index values from 1833 were assigned for whitewares. Multiple index value years were utilized for the Morgan Vardeman vessels so that the index values assigned would fall within the period of production, and inferred purchase, of the each ceramic waretype.

The small size of the ceramic fragments, which constitute the vessels identified from the Vardeman House Site, resulted in the inability to accurately determine precise diameters for the identified plates. Therefore, these vessels were indexed as 9-10 inch diameter. Miller has observed that the majority of cups recovered from American sites were of the "London" size, and were predominately unhandled (Miller 1991:15). Therefore, the tea bowls/tea cups from the Vardeman House Site were classified as the common "London" size rather than the larger "Irish" size. Saucers were assigned the same index value as "London" size tea bowls. No firmly identified British produced ceramic bowls were identified among the vessels from the Vardeman House Site, which could be included in the calculation of the economic scaling index. All of the identified bowls were locally produced, lead glazed coarse earthenwares.

The overall ceramic index value for the Morgan Vardeman (1803-1843) associated vessels (n=112) recovered from the Vardeman House Site that were included in the mean ceramic scaling index assessment is 1.67. The subset economic index value for the flatwares (plates/platters) is 1.56, somewhat less than the overall index value. The represented teawares (cups and saucers) have a higher index value at 1.84, indicating that a greater expenditure was made for teawares. This pattern was also reflected at the rural domestic Happer Site in Chesapeake, Virginia (Hornum et al. 1997). The most expensive ceramic item among the Vardeman vessels was a whiteware transfer printed platter, which had an index value of 3.82. The platter was closely followed by four bone china saucers, which each had an index value of 3.7.

It is apparent that the Vardeman's chose to acquire at least some vessels of bone china, which during the period were over three times the cost of plain, undecorated cream-colored earthenware. Since handpainted, transfer printed, and undecorated teaware vessels were recovered from the Vardeman House Site it is possible that multiple tea sets were owned by the Vardemans at one time. Less expensive undecorated whitewares may have been used for everyday tea drinking, while the bone china tea wares may have been reserved for special occasions. Interestingly, the bone china vessels were all teawares. No bone china table/ dinnerwares were represented in the the Vardeman House Site assemblage.

The index value calculated for the Jeremiah Vardeman (1843-1851) associated vessels (n=3) is 1. The vessels interpreted to be associated with

Jeremiah Vardeman were two undecorated saucers and an undecorated plate made of ironstone, a refined earthenware most popular during the post-1840 period. Since Morgan Vardeman may have resided at the Vardeman House Site until his death in 1847 it is possible that these vessels may also be associated with the Morgan Vardeman occupation.

No vessels that were suitable for inclusion in the economic scaling analysis could be associated with either the William Menifee (1781-1789) or John Vardeman, Jr. (1789-1803) occupations.

Compared with seventeen at least partially contemporaneously occupied sites geographically located in Delaware, Maryland, Virginia, Georgia, and Kentucky (Figure 8.9), the Morgan Vardeman economic scaling index places the assemblage in the middle of the range of comparable indices (Table 8.9). The two sites used in the comparison located in Georgia and the one site located in New Jersey, have been placed within a mean ceramic date range from between 1792 and 1822 (Catts et al. 1989:271). The Thomas Mendenhall Site in Delaware had a mean ceramic date of ca. 1800 (Herman 1984). The Dickson I store site in Delaware had a mean ceramic date of approximately 1812 (Catts et al. 1989). The Whitten Road rural tenant site near Christiana, Delaware, had a mean ceramic date of approximately 1795 (Shaffer et al. 1988). The John Richardson house, Charles Allen house, and Dr. Way store sites in Delaware were analyzed as largely contemporaneous with the ca. 1812 Dickson I site (Catts et al. 1989:271). The Baltimore house privy (PR-5) assemblage has been dated to between 1828 to 1837 (Goodwin et al. 1992:151). The rural domestic Happer Site in Chesapeake, Virginia, dates to the period 1796 to 1840 (Hornum et al. 1997:267). The George Duckworth site (15BH212) in Bath County, Kentucky, was interpreted as early as 1775 until 1850 (Peres 2003:189). McConnell Homestead (15BB75) in Bourbon County, Kentucky dates from the late 1780s to 1871, when the main house was abandoned; a tenant house on the property was occupied between the 1880s and the 1920s (Day and Clay 2002).The Thomas Gwynn Site (15NE58) in Nelson County, Kentucky dated to the late eighteenth through the nineteenth century (Davis et al. 1997). The Enos Hardin Farmstead (15ON55) in Owen County, Kentucky dated to the period 1825 to 1870 (Andrews & Sandefur 2002). The Ephraim Pennington occupation at the William Whitley Site (15LI55) in Lincoln County, Kentucky, dates to the period between 1827 and 1861 (Linebaugh et al. 2002) and the Derossett-Johns Site in Floyd County dates from ca. 1822 to the early twentieth century (O'Malley 1995).

The overall mean index value of the Morgan Vardeman associated vessels at the Vardeman House Site is less than the values of the following 11 sites: the planter's kitchen at Cannon's Point Plantation, Georgia (2.63); Enos Hardin Farmstead in Owen County, Kentucky (2.4); the Dr. Way store site, Wilmington, Delaware (2.25); the William McConnell homestead in Bourbon County, Kentucky (2.22); the J. Richardson house site, Wilmington, Delaware (2.15); the Derossett-Johns Site in Floyd County, Kentucky (2.1); Privy R-5 associated with a Baltimore, Maryland house (2.06); the overseer's house at Cannon's Point Plantation, Georgia (1.94); the Thomas Gwynn Site in Nelson County, Kentucky (1.73); the George Duckworth site in Bath County, Kentucky (1.70), and the T. Hamlin rural site in New Jersey (1.68). The overall mean index value of the Morgan Vardeman associated vessels at the Vardeman House Site is greater than the values of the following six sites: the Happer farmstead, Chesapeake, Virginia (1.58); the C. Allen house, Christiana, Delaware (1.58); the Dickson I store, Christiana, Delaware (1.45); the T. Mendenhall house site, Wilmington, Delaware (1.39); the Ephraim Pennington occupation at the William Whitley site in Lincoln County, Kentucky (1.38); and the Whitten Road rural tenant occupation in Delaware (1.22). The economic scaling index calculated for the Thomas Gwynn Site (15NE58) in Nelson County, Kentucky, does not accurately

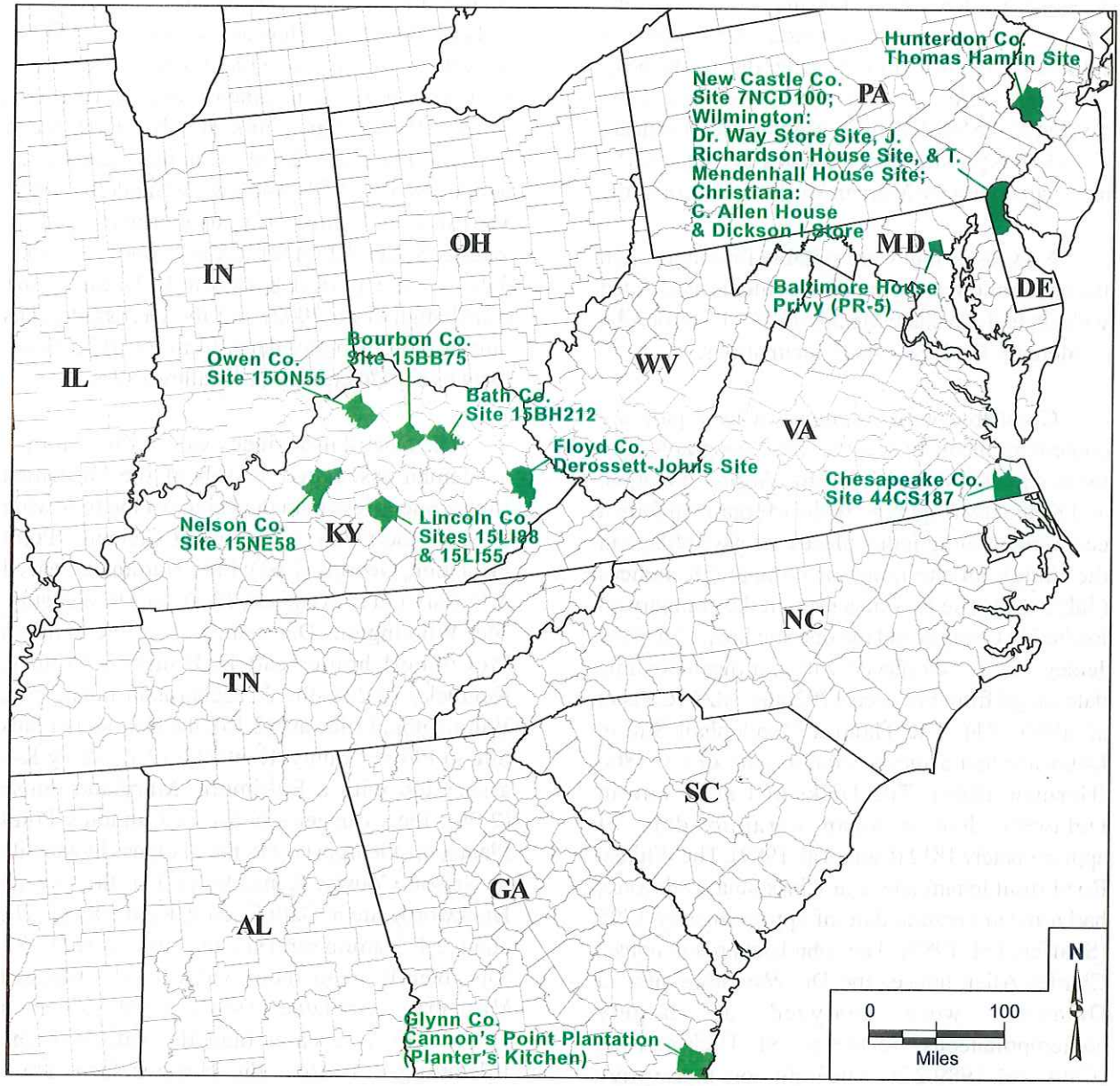


Figure 8.9. Location of sites used in comparative ceramic economic scaling interpretative discussion.

reflect the economic standing of the late eighteenth- and early nineteenth-century occupation as the index value was calculated for the entire site and not for individual temporally distinct occupations (Davis et al. 1997:202). Consequently, it should not be assumed that the late eighteenth- and early nineteenth-century occupation of the Thomas Gwynn Site exhibited a higher ceramics economic index value than the contemporaneous Morgan Vardeman occupation at The Vardeman House Site.

This comparison demonstrates that the Morgan Vardeman household invested a similar

Table 8.9. Miller Economic Indices Comparison, Vardeman House Site.					
Site	**Site Type**	**Cups and Saucers**	**Plates**	**Bowls**	**Overall Ceramic Index Value**
Whitten Road, Delaware	Rural tenant	1.54	1.20	1.00	1.22
E. Pennington, Lincoln County, Kentucky	Rural farmstead	1.08	1.45	1.66	1.38
T. Mendenhall, Wilmington, Delaware	House	1.66	1.06	1.25	1.39
Dickson I, Christiana, Delaware	Store	1.55	1.16	1.53	1.45
C. Allen, Christiana, Delaware	House	2.37	1.35	1.45	1.58
Happer farmstead, Chesapeake, Virginia	Rural farmstead	1.91	1.77	1.45	1.58
Morgan Vardeman, Lincoln County, Kentucky	**Rural farmstead**	**1.84**	**1.55**	**n/a**	**1.67**
T. Hamlin, New Jersey	Rural owner	1.67	1.19	2.14	1.68
George Duckworth, Bath County, Kentucky	Rural farmstead	1.48	1.90	1.80	1.70
Thomas Gwynn Site, Nelson County, Kentucky	Rural farmstead	n/a	n/a	n/a	1.73
Cannon's Point, Georgia	Overseer's house	2.24	1.99	1.23	1.94
Privy R-5, Baltimore, Maryland	House	2.46	1.82	1.62	2.06
Derossett-Johns Site, Floyd County, Kentucky	Urban	n/a	n/a	n/a	2.10
J. Richardson, Wilmington, Delaware	House	3.40	1.93	2.53	2.15
William McConnell, Bourbon County, Kentucky	Wealthy farmer	n/a	n/a	n/a	2.22
Dr. Way, Wilmington, Delaware	Store	3.29	1.45	1.38	2.25
Enos Hardin Farmstead, Owen County, Kentucky	Rural farmstead	2.77*	1.97	n/a	2.4*
Cannon's Point Plantation, Georgia	Planter's kitchen	2.78	2.69	1.23	2.63

*Includes Chinese export porcelain.

amount in ceramics as that of the late eighteenth- and early nineteenth-century Happer farmstead, a rural farmstead in Chesapeake, Virginia, and the T. Hamlin rural occupation in New Jersey. The similarity of expenditure on ceramics by Morgan Vardeman's household with rural households in New Jersey and Virginia demonstrates the similar availability and range of ceramic commodity choices in rural Kentucky with that of rural residents of the eastern seaboard of the United States. It also demonstrates the interconnectedness between rural Kentucky and the greater markets of goods and export networks of British ceramics, which were re-exported to Kentucky from the eastern seaboard cities of Philadelphia, Boston, and Baltimore in addition to the gulf coast city of New Orleans. Although the ceramics recovered from the Vardeman House Site indicate a socio-economic status comparable to that of middle class residents in Delaware, Maryland, and Virginia, it is possible that given the frontier setting of Kentucky, the Vardeman assemblage may reflect an expenditure

on ceramics that could have been above that of typical middle or upper-middle class Kentucky settlers.

The comparison also demonstrates that the Morgan Vardeman household invested a similar amount in ceramics as that of the late eighteenth- and early nineteenth-century urban C. Allen house in Christiana, Delaware. The comparability of the economic index of the ceramic assemblage from the Vardeman House Site with that of urban residents in Christiana and Wilmington, Delaware, locations close to local and international markets, is significant. By the early nineteenth century in rural Lincoln County, Kentucky, goods commonly found among middle class urban dwellers along the eastern seaboard were also available and acquired by residents of rural Kentucky.

The level of ceramic expenditures, as reflected by the overall ceramics index for the Morgan Vardeman occupation, suggests that the early nineteenth-century Vardemans maintained a socio-economic status that was comparable, or slightly above that realized for some middle class urban and rural residents of long established eastern seaboard states in New Jersey, Delaware, and Virginia. The ceramic expenditures of the Morgan Vardeman household was significantly less than the wealthy planter at Cannon's Point Plantation in Georgia and merchant Dr. Way of Wilmington, Delaware. Thus, the economic index of the Morgan Vardeman associated vessels falls within the middle range of the thirteen assemblages to which these vessels were compared, suggesting a largely middle class socio-economic status. The ability of the Vardeman family to participate actively in the market economy, the availability of styles of ceramics common to the eastern states, and the attainment of a socio-economic level that was largely comparable with that of rural Virginia and New Jersey and urban Delaware suggests that the period between the rough and dangerous Kentucky frontier period marked by fortified settlements, insecurity, fear of personal safety, and the limited availability of goods had largely disappeared by the early nineteenth century. It appears that by the end of the first quarter of the nineteenth century that the rough frontier period had ended in Lincoln County, settlement was successful outside of fortified enclosures, and merchants made available to consumers of rural Lincoln County commodities from around the world routinely available to rural New Jersey, urban Delaware, and Chesapeake, Virginia.

Relative to the six Kentucky sites within the economic scaling comparative group (see Table 8.9), the expenditures by the Morgan Vardeman household on ceramics was less than that documented for five sites, the Enos Hardin Farmstead (15ON55) in Owen County, the George Duckworth Site (15BH212) in Bath County, the Thomas Gwynn Site in Nelson County, the Derossett-Johns Site in Floyd County, and the William McConnell homestead in Bourbon County, but greater than the ceramic expenditure of the Ephraim Pennington occupation at the William Whitley Site (15LI55). Primary historical documentation demonstrates that Ephraim Pennington was a wealthy citizen of Lincoln County during the antebellum period, causing the relatively low economic scaling index value calculated for ceramics associated with his household to be viewed with suspicion. It is possible that the contexts associated with Ephraim Pennington for which an economic scaling index value were calculated represented an atypical group of Pennington's ceramics and hence a low economic scaling index value. Regardless of the unexpected economic scaling index value of the Ephraim Pennington ceramic assemblage, it is significant that six Kentucky sites, largely occupied during the antebellum period including the Vardeman House Site, the George Duckworth Site (15BH212) in Bath County, the Thomas Gwynn Site in Nelson County, the Enos Hardin Farmstead (15ON55) in Owen County, the Derossett-Johns Site in Floyd County, and the William McConnell homestead in Bourbon County, all returned ceramic economic index values which were comparable with the economic index value for sites located in Delaware,

Virginia, Maryland, and Georgia. This comparison also suggests that as ceramic purchases may be taken as a measure of consumer participation in a market economy, the investment by antebellum Kentuckians in ceramics was largely comparable with their countrymen residing in the more established eastern seaboard states. Comparisons between the economic scaling index values from other antebellum Kentucky sites with additional contemporaneously occupied sites located in eastern seaboard states has the potential to either substantiate or call into question the observations discussed here.

Primary historical documentation bolsters the conclusion, based on the artifact analysis, that Morgan Vardeman was a rural farmer within the middle to upper middle class of Lincoln County society during the mid-nineteenth century. A comparison between the 1840 tax roll, which enumerated the taxed value of Morgan Vardeman's property, and the 1850 U.S. Census data for Lincoln County was employed to assess the socio-economic status of Morgan Vardeman. The 1850 U.S. Census was the first census that included the land value along with the age, sex, and occupation of the individuals within the census. Having the occupation, age, and land value figures for Lincoln County in 1850 provided a comparative group with which to compare the land holding, wealth, and assess the social standing of Morgan Vardeman vis-à-vis his peers. Since Morgan Vardeman died in 1847, and consequently not included in the 1850 U.S. Census, Morgan Vardeman's land holding value as listed in the 1840 rolls was used to compare with the census data. The 1840 tax rolls for Lincoln County list Morgan Vardeman as being taxed on land, which was valued at $9,710.00. Within all of Lincoln County, a total of 614 farms were listed in the 1850 U.S. Census. The average value of the farmland per farm was calculated as $3,722.02. Clearly, Morgan Vardeman's landholding wealth greatly exceeded the average farm value for Lincoln County in the 1850 U.S. Census. In order to assess the relative wealth in land holding of Morgan Vardeman in relation to his Lincoln County contemporaries, the value of land of a total of 295 farmers listed in the 1850 U.S. Census were compared with Morgan Vardeman's land holdings in 1840. Of the farmers listed as owning land (254 of the 295 farmers in the sample or, 86.1%) land value ranged from a low of $50.00 to a high of $39,000. The average farm value within the sample of 295 farmers was $5,409. Compared with the farmer's in the test group, Morgan Vardeman's landholding was clearly above average. In order to more selectively compare the relative wealth of Morgan Vardeman as expressed through his land holding with his Lincoln County contemporaries within his age group, Morgan Vardeman's wealth in land was compared to the land value of a total of ten farmers listed as between age 69 and 78 in the 1850 U.S. Census for Lincoln County. Since Morgan was aged 73 in 1840 when he was listed as owing land valued at $9,710, the age group of farmers between 69 and 78 provided a small, but comparable group. The range of land value within the ten farmers aged 69 to 78 was $350 to $14,400, with an average land value of $5,680. Morgan's land value of $9,710.00 would place him clearly above the average for his age group, but well beneath the very top farmers within his age group.

The variety of ceramics associated with the Morgan Vardeman household at the Vardeman House Site is represented by undecorated, shell-edged, and transfer printed tablewares and undecorated, painted, and transfer printed teawares. The variety of decorated ceramics recovered from the Vardeman House Site demonstrates that new and stylistically innovative ceramic table and teawares were acquired to replace old, mismatched, or out of fashion table and teawares.

The marketing, appeal, and impression of refinement and gentility associated with the acquisition of creamware appears to have accelerated the demand for newer and more fashionable ceramic tablewares during the late eighteenth and early nineteenth century. The transition from durable pewter tablewares to more

fragile ceramic tablewares was due in large part to the marketing practices of Wedgwood, the social importance of dining from newer and more fashionable ceramic wares combined with the reduced cost of creamware compared with pewter. The desire to have the latest and most fashionable wares in turn provided an impetus for innovation, creation, and the marketing of newly created wares, or established wares with fresh patterns or designs. The demand for creamware, initially imported to the colonies in 1762, was such that by the period 1790 to 1799 one third of the members of the lowest economic class in rural Talbot County in Southern Maryland possessed some creamware (Martin 1988:29). The pervasiveness of creamware among all economic groups during the period is not suprising given that by the 1770s creamware was perceived as an "old product" (Miller and Hunter 2001:147) and prices of creamware were falling (Miller and Hunter 2001:147). Tea consumption by the members within the lowest third of economic status was largely mirrored between 1794 and 1796 in Kentucky as historical records indicate that 36% of the customers included within the bottom third economic group of customers purchased tea during this period (Perkins 1991:498). By the turn of the nineteenth century in addition to tea, creamware tablewares were a common element within households of all socio-economic levels.

At the Vardeman House Site, the presence of creamware tablewares and the absence of large numbers of creamware teawares, and the presence of a variety of porcelain teawares, including imported bone china and Chinese porcelain, mirrors ceramic preferences common to Virginians during the period. The social importance of dining with creamware tablewares did not transfer over to the preference for creamware teawares. Historical accounts of Virginia and Maryland merchants selling ceramics during the period document that a wide array of porcelain teawares were stocked including as many as five separate grades of porcelain teawares (Martin 1988:30). This pattern was found to be common in rural locales as well as urban centers. As an example of rural Kentucky life during the late eighteenth and early nineteenth century, the ceramic purchases of occupants of the Vardeman House Site appear to largely mirror those of their contemporaries in the eastern seaboard states of Virginia and Maryland. The preference for earthenware tablewares over porcelain and the preference for porcelain teawares over earthenware is one example of the comparability of ceramic purchases between Kentucky and Virginia residents. The similarity between ceramic consumption of Kentucky and Virginia residents is no surprise as culturally both populations were quite similar. Kentucky was part of Virginia until 1792 and many Kentuckians, including many of the Vardeman's, settled from Virginia.

The appearance of gentility and luxury associated with tea drinking permeated British North America during the period. Although by the 1770s the American general public could afford to consume tea (Martin 1988:22), hence tea drinking was not the exclusive domain of the elite by this time, the appearance of gentility associated with the consumption of tea remained. In 1797, a French visitor to America commented that, "....there was not a family even in the most miserable hut in the midst of the woods, who does not...drink tea and coffee" (Rochefoucault-Liancourt 1799:671-672), documenting the pervasiveness of tea drinking among all socio-economic levels during the period. It is likely that by the Morgan Vardeman occupation at the Vardeman House Site, ca. 1803-1851, tea drinking retained its social importance although it is likely that the majority of economic groups in Kentucky could consume tea during this period.

Hollowware to Flatware Ratio Analysis

Analysis of specific ceramic vessel form has been noted to reflect cultural elements of foodways practices and socio-economic status. Research has indicated that a preponderance of flatware forms is indicative of dietary patterns based on roasted cuts of meat while a preponderance of hollowware forms is more likely associated with stewed foods

and porridges (Catts et al. 1989:291). Considering this framework a higher percentage of flatwares is viewed as indicative of a higher socio-economic status. A percentage of serving bowls in excess of 40% within a ceramic assemblage has been viewed as one indicator of African-American slave or free sites (Deetz 1977; Otto 1984; Baker 1990) although this interpretation and its use universally as an indicator of African-American presence has been called into question by some scholars (Geismar 1982; Leone and Crosby 1987).

John Otto's research on the ceramic assemblages associated with the slaves, overseers, and planters at Cannon's Point Plantation in Georgia (Otto 1984) indicated a correlation between the socio-economic status of the occupant of a site and the rates of hollowwares (bowls, crocks, etc.) to flatwares (plates, platters etc.) identified at the site. Otto documented that flatwares constituted greater than 80% of the ceramics recovered from the location occupied by the plantation owner. In contrast, bowls constituted 40% of the ceramic assemblage recovered from the Cannon's Point slave site (Otto 1984:167). Vessel form data from the 243 identified vessels from the Vardeman House Site was evaluated to ascertain the relative percentages of hollowware to flatware within the assemblage.

Of the total of 202 minimum identified vessels identified from the Vardeman House Site which could be identified as either hollowware or flatware, 37.62% (n=76) of the vessels were identified as hollowwares, while 62.37% (n=126) were identified as flatwares (Figure 8.10). Saucers were classified as flatwares for the purposes of this analysis following the assignment of saucers to the dish category detailed in the 1770 publication, *The Complete Appraiser* (Anonymous 1770). Clearly at the Vardeman House Site, flatware vessels constituted the majority of vessels, a pattern inconsistent with the low socio-economic majority hollowware pattern observed by Otto at Cannon's Point Plantation.

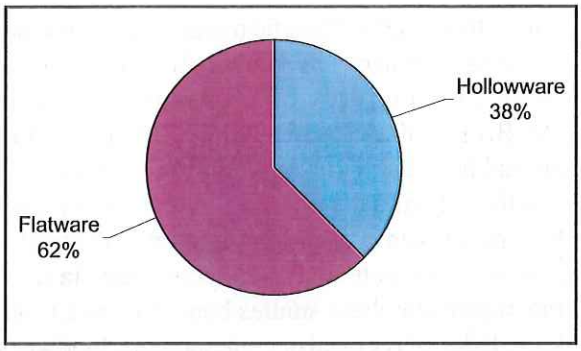


Figure 8.10. Percent of hollowware to flatware vessels recovered, the Vardeman House Site.

Interestingly, although flatwares constituted the majority of the identifiable vessels at the Vardeman House Site, the percentage of flatware vessels at the Vardeman House Site was less than the percentage observed at the plantation owner's site at Cannon's Point Plantation. Accordingly, given the dominance of flatwares within the ceramic assemblage, the hollowware to flatware vessel form analysis for the Vardeman House Site may be representative of a moderate to upper middle socio-economic status level occupation. This conclusion is largely consistent with the economic scaling index figures discussed previously which indicated a moderate expenditure on ceramics at the Vardeman House Site compared with other sites, indicating a moderate socio-economic status level. The faunal analysis, discussed in Chapter 7, resulted in the identification of very few cut/butcher marked animal bones, precluding confirmation of the idea that a preponderance of flatware forms was consistent with consumed roasted cuts of meat.

Foodways

Foodways, or subsistence, denotes the study of food procurement, preparation, and consumption (Anderson 1971). Studies of foodways have focused on faunal remains in addition to ceramic analyses focusing on the distribution of hollowwares and flatwares as previously discussed

within this chapter. Specific research goals outlined in the State Plan can be used as effective guides in foodways analyses of archaeological sites (McBride and McBride 1990:674-679) including animal husbandry and butchery, and vessel form. Studies of faunal remains (animal bone) from historic sites have been completed with the goal of assessing the potential socio-economic status of the occupants; these studies benefit from a broad knowledge of regional or contemporary foodways. Rural vs. urban patterns of subsistence can also be compared to understand potential variability in rural and urban diet patterns. Differences in the composition of wild and domestic faunal remains can be ascertained between rural and urban locales. Foodways can also be utilized to study issues related to ethnicity and animal husbandry/ butchering practices. Ceramic analyses can be utilized to glean information regarding vessel form and the distribution of hollowware to flatware vessels. This data as it relates to the foodways practiced at the Vardeman House Site has been previously discussed within this chapter. Additionally, information obtained from an analysis of the botanical (floral) remains recovered from samples of soil retained during archaeological excavation can yield significant information related to crops grown and consumed at an archaeological site. Although the detailed botanical analysis conducted by Dr. Jack Rossen of Ithaca College and the University of Kentucky is presented in full within Appendix D and the detailed faunal analysis and interpretation conducted by Dr. Tanya Peres of UK-PAR is presented in full within Chapter 7, the results of these specialized analyses are summarized below as they relate to the antebellum foodways of the occupants at the Vardeman House Site. A summary of the faunal remains as discussed in Chapter 7 is presented in Table 8.10.

As discussed within the report and included within Appendix D, the botanical analysis yielded disappointing results. According to Dr. Rossen, the lack of sufficient sample size resulted in limited observations based on the botanical ecofacts recovered. Carbonized black walnut shell casing recovered from Feature 16A, the lower portion of Feature 16, added to the understanding of food consumption at the Vardeman House Site. The few wood charcoal fragments analyzed that were identifiable, were white oak. The identification of botanical elements related to weedy plants was not particularly interesting, or informative. The lack of botanical elements, which could be associated with economic plant materials, may be due to the particular character of the deposits associated with the Vardeman House Site.

Analysis of faunal remains is widely accepted to be one of the best avenues to explore issues regarding potential status of the occupants in addition to an understanding of foodways practiced at the site. An assessment of the faunal remains recovered from the Vardeman House Site has the potential to provide an assessment of status for the individuals at the site and form the basis of a regional comparison of the faunal assemblage. Results obtained from the detailed faunal analysis (see Chapter 7) aided in the interpretation and placement of the Vardeman House Site within the larger regional and antebellum upland south agrarian economic practices. Important data regarding the variety of animals present at the Vardeman House Site was obtained from both the archaeological contexts and the 1849 Estate Sale list of Morgan Vardeman. Based on the archaeologically recovered faunal remains from the Vardeman House Site there seems to be similar varieties of animal bone as that noted for the Upland South cultural tradition. The Upland South cultural tradition is a social and agrarian system drawing on farming practices from two geographic areas: southeastern Pennsylvania, where corn, wheat and livestock are emphasized, and the Chesapeake region, where tobacco, hemp, and slavery formed the basis of the antebellum agrarian economy. The Upland South cultural tradition included the cultivation of corn, wheat and rye, with a focus on raising pig and cattle for food. In the interpretive discussion of the faunal materials contained in Chapter 7, Dr. Peres has explained that the Upland South cultural tradition is both a

Table 8.10. Summary of faunal assemblage, Vardeman House Site.									
Taxon	**Common Name**	**NISP**		**Bone Weight**		**MNI**		**Biomass**	
		Qty.	**%**	**gms.**	**%**	**Total**	**%**	**gms.**	**%**
Vertebrata	**vertebrates**	117	6.12	151.14	3.02				
Mammalia	**mammals**	578	30.23	763.18	15.26			5180.41	62.85
Mammalia, Large	large mammals	140	7.32	277.65	5.55			2085.20	25.30
Mammalia, Medium	medium mammals	2	0.10	2.5	0.05			30.07	0.36
Mammalia, Small	small mammals	218	11.40	59.55	1.19			521.67	6.33
Canis sp.	dog	1	0.05	34.59	0.69			0.89	0.01
Canis familiaris	domestic dog	2	0.10	4.84	0.10	1	4.00	1.66	0.02
Equus caballus	domestic horse	6	0.31	92.52	1.85	1	4.00	4.59	0.06
Sus scrofa	pig	588	30.75	2150.82	43.00	9	36.00	287.78	3.49
cf. *Sus scrofa*	pig	3	0.16	105.18	2.10			2.53	0.03
Odocoileus virginianus	white-tailed deer	5	0.26	79	1.58	1	4.00	3.92	0.05
Bovidae	sheep, goat, cow, bison	2	0.10	165.53	3.31			1.66	0.02
Bos taurus	cow	29	1.52	987.8	19.75	1	4.00	19.22	0.23
Rodentia or Lagomorpha	rodents or rabbits	2	0.10	0.42	0.01			1.66	0.02
Sciurus sp.	squirrel	1	0.05	0.54	0.01			0.89	0.01
Sciurus carolinensis	eastern gray squirrel	14	0.73	4.58	0.09	2	8.00	9.93	0.12
Sciurus niger	fox squirrel	11	0.58	3.39	0.07	1	4.00	8.07	0.10
Aves	**birds**	99	5.18	46.83	0.94			48.98	0.59
Anatidae	ducks and geese	14	0.73	8.65	0.17			8.23	0.10
Branta canadensis	Canada goose	21	1.10	17.59	0.35	3	12.00	11.96	0.15
cf. *Branta canadensis*	Canada goose	2	0.10	2.51	0.05			1.35	0.02
Galliformes	bobwhites, prairie-	8	0.42	5.02	0.10			4.98	0.06
Phasianidae	bobwhites	9	0.47	7.44	0.15	2	8.00	5.52	0.07
Meleagris gallopavo	turkey	2	0.10	10.23	0.20	1	4.00	1.35	0.02
Mollusca	**mollusks**	25	1.31	5.91	0.12				
Bivalvia	bivalves	6	0.31	14.24	0.28	1	4.00	0.47	0.01
Gastropoda*	"stomach footed"	6	0.31	0.32	0.01	1	4.00		
Helix sp.*	gardensnail	1	0.05	0.49	0.01	1	4.00		
Wild		68	10.93	139.52	2.79	13	52.00	40.04	0.49
Domestic		622	89.07	3541.28	70.79	12	48.00	318.33	3.86
Identified**		721	37.89	3493.54	69.84	25	100.00	354.14	4.30
Unidentified		1191	62.29	1446.42	28.91			7888.85	95.70
TOTALS		**1912**	**100.00**	**5002.46**	**100.00**	**25**	**100.00**	**8242.99**	**100.00**
*Taxa that are considered commensal; **Faunal specimens identifiable to Genus and species.									

social and agrarian system which is interpreted as influencing the diet and foodways of residents of rural antebellum Kentucky. Dr. Peres suggests that the high percentage of pig remains within the faunal assemblage from the Vardeman House Site relative to the other identifiable animal bone is the best indicator of the possible practice of the Upland South cultural tradition at the Vardeman House Site. Thus, it is likely that the Vardeman family followed the practice of the Upland South cultural tradition, viewing the preponderance of identified pig remains which constitute the major category of mammals identified as indicative of a diet heavy on pork.

The comparison between the 1849 Morgan Vardeman estate sale list (Appendix B) and the faunal data from the data recovery at the Vardeman House Site offered some interesting insights into the representativeness of the archaeologically recovered faunal assemblage compared with the documented variety of animals present at the site in 1849. The 1849 estate sale list documents a total of 231 animals sold at the sale including sheep, fowl (chicken, turkeys, and geese), pigs, mules, horses and cattle. Interestingly, pig bones were determined to constitute the majority of the identifiable animal bone recovered archaeologically from the Vardeman House Site, however according to the 1849 estate sale list, sheep was the most numerous animal sold, constituting 105 (45.45%) of the total animals sold. No animal bones identified specifically as sheep were among the 1,912 faunal specimens recovered from the data recovery from the Vardeman House Site. A total of two bones were found that could be identified as belonging to the bovidae taxon which includes sheep, goat, cow and bison. The number of pigs listed as sold in the 1849 Morgan Vardeman estate sale list was 31, or just 13.41% of the total number of animals sold. However, archaeologically recovered pig remains constituted 55.76% of the identified faunal assemblage.

The large disparity between the relative percentages of animals as represented archaeologically and historically requires explanation. The disparity may be the result of one, or more of a number of factors. Morgan Vardeman may have changed his animal husbandry practices in his later years from a focus on pig raising and on site consumption of pork to focus more centrally on raising sheep, thus diversifying his husbandry practices from the traditional Upland South cultural tradition. If this were the case Morgan may have raised sheep to sell live at market since no sheep bones were recovered from the data recovery of the Vardeman House Site. It is also possible that Morgan Vardeman followed a husbandry practice that was more diversified than the typical Upland South cultural tradition wherein sheep predominated. The sheep bones recovered during the data recovery may have been too fragmentary to identify and, hence included within the 761 mammal bones (39.8% of the faunal assemblage) which were not identifiable beyond the classification of Mammalia. Alternatively, if sheep were consumed onsite, the bones may have been discarded within a portion of the surrounding area not subject to the data recovery excavations.

Fowl were also represented in greater number than pigs in the estate sale list. The greater number of fowl compared with pig present at the 1849 estate sale may be attributed to taphonomic, or preservation related issues; pig bone is more substantial than fowl bone, hence less fowl bone may preserve archaeologically compared with pig bone. As Dr. Peres rightly comments in the faunal interpretation contained within Chapter 7 of this report, "without documentary evidence, interpretations of faunal remains could be misleading. Faunal remains may not reflect the original diet or deposit..."(Peres 2003:12).

Within the Vardeman House assemblage are remains of dog, horse, pig, white-tailed deer, cow, fox squirrel, eastern gray squirrel, Canada goose, turkey, ducks/geese, quail, bobwhites, chicken/ turkey/prairie-chickens in addition to unidentified birds, unidentified mammals and invertebrates which included bivalves, gastropods and a terrestrial snail. Few bones exhibited evidence of cut marks

prohibiting a substantive analysis of cut and butchering marks. Minimum number of individual (MNI) counts of animal species within the the Vardeman House Site faunal assemblage were as follows: dog – 1; horse – 1; pig – 9; white-tailed deer – 1; cow – 1; fox squirrel – 1; eastern gray squirrel – 2; Canada goose – 3; turkey – 1; bobwhites – 2. There was not enough data within the the Vardeman House Site faunal assemblage to warrant discussion of age distribution or butchering practices. No interpretive discussion of distribution of the faunal material across the site was completed since the majority of the faunal remains were recovered from the features.

Utility indices of selected mammals within the the Vardeman House Site faunal assemblage, presented only as estimates, documented a high percentage of low utility bone elements relative to medium and high utility elements. Low utility elements include bone associated with the head (except for pig mandibles considered to be medium utility) and feet. Medium utility bone includes pig mandible. The remainder of the cuts of meat were considered representative of high utility portions of the mammals. A total of 186 elements of pig, representing 76.85% of the identifiable pig elements were considered low utility; no elements of pig, were considered medium utility; a total of 56 elements of pig, representing 21.34% of the identifiable pig elements were considered high utility (see Chapter 7, Table 6). Based on the distribution of pig elements recovered, it is interpreted that whole animals were butchered and consumed onsite. A preponderance of low utility cow elements were also documented within the assemblage; low utility cow numbered 14 elements (87.5%) of the identifiable cow bone, high utility cow numbered 2 elements (12.5%) of the identifiable cow bone. Utility indices studies have been utilized by archaeologists to assist in assigning socio-economic status to an occupant of an historic site. Unfortunately, the utility indices and animals represented at the Vardeman House Site did not aid in the interpretation of status at the Vardeman house site.

Interesting observations concerning the degree to which the occupants at the Vardeman House Site relied on domestic versus wild animal taxa were forthcoming from the faunal analysis. Although a variety of both wild and domestic taxa were represented within the faunal assemblage from the Vardeman House Site, wild animals constituted just 10.93% of the total faunal assemblage; domestic animals were determined to constitute 89.07% of the total faunal assemblage. Wild taxa were observed to augment a diet that has been interpreted as centered on the consumption of pork. A total of 23 geese and 5 turkeys were included within the 1849 estate sale list of Morgan Vardeman suggesting that geese were possibly part of Morgan's domestic animal group.

Soil Chemistry Analysis, the Vardeman House Site

Insights regarding spatial patterning and the evaluation of intrasite utilization of the site area and the evaluation of possible discrete activity areas on historic sites can be ascertained with an intensive program of soil chemistry analysis. Soil chemistry analysis on historic sites can be particularly important in the context of historic sites which have been subsequently exposed to subsurface agricultural impacts such as disking and various forms of shallow and deep plowing, all of which impact the archaeological deposits. Soil chemistry analysis is important on plowed archaeological sites because, unlike items of material culture such as ceramics and bottle glass, the chemical signatures of the elements within the soils are minimally affected by plowing. Thus, it offers the potential for a unique window on the spatial evaluation of archaeological contexts typically considered compromised as a result of plowing. The evaluation of the soil chemistry data has the potential to reveal important insights into the spatial use of an archaeological site not obtainable from an evaluation of the material culture recovered from the plowzone. Additionally, the soil chemistry analysis was utilized to identify potential

cultural features from non-cultural shallow stains recorded after the completion of the mechanical stripping of the plowzone. The use of elevated soil chemistry readings as indicative of cultural features, rather than natural, or non-cultural stains has been utilized with good result in Kentucky (Stokes and Shields 1999:132). The soil chemistry program at the Vardeman House Site took on an increased level of importance since there were no substantive surviving features or architectural structural elements relating specifically to the farmstead's domestic structure.

Typically, archaeological soil chemistry analysis has focused on the concentration and distribution of phosphorous, calcium, potassium, and magnesium across a site as analyzed from systematically collected samples at close intervals. The distribution of zinc and boron may also be indicative of human use of an area (Edwards 2002; Fischer 2002). Phosphorous is a constituent of DNA (Pogue 1988:18) and present in human and animal tissue, excretia, and other food items, and has been identified as associated with the location of trash pits, sheet middens, privies, food preparation areas, and animal pens (Cook and Heizer 1965:4; Proudfoot 1976:93-94; Pogue 1988:2-4). Calcium is present in shell/bivalves as well as bone. High calcium levels are consistent with sheet middens, food preparation areas, liming of agricultural fields, and walkways lined with shell (Pogue 1988:9; Keeler 1978:67,70-71; Currie 1995:231). Potassium is present in both wood and charred wood which was burned in an oxidizing atmosphere, and as such can indicate hearths, fire pit areas, fireplace ash disposal areas (Pogue 1988:9; Keeler 1978:67,70-71; Catts and Custer 1990:181; Currie 1995:231), as well as potential areas where a wood constructed structure may have been present. Magnesium has been associated with the presence of burning activities (Konrad et al. 1983:24) in an oxidizing atmosphere and may indicate the presence of a hearth, fire pit area, charred structures, or food preparation areas (Middleton and Price 1996:677-78, 681). Magnesium has also been demonstrated to relate to the calcium distributions (Catts and Custer 1990:181). Spatially overlapping elevated concentrations of phosphates, calcium, and potassium may indicate individual waste deposits (Edwards 2002). The presence of zinc and boron may be associated with food preparation or areas of discarded waste materials (Fischer 2002:10). Rubidium, strontium, and cesium have also been associated with human activity (Middleton and Price 1996:677-78; Entwistle et al. 1998:64-65).

At the Vardeman House Site soil samples were collected from each shovel test plowzone context in order to determine the location of activity areas and architectural layout based on chemical signatures. A total of 901 shovel tests were excavated at 2.5-m intervals across the site area from which samples were gathered (see Figure 4.2). Samples were subsequently sent to the University of Kentucky College of Agriculture, Division of Regulatory Services for analysis using the Mehlich III Extraction Process (pp2m=lb/a in soil). Soil pH was tested as well as potassium, calcium, phosphate, manganese, magnesium, and zinc signatures. The results are expressed as pounds per acre. Each pound per acre is the equivalent of parts per two million. Background samples were also collected outside the site boundaries in an effort to establish a baseline soil chemistry reading to compare with the results obtained from the samples collected within the site area. These background readings are displayed as soil chemistry densities on each soil chemistry distribution map for locations outside of the boundary of the prehistoric and historic component boundaries. The collection of background samples from areas of the landform outside of the prehistoric and historic component boundaries was considered important given the large amount of angular limestone fragments scattered across the landform. Chemical weathering of limestone has been shown to be associated with elevated potassium and magnesium levels (Stokes and Shields 1999:133). Obtaining soil chemistry readings for the background samples was important in order to assess the degree to which any elevated potassium and magnesium readings be may reflective of the

large amount of limestone at the Vardeman House Site.

The soil chemistry data returned from the University of Kentucky College of Agriculture for the Vardeman House Site was plotted on maps depicting the horizontal extent of both the prehistoric and historic components at the Vardeman House Site (Figure 8.11) using the *ArcView* program. *ArcView* was utilized to graphically depict the concentrations of the elements tested within the retained soils samples. Elevated concentrations of soil chemicals, which were greater than the soil chemistry background samples taken for the portion of the landform beyond the boundaries of the prehistoric and historic components, were considered potential indicators of cultural activity. Bioturbation and leaching loss can also affect soil chemistry readings (Stokes and Shields 1999:131). The mapped locations of the recorded cultural and non-cultural features at the Vardeman House Site were then compared with the concentrations of phosphorous, calcium, manganese, magnesium, and zinc to evaluate the potential of the soil chemistry data to elicit information concerning potential activity areas, feature function, potential location of domestic structures and outbuildings, and to further understand the use of space at the Vardeman House Site. The phosphorous, calcium, and magnesium data all returned very interesting results and depicted high concentrations in areas of the western portion of the Vardeman House Site. This area of the site was documented to have been used for refuse and waste disposal. The soil chemistry analysis did tend to indicate that there was a slight horizontal shift in soil chemicals recovered from the plowzone deposits that were otherwise reflective of subplowzone cultural features (Figure 8.12).

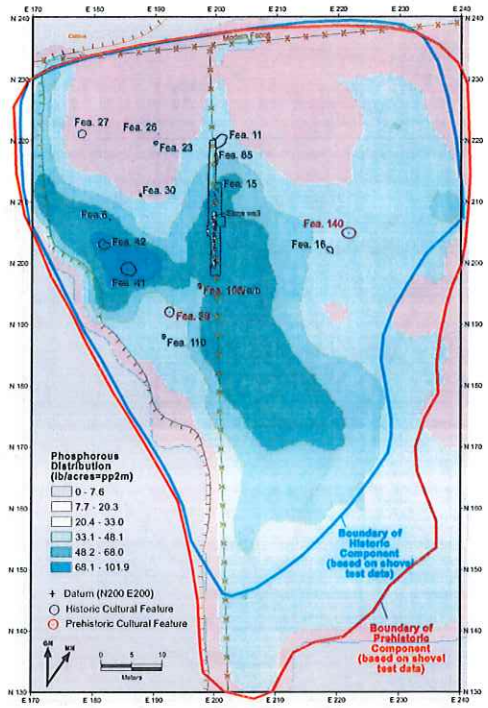
Phosphorous was highly concentrated in the west-central portion of the site, west of the site datum (N200 E200). Phosphorous is a constituent of DNA and present in human and animal tissue, excretia, and other food items and has been identified as associated with the location of trash pits, sheet middens, privies, food preparation areas, and animal pens. The concentration of phosphorous documented at the Vardeman House Site (see Figure 8.11a) corresponds with the general vicinity of Feature 1 identified by Sussenbach (2000) as a privy. In addition, phosphorous was most highly concentrated in the general area around Feature 41 (Sussenbach, Feature 3 [2000]). Feature 41 was identified by UK-PAR as an historic trash/waste pit. Elevated concentrations of phosphorous were also noted in the vicinity of Feature 42, another historic trash pit. The elevated concentration of phosphorous documented in the vicinity of Sussenbach's Feature 1 and UK-PAR's Features 41 and 42 substantiates both the interpretation that Feature 1 represents the surviving, intact subplowzone portion of a privy and the interpretation that Features 41 and 42 are trash pits into which domestic refuse, waste products, and general discards were placed during the early nineteenth-century occupation. The high, localized concentration of phosphorous documented within the west-central portion of the Vardeman House Site indicates that human and possibly animal wastes were concentrated predominately in this one location. A more diffuse but elevated level of phosphorous was also documented extending from approximately N205 to N165 and between approximately E195 to E215. This more diffuse, although elevated, area of phosphorous generally corresponds to an elevated diffuse calcium area detailed below and may relate to general yard scatter, or an animal pen area. Although phosphorous was present within soil samples collected across the remainder of the site area, no additional pronounced concentrations of phosphorous were identified at the Vardeman House Site.

Calcium was concentrated over a large portion of the western, west-central, and, southwestern portions of the site. Two predominate peak areas of calcium concentration were documented within the extreme western portion of the site area. Calcium is present in shell/bivalves as well as animal bone. High calcium levels are

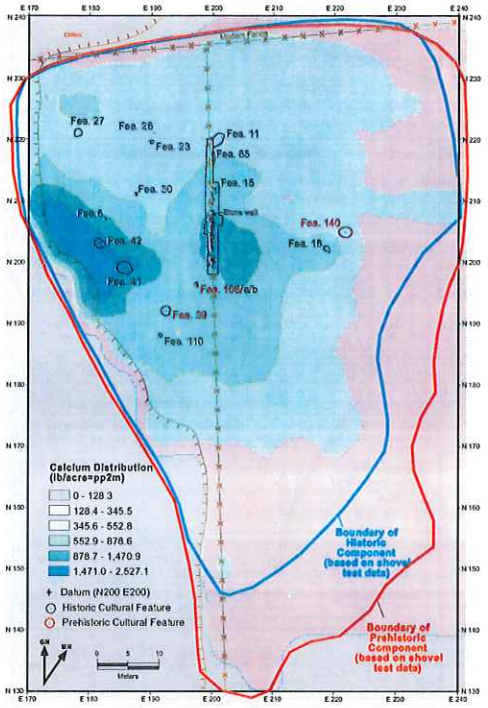
consistent with the presence of sheet middens, food preparation areas, liming of agricultural fields, and walkways lined with shell. The concentration of calcium documented at the Vardeman House Site (see Figure 8.11b) was densest within an area a few meters west of the area containing the high phosphorous concentration in the immediate vicinity of Sussenbach's Feature 1 and UK-PAR's Features 41 and 42. The highest concentrations of calcium were recorded a few meters west of Features 41, an historic trash pit feature, and Feature 42, an historic trash/waste pit. A slightly elevated concentration of calcium was also documented in the vicinity of Feature 27, an historic trash pit containing predominately limestone chunks and animal bone. The presence of concentrations of calcium within the vicinity of these features substantiates the general refuse, waste, and discard-related activities that were evidently common to the western portion of the Vardeman House Site, since high levels of calcium are consistent with trash disposal areas (Pogue 1988). A more diffuse, but elevated level of calcium was also documented extending from approximately N195 to N210 and between approximately E197.5 to E205. This more diffuse, although elevated area of calcium largely overlaps the northern portion of the phosphorous area previously mentioned and may relate to general yard scatter. Although calcium was present within soil samples collected across the site area, no additional pronounced concentrations of calcium were identified at the Vardeman House Site.

Several concentrations of potassium were documented across the the Vardeman House Site area in the west-central portion of the site as well as in a line, generally following the modern barbed-wire fence that bisects the site along a north-south axis. Potassium is present in both wood and charred wood, which was burned in an oxidizing atmosphere, and as such can indicate hearths, fire pit areas, fireplace ash disposal areas, as well as potential areas where a wood constructed structure may have been present. The distribution of potassium at historic sites has been used to discern the limits of areas around a domestic dwelling, which were utilized as the yard/work areas as well as areas of dumping of domestic refuse/debris (Pogue 1990:19-20). The most densely concentrated area of potassium at the Vardeman House Site was documented in the north-central portion of the site immediately east of the modern barbed-wire fence (see Figure 8.11c). Although this concentration of potassium does not correspond with any subsurface cultural features, it may indicate an area of hearth ash disposal outside of the dwelling at the Vardeman House Site. A broad area of high potassium concentration with internal elevated concentrations was documented in the west-central portion of the site, in the general area of the high calcium concentration, south of Sussenbach's Feature 1, and UK-PAR's Features 41, and 42. This concentration is also west of Features 39 and 110. Additionally, elevated concentrations of potassium were also documented in the north-western portion of the site north and west of Feature 23, an historic pit feature. Less dense concentrations of potassium extend south from Feature 15/85, the lower course of a limestone field wall, to an area outside the boundaries of the historic component of the Vardeman House Site. These southerly concentrations of potassium may reflect historic or prehistoric tree burns, prehistoric activity, or possibly areas where the occupants of the Vardeman House Site discarded fireplace ash. The areas of potassium concentration within the site boundaries further strengthens the interpretation that the west-central portion of the site was the area selected by the occupants of the site to receive waste materials and serve as an area of localized discard within trash/waste pits and the privy.

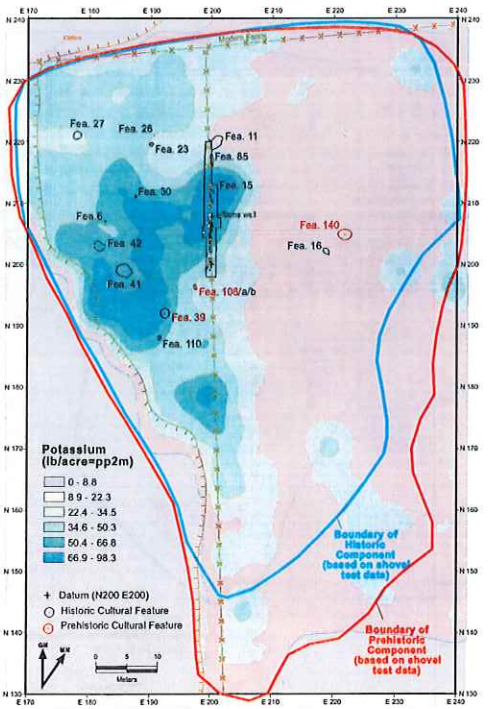
Concentrations of magnesium were largely documented at the Vardeman House Site within portions of the west-central section of the site which also yielded high phosphorous, potassium, and calcium concentrations, although two of the areas of highest concentration of magnesium were located north of Features 23 and 27, areas which additionally only yielded slightly elevated levels of potassium (see Figures 7.11). Magnesium can be associated with the presence of burning activities



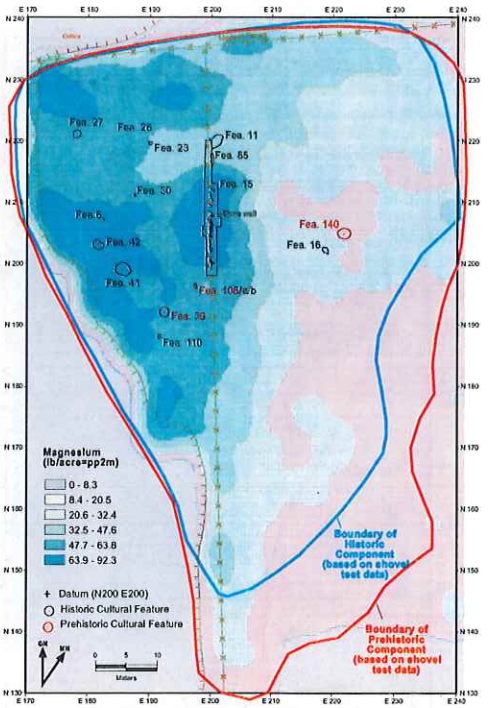
a. Concentrations of phosphorous.



b. Concentrations of calcium.

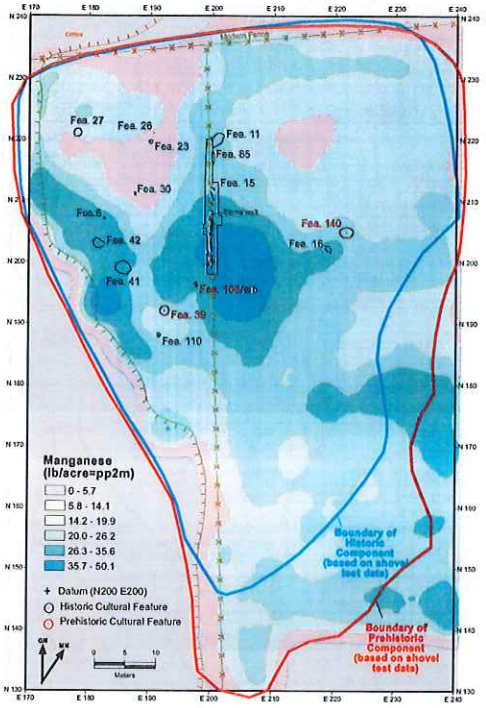


c. Concentrations of potassium.

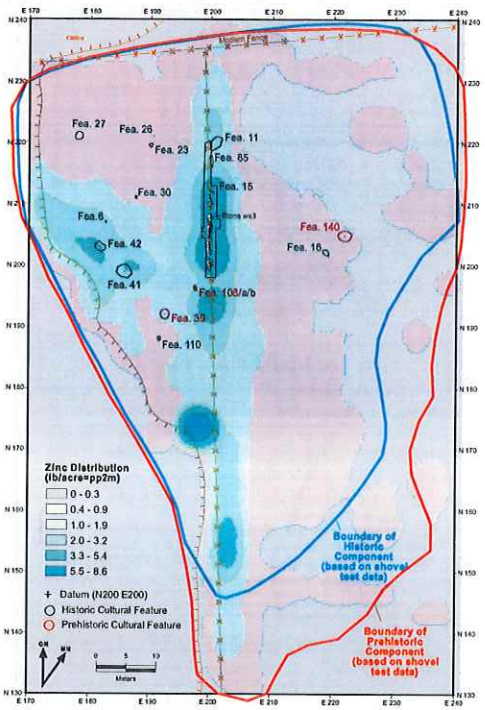


d. Concentrations of magnesium.

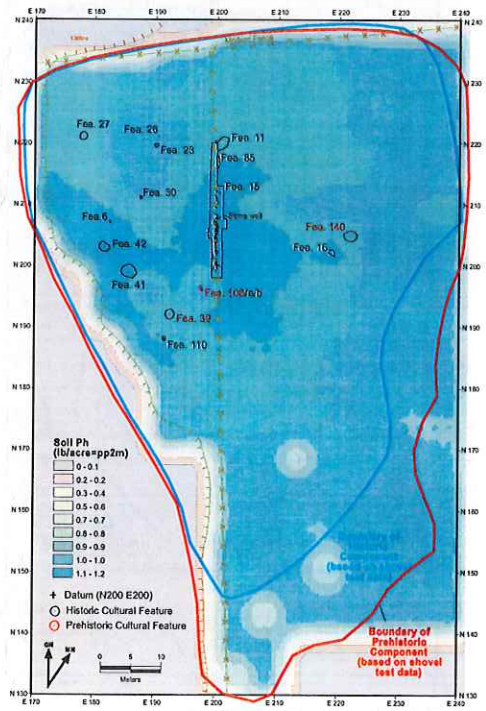
Figure 8.11. Soil chemistry data in relation to the boundaries of the prehistoric and historic components and cultural features, the Vardeman House Site. (For full-size graphics, see Figures 5.11-5.18.)



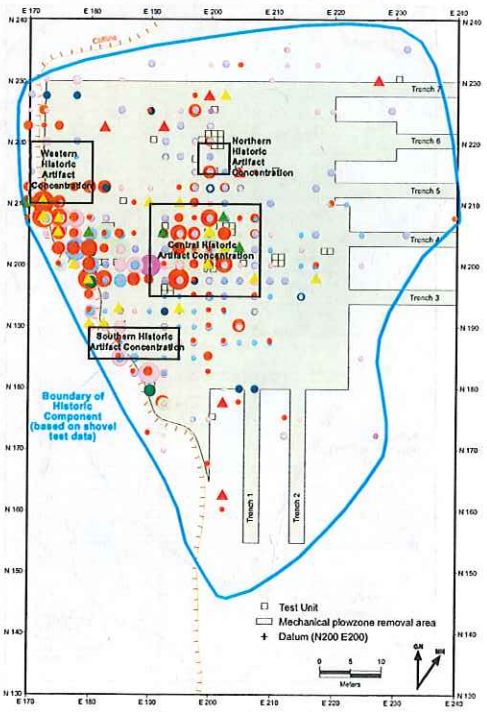
e. Concentrations of manganese.



f. Concentrations of zinc.



g. Soil PH.



h. Phase III plan of the Vardeman House Site, showing the four historic artifact concentrations, historic component boundary, mechanical stripping area, and Test Unit locations.

Figure 8.11. Continued.

in an oxidizing atmosphere, but high concentrations of magnesium, and low concentrations of potassium have also been shown to occur with features with large amounts of charcoal, which is created in a reducing atmosphere (Edwards 2002). The highest concentration of magnesium was recorded in the vicinity of Feature 42, an historic trash/waste pit, and southwest of Feature 41, an historic trash/waste pit. Although both potassium and magnesium can be concentrated in areas of wood burning in an oxidizing atmosphere, potassium is generally not present in high concentrations within areas of wood burning in a reducing atmosphere, that produce charcoal. The elemental data suggests that the burning activities associated with Feature 42 differed from the burning activities associated with

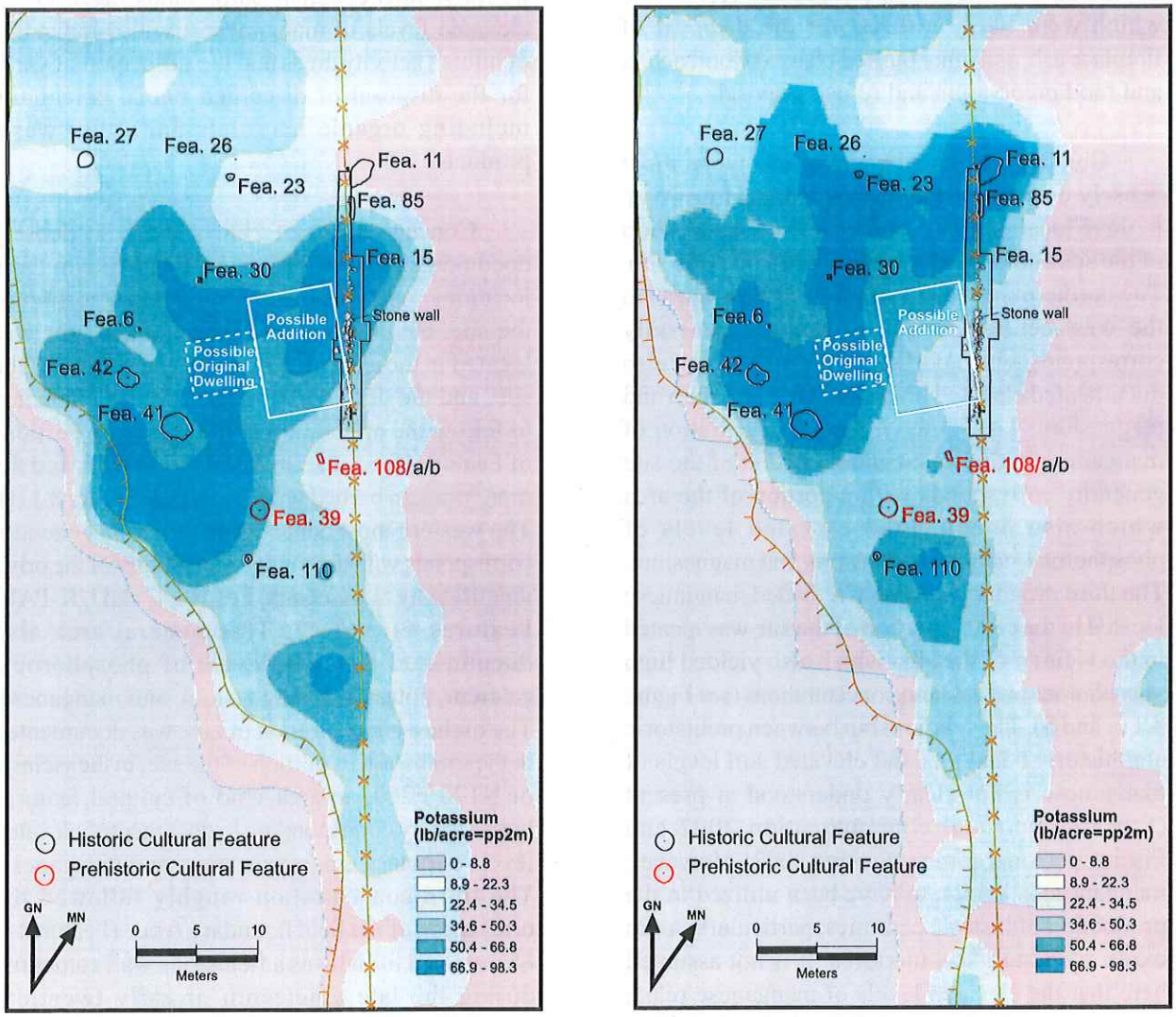


Figure 8.12. Plan of the distribution of potassium relative to cultural feature locations and conjectured Vardeman family dwelling. The map on the left shows the actual soil chemistry distribution as documented from field recovery, and the right shows the soil chemistry distribution corrected for apparent southward drift as a result of agricultural plowing.

the other portions of the west-central section of the site. Additionally, a concentration of magnesium was also documented in the north-central portion of the site in the vicinity of Feature 15/85, the limestone field boundary wall and the modern barbed-wire fence. This area corresponds with the elevated, but diffuse areas of phosphorous and calcium and the highly concentrated elevated area of potassium previously documented (see Figure 8.11). The concentrations of magnesium also substantiate the areas of the Vardeman House Site which were likely utilized for the disposal of fireplace ash, and other burned/charred wood debris and food preparation and refuse disposal.

Concentrations of manganese were most densely documented at the Vardeman House Site in three locations: two in the west-central section of the site and one in the central portion of the site. The northern most concentration of manganese in the west-central portion of the site generally corresponds with a portion of the area which also documented elevated levels of both potassium and magnesium. The southern most concentration of manganese in the west-central portion of the site generally corresponds with a portion of the area which also documented elevated levels of phosphorous, calcium, potassium, and magnesium. The third pronounced area of elevated manganese located in the central portion of the site was located in the vicinity of the area which also yielded high phosphorous and calcium concentrations (see Figure 8.11a and b). The relationship between prehistoric and historic behaviors and elevated soil levels of manganese is not clearly understood at present (Edwards personal communication 2002 and Fischer personal communication 2002). However, manganese is known to have been utilized in the production of historic ceramics, particularly as an oxide added to glaze mixtures. It is not assumed here that the elevated levels of manganese relate to ceramic production or ceramic glazing activities. It is interesting to note that two areas of elevated levels of manganese were documented in the east-central portion of the site, within the extreme eastern portions of the historic and prehistoric components; one elevated concentration of manganese was also documented in the extreme southeastern corner of the testing area, outside of the the Vardeman House Site boundaries (see Figure 8.11e). It is likely that these concentrations are more reflective of either natural variations in levels of manganese within the soil, or as a result of modern use of the property. The general overlap in the three main concentrations of manganese at the Vardeman House Site with locations of elevated levels of other chemical compounds suggests that elevated levels of manganese are also indicative of human activity areas and the utilization of yards for the disposal of discarded items, potentially including organic materials and other waste products.

Concentrations of zinc were most densely documented at the Vardeman House Site in three locations; one in the extreme western section of the site, the most densely concentrated area was located in the extreme southwestern portion of the site, and the third concentration was documented to follow the orientation of the surviving portions of Feature 15/85, the limestone field wall, and the more modern barbed wire fence (see Figure 8.11f). The western most concentration of zinc generally corresponds with the immediate vicinity of the privy identified by Sussenbach, Feature 1, and UK-PAR, Features 41 and 42. This general area also documented elevated levels of phosphorous, calcium, potassium, magnesium, and manganese. The highest concentration of zinc was documented in the southwestern portion of the site, in the vicinity of N170 E200, an area void of cultural features but generally corresponding to documented elevated levels of potassium, magnesium, and manganese. The third concentration roughly followed the orientation of the field boundary fence (Feature15/85), erected initially as a fieldstone wall sometime during the late nineteenth or early twentieth centuries and more recently recreated as a barbed wire fence. Portions of this area also documented elevated levels of phosphorous, calcium, potassium, manganese, and magnesium. The relationship between prehistoric and historic behaviors and

elevated soil levels of zinc may be associated with food preparation or areas of the discard of waste materials (Fischer 2002:10). The general overlap in the western and southwestern concentrations of zinc at the Vardeman House Site with locations of elevated levels of other chemical compounds suggests that elevated levels of zinc are also indicative of human activity areas and the utilization of yards for the disposal of discarded items, potentially including organic materials and other waste products.

Soil pH at the Vardeman House Site ranged from 4.86 to 7.94 which is considered within the range of very strongly acidic to moderately alkaline (Stokes and Shields 1999:133). Low pH levels are known to negatively affect bone, and other calcium based object preservation; bone and other calcium based object preservation is enhanced with higher pH soil levels. Variation in the soil pH across the Vardeman House Site did not tend to correlate with striking patterns in chemical signatures, although the wide area containing elevated pH, indicating more alkaline soils, did tend to correlate with the locations of historic cultural Features 11, 16, 27, 41, 42, 110, Sussenbach's Feature 1, and prehistoric Features 39 and 140 (see Figure 8.11g). It has been documented that culturally added wood to archaeological deposits will increase the alkalinity (higher pH) of soil (Stokes and Shields 1999:133). This may in part account for the elevated pH levels in the vicinity of the location of the historic cultural features at the Vardeman House Site. Soil pH readings in excess of 7.0 document alkaline soils and less than 7.0 document acidic soils (Custer et al. 1986). The elevated pH level, indicative of elevated alkalinity in the soil is most likely related to the presence of limestone chunks, likely placed within the historic pit features in an effort to neutralize the soil within the acidic waste deposits, assist in the composting of the waste materials within the pits and also to assist in neutralizing offensive odors from the waste disposal pits and yard areas. Low pH values have been correlated with "organic-rich" cultural midden deposits (Custer et al. 1986).

The soil chemistry testing program element of the data recovery of the Vardeman House Site yielded excellent results in assisting to determine cultural activity areas at the site. The samples recovered from the plowzone deposits did tend to reflect chemical expressions of the intact portions of subplowzone cultural features at the site, and assisted in locating the boundaries of the homelot at the site in addition to the evaluation of horizontal activity areas and waste disposal at the site. Not surprisingly, the most pronounced elevated concentrations of soil chemicals were documented within the western and central portions of the site area, in the vicinity of historic trash/waste pit Features 41 and 42 in addition to the privy (Feature 1) identified by Sussenbach during the Phase II archaeological investigations of the site; elevated concentrations were also documented in the vicinity of historic trash/waste pits labeled Feature 23 and 27.

Absent architectural features at the Vardeman House Site, the soil chemistry analysis in conjunction with the distribution of architectural-related artifacts offered promise in understanding the potential location of the Vardeman family dwelling. Interpretive thoughts concerning this topic are discussed in detail in the following section of this chapter.

Summary of Soil Chemistry Analysis and the Potential Vardeman Dwelling Location at the Vardeman House Site

The soil chemistry analysis data obtained for the samples collected from the plowzone contexts yielded interesting results which have aided in the evaluation not only of the nature and function of many of the historic features identified at the Vardeman House Site, but also the ability to ascertain historic activity areas, spatial use of the homelot, and the possible location of the Vardeman family dwelling. The concentrations of elements identified during the soil chemistry analysis in several cases mirrored the presence of surviving

portions of underlying sub-plowzone historic cultural features. This was most clearly seen in the western portion of the site in the vicinity of the privy identified by Sussenbach (Feature 1) and UK-PAR, Features 41 and 42. Although, the area around historic trash pit Features 23 and 27 yielded elevated concentrations of many of the chemical compounds. Interestingly, two of the largest historic pit features, Features 11 and 16 were located in portions of the site which contained only slightly elevated concentrations of phosphorous, calcium, magnesium, and manganese. Although cultural materials recovered from Features 11 and 16 largely included the same types of historic materials recovered from Features 41 and 42, although in lesser density, the soil chemical results for these areas differed. This was likely due to the nature of the functional relationship of the features and differential discard of waste materials/items. The density of human waste and other more highly concentrated discard was located within the western portion of the site. Consequently, the northern and eastern portions of the site witnessed less intense discard activities. Portions of the site containing the prehistoric cultural features (Features 39, 108, and 140) generally did not document the pronounced, elevated concentrations of compounds found in the vicinity of the historic features (see Figure 8.11). It was observed, however, that the prehistoric features were generally located within more diffuse, yet elevated areas of phosphorous, calcium, magnesium, and manganese. This hinted that although the historic occupation had largely disturbed much of the prehistoric component and had resulted in high concentrations of chemical compounds, some of these elevated, but diffuse areas of compounds may indeed be attributable to the prehistoric occupation. Clearly defining the prehistoric from the historic elevated compounds is problematic given the intensity of the historic occupation.

Researchers interested in soil chemistry analysis have commented that it is possible that the soil chemistry results obtained for multi-component historic and prehistoric sites may be problematic (Edwards 2002). However, the results returned for the Vardeman House Site do show a pattern of concentrations of elements tested for within the plowzone portions of the site containing intact subsurface historic features. Why elemental analysis of the plowzone soils would strongly correspond with the historic features and not as intensely with the prehistoric features may be a result of several factors including feature function, dissipation over time of the compound concentrations associated with the prehistoric occupation, as well as the potential masking of the prehistoric occupation by the historic occupation. Interestingly, the area around two of the largest historic features, Feature 11 and Feature 16, did not return appreciably higher localized concentrations of elements than for non-feature areas of the site. Feature 11 is an historic pit feature with a large concentration of limestone chunks and Feature 16 is a limestone-filled pit with faunal remains. The vicinity of Feature 16 did yield a slightly higher concentration of calcium than was documented for the surrounding area (see Figure 8.11b), likely a result of the presence of the faunal bone displaced from the underlying feature deposit. The concentration of calcium in this area was small compared with the historic features located in the west-central portion of the site. It is not known exactly why the elemental concentrations documented in the vicinity of the feature complexes associated with Features 11 and 16 were much lower, although it can be surmised that the intensive domestic waste/refuse patterns and food preparation activities documented in the west-central portion of the site were not mirrored in the vicinity of Features 11 and 16.

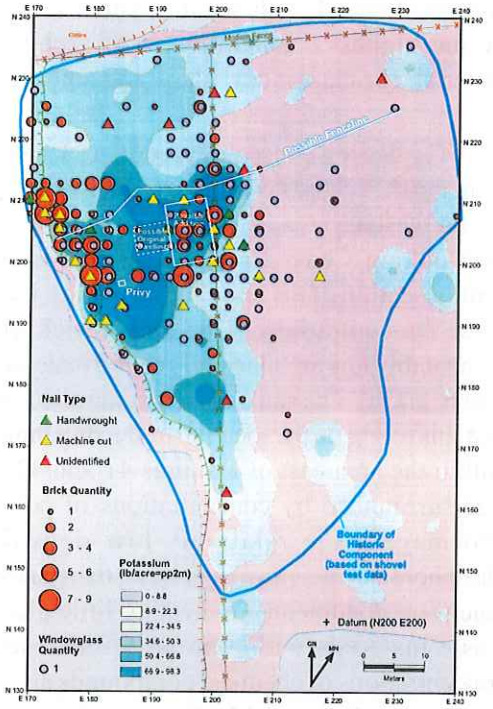
The overlapping concentrations of phosphates, calcium, potassium, and magnesium in the west-central portion of the Vardeman House Site further substantiate the interpretation of the features in this vicinity as receptacles for general waste/refuse disposal. The overlapping high concentrations of phosphates, calcium and potassium within the vicinity of Sussenbach's Feature 1 strengthen the interpreta-tion of this feature as a privy. Additional

concentrations of potassium, calcium, phosphates, and magnesium in other sections of the north-central and south-central portions of the site indicates spatial utilization of these portions of the site for the discard of fireplace ash, burned wood, and other domestic refuse/waste. Additionally, the soil chemistry data suggests that the portions of the site returning high concentrations of these elements many have served as food preparation/processing areas, or potentially areas where animals were kept.

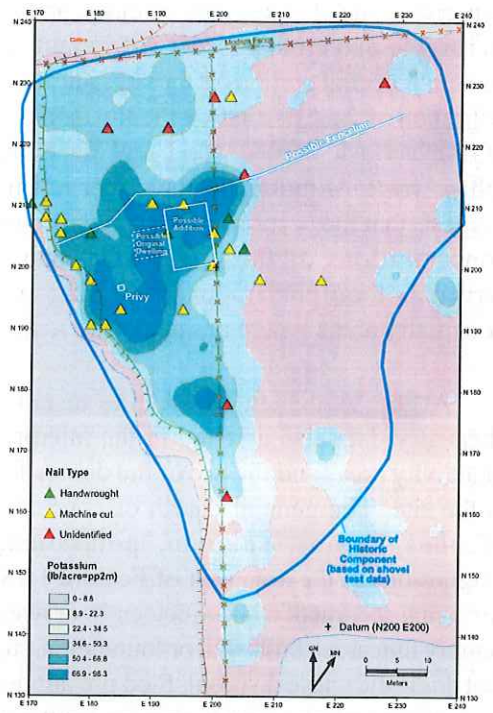
At the Vardeman House Site negative soil chemistry data also assisted in the interpretation of activity areas and the use of the domestic space at the site. The general dearth of concentrations of phosphorous, calcium, potassium, and magnesium in the area east of Feature 15/85, the surviving section of a late nineteenth- or twentieth-century limestone built wall or foundation, suggests that domestic waste disposal, food preparation, and processing activities rarely occurred in the eastern portion of the site. The dearth of historic trash pit features in the eastern portion of the site area further substantiates this observation.

The lack of architectural features potentially associated with a domestic structure identified at the Vardeman House Site makes the evaluation of the distribution of historic features, artifacts, and the soil chemistry data very important in hypothesizing the likely location of the Vardeman dwelling house. Based on this data the likely location of the dwelling may be within the west-central portion of the site in the vicinity of N200 E192.5. The configuration of the concentrations of potassium and magnesium, both characteristic of fireplace burning/waste disposal, are indicative of the homelot pattern (Pogue 1988) within the western and central portions of the site. Concentrations of architectural artifacts also indicate that the domestic dwelling at the Vardeman House Site was possibly located within the western portion of the site. The potential location of the dwelling may have been within the west-central portion of the site, east of Features 41 and 42. This portion of the site falls within an area surrounded by the highest concentrations of architectural materials (brick, window glass, and nails).

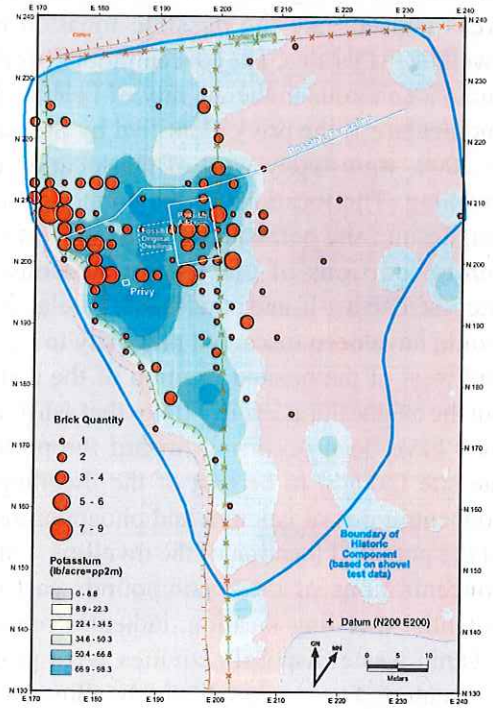
The densest concentrations of brick recovered from the shovel tests were recovered from a portion of the western area of the site close to the bluff overlooking Cedar Creek and a portion of the central section of the site (Figure 8.13a). Between these concentrations is an area which yielded comparably few architectural-related materials (see Figure 8.13a). The soil chemistry data also suggests that this might be the location of the dwelling since within the area east of Features 41 and 42 which was surrounded by concentrations of potassium and magnesium relatively low densities of phosphorous, calcium, magnesium, manganese, and zinc were documented indicating little discard of waste materials within an area surrounded by concentrations of chemical compounds signifying discard (see Figure 8.13). Concentrations of both potassium and magnesium within the same general areas substantiate the possible location of the dwelling in this area. The concentrations of calcium and phosphorous in the vicinity of Feature 41, 42 and Feature 1, the privy identified by Sussenbach in 2000, were likely west of the location of the dwelling. The locations of the concentrations of magnesium and potassium within the western and central portions of the Vardeman House Site suggested that ash, and other burning-related waste would have been discarded primarily to the north and west of the posited location of the dwelling, but the magnesium data illustrates that ash dumping may have been occurring toward the portion of the site thought to be east of the dwelling. The concentrations of calcium and phosphorous west of the potential location of the dwelling, with low concentrations of these compounds east of the potential dwelling location, indicates refuse and organic waste disposal activities were primarily concentrated west of the likely dwelling location. Numbers of cultural features east of the potential dwelling location combined with the bluff to the west, suggest that the dwelling likely faced east,



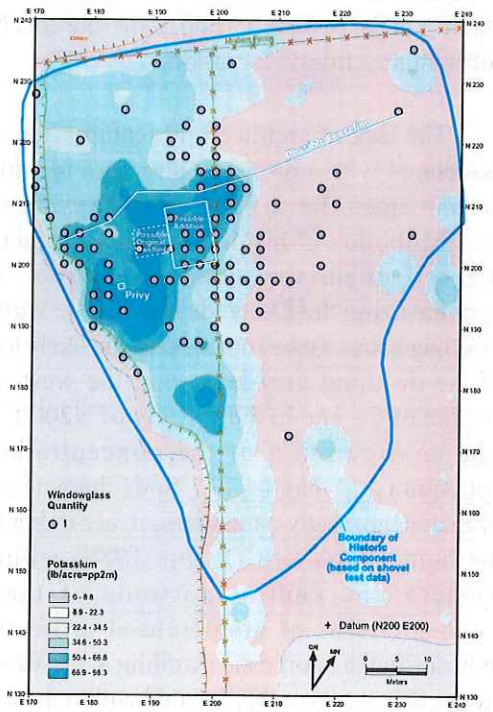
a. Architectural artifacts and potassium.



b. Nails and potassium.



c. Bricks and potassium.



d. Windowglass and potassium.

Figure 8.13. Possible location of house shown with architectural artifact locations and potassium distribution. (see Figure 5.100 for a full-size graphic of Figure 8.13a.)

with the primary areas of discard located west (behind) the dwelling and out of view of visitors or persons approaching the dwelling.

The high concentrations of brick, window glass, and nails recovered from the shovel test probes in the western and central portions of the site relative to the other shovel probes excavated at the Vardeman House Site substantiates the idea that the dwelling was likely located within the west-central portion of the site. The identification of a west-east oriented fenceline (consisting of Features 6, 30, 31, and potential Features 32, 82, 90, and 95) potentially associated with the Vardeman occupation could be consistent with a dwelling being located within this area. The soil chemistry data reveals a reduction in concentrations of chemical compounds in the area north of the fenceline suggesting that the fenceline is related to the period of significance as well as demonstrating the differential use of portions of the site for primary and secondary discard. Although the architectural artifacts recovery pattern and the soil chemistry data suggest the likely location of the Vardeman family dwelling, the lack of any intact architectural features or components precludes the confirmation of this location as the dwelling site. Based upon the distribution of the window glass, which suggests a statistically higher than expected number of window glass fragments datable to the periods 1804-1825 and 1826-1847 recovered from the east-central portion of the site, it is possible that a smaller southward facing structure was added onto with a later eastward facing addition (see Figure 8.13). The interpretation of the statistical window glass distribution is discussed in detail later in this chapter.

The soil chemistry data combined with the spatial configuration of the cultural features identified at the Vardeman House Site suggests that the dwelling may have faced east. The domestic activities of food preparation, and waste/refuse disposal were largely confined to the rear of the structure in areas which would be largely out of view to visitors and family approaching the dwelling from the east. The location of the bluff west of the cultural features associated with domestic waste/refuse disposal served as a natural, unapproachable boundary for the domestic space and it is therefore unlikely that the dwelling was approached routinely by family and visitors from the west.

The distribution of chemical compounds across the Vardeman House Site was useful in graphically displaying the boundaries of the Vardeman house homelot and the potential location of the dwelling associated with the site. The areas of elevated concentration of the compounds phosphorous, calcium, potassium, magnesium, manganese, and zinc suggest that the north-central portion of the site to the west-central and south-central portions of the site were the areas in which discard of organic materials, fireplace ash yard scatter, and other refuse and differential burning activities took place. The extent of the elevated levels of these compounds document the extent of the homelot and document the immediate area of refuse/trash disposal around the likely location of the domestic Vardeman dwelling (see Figure 8.13). Although no *in situ* architectural features were documented at the Vardeman House Site, it is possible that the dwelling house was located in the northeastern quadrant of the site, an area that lacks a high concentration of the tested compounds. It is likely that the dwelling was oriented toward the east due to the elevated concentrations of chemical compounds to the west and southern portions of the site and the small bluff marking the western boundary of the site. It is unlikely that the dwelling was oriented to the west, in the direction of the privy, some of the trash pits, and the bluff. Absent significant architectural-related features, the soil chemistry data in conjunction with the distribution of the architectural artifacts recovered from the shovel tests and test units was particularly useful for defining the limits of the Vardeman house homelot and suggesting the potential location and orientation of the dwelling.

Interpretive Architectural Window Glass and Nail Analysis, the Vardeman House Site

Window Glass Analysis

Scholars of historical archaeology have recognized the utility of window glass in determining the approximate dates for the construction period of a structure (Roenke 1978; Ball 1982; Walker 1971; Moir 1987). The understanding of the chronological aspects of historic window glass was in part based on the realization that the thickness of window glass was directly proportional to the time period of production. Window glass thickness was observed to have become increasingly thicker during the nineteenth century (Walker 1971; Chance and Chance 1976; Roenke 1978; Ball 1982; Fay 1986). This gradual thickness in window glass has been postulated to be commensurate with the production of larger size panes of window glass as the nineteenth century progressed. No firm evidence has been produced to either affirm or refute this hypothesis (Ison 1990:102). Although there is general validity to the observation that window glass was produced in slightly thicker measurements as the nineteenth century progressed, it is known that there is often variability in thickness within individual fragments of glass from the same glass sheet (Ison 1990:101). By the mid-nineteenth century, the shift from crown to cylinder glass production resulted in a consistently thicker window glass.

The analysis of the window glass from the Vardeman House Site proceeded with the understanding that the mean thickness of the window glass was presumed to become increasingly thicker with the later production. Although a Moir (1987) regression date was calculated for each specific thickness of window glass recovered, the particular thickness of individual fragments could not be conclusively associated with a specific manufacture date. At the Vardeman House Site for example, window glass with a Moir regression date was documented as 1769.96, clearly a date that preceded the known documented initial occupation of the site by more than 10 years. The presence of window glass that predated the known historic occupation was not viewed as conclusive evidence that the occupation of the Vardeman House Site must have occurred earlier than the historical documentation indicates. Conversely, the presence of many fragments of window glass for which Moir regression dates fall after 1851, the known terminal historic occupation date for the site, were not viewed as conclusive evidence of post-1851 occupation. The author posits that it is possible that the builder of the dwelling at the Vardeman House Site, which could have been William Menifee after 1780, or Morgan Vardeman after 1803, may have reused window glass from another structure, brought window glass from Virginia, or purchased from a local merchant window glass that by the date of construction was old stock resulting in the window glass fragments for which pre-1781 Moir dates were calculated. Alternatively, aberrantly thin window glass may have been produced during the post-1781 period. Explaining the number of post-1851 window glass fragments is more problematic and may be a reflection of variations in window glass thickness. The variability in thickness within one sheet of window glass, and/or the production of aberrantly thicker or thinner than average glass produced for the time period may infuse the data set with erroneously later or earlier regression dates. It is recognized that the value of the window glass analysis is in having a large enough sample of window glass fragments to yield a statistically significant Moir derived date.

The data recovery at the Vardeman House Site yielded a total of 1,162 windowpane fragments (Table 8.11). It was hoped that in the absence of intact subsurface architectural features, a Moir date based on Moir's regression formula (Moir 1987) could be calculated for the sample, assisting in the understanding of the temporal affiliation of the antebellum Vardeman family dwelling. Moir's regression formula has been widely utilized in Kentucky to arrive at the initial construction date for an historic structure thought to have been

Table 8.11. Total Window Glass with Moir Regression Dates, Vardeman House Site.		
Thickness (mm)	**Moir Regression Date**	**Quantity**
0.68	1769.9696	1
0.72	1773.3384	1
0.75	1775.865	1
0.8	1780.076	1
0.83	1782.6026	2
0.84	1783.4448	1
0.85	1784.287	6
0.86	1785.1292	2
0.87	1785.9714	5
0.89	1787.6558	6
0.9	1788.498	4
0.91	1789.3402	3
0.92	1790.1824	1
0.93	1791.0246	4
0.94	1791.8668	6
0.95	1792.709	5
0.96	1793.5512	6
0.97	1794.3934	3
0.98	1795.2356	5
0.99	1796.0778	1
1	1796.92	17
1.01	1797.7622	3
1.02	1798.6044	5
1.03	1799.4466	15
1.04	1800.2888	11
1.05	1801.131	13
1.06	1801.9732	16
1.07	1802.8154	14
1.08	1803.6576	23
1.09	1804.4998	24
1.1	1805.342	22
1.11	1806.1842	30
1.12	1807.0264	15
1.13	1807.8686	19
1.14	1808.7108	15
1.15	1809.553	33
1.16	1810.3952	38
1.17	1811.2374	26
1.18	1812.0796	24
1.19	1812.9218	26

Table 8.11. Total Window Glass with Moir Regression Dates, Vardeman House Site.		
Thickness (mm)	**Moir Regression Date**	**Quantity**
1.2	1813.764	39
1.21	1814.6062	28
1.22	1815.4484	29
1.23	1816.2906	11
1.24	1817.1328	32
1.25	1817.975	20
1.26	1818.8172	20
1.27	1819.6594	29
1.28	1820.5016	19
1.29	1821.3438	12
1.3	1822.186	38
1.31	1823.0282	19
1.32	1823.8704	24
1.33	1824.7126	19
1.34	1825.5548	12
1.35	1826.397	23
1.36	1827.2392	16
1.37	1828.0814	9
1.38	1828.9236	14
1.39	1829.7658	4
1.4	1830.608	24
1.41	1831.4502	13
1.42	1832.2924	13
1.43	1833.1346	8
1.44	1833.9768	11
1.45	1834.819	14
1.46	1835.6612	10
1.47	1836.5034	7
1.48	1837.3456	8
1.49	1838.1878	12
1.5	1839.03	19
1.51	1839.8722	5
1.52	1840.7144	13
1.53	1841.5566	11
1.54	1842.3988	4
1.55	1843.241	4
1.56	1844.0832	3
1.57	1844.9254	10
1.58	1845.7676	6
1.59	1846.6098	4

Table 8.11. Total Window Glass with Moir Regression Dates, Vardeman House Site.		
Thickness (mm)	**Moir Regression Date**	**Quantity**
1.6	1847.452	6
1.61	1848.2942	3
1.62	1849.1364	5
1.63	1849.9786	3
1.64	1850.8208	1
1.65	1851.663	1
1.66	1852.5052	3
1.67	1853.3474	5
1.68	1854.1896	5
1.69	1855.0318	4
1.7	1855.874	3
1.71	1856.7162	2
1.74	1859.2428	2
1.75	1860.085	1
1.76	1860.9272	3
1.77	1861.7694	8
1.78	1862.6116	1
1.8	1864.296	1
1.81	1865.1382	2
1.82	1865.9804	3
1.85	1868.507	3
1.86	1869.3492	1
1.87	1870.1914	4
1.89	1871.8758	1
1.9	1872.718	4
1.91	1873.5602	1
1.92	1874.4024	3
1.93	1875.2446	1
1.94	1876.0868	2
1.95	1876.929	2
1.97	1878.6134	1
1.99	1880.2978	1
2	1881.14	1
2.13	1892.0886	1
2.18	1896.2996	3
2.24	1901.3528	1
2.28	1904.7216	1
Total Window Glass, Vardeman House Site		**1,162**

erected during the nineteenth century. Moir's methodology resulted in the ability to calculate the initial construction dates for structures built during the nineteenth century based on the manufacture date of the windowpane glass, with the best results returned for structures built between 1810 and 1915 (Moir 1987:80) and occupied for less than 70 years. After a 70-year occupation, breakage and replacement of windows becomes more common and consequently results in the potential to yield an increasingly less reliable initial construction date for the structure. Although the historical records indicate that historic occupation of the Vardeman House Site likely began after ca. 1781, and extended to 1851, a Moir date was calculated for the windowpane glass assemblage. Given the almost 70 year occupation period of the Vardeman House Site it is likely that some windowpanes at the site had been replaced, resulting in the calculation of a slightly later initial Moir window glass date for the site.

It is possible that in the case of the Vardeman site, which may have been occupied as early as 1781, Moir's regression formula may not yield the most reliable results for the construction of the dwelling. However, it is known that, although less reliable, Moir's method can be applied to structures built prior to 1810. Moir's regression formula is as follows: 84.22 x the average glass thickness for the study group + 1712.7 = the average glass manufacture date. Moir observed that his regression date was usually accurate to within 7 years of the actual production date of the glass (Moir 1987:78). All windowpane glass was measured with a digital caliper and the thickness measurement recorded to the nearest hundredth of a millimeter. Fragments with the same thickness measurement were grouped together and a Moir date for each thickness group was calculated based on Moir's methodology (Moir 1987).

The large number of windowpane glass fragments resulted in a statistically significant sample utilized in the calculation of a Moir derived date. Based on the total 1,162 fragments of windowpane glass recovered during the Phase III data recovery, a Moir date of 1808.71 was calculated for the Vardeman House Site. The Moir regression date calculated by Sussenbach for the 145 windowpane glass fragments recovered during the Phase II investigation was 1814. The difference between the dates calculated for the Phase II and Phase III materials is likely the result of the difference in sample size. Based on the large amount of windowpane glass recovered from the data recovery compared with the Phase II it is considered that the Moir regression date calculated using the data recovery materials is more reflective of the actual construction date for the structure at the Vardeman House Site. The date of 1808.71 calculated for the windowpane glass recovered during the data recovery is considered to represent the theoretical construction date of the structure. Additionally, the Moir date of 1808.71 was calculated based on the total windowpane assemblage recovered and may represent window glass originally part of the main residence as well as support structures at the site which may have been constructed after the construction of the main residence. If the windowpane glass from multiple structures, constructed during the late eighteenth through early nineteenth centuries has been included together, this could potentially result in the calculation of a later Moir date than might be anticipated for the late eighteenth-century residence. The date of 1808.71 calculated for the dwelling associated with the Vardeman House Site does fall within the Morgan Vardeman occupation period. It is possible that given the extended occupation period at the site, and the likelihood that windowpane glass had been replaced during the life of the dwelling, the somewhat late date of 1808.71 may be a result of the extended occupation period and the replacement of broken windows with glass which would have had a later production date returning a later Moir date for the dwelling. Alternatively, given that the Moir date of 1808.71 could be reflective of a date as early as 1801.71, this date could accurately be reflective of Morgan Vardeman's initial acquisition of the property in 1803. Additionally, since the precise location of the

dwelling is not certain, there is the potential that the glass from the Vardeman House Site included glass from the main dwelling and possible support structures which may have been constructed some time later than the main dwelling.

To supplement the Moir regression date of 1808.71 established for all of the window glass from the Vardeman House Site and to evaluate the potential for observing possible renovations to the dwelling, a scatter histogram was created utilizing the methodology devised by Grant L. Day of Cultural Resource Analysts, Inc. (Day 2001). The measurements calculated to the nearest hundredth of a millimeter of the window glass from the Vardeman House Site were utilized to calculate a Moir date for each fragment of window glass recovered to arrive at a theoretical manufacture date for each fragment. The quantities of each thickness, calculated as a Moir date, were totaled and the results utilized to create a scatter histogram to display the range of distribution of the recovered fragments of window glass (Figure 8.14). According to Day (2001), an initial peak in the histogram would be indicative of the initial construction of the dwelling. Sequential peaks or rises in the histogram after the initial rise would be indicative of remodeling, renovation, or the construction of an addition to the dwelling and/or the scavenging and use of materials.

The histogram analysis indicated the mean date of the Moir (1987) derived window glass dates to 1830.13; the median was 1828.92. The standard deviation from the mean was calculated to 31.47 years. The range was calculated to be 134.75 years

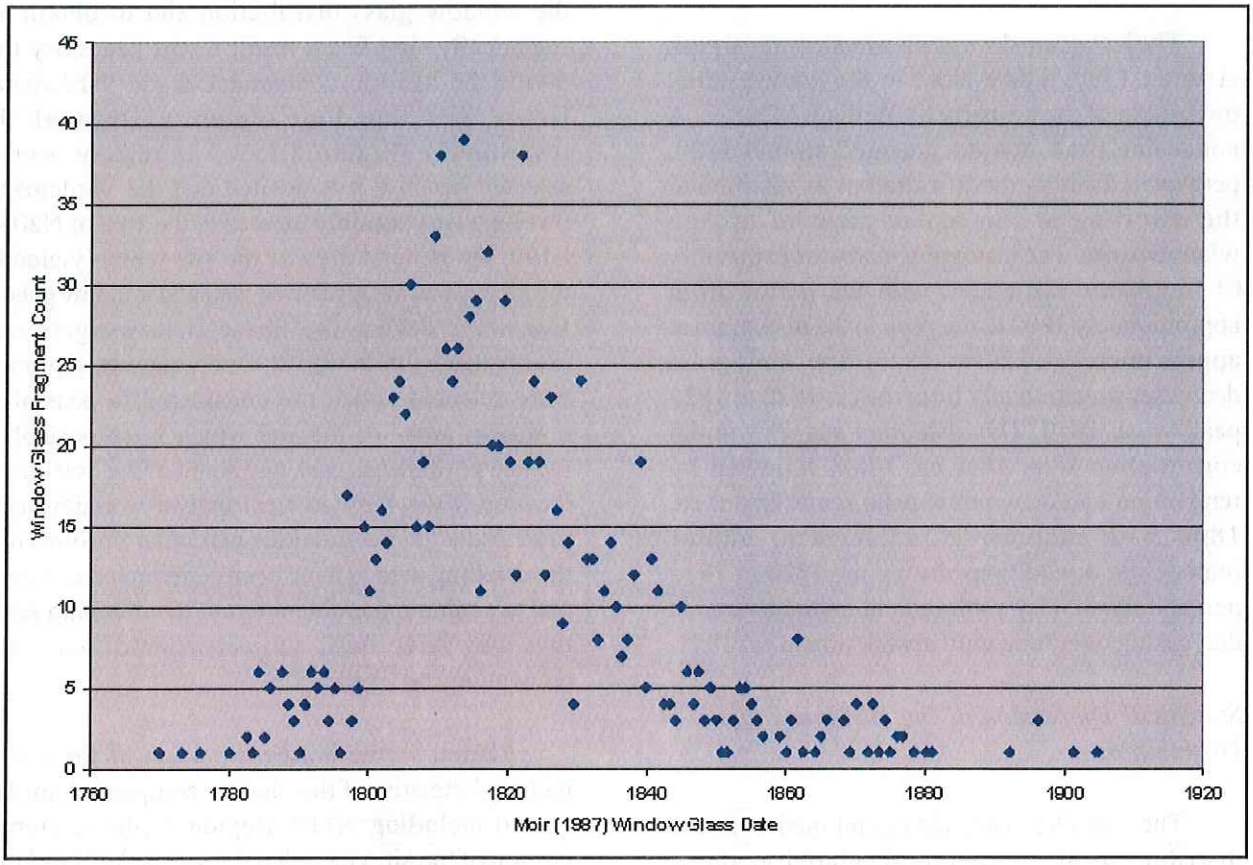


Figure 8.14. Moir window glass fragment counts and dates, the Vardeman House Site.

with the initial Moir date calculated as 1769.97. The latest Moir date was 1904.72. Since the documented historic occupation extended from 1781 through 1851, the initial and latest Moir dates that fall either prior to 1781 or after 1851 require explanation. Moir (1987) does indicate that his regression formula is less reliable for the calculation of regression dates for the pre-1810 period. It is posited that the initial construction of the dwelling during the post-1781 period may have utilized glass panes that were several years old by the date of construction, or the builders utilized scavenged window glass in the construction. The post-1851 window glass may be the result of a batch of glass that exhibited atypical thickness for the time period, or the Moir regression formula may be less reliable for mid-nineteenth-century window glass, or the window glass produced during the second quarter of the nineteenth century could be thicker than previously considered.

The histogram documents a modest initial peak at about 1780, a date close to the known initial ownership of the property by William Menifee. A noticeable peak was documented around 1800, perhaps indicating modification or an addition to the dwelling or the replacement of broken windowpanes. The histogram increases in quantity of fragments associated with the period from approximately 1800 to the peak in the histogram at approximately 1820 to 1825. The histogram decreases precipitously from the ca. 1820 to 1825 peak to ca. 1850. The histogram suggests initial construction soon after ca. 1780, followed by renovation and/or window pane replacement ca. 1800 with increasing replacement and/or remodeling or additions during the 1820 to 1825 period followed by replacement or modification decreasing over time until abandonment ca. 1851.

Statistical Discussion of the Window Glass Distribution

The soil chemistry data combined with the distribution of architectural-related artifacts recovered from the 901 shovel tests excavated at the Vardeman House Site suggest that the Vardeman family dwelling may have been located in the west-central portion of the site (see Figures 7.12 and 7.13a). In order to assess potential portions of the dwelling which may have been the earliest and to identify portions of the dwelling which may have been the location of additions, subject to modification and/or glass replacement during the historic occupation, statistical tests were utilized to examine the relationship between the Moir (1987) date for the individual window glass fragments and their horizontal distribution within the site. The lack of vertical integrity at the Vardeman House Site precluded the statistical examination of window glass thickness vertically within the archaeological deposits, limiting the statistical testing to examining the horizontal distribution of the window glass within the plowzone.

In order to facilitate the statistical analysis of the window glass distribution and to obtain a statistically significant result it was necessary to divide the historic component at the Vardeman House Site into four regions, 1 through 4 respectively (Figure 8.15). The regions were selected because it is posited that the Vardeman dwelling was possibly located in the area of N205 E190, the general area of the site which yielded the greatest number of brick, nail and window glass fragments during the Phase II investigations (Sussenbach 2000:37, 38). Consequently, regions were selected which are considered to possibly represent areas of the site which were possibly located north, west, east, and south of the dwelling location. Thus, the statistical analysis was devised to evaluate the potential for particular portions of the dwelling area to have been constructed earliest and to evaluate possible areas of the dwelling site that may have been subject to modification, renovation and/or addition.

Region 1 (the northern portion of the site) included the area of the historic component north of and including N210, Region 2 (the western portion of the site) included the area from N195 to N207.5 and from E170 to E187.5, Region 3 (the

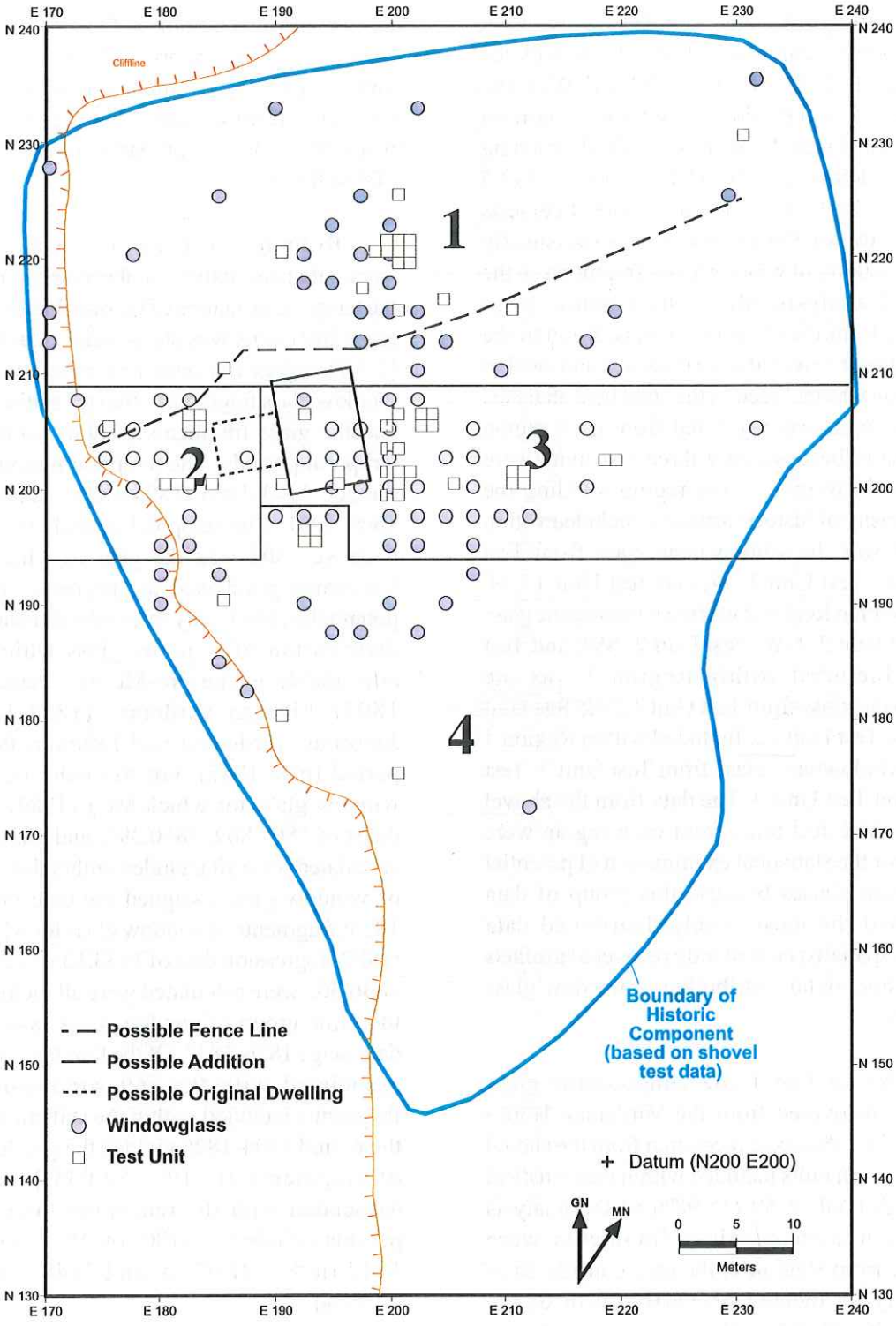


Figure 8.15. Phase III plan of the Vardeman House Site showing window glass regions and the distribution of window glass recovered from shovel tests.

eastern portion of the site) included the area from N195 to N207.5 and from E190 to E240 with the exception of N197.5 E190, N197.5 E192.5 and N197.5 E195, and Region 4 (the southern portion of the site) included the area south of and including N192.5 in addition to N197.5 E190, N197.5 E192.5 and N197.5 E195. To facilitate the statistical tests and to allow for the inclusion of a statistically relevant quantity of window glass fragments in the statistical analysis, all of the window glass recovered from the shovel tests in addition to the window glass recovered from three test units within each region was included in the statistical analysis. Three test units were selected from each region for inclusion because only three test units were excavated in Region 4, the region yielding the lowest density of historic artifacts. Included within Region 1 was the windowpane glass from Test Unit 1, SE; Test Unit 1, W; and Test Unit 17, N. Included within Region 2 was the windowpane glass from Test Unit 2, NW; Test Unit 2, SW; and Test Unit 6. Included within Region 3 was the windowpane glass from Test Unit 3, NE; Test Unit 3, SE; and Test Unit 12. Included within Region 4 was the windowpane glass from Test Unit 7; Test Unit 8; and Test Unit 9. The data from the shovel tests and three test units from each region were selected for the statistical examination of potential construction phases because this group of data represented the most evenly distributed data reflecting spatially, consistently recovered artifacts from the horizontal distribution of window glass fragments.

Of the total of 1,162 windowpane glass fragments recovered from the Vardeman House Site, 369 (31.75%) were recovered from the shovel tests and 12 test units included within the statistical analysis. A total of 59 (15.98% of the analysis group) windowpane glass fragments were recovered from Region 1, the area considered to potentially be located primarily north of the dwelling; 75 (20.32% of the analysis group) were recovered from Region 2, the area considered to potentially be located primarily west of the dwelling; 202 (54.74% of the analysis group) were recovered from Region 3, the area considered to potentially be located primarily east of the dwelling; and 33 (8.94% of the analysis group) were recovered from Region 4, the area considered to potentially be located primarily south of the dwelling (Table 8.12).

To further facilitate the statistical tests and ensure that any statistical observations concerning the temporal affiliation of the distribution of window glass fragments was statistically relevant, a Moir (1987) regression date was calculated for each window glass fragment within the statistical sample and the glass fragments assigned to one of four temporal periods. The temporal periods assigned include 1773-1803, 1804-1825, 1826-1847, and 1848-1901. The temporal periods were selected because 1803 was the year in which Morgan Vardeman purchased the property; facilitating potentially statistically relevant data concerning the distribution of window glass which may be attributable to the pre-Morgan Vardeman (pre 1803), Morgan Vardeman (1803-1847), and Jeremiah Vardeman and Ephraim Pennington period (post-1847). For example, fragments of window glass for which Moir (1987) regression dates of 1807.869, 1810.395, and 1820.502 were calculated were all included within the same group of window glass assigned the date range 1804-1825; fragments of window glass for which a Moir (1987) regression date of 1833.135, 1828.081, and 1836.503 were calculated were all included within the same group of window glass assigned to the date range 1826-1847. Of the four temporal periods associated with the 369 windowpane glass fragments included within the statistical analysis, the period 1804-1825 yielded the greatest number of fragments (n=192, 52.03%); fragments associated with the remaining three temporal periods include 1773-1804 (n=58, 15.71%), 1826-1847 (n=81, 21.95%), and 1848-1901 (n=38, 10.29%).

Statistical tests examining the relationship between the horizontal distribution within the four regions and each of the four Moir derived window

Table 8.12. Summary of Window Glass in the Statistical Analysis by Region, Vardeman House		
Statistical Region	**Period**	**Quantity**
1 North of Posited Structure Location (North of N210)	1773-1803	8
	1804-1825	28
	1826-1847	14
	1848-1901	9
Region 1 Total Window Glass in Statistical Analysis		**59**
2 West of Posited Structure Location (N195-207.5, E170-187.5)	1773-1803	23
	1804-1825	38
	1826-1847	9
	1848-1901	5
Region 2 Total Window Glass in Statistical Analysis		**75**
3 East of Posited Structure Location (N195-207.5, E190-240, except N197.5 E190, N197.5 E192.5 and N197.5 E195)	1773-1803	21
	1804-1825	109
	1826-1847	52
	1848-1901	20
Region 3 Total Window Glass in Statistical Analysis		**202**
4 South of Posited Structure Location (Area South of and including N192.5 plus N195-207.5, E190-240, except N197.5 E190, N197.5 E192.5 and N197.5 E195)	1773-1803	6
	1804-1825	17
	1826-1847	6
	1848-1901	4
Region 4 Total Window Glass in Statistical Analysis		33
Total Window Glass Fragments, Statistical Analysis, Vardeman House Site		**369**

glass temporal date ranges discussed in the previous paragraph (see Table 8.12) were conducted. The result of a test using horizontal distribution within the four defined regions and the Moir derived temporal date ranges of the windowpane glass shows a significant result at the .9999 confidence level (Chi=22.525, df=9, p .007), demonstrating a relationship between those variables, possibly suggesting either a portion of the site containing older portions of the Vardeman dwelling and areas which may have been the location of additions, or elements of the dwelling which may have been subject to modification and/or significant glass replacement. The statistical test showed that relative to the horizontal location of recovery, a noticeably higher than statistically expected number of windowpane glass fragments associated with the earliest period, 1773-1803, were recovered from Region 2, the location which would likely have been immediately west of the Vardeman dwelling. The statistical tests showed fewer than statistically expected numbers of windowpane glass associated with this early period from the other three regions. The statistical test showed that relative to the horizontal location of recovery, a noticeably lower than statistically expected number of windowpane glass fragments associated with the period 1826-1847 were recovered from Region 2. Interestingly,

higher than statistically expected numbers of windowpane glass fragments associated with both the 1804-1825 and 1826-1847 periods were recovered from Region 3, the location which would likely have been east of the Vardeman dwelling. Conversely, a statistically lower than expected number of windowpane glass fragments associated with the period 1773-1803 were recovered from Region 3. The statistical tests showed that slightly more than statistically expected numbers of windowpane glass associated with the latest period, 1848-1901 were recovered from Region 1, the location which would likely have been immediately north of the Vardeman dwelling. Slightly fewer than statistically expected numbers of windowpane glass fragments associated with this period were recovered from Region 2, however the quantities of fragments of windowpane glass associated with this latest period were very small. As discussed previously, since the *terminus ante quem* established for the occupation of the Vardeman House Site was 1851, the majority of the windowpane glass associated with the latest period may be the result of a batch of glass which exhibited atypical thickness for the time period, or the Moir regression formula may be less reliable for mid-nineteenth-century window glass, or the window glass produced during the second quarter of the nineteenth century could be thicker than previously considered.

The statistically higher than expected recovery of windowpane glass fragments associated with the 1773-1803 period and the statistically lower than expected recovery of windowpane glass fragments associated with both the 1826-1847 and 1848-1901 periods from Region 2, the location which would likely have been west of the Vardeman dwelling, may indicate that the earliest glazing, and thus construction phase, was located within this portion of the historic component. Conversely, Regions 1, 3, and 4 all yielded fewer than statistically expected quantities of windowpane glass associated with this early period. The statistically higher than expected recovery of windowpane glass fragments associated with both the 1804-1825 and 1826-1847 periods from Region 3, the location which would likely have been east of the Vardeman dwelling, and the statistically lower than expected recovery of windowpane glass fragments associated with the 1773-1803 period might suggest that either the windowpanes or windows along the eastern side of the dwelling had been replaced during the 1804-1847 period; or this may be indicative of renovation, modification, or the construction of an addition on the east side of the dwelling during the Morgan Vardeman occupation. The statistically higher than expected quantities of windowpane glass fragments dating to the period 1848-1901 recovered from Region 1 and the statistically lower than expected quantities of windowpane glass dating from this period recovered from Region 2 is of limited interpretive value given the small total number of windowpane glass recovered which date to the 1848-1901 period in combination with the historically documented *terminus ante quem* for the occupation of the Vardeman House Site.

The statistical analysis of the sample of 369 windowpane glass fragments recovered from the four analytical regions at the Vardeman House Site bolsters the scatter histogram data which suggests that windowpane glass with Moir (1987) derived dates of ca. 1780 mark the initial peak of recovered fragments suggesting a possible late eighteenth-century construction date for the dwelling at the Vardeman House Site. The statistical tests strongly suggest differential distribution of the windowpane glass within the regions likely north, south, east, and west of the Vardeman dwelling location. This distribution offers limited, but potentially informative clues regarding not only the construction date for the dwelling, but also thoughts regarding the potentially older portions of the construction and the portions of the dwelling which may have been modified during the Morgan Vardeman occupation.

Based on the statistically higher than expected numbers of windowpane glass associated with the 1773-1803 period recovered from Region 1, it is posited that William Menifee constructed a modest dwelling after he acquired the property in 1780.

The dwelling may have been subsequently modified on the east face by Morgan Vardeman sometime after 1803, the date which Morgan Vardeman acquired the property. Morgan may also have constructed the dwelling utilizing older window glass, or from window glass which was brought to Kentucky from Virginia with the Vardeman family and subsequently made modifications, additions, or replaced glass on the eastern face of the dwelling. In either situation, given the statistically higher than expected quantity of windowpane glass associated with the 1773-1803 period recovered from the area likely west of the dwelling, it seems as though the western portion of the structure was either the oldest portion, or the portion which was subject to less renovation, modification, or windowpane glass replacement. Region 2, the location which would likely have been immediately west of the Vardeman dwelling, yielded the highest quantity of statistically greater than expected earliest glazing and thus the earliest construction phase was likely located within this portion of the historic component. Conversely, Regions 1, 3, and 4 all yielded fewer than statistically expected quantities of windowpane glass associated with this early period.

Higher than statistically expected numbers of windowpane glass fragments were recovered from the area which was likely east of the dwelling associated with both the 1804-1825 and 1826-1847 periods. This suggests that an addition, modification/ renovation, or windowpane replacement occurred on the east side of the dwelling. Given the distribution of the windowpane glass it is posited that either the dwelling had been constructed by Morgan Vardeman after he obtained the property in 1803 using some older or reused windowpane glass or that William Menifee constructed a modest dwelling after he acquired the property ca. 1780. The Menifee dwelling was possibly modified or improved upon and/or possibly added onto the eastern side of the dwelling (interpreted as the "front" or area which visitors would have accessed the dwelling) by Morgan Vardeman sometime during the 1804-1847 period. Interestingly, close to statistically expected quantities of windowpane glass associated with the 1773-1803, 1804-1825, and 1826-1847 periods was recovered from Regions 1 and 4, north and south of the dwelling location, respectively. This distribution would suggest that modification/renovation and/or windowpane glass replacement during the Morgan Vardeman occupation was not well represented along the north and south sides of the dwelling.

The statistically higher than expected numbers of windowpane glass fragments associated with both the 1804-1825 and 1826-1847 periods falls within the period of James Deetz' theory concerning identity change in antebellum America and mass discard and remodeling activity reflective of this identity change. Deetz (1993) observed that on many archaeological sites along the eastern seaboard occupied during the late 1820s and early 1830s, the occupants discarded large numbers of domestic materials which were perfectly usable. Archaeologically, these deposits were reflected by the presence of large numbers of shell-edged pearlware plates, sometimes even recovered in a stacked configuration suggesting the discard of a stacked assortment of plates. Architecturally, Deetz observed that a significant amount of remodeling of domestic structures occurred during this period. It was during this time that the Greek Revival architectural style came into its own. The mass discard and remodeling was viewed by Deetz as part of, "...the emergence of a distinctive local culture, still rooted in the English tradition but distinctively American...."(Deetz 1993:133). Deetz observed that by 1830 the first generation of native born Anglo-Americans were reaching maturity, and thus a change to a more American culture, rather than a predominately British culture, was realized approximately 50 years after the end of the Revolutionary War. It was thought that the "...reordering of the people's physical work took place some fifty years after the initial separation between....frontier society and the parent culture"(Deetz 1993:133). Although no archaeological features excavated at the Vardeman House Site clearly showed the extent of mass deposition of domestic wares observed by Deetz,

the statistical analysis of the windowpane glass does indicate some degree of modification, remodeling, and/or re-glazing of windows on what is thought to be the east face of the dwelling during the 1804-1847 Morgan Vardeman occupation. The peak in the Moir scatter histogram (see Figure 8.14) during the mid-1820s is likely reflective of a percentage of the windowpane glass fragments recovered from the area east of the possible dwelling location. It is possible that Morgan Vardeman, as his wealth and position in Lincoln County society was enhanced through his land holdings and farming activities, was eager to put money back into his dwelling during this period of general cultural shift from a predominately British culture to a more distinctive American culture. If this is the case, the idea that this cultural shift would potentially occur as early in Kentucky as along the longer established eastern seaboard further documents the interconnectedness of rural Kentucky with the larger social, cultural, economic, and political sphere of the eastern United States.

Nail Analysis

The absence of intact architectural remains at the Vardeman House Site precluded distinguishing between artifact assemblages related to specific structures. The nail analysis ensued with the understanding that the variety and technology of nails recovered had the potential not only to assist with the potential construction time period, but also that the evaluation of the size of the nails recovered and the percentages of the various sizes of nails recovered might assist in determining the type of construction utilized to build the dwelling at the Vardeman House Site. Types of construction including timber and frame, log, and balloon frame have been shown to correlate with various types of groups of nails recovered from historic sites (Young 1991).

Each nail recovered from the Vardeman House Site was identified as handwrought, machine cut, wire, or unidentified. If the nail was complete it was measured and associated with a particular "pennyweight" and this information recorded within the artifact inventory. Within the nail assemblage handwrought nails were characterized as square shanked, either coming to a sharp point, or having a "tear-drop" shaped flat tip and often having a "rose-head" which consists of a mushroom, often asymmetrical head created individually for each nail by the blacksmith. Machine cut nails often are slightly rectangular in section. Often the structure and cut edge of the nail can be seen on the shank. The tip will often be squared and the head will typically be more regular and squared off. Wire nails are the easiest to distinguish because of their round, columnar shank, and round head. The unidentified nails within the assemblage were too fragmentary or corroded to be associated with a particular manufacture technology.

The sizes of the complete nails were recorded by the length of the nails having been associated with the "pennyweight" of the nail. Varying percentages and quantities of each pennyweight represented within the nail group have been shown to correlate with particular construction methods (Wagner 1992; Young 1991, 1994; Young and Carr 1993). Young's original research (1991) resulted in the ability to associate particular nails with particular construction needs. Roofing nails, siding/light framing nails, flooring nails and heavy framing nails can be distinguished by pennyweight (which correlates with length) according to Young (1991). Nails that measure 1 ¼" – 1 ¾" in length (3 - 5 penny) fall within the roofing nail category. Nails that measure between 2" – 2 ½" in length (6 – 8 penny) fall within the siding/light framing category. Nails that measure between 2 ¾" – 3" in length (9 – 10 penny) fall within the flooring nail category. Nails that are longer than 3" in length (larger than 10 penny) fall within the heavy framing category. Various percentages of the four nail categories were noted to correlate with structures made with the timber and frame, log, and balloon frame construction techniques. It was hoped that absent any intact architectural features at the Vardeman House Site, an analysis of the percentages of whole nails recovered may offer clues as to the method

of construction utilized to build the Vardeman family dwelling house. The analysis proceeded with the understanding that since the precise location of the dwelling is not known, and consequently all of the nails recovered were incorporated into the analysis, it is possible that nails from more than the main dwelling were included in the analysis. The nails were as a group primarily recovered from the central and west-central portion of the site suggesting that they may have all originated in one structure, the main dwelling.

A total of just 283 nails were recovered from the Vardeman House Site. Of this total 227 (80.21%) were identified as machine cut nails; just 10 (3.53%) as handwrought (Table 7-13); an additional 13 (4.59%) were identified as wire nails (see Table 6.6). A percentage of the recovered nails (n=33; 11.66%) could not be identified as to manufacture technology (see Table 6.6). The high percentage of machine cut nails recovered, combined with a small number of handwrought nails, indicates that the structure associated with the Vardeman House Site may have been constructed during the 1790s. Machine cut nails with hand-finished heads were in use by 1790. Fully machine produced cut nails became available during the post-1805 period (Miller 2000: 14). Although small wire nails were initially manufactured by the French by 1850 (Miller 2000:14), wire nails were not

Table 8.13. Handwrought and Cut Nails Recovered by Pennyweight, Vardeman House Site.

Nail Manufacture Technology	Pennyweight	Functional Category (per Young 1991)	Quantity
Handwrought	Fragment	NA	1
	12d	Heavy Framing	1
	5d	Roofing	1
	6d	Siding/Light Framing	1
	7d	Siding/Light Framing	2
	8d	Siding/Light Framing	2
	9d	Flooring	2
Handwrought Nail Total			**10**
Machine cut	Fragment	NA	116
	<2d	NA	2
	10d	Flooring	3
	2d	NA	11
	3d	Roofing	26
	4d	Roofing	32
	5d	Roofing	11
	6d	Siding/Light Framing	9
	7d	Siding/Light Framing	8
	8d	Siding/Light Framing	5
	9d	Flooring	4
Machine cut Nail Total			**227**
Total Handwrought and Machine cut Nails			**237**

commonly used in America until after about 1880 (Nelson 1968) at which time machine cut nails declined in production and use. Large wire nails became widely available after ca. 1885 (Miller 2000). The small number of wire nails recovered from the Vardeman House Site likely resulted from the erection of a barbed wire field fence sometime during the twentieth century. The wire nails were not included within the construction type percentage analysis based on their likely association with modern agricultural use of the property and their postdating the period of significance.

Only 107 (45.14%) of the total number of 237 handwrought and machine cut nails could be included in the possible construction method analysis per Young (1991). The remainder were fragmentary or smaller than 3d nails and consequently could not be associated with a particular pennyweight per Young (1991). The whole handwrought and machine cut nails were quantified by size (pennyweight) and totaled (see Table 8.13). The pennyweights for the whole handwrought nails recovered (n=9) ranged from 5d to 12d. The majority of the whole handwrought nails recovered were associated with the siding/ light framing (n=5) and flooring (n=2) categories. Also represented within the handwrought group were roofing (n=1) and heavy framing (n=1) nails. The pennyweights for the whole machine cut nails

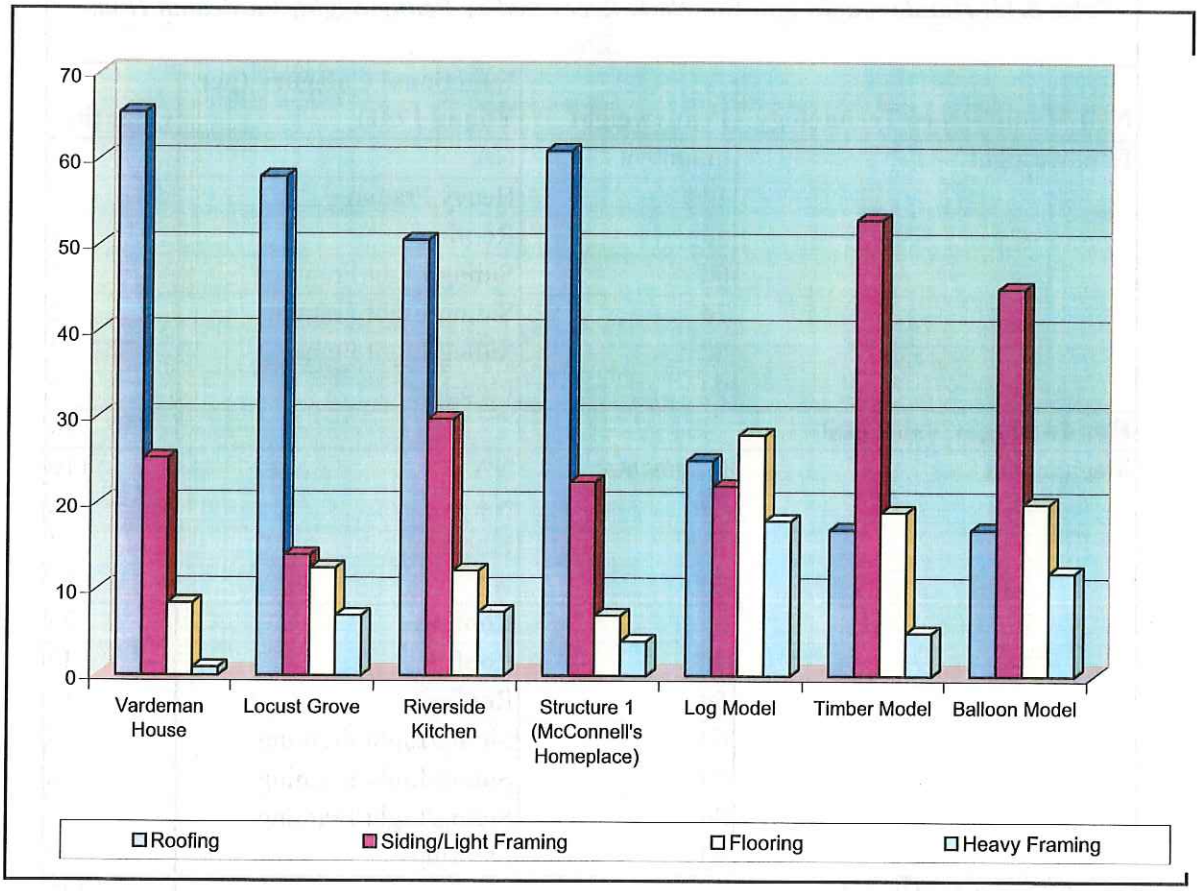


Figure 8.16. Comparison of nail categories recovered from the Vardeman House Site, Locust Grove, Riverside Kitchen, McConnell's Homeplace (Structure 1), and Construction Models (Young 1991).

recovered (n=111) ranged from <2d to 10d, the majority of the whole machine cut nails included within this analysis were associated with the roofing (n=69) and siding/light framing (n=22) categories. Also represented within the machine cut group were flooring (n=7) nails. Whole machine cut nails measuring 2d or less (n=13) were not included within the construction method analysis because they are smaller than 3d, the smallest nail size included within Young's four nail categories.

Comparison between the percentages of the four nail category types recovered from the Vardeman House Site with Young's log, timber, and balloon construction patterns (Figure 8.16) yielded ambiguous results. The nail category percentages observed at the Vardeman House Site did not correspond with any of Young's three construction styles. Interestingly, the nail percentages documented for the Vardeman House Site are quite similar to those recorded from Structure 1 at McConnell's Homeplace (15BB75) and also somewhat similar to the percentages documented for Locust Grove, the site chosen by Young to evaluate her nail category pattern and construction analysis.

As it is believed that Structure 1 at McConnell's homeplace was largely constructed of stone (Day and Clay 2002), the construction method employed at the Vardeman House Site may mirror that exhibited at McConnell's homeplace (Structure 1). It was reasoned by Day and Clay (2002:10-56) that a stone constructed structure would only require nails for the roof, floor, and door and window framing as well as the interior trim work. This may produce the pattern observed for both Structure 1 at McConnell's homeplace and at the Vardeman House Site. As Young did not document a stone construction nail percentage pattern, there is little comparative data aside from Structure 1 at McConnell's homeplace and the Vardeman House Site. The close similarity in nail category percentages between the Vardeman House Site and Structure 1 at McConnell's homeplace is nonetheless tantalizing. As more nail category patterns from Kentucky are analyzed a larger comparative group will emerge and hopefully the tentative results suggesting a possible stone construction pattern may emerge. It should be remembered that the nail count from the Vardeman House Site which could be included in the analysis was quite small (n=120) compared with 4,617 nails recovered from McConnell's homeplace (Structure 1).

It is worth noting that the relatively high percentage of roofing nails recovered from the Vardeman House Site, as well as Structure 1 at the McConnell's homeplace and Locust Grove sites relative to the other nail groups may be a function of roof replacement at these sites. It is likely that wooden roofs required replacing every 25-30 years and thus at a site such as the Vardeman House Site with likely occupation for a 70 year period, it is possible that the roof had been replaced at least once, resulting in the distribution of a larger number of roofing nails than would be distributed from the floor and other portions of the structure that last longer than the roof.

Stottman and Watts-Roy (2000:81-82) reasoned that a high percentage of roofing nails may be a result of preservation factors. They observed that it was likely that in an archaeological context a higher percentage of the smaller roofing nails would remain intact within the deposit allowing for a greater number of the smaller roofing nails to be included within the comparative nail analysis. The large number of roofing nails might also suggest a roof constructed of wood shingles. A wood shingle roof requires a large number of nails to attach the shingles. Wood shingled roofs were also the most "prominent" (Stottman and Watts-Roy 2000:82), type of roof during the early and mid-nineteenth century (Stottman and Watts-Roy 2000:82).

Comparison of the percentages of nails recovered from the Vardeman House Site with the Riverside kitchen which dates to ca. 1840 (Stottman and Watts-Roy 2000:77) was also informative. Evaluating the percentages of nails

recovered from the Riverside kitchen (see Figure 8.16), Stottman and Watts-Roy concluded that the kitchen was likely sided with weatherboards or clapboards based on the relatively large percentage of siding/light framing nails recovered (Stottman and Watts-Roy 2000:81). It was concluded that based on the number of flooring nails recovered that the kitchen had a wood floor, rather than dirt. Compared with the Vardeman House Site, the Riverside kitchen archaeological excavations yielded a higher percentage of siding/light framing, flooring, and heavy framing nails (see Figure 8.16). In contrast, the Vardeman House Site yielded a higher percentage of roofing nails relative to the other nail categories recovered. The higher percentage of roofing nails recovered from the Vardeman House Site may be a reflection of the possibility that a higher number of the smaller roofing nails would remain intact within the archaeological contexts, an observation posited for high percentage of roofing nails recovered from the Riverside kitchen. Given the modest but notable dissimilarity between the nail percentages recovered from the Vardeman House Site and the Riverside kitchen and the similarity between the nail percentages from the Vardeman House Site and Structure 1 at McConnell's homeplace (15BB75), it is likely that the dwelling at the Vardeman House Site was not a primarily wooden structure, but a stone structure.

Although based on the nail analysis, and comparison with the data from McConnell's homeplace site it is likely that the Vardeman family dwelling was constructed of stone, it is also possible that the dwelling may have been a wood framed structure. A wood structure constructed on elevated brick piers, may leave less of an archaeological signature in the ground and thus explain the lack of architectural features at the Vardeman House Site related to a dwelling. Although a predominately wood structure would likely leave less of an archaeological footprint than a stone constructed dwelling, the significant vertical impact of plowing on the archaeological deposits very likely removed traces of the precise location of original architectural features whether they had been brick piers or a stone foundation. Sussenbach (2000) documented that the remaining sub-plowzone portion of the privy only extended between 2-6 cm below the plowzone. The degree of disturbance to the privy, Sussenbach's Feature 1, which had been significant, could have obliterated all signs of features related to the footprint of the antebellum Vardeman dwelling. Additionally, if the Vardeman dwelling had been a primarily wooden structure, given the nail pattern from the Vardeman House Site and its similarity to the nail percentage pattern documented from McConnell's homeplace in combination with the dissimilarity between the nail percentage pattern from the Vardeman House Site and that documented for the log and timber construction patterns, this would possibly call into question the utility of Young's log, timber, and balloon construction patterns. Given the significant degree of vertical disturbance to the Vardeman House Site as a result of plowing, the similarity between the nail type percentages recovered from both The Vardeman House Site and the McConnell's homeplace site, the Locust Grove site (also considered possibly to have been constructed largely of stone), and the relatively low numbers of nails recovered from the Vardeman House Site, it is thought that the antebellum Vardeman dwelling had been primarily of stone construction.

Although the stone construction theory fits well with the percentage of nail categories recovered from the Vardeman House Site, it is also possible although less likely that the Vardeman family dwelling was of log construction. The absence of intact stone foundation elements would support this theory as well as log construction being a typical rural Kentucky vernacular architecture style.

Interestingly, the nail category percentages documented for the Vardeman House Site are also similar to those recorded by Young (1991) for the Locust Grove site. As with Structure 1 at McConnell's homeplace it was observed that the Locust Grove site may also have been constructed

largely of stone (Day and Clay 2002:10-56-58). If the dwelling associated with the Vardeman House Site was constructed largely of stone with a wooden roof this might explain the large number of limestone chunks present within the plowzone and features at the site. Limestone is naturally occurring in the area and would be a readily accessible construction material. Fragments of percussion hammered limestone, likely utilized in the construction of a structure, possibly the Vardeman family dwelling, were identified during the Phase II investigations (Sussenbach 2000:57-58). Although no such fragments were recovered from the data recovery excavations, the limestone constructed field wall (Feature 15/85) may have been built with limestone which may have originally been utilized in the construction of the antebellum Vardeman family dwelling. This situation would be one potential reason for the absence of surviving architectural remains at the site.

As previously discussed the brick found in both the plowzone and features may have been utilized for brick walkways or as part of an umortared brick floor originally within the dwelling. The absence of mortar on the recovered brick suggests that the brick was not utilized in the construction of support piers or as part of a chimney.

As additional nail assemblages from antebellum Kentucky sites are sorted and categorized according to Young's analytical model, additional data will be produced to suggest whether or not there is a stone construction model and whether Young's other three construction models are reliable for determining potential construction methods employed in the building of historic domestic structures.

CHAPTER 9: The Prehistoric Component at Vardeman House Site

by Andrew Madsen, Rebecca Madsen, Dr. A. Gwynn Henderson, and Patrick Wallace

Specialized analysis of the prehistoric artifacts recovered from the Vardeman House Site included analysis of activity areas across the site. This study included a statistical analysis of potential relationships between portions of the site and the recovery of lithic raw material types, stages of lithic reduction, and size of lithic artifacts recovered, as well as comparison between multiple distribution maps which reflect locations of the recovery of lithic debitage and bifaces. The data from the shovel tests was utilized as this data was representative, with materials systematically recovered at 2.5-m intervals across the site area. Test unit and feature locations were not included in this analysis as the level of investigation within these areas was not randomly spaced across the site; the individual areas investigated with test units and features was much larger than each shovel test location resulting in a much higher density of materials recovered. Inclusion of the test unit and feature data would skew the data and document concentrations of prehistoric artifacts, not based on intensity of use by prehistoric peoples, but based on the intensity of the archaeological investigation. Additionally, the presence of grit tempered Native American ceramics (Figure 9.1c, d, g, and h) and Flint Ridge chert (Figure 9.2) at the Vardeman House Site, both not indigenous to Lincoln County, offer some tantalizing insights into potential trade networks, and the influx of exotic items into this portion of Lincoln County.

Statistical Discussion of the Prehistoric Component

The majority of the prehistoric artifacts from the Vardeman House Site were recovered from plowzone or buried plowzone deposits (n=5,814, 74.38%). A very small portion of the prehistoric component (n=1,171, 14.98%) was recovered from sub-plowzone historic, prehistoric, and non-cultural feature deposits. Agricultural plowing subsumed the majority of the prehistoric deposits into the plowzone compromising the vertical integrity of the archaeological deposits across the majority of the site. The lack of vertical integrity of the prehistoric component at the Vardeman House Site negated the applicability of the use of statistical tests to examine the relationship between the depth of recovery and artifact size, the depth of recovery and stage of reduction, and the depth of recovery and amount of cortex within the flake debris category.

Although the vertical integrity of the archaeological deposits had been compromised, statistical tests of the horizontal distribution of the prehistoric debitage recovered from the shovel tests were performed to assess the potential for differential prehistoric behaviors or activity areas across the Vardeman House Site. The data from the shovel tests was selected for the statistical examination of potential prehistoric activity areas because this group of data represented the most evenly distributed data.

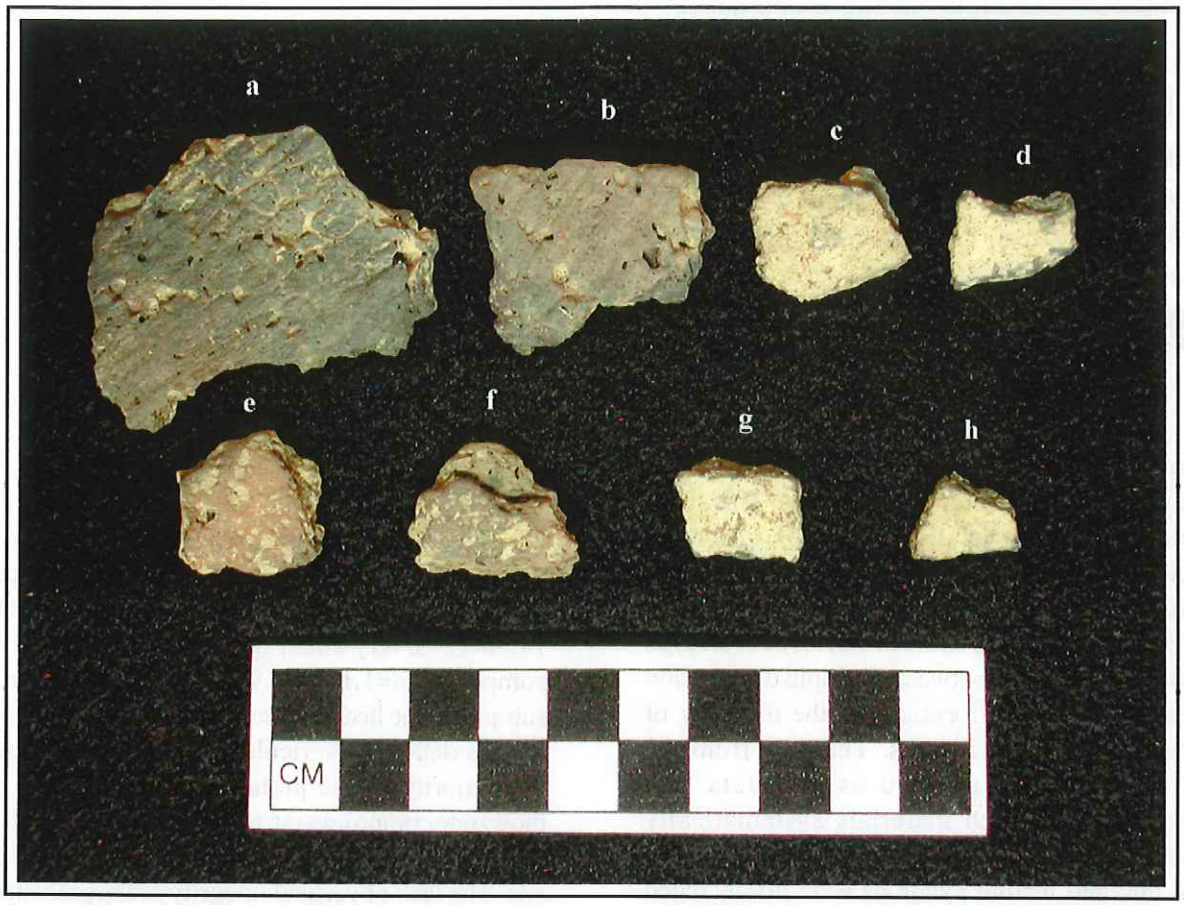


Figure 9.1. Photograph of selected prehistoric Native American ceramics recovered from the Vardeman House Site (a-cord marked, limestone tempered, Feature 108/II; b-cord marked, limestone tempered, Feature 108/II; c-plain, grit tempered, Unit 5 NW/I; d-plain, grit tempered, Unit 5 NW/I; e-plain, limestone tempered, Unit 9/II; f-plain, limestone tempered, Unit 9/II; g-plain, grit tempered, Unit 21 E/I; h-plain, grit tempered, Unit 21 E/I).

To facilitate the statistical tests and ensure that the artifact classes examined contained a statistically relevant quantity of prehistoric artifacts, the site area examined using shovel tests was divided into five analytical sub-units (Figure 9.3). Statistical Sub-Unit 1 comprised the northwest portion of the prehistoric component and included the shovel tests from N207.5 to N235 and E170 to E205. Statistical Sub-Unit 2 comprised the north-east portion of the prehistoric component and included the shovel tests from N207.5 to N235 and E207.5 to E240. Statistical Sub-Unit 3 comprised the west-central portion of the prehistoric component and included the shovel tests from N177.5 to N205 and E172.5 to E205. Statistical Sub-Unit 4 comprised the east-central portion of the prehistoric component and included the shovel tests from N177.5 to N205 and E207.5 to E240. Statistical Sub-Unit 5 comprised the southern portion of the prehistoric component and included the shovel tests from N130 to N175 and E190 to E235. To further facilitate the statistical tests and



Figure 9.2. Photograph of Flint Ridge chert recovered from the Vardeman House Site (a-prismatic blade, Test Unit 15/II; b-secondary/biface thinning flake, Test Unit 32/I).

ensure that the artifact classes examined contained a statistically relevant quantity of prehistoric artifacts for distribution and Chi-square tests, artifact categories with small quantities recovered were combined. For example, the small quantity of recovered debitage greater than 2 inches in diameter was included with the debitage measuring from 1.5 inches to 2 inches in diameter and the category renamed as 1.5 to greater than 2 inches in diameter. Debitage measuring smaller than .25 inches in diameter was combined with the debitage measuring .25 to .5 inches in diameter and the category renamed as 0 to .5 inches in diameter.

Statistical tests examining the relationship between the horizontal distribution and artifact size, the horizontal distribution (reflected by recovery from Sub-Units 1-5) and stage of reduction, and the horizontal distribution and amount of cortex within the flake debris category (includes angular/blocky fragments/chunks, flake fragments/shatter, primary/reduction flakes, and secondary/biface thinning/tertiary/retouch flakes) were conducted. The flake debris category represented 97.56% (n=1,080) of the total prehistoric cultural materials recovered from the 406 shovel tests positive for prehistoric cultural materials. In order to have cell

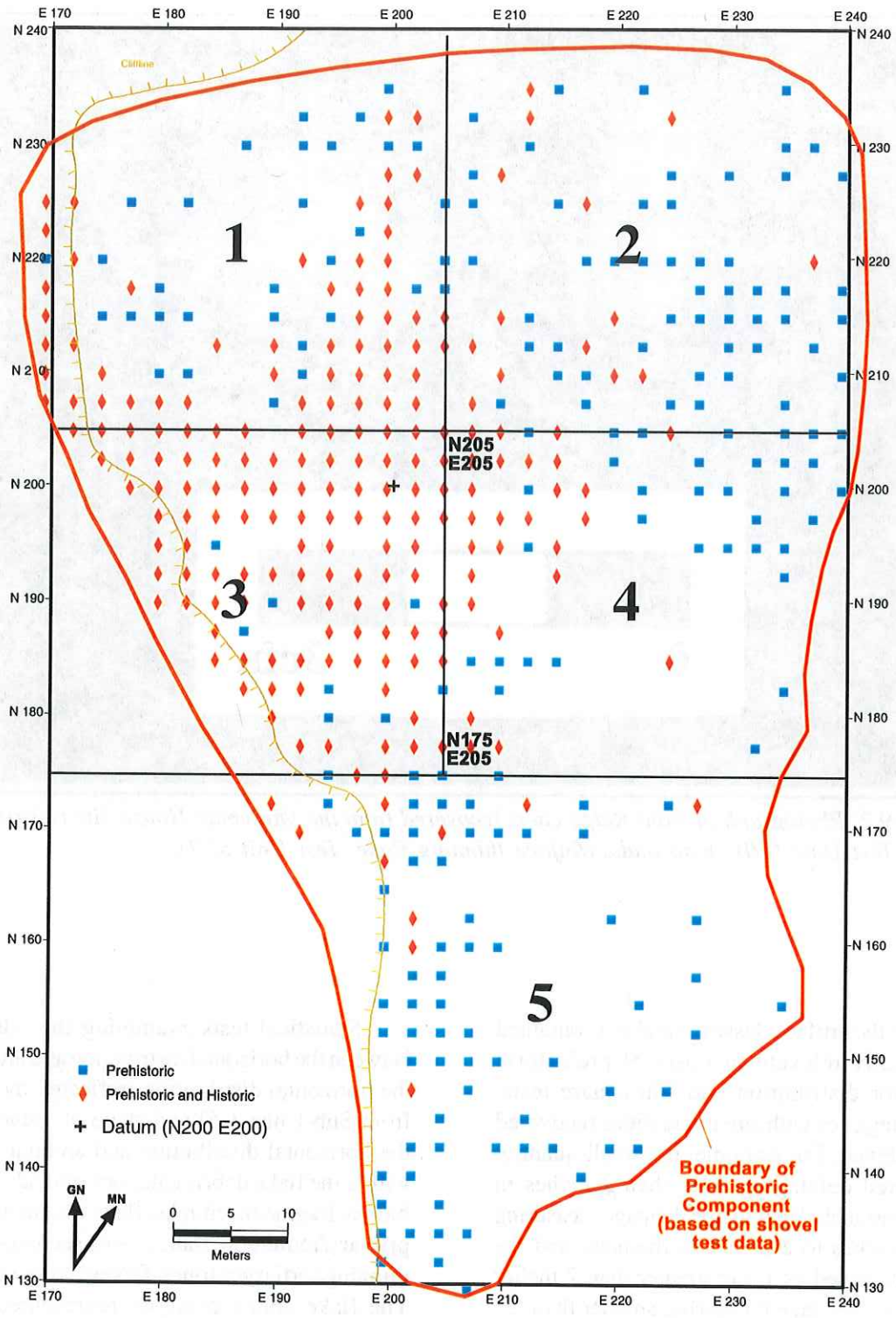


Figure 9.3. Locations of prehistoric artifacts shown with statistical sections used in analysis.

sizes large enough (n>5) for a statistically significant result from a Chi-square test, some elements of categories (i.e., artifact size) within a stratum were combined. Additionally, the low numbers of tertiary/retouch flakes present required combining this category with secondary/biface thinning flakes. In order to produce a statistically significant result, the relatively low numbers of fragments of flake debris made from Tyrone, Ste. Genevieve, St. Louis, Paoli, Haney, Fossiliferous, Fort Payne, and Crab Orchard chert necessitated compressing these raw material types into the category of "other chert."

The result of a test using horizontal distribution and amount of cortex (noncortical and 1-74% cortex) of the lithics from the flake debris category (includes angular/blocky fragments/chunks, flake fragments/shatter, primary/reduction flakes, and secondary/biface thinning/tertiary/retouch flakes) shows a significant result at the .861 confidence level (Chi=6.943, df=4, p .139), demonstrating a relationship between those variables, possibly suggesting either a behavioral activity pattern in portions of the site, or natural forces creating the observed pattern. The statistical test showed that relative to the horizontal location of recovery, a slightly higher than statistically expected number of noncortical cultural flake debris artifacts were recovered from Sub-Units 1 and 3, the north-west and west-central portions of the site, respectively. Conversely, a slightly lower than statistically expected number of noncortical cultural flake debris artifacts was recovered from Sub-Units 2, 4, and 5, the north-east, east-central, and southern portions of the site, respectively. The slightly larger than statistically expected quantity of noncortical flake debris recovered from the north-western and west-central portions of the site, relative to the total amount of flake debris recovered from each of the five sub-units is reflected by the percentage of noncortical flakes and flake fragments (flake debris) recovered from each geographic sub-unit within the Vardeman House Site.

A test using horizontal distribution and the stage of reduction (angular/blocky fragments/chunks, flake fragments/shatter, primary/reduction flakes, and secondary/biface thinning/tertiary/retouch flakes) of the lithics from the flake debris category (includes angular/blocky fragments/chunks, flake fragments/shatter, primary/reduction flakes, secondary/biface thinning/tertiary/retouch flakes) shows a moderately significant result at the .968 confidence level (Chi=22.540, df=12, p .032), demonstrating a relationship between those variables. The observed relationship between horizontal distribution and stage of reduction is partially consistent with the relationship that a higher than statistically expected quantity of noncortical lithic debris artifacts were recovered from Sub-Units 1 and 3, the north-west and west-central portions of the site, respectively. The test showed that a higher than statistically expected number of secondary/biface thinning/tertiary/retouch flakes, and a corresponding lower than statistically expected number of primary/reduction flakes were recovered from Sub-Unit 1. Sub-Unit 4, the east-central portion of the site, was the only other sub-unit which contained a statistically higher than expected number of secondary/biface thinning flakes combined with a slightly less than expected number of primary flakes. Sub-Units 2 and 3, located in the north-east and west-central portions of the site, respectively, yielded a statistically greater than expected number of primary/reduction flakes combined with a slightly less than statistically expected number of secondary/biface thinning/tertiary/retouch flakes. Sub-Unit 5, the southern portion of the site yielded a statistically higher than expected quantity of both primary/reduction and secondary/biface thinning/tertiary/retouch flakes.

A test using horizontal distribution and the size (0-.50", .50"-1.0", and 1.0"->2.0") of the lithics from the flake debris category (includes angular/blocky fragments/chunks, flake fragments/shatter, primary/reduction flakes, secondary/biface thinning/tertiary/retouch flakes) shows a significant result at the .872 confidence level (Chi=12.570,

df=8, p .128), demonstrating a relationship between those variables. The observed relationship between the horizontal distribution and flake size for Sub-Unit 1, the north-west portion of the site, is largely consistent with the relationships that a higher than statistically expected quantity of both noncortical lithic debris and secondary/biface thinning/tertiary flakes were recovered from the north-west portion of the site. The test showed that a higher than statistically expected number of moderate size (.50-1" size) flakes, flake fragments, and angular/blocky fragments/chunks, and a corresponding slightly lower than statistically expected number of large (1.0"->2.0") flakes were recovered from the north-west portion of the site. Sub-Unit 4, the east-central portion of the site, showed a higher than statistically expected number of small (0-.50") and moderate (.50-1") size flakes, flake fragments and angular/blocky fragments/chunks, and a corresponding lower than statistically expected number of large (1.0"->2.0") flakes. Sub-Unit 5, the southern portion of the site, showed a higher than statistically expected number of moderate (.50-1") and large (1.0"->2.0") size flakes, flake fragments, and angular/blocky fragments/chunks, and a corresponding lower than statistically expected number of small (0-.50") size flakes, flake fragments, and angular/blocky fragments/chunks. Sub-Unit 3, the west-central portion of the site, showed a higher than statistically expected number of small (0-.50") and large (1.0"->2.0") size flakes, flake fragments, and angular/blocky fragments/chunks, and a corresponding lower than statistically expected number of moderate (.50-1") size flakes, flake fragments, and angular/blocky fragments/chunks.

A test using horizontal distribution and raw material (Boyle, Muldraugh, Unidentified Chert, and Other Chert – includes Tyrone, Ste. Genevieve, St. Louis, Paoli, Haney, Fossiliferous, Fort Payne and Crab Orchard chert) of the lithics from the flake debris category (includes angular/blocky fragments/chunks, flake fragments/shatter, primary/reduction flakes, secondary/biface thinning/tertiary/retouch flakes) shows a significant result at the .968 confidence level (Chi=25.436, df=12, p .013), demonstrating a relationship between those variables. The observed relationship between the horizontal distribution and raw material for Sub-Units 2 and 3, the north-east and west-central portions of the site, respectively, showed that a higher than statistically expected number of flakes, flake fragments, and angular/blocky fragments/chunks recovered were made from Boyle chert; a corresponding slightly lower than statistically expected number of flake debris made from cherts grouped together as other chert were recovered from the north-east and west-central portions of the site. The observed relationship between the horizontal distribution and raw material for Sub-Units 1 and 5, the north-west and southern portions of the site, respectively, showed that a lower than statistically expected number of flakes, flake fragments, and angular/blocky fragments/chunks recovered were made from Boyle chert; conversely a statistically greater than expected quantity of flake debris made from cherts, together referred to as other chert, were recovered from Sub-Units 1 and 5. A significantly higher than statistically expected number of flake debris made from Muldraugh chert was only documented in Sub-Unit 1, the north-western portion of the site.

The statistically higher than expected recovery of both noncortical and secondary/biface thinning/tertiary/retouch lithic debris artifacts and the statistically lower than expected recovery of primary/reduction flakes from Sub-Unit 1, the north-west portion of the site, may indicate that the Native American exploitation of this portion of the site area represents a proportionally higher degree of intermediary stage lithic reduction, and correspondingly little early stage reduction and processing of lithic raw material. Conversely Sub-Units 2 and 3, the north-east and west-central portions of the site, yielded a statistically higher than expected number of primary/reduction flakes and a statistically lower than expected number of secondary/biface thinning/tertiary/retouch flakes.

This pattern suggests that, although few primary/reduction flakes were recovered from the Vardeman House Site, relative to the other portions of the site area a slightly higher percentage of early stage reduction activities were occurring in these portions of the site. Sub-Unit 5, the southern portion of the site, yielded anomalous results compared with the other four sub-units. Sub-Unit 5 yielded a statistically higher than expected number of primary/reduction, secondary/biface thinning/tertiary/retouch flakes, and angular/blocky fragments/chunks combined with a statistically lower than expected number of flake fragments/shatter. The pattern observed in Sub-Unit 5 suggests that although this portion of the site did not yield as high a concentration of prehistoric artifacts as Sub-Units 1 and 3, relative to the other four sub-units, Sub-Unit 5 was the only sub-unit that yielded a higher than expected quantity of both primary/reduction and secondary/biface thinning/tertiary/retouch flakes.

Statistically higher than expected numbers of secondary/biface thinning/tertiary/retouch flakes was not, surprisingly, accompanied by statistically higher than expected numbers of small (0-.50") and/or intermediate (.50-1.0") size fragments of flake debris, and statistically lower than expected numbers of primary/reduction flakes. This pattern was documented within Sub-Units 1 and 4, the north-western and east-central portions of the site respectively. Interestingly, Sub-Units 2 and 3, the north-east and west-central portions of the site, which yielded statistically higher than expected numbers of primary/reduction flakes in addition to statistically lower than expected numbers of secondary/biface thinning/tertiary/retouch flakes did not necessarily yield statistically greater than expected numbers of large (1.0->2") fragments of flake debris and statistically less than expected numbers of small (0-.50") and intermediate (.50-1.0") size fragments of flake debris. This may be a result of agricultural plowing causing breakage of the prehistoric lithics, reducing their original size.

The statistical tests indicate a moderate degree of differential lithic reduction activities taking place across the site area. The statistical tests suggest that relative to the five shovel test sub-units, a higher than statistically expected amount of intermediate stage lithic reduction behaviors were exhibited in Sub-Units 1, 4, and 5, the north-west, east-central, and southern portions of the site, respectively. Conversely, the statistical tests suggest that within Sub-Units 2 and 3, the west-central and east-central portions of the site, slightly higher than statistically expected numbers of primary flakes were recovered along with slightly fewer than statistically expected numbers of secondary/biface thinning/tertiary/retouch.

The statistical tests suggest that relative to all five sub-units, more early stage lithic reduction activities were represented in Sub-Units 2 and 3, the north-east and east-central portions of the site, respectively. Given the location of Sub-Units 2 and 3 within the eastern portion of the site, set back from the bluff overlooking Cedar Creek, it appears as if slightly higher than statistically expected amounts of early stage reduction activities were represented within the eastern portion of the site. Slightly higher than statistically expected numbers of primary/reduction flakes were also recovered from Sub-Unit 5, the southern portion of the site, which contained prehistoric artifacts recovered from both areas along the bluff and within eastern, interior portions of the site. It should be remembered that although the statistical tests revealed moderate differential lithic reduction behavior patterns across the site, few primary flakes were recovered from the Vardeman House Site, strongly documenting that initial quarrying/extractive and early stage lithic reduction activities were not a main focus of activity at the site. The raw numbers from all five sub-units clearly document that within all portions of the site the predominate lithic behaviors centered around intermediate and late stage lithic reduction, and tool and biface maintenance, with only a limited amount of early stage reduction occurring.

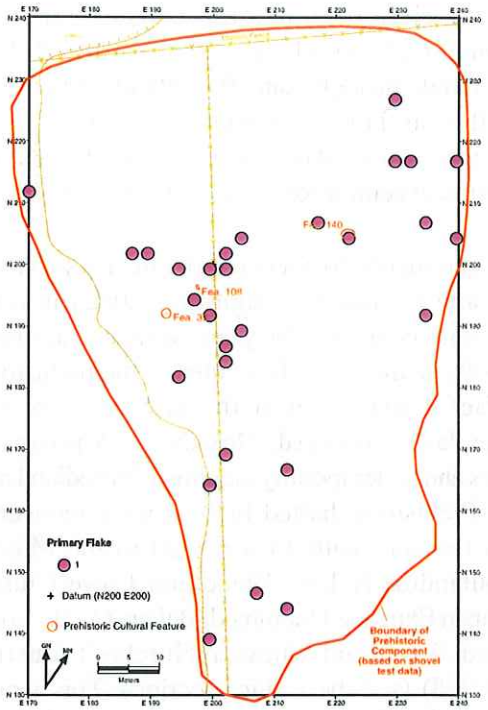
Few statistically significant correlations were noted within the sub-units between the statistically greater than expected number of specific categories of fragments of flake debris and either statistically higher, or lower, than expected quantities of raw material. Sub-Units 3 and 4, the west-central and east-central portions of the site both yielded slightly higher than statistically expected numbers of flake debris made from Boyle chert combined with slightly higher than statistically expected numbers of small (0-.50") pieces of flake debris. Sub-Unit 1, the north-west portion of the site, was the only area within the site which showed a higher than statistically expected numbers of fragments of flake debris made from Muldraugh chert combined with a statistically lower than expected number of fragments of flake debris made from Boyle chert. Sub-Unit 5, the southern portion of the site, was the only sub-unit which yielded a statistically higher than expected number of flake debris made from the unidentified chert category, concurrent with a slightly less than statistically expected quantity of flake debris made from both Boyle and Muldraugh chert.

Discussion of the Distribution of Prehistoric Artifacts Recovered from the Shovel Tests

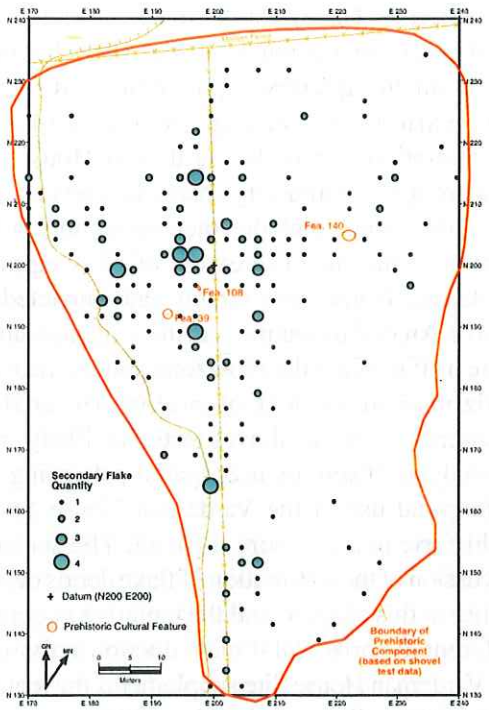
In order to further assess potential spatial patterning of prehistoric activity areas at the Vardeman House Site, distribution maps for all three stages of flake reduction (primary/reduction, secondary/biface thinning and tertiary/retouch) recovered from the 901 shovel tests excavated at the Vardeman House Site (Figure 9.4) were produced. The distribution maps visually document that all three stages of flake reduction were present throughout the site although flake reduction activities appear to have been clustered in the central portion of the site. The few numbers of temporally diagnostic hafted bifaces recovered during the shovel testing program precludes their inclusion in the distribution of lithic materials recovered from the shovel tests. The observed patterning and distribution of lithic materials across the Vardeman House Site discussed here has been further refined in the discussion of the statistical distribution of flake debris detailed earlier in this chapter.

The distribution maps suggests that the occurrence of early stage reduction represented by primary/reduction flakes seems to be slightly higher in the northeastern section of the site whereas the occurrence of middle stage reduction represented by the secondary flakes seems to be slightly higher in the northwestern part of the site. This distribution becomes more apparent when the flake fragment data is added. Although the flake fragments do not morphologically indicate a specific reduction stage, they typically are created during middle and late stage reduction when platforms become smaller and the flakes themselves become thinner. If the flake fragment data can be considered to be more likely an indicator of middle and late stage reduction than of early stage reduction then the distribution of the flake fragments also shows a higher occurrence in the northwest part of the site. Interestingly, the biface distribution shows a higher occurrence of Stage IV bifaces recovered from the northeastern part of the site, rather than the northwestern portion of the site; this correlates more closely with the distribution pattern of the primary flakes rather than with the secondary/biface thinning flakes and the flake fragments, although several Stage IV bifaces were also recovered from the central portion of the site. This unexpected result may be due to the disturbance of the site due to agricultural plowing during the historic period.

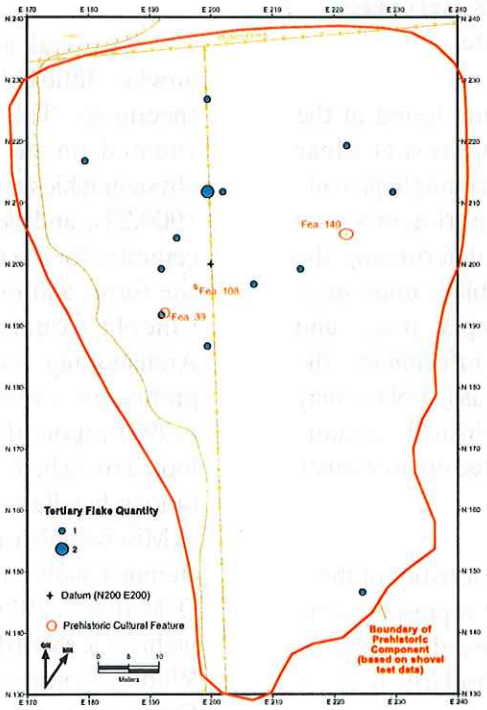
The distribution maps showing the chert types recovered from the shovel tests excavated at the Vardeman House Site indicate that Boyle, Ste. Geneieve, and unidentified chert were recovered across the site, although these chert types were most highly concentrated within the central portion of the site. On the other hand, Fort Payne and Muldraugh tend to occur in greater frequency in the western portion of the site. Crab Orchard,



a. Primary flake locations.



b. Secondary flake locations.



c. Tertiary flake locations.

Figure 9.4. Locations of primary (a), secondary (b), and tertiary (c) flakes at the Vardeman House Site. (See Figures 5.29-5.31 for full-size graphics.)

Fossiliferous, Haney, Paoli, St. Louis, and Tyrone cherts were recovered from the shovel tests in much smaller quantities precluding substantive observations concerning their distribution/ concentration across the Vardeman House Site. As a group these minority cherts do tend to cluster in an area which includes the central and eastern portion of the site. The extent of plowing at the Vardeman House Site which had impacted the Native American features at the site, subsuming these artifacts into the plowzone and the resulting horizontal movement of prehistoric artifacts recovered from the shovel tests has likely made an analysis of activity use, spatial patterning, and differential use of the Vardeman House Site by prehistoric peoples more difficult. The statistical discussion of the distribution of flake debris detailed earlier in this chapter, and the tentative patterns of differential horizontal lithic reduction activities at the Vardeman House Site supplements the tentative observations discussed in this section.

Summary of Ceramic Artifacts Recovered From the Vardeman House Site

Unfortunately, the specimens found at the Vardeman House Site do not present clear temporally diagnostic attributes that might provide insights into their age, such as lip, rim, or vessel form, or decoration. Therefore, determining the temporal affiliation for this assemblage must hinge on attributes of the sherds' temper, paste, and exterior surface treatment; any information the site's diagnostic prehistoric lithic assemblage may provide; and any comparable prehistoric ceramic assemblages that have been reported on previously for the region.

Based on the physical characteristics of these specimens, they probably do not represent Early Woodland vessels, because they do not have particularly thick vessel walls. Similarly, because they are not shell tempered, they do not represent Late Prehistoric (Mississippian) ceramics or post-A.D. 1400 Late Prehistoric (Fort Ancient) ceramics. Therefore, based on their physical characteristics alone, they may represent fragments of vessels that date to the Middle Woodland through Late Woodland periods, to possibly as late as around A.D. 1400, since limestone tempered ceramics were produced until that time in central Kentucky (Turnbow 1988).

The sherds do not occur in direct association with any temporally diagnostic lithics in non-plowzone contexts. They are scattered across a 13-x-46 m area near the center of the prehistoric artifact distribution at the site, and are not particularly clustered. However, 15 prismatic blades and 20 temporally diagnostic Woodland and Late Prehistoric hafted bifaces were recovered from the site, with 14 assigned to the Middle Woodland/early Late Woodland Lowe Cluster (Steuben Expanded Stemmed, Bakers Creek, Lowe Flared Base, and Chesser Notched) (Justice 1987:208) (see the Lithics section). This would suggest that the ceramics may date to the Middle Woodland/early Late Woodland period.

Regional archaeological data, likewise, provides little help in characterizing these ceramic specimens. This is because Lincoln County is situated on the boundary of many different physiographic zones and management units (Pollack 1900:22), and because reports about prehistoric ceramics for the county are rare. An inspection of site forms and reports about previously recorded Lincoln County sites at the Office of State Archaeology revealed only two sites at which prehistoric ceramics had been recorded. Clay (1995) reported ceramics from Site 15LI94, a looted rockshelter that produced Fort Ancient-like (a loop handle on a shell tempered sherd) as well as Mississippian-like (plain, cordmarked and check stamped shell tempered body sherds) specimens. O'Malley (2000) recovered one very small prehistoric sherd during shovel testing at the William Whitley House site (15LI55), located along Cedar Creek not too far south of the Vardeman House Site. It was determined to be possibly Late Woodland in age (O'Malley 2000:82).

The author examined the William Whitley House sherd in detail, which is curated at the William S. Webb Museum of Anthropology, in order to determine how it compared to the specimens from Vardeman House. This small (2 cm^2) plain surfaced body sherd was densely tempered with small to large limestone particles that had leached out of the paste, forming angular holes. Paste inclusions were minimal and consisted mainly of hematite/manganese concretions, although a few specks of mica and sand were observed. It had a medium-brown exterior and a medium-gray interior and it measured 5.2 mm thick. This sherd is generally similar to the limestone-tempered specimens from Vardeman House, except it is, perhaps, more densely tempered and is slightly thinner. Based on all these data, then, it seems likely that the analyzed ceramics from the Vardeman House Site date to the Middle Woodland/Late Woodland period.

It may be significant that no small rod or spiral-shaped fossils were observed as paste inclusions in any of the Vardeman House Site sherds. Fossils occur as paste inclusions in Late Woodland and Late Prehistoric ceramics in central Kentucky, and it has been suggested that the presence of these inclusions may reflect natural inclusions in clays formed in association with the Lexington Limestone found in the Inner Bluegrass Physiographic Region (Henderson 1998:459). The lack of fossils in the paste of these sherds could indicate that local Lincoln County clay sources were used in their manufacture. Indeed, a preference for the use of local resources is reflected in the chipped stone assemblage, where the majority of the chert types represented are local ones (see Chapter 6).

There may be some evidence for the presence of non-local artifacts in the prehistoric assemblage from Vardeman House. The characteristics of the temper in the grit-tempered specimens (see Figure 9.1c, d, g, and h) suggest they may have been made outside the region, although it is impossible to identify which non-local type they represent. It is also important to note that a few non-local material types also were present in the lithic assemblage from the site; a prismatic blade and a flake of Ohio Flint ridge chert (the source of which is in east-central Ohio) being the most noteworthy (see Figure 9.2).

The recovery of a few non-local/possibly non-local artifacts at Vardeman House could be accounted for by the site's location near or along prehistoric overland trails, particularly major north-south trails leading from Georgia and eastern Tennessee through central Kentucky north to Ohio and the Great Lakes (Myer 1924) (Figure 9.5). Indeed, U.S. Highway 150, which links Stanford and Crab Orchard, Kentucky, and which is located just south of Vardeman House, is thought to be a portion of the Wilderness Road (Myer 1928:800) and is so labeled on the Crab Orchard U.S.G.S. topographic quadrangle. Despite the fact that Myer described these trails for the early historic period, many may have had deep antiquity (Myer 1924:740-741; 744). It is possible that the non-local/possibly non-local artifacts recovered at Vardeman House reflect the site's proximity to these major north-south prehistoric trade and communication routes, with the site functioning as a campsite alongside these trails. Research at the Vardeman House Site shows that much more work will need to be conducted before we understand the prehistoric ceramic manufacturing tradition in this region of Kentucky.

Summary of the Prehistoric Investigations at the Vardeman House Site

The prehistoric component of the Vardeman House Site extends from the Early Archaic through the Late Woodland/Late Prehistoric periods. The main lithic reduction activities at the site seem to have been biface reduction and hafted biface manufacture, use, and maintenance as well as flake tool manufacture and use. The debitage data suggests middle to late stage biface thinning, pressure flaking, edge preparation, and final

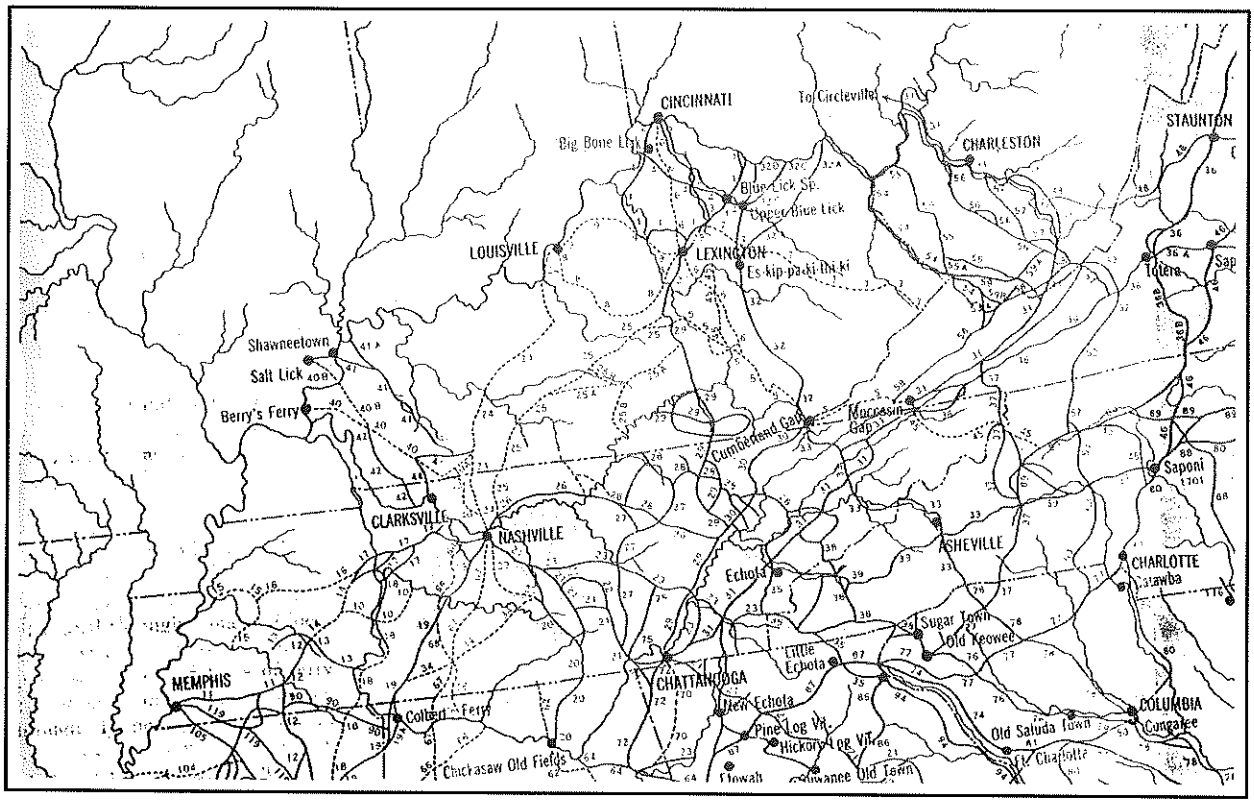


Figure 9.5. Myer's Indian trails of the Southeast (1924).

notching of previously reduced cores, bifacial preforms, and/or medium or large-size flakes into bifaces and hafted bifaces. The biface and hafted biface data show the full spectrum of the biface reduction sequence to the hafted biface end product. Many of the bifaces show manufacture breaks or thinning failures. Many of the hafted bifaces show manufacture or use breaks as well as resharpening on blade margins and breaks. In two cases broken hafted bifaces were reworked into hafted endscrapers. This evidence indicates tool maintenance and reuse. The two flaked celts may indicate that bifaces were also either intentionally produced for their own use or that those that could not or would not be made into hafted bifaces could be used as tools.

All of the unifacially modified tools found at the Vardeman House Site were made from flakes. They range widely in the complexity of the lithic reduction technique used to originate the flake as well as the amount and invasiveness of the modification. Unifaces and edge-modified flakes are typical artifact types found at most prehistoric sites. Usually flakes produced as a result of core and biface reduction are then modified to a greater extent in the case of unifaces and to a lesser extent in the case of edge-modified flakes. Prismatic blades, however, suggest a specialized lithic reduction technique not typically present at most prehistoric sites, in which flakes of a particular shape have been intentionally produced from a specially prepared blade core with the intent of using them as tools.

Of the identified hafted bifaces at the Vardeman House Site (n=36), all are made from raw material procured from local chert outcrops located within the previously identified *Immediate* (0-6.4 km) and *Local* (6.4-20.9 km) access groups.

The most commonly used raw material was Boyle chert (n=24, or 67%), which was represented in every prehistoric temporal period. The only other hafted biface raw materials represented were Fort Payne (n=6, or 17%), St. Louis (n=2, or 5%), and unidentified chert (n=4, or 11%). The temporal period that showed the greatest variation of material types, was the Middle Woodland. All of the above mentioned raw material types were represented in the Middle Woodland component.

The largest number of hafted bifaces (n=16) date to the Middle Woodland period. Fourteen of these Middle Woodland hafted bifaces belong to the Middle Woodland/early Late Woodland Lowe Cluster as defined by Justice (1987). In addition, four other hafted bifaces recovered from the Vardeman House Site are of types that have either been found archaeologically in association with Lowe Cluster hafted bifaces or share morphological and technological attributes that suggest an association with Lowe Cluster hafted bifaces. In addition, fifteen prismatic blades were recovered from the Vardeman House Site. Prismatic blade technology has been loosely associated with the Middle Woodland time period (Ross-Stallings and Stallings 1996).

The greater presence and variety of diagnostic Middle Woodland artifacts and the greater variety of lithic raw materials during this period may suggest a more intense utilization of and/or longer occupation of the site during this period. This may, in part, be a result of the Woodland period being consistent with a more sedentary lifestyle (Railey 1996). However, the abundance of material could also be indicative of a greater focus on hafted biface production and maintenance at the Vardeman House Site during this time, or perhaps the small sample size is responsible for skewing the results.

The lithic raw material types exhibited at the Vardeman House Site suggest that the vast majority (82%) of the raw materials were procured from local chert outcrops located within the previously defined *Immediate* (0-6.4 km) and *Local* (6.4-20.9 km) access groups. However, a small percentage of non-local or exotic material (.55%) was recovered from the Vardeman House Site. Included in this group is Flint Ridge chert, which occurs naturally in Ohio, 322 km away. Two groups of prehistoric ceramics were also found at the Vardeman House Site, limestone tempered (n=3 crossmended body sherds and 2 non-contiguous body sherds) and grit (grit/quartzite) tempered (n=3 crossmended body sherds). All of these ceramics may loosely date to the Middle Woodland/Early Late Woodland period based on the temper and thickness as well as the presence of a large number of Lowe Cluster points and prismatic blades which also date to this period (see the Lithics and Ceramics sections). The presence of grit (grit/quartzite) tempered ceramics also suggests that some of the ceramics may have been produced outside the region, although it is impossible to identify which non-local type it may represent.

One possible explanation for the presence of non-local artifacts at the Vardeman House Site could be the site's location near many prehistoric trails running both north-south as well as east-west through the Cumberland Gap. Through both historical and personal accounts, Myer (1928) created a map of the Southeast that was covered with trails, both large and small, that operated as a means of trade and travel. the Vardeman House Site is located approximately 8 km west of the "Tennessee River, Ohio, and Great Lakes Trail," and only a couple km south of the "Wilderness Road" which connects to the more famous "Warriors Path" to the east (see Figure 9.5). The Great Lakes Trail is one of the largest trails on Myer's map, running north-south from Lake Erie and present day Detroit, through Cincinnati, Ohio, down to Georgia. According to Myer, this path would have presented a way for trade goods to make their way to the North or the South. This could explain the presence of Ohio Flint Ridge chert and grit (grit/quartzite) tempered ceramics in South Central Kentucky.

CHAPTER 10: Summary and Conclusions

by Andrew Madsen, Rebecca Madsen, and Patrick Wallace

At the request of the Kentucky Transportation Cabinet (KYTC), staff of the University of Kentucky's Program for Archaeological Research (UK-PAR) conducted the Phase III archaeological data recovery of the Vardeman House Site as part of the Cedar Creek Lake and Dam U.S. 150 Project in Lincoln County, Kentucky (see Figure 1.1). The Vardeman House Site, associated with the proposed impoundment area of the Cedar Creek Lake and Dam Project is slated for inundation as part of the proposed project.

The Vardeman House Site, first identified in 1993 during a Phase I survey of the proposed Cedar Creek Lake Impoundment Area (Schock 1993), was reported to consist of an early to mid-nineteenth-century historic homestead and a minor prehistoric component (see Figure 1.4). On the basis of the Phase I survey, the site was determined to be potentially eligible for nomination to the National Register of Historic Places (NRHP) and was recommended for Phase II testing and evaluation. Phase II investigations at the site were conducted by Sterling Archaeological Consultants, Inc. (see Figure 1.5). Sterling Archaeological Consultants, Inc. suggested that the site was occupied from the late eighteenth to the mid-nineteenth century. Archival research indicated that the site was likely associated with John Vardeman and his family (Sussenbach 2000:12). Vardeman was among Daniel Boone's company of men that marked the Wilderness Trail into Kentucky (D. M. Boone Papers, 3B:173). The Phase II evaluation determined the Vardeman House Site eligible for nomination to the NRHP under Criterion D and possibly under Criteria A and B (Sussenbach 2000:3). Therefore, the Vardeman House Site was recommended for Phase III data recovery.

Based on the Phase I and II investigations, the Vardeman House Site was determined to retain horizontal and potentially vertical integrity, containing intact subsurface features, and the potential to address a number of research questions concerning frontier sites and late eighteenth- to early nineteenth-century farmsteads. Research questions include the influence of early settlers' need for defense on settlement patterns, levels of market participation and self-sufficiency, diet and subsistence, and intra-site spatial organization (McBride and McBride 1990:664-684). Additional research questions may be directed at the interaction and influence of Native Americans and African-Americans on the social organization, socioeconomic status, subsistence practices, and inter- and intra-site spatial organization of the early Euro-American settlers of the region.

The purpose of this final phase of field investigation was to mitigate the effects of the undertaking by archaeological data recovery, providing data integral to research on the early settlement period of the Bluegrass Cultural Landscape (Davis and Linebaugh 2000:17). The first stage of the Phase III data recovery was the excavation of close-interval, systematic shovel tests to probe the cultural deposits at the Vardeman House Site and to provide soil samples for soil chemical analyses. The second stage was the excavation of sample test units based on the artifact and soil chemistry distribution data derived from the shovel tests. The final stage was mechanical

stripping of the Vardeman House Site and the mapping and excavation of features.

The Phase III data recovery fieldwork was conducted between November 27, 2000, and August 3, 2001, and included the excavation of 901 shovel tests, 53 1-x-1 m test units, 5 .5-x-1 m test units, the identification of 126 non-cultural features and the excavation of 17 cultural features (14 historic and 3 prehistoric) in addition to the identification of an additional four potential historic post holes/post molds.

A total of 18,920 cultural materials were recovered during recovery efforts at the Vardeman House Site; 9,503 were historic artifacts, primarily associated with the late eighteenth- through mid-nineteenth-century period of significance, 7,813 were prehistoric cultural materials dating from the early Archaic through Late Woodland/Late Prehistoric periods, and 1,604 were primarily organic artifacts (faunal remains and charcoal) of indeterminate cultural affiliation.

Nine hundred one shovel tests were excavated across the site at 2.5-m intervals in order to assess the horizontal extent of deposits, the vertical integrity of deposits, and to provide soil samples for soil chemical analysis (see Figure 4.2). One hundred and ninety-four (194) shovel tests were positive for prehistoric artifacts only, 51 were positive for historic artifacts only, 203 shovel tests yielded both prehistoric and historic artifacts, one shovel test yielded a fragment of culturally indeterminate charcoal, and 444 shovel tests were negative for cultural materials. Shovel tests yielded 1,002 historic cultural materials and 1,107 prehistoric cultural materials. A total of twenty-two organics of indeterminate cultural affiliation were also retained from the shovel tests.

The majority of historic and prehistoric artifacts retained from the shovel testing at the Vardeman House Site were recovered from the plowzone or buried plowzone deposits. Of the total of 1,002 historic artifacts recovered from the 901 shovel tests, 94.01% (n=942) were recovered from plowzone or buried plowzone deposits. Of the total of 1,107 prehistoric artifacts recovered from the shovel test, 96.75% (n=1,071) were recovered from plowzone or buried plowzone deposits.

Fifty-eight test units were excavated to assess the potential for sub plowzone cultural deposits and features, to assess the artifact density of cultural materials within the plowzone, and to provide data on the horizontal extent of the cultural deposits. The total area of the Vardeman House Site subjected to test unit excavation measured 56.5 m^2 (see Figure 4.3). A total of 5,523 historic cultural materials and 4,792 prehistoric cultural materials were recovered from the test unit excavation. Two hundred sixty-two organics of indeterminate cultural affiliation were also retained from the test units.

The plowzone from the site area, measuring approximately 2,500 m^2, was mechanically removed (see Figure 4.4) to identify and locate intact portions of cultural features associated with the site. During the mechanical removal of the plowzone, 147 possible features were identified. Of these, 17 were determined to be cultural (14 historic and 3 prehistoric), 4 were potentially cultural, and 126 were determined to be noncultural (see Figure 4.5). Tables 5.72 and 5.74 summarize the cultural, noncultural, and potentially cultural features identified at the Vardeman House Site. Seven additional trenches were mechanically excavated on the southern and eastern side of the site in order to assess whether there were intact deposits outside the stripped area. Only Trench 7 revealed a feature (Feature 135, a tree fall from which prehistoric and historic artifacts were collected) (see Figure 4.4).

The prehistoric component at the Vardeman House Site was more extensive than had been previously documented, however, the prehistoric component was not considered eligible for listing

on the National Register of Historic Places at the Phase II level and was thus considered secondary to the late eighteenth- and early nineteenth-century occupation. The total of 7,813 prehistoric artifacts recovered during the Phase III data recovery of the Vardeman House Site includes 13 prehistoric ceramics (.16% of the total Phase III prehistoric cultural materials assemblage) and 7,800 (99.83% of the total Phase III prehistoric cultural materials assemblage) lithic artifacts. The lithic artifacts recovered include 46 hafted bifaces (.58% of the total Phase III prehistoric cultural materials assemblage), 79 bifaces (1.01% of the total Phase III prehistoric cultural materials assemblage), 1 hafted endscraper (.01% of the total Phase III prehistoric cultural materials assemblage), 2 flaked celts (.02% of the total Phase III prehistoric cultural materials assemblage), 1 scraper (.01% of the total Phase III prehistoric cultural materials assemblage), 15 prismatic blades (.19% of the total Phase III prehistoric cultural materials assemblage), 3 blade-like flakes (.03% of the total Phase III prehistoric cultural materials assemblage), 9 retouched flakes (.11% of the total Phase III prehistoric cultural materials assemblage), 1 utilized flake (.01% of the total Phase III prehistoric cultural materials assemblage), 1 core (.01% of the total Phase III prehistoric cultural materials assemblage), 7,626 pieces of debitage (97.60% of the total Phase III prehistoric cultural materials assemblage), 2 fire-cracked rock (.02% of the total Phase III prehistoric cultural materials assemblage), and 14 miscellaneous unmodified stones (.17% of the total Phase III prehistoric cultural materials assemblage).

The prehistoric component, which spanned the Early Archaic through the Late Woodland/Late Prehistoric periods, was much more extensive than previously thought. Although the majority of the prehistoric cultural materials recovered from the Vardeman House Site originated in plowzone or buried plowzone deposits (n=5,812, 74.38%), a significant number were recovered from intact portions of subsurface cultural and non-cultural features (n=1,171, 14.98%) (see Figure 4.5). Prehistoric cultural materials were also retained from the general surface collection, and mechanical plowzone removal (n=742, 9.49%). A small percentage of the prehistoric cultural materials recovered (n=86, 1.1%) were excavated from the natural subsoil. One prehistoric flake fragment/ shatter was recovered from an ash lens within Shovel Test 93, and one secondary flake was recovered from the balk near non-cultural Feature 85.

Three prehistoric features (Feature 39, 108, and 140) were recorded during the Phase III data recovery. These features were determined to be the surviving subplowzone portions of disposal pits containing a moderate quantity of prehistoric lithic artifacts. A small quantity of prehistoric ceramics was recovered from Feature 108.

Historical research indicated that the Vardeman House Site is associated with lands historically owned by the Vardeman family. This site was originally part of land patented by William Menifee, ca. 1781. Menifee then sold it to his father-in-law John Vardeman, Jr. in approximately 1789. It was then acquired by John, Jr.'s son, Morgan Vardeman, in 1803. Morgan passed it to his son, Jeremiah, in 1844, who then sold it to his brother-in-law, Ephraim Pennington, in 1851. Upon its sale, the property was apparently abandoned for more modern dwellings. According to available documentation, Pennington never occupied the site, nor did he rent it out. Therefore, the period of significance for the Vardeman House Site extends from ca. 1781 to 1851.

A total of 9,503 historic artifacts were recovered during the Phase III data recovery. This total includes 16 (.16% of the total Phase III historic cultural materials assemblage) historic cultural materials associated with the activities functional group, 4,369 (45.97% of the total Phase III historic cultural materials assemblage) historic cultural materials associated with the architectural functional group, 14 (.14% of the total Phase III historic cultural materials assemblage) historic

cultural material associated with the clothing functional group, 38 (.39% of the total Phase III historic cultural materials assemblage) historic cultural material associated with the clothing functional group, 5 (.05% of the total Phase III historic cultural materials assemblage) historic cultural material associated with the domestic activities functional group, 754 (7.93% of the total Phase III historic cultural materials assemblage) historic cultural materials associated with the faunal/floral functional group, and 4,093 (43.07% of the total Phase III historic cultural materials assemblage) historic cultural materials associated with the food preparation/consumption functional group.

Although the majority of the historic cultural materials recovered from the Vardeman House Site originated in plowzone or buried plowzone deposits (n=6,413, 67.48%), a significant minority of the historic cultural materials were recovered from intact portions of subsurface cultural and non-cultural features (n=1,800, 18.94%). Historic cultural materials were also retained from the general surface collection, mechanical plowzone removal, and backdirt (n=1,163, 12.23%). A small percentage of the historic cultural materials recovered (n=108, 1.13%) were excavated from the natural subsoil. One whiteware fragment, one unidentified colorless container glass fragment, and one window glass fragment were recovered from an ash lens within Shovel Test 93; eight brick fragments, two coarse earthenware fragments, four whiteware fragments, and two unidentified, molded container glass fragments were recovered from the balk near non-cultural Feature 8.

Historic ceramics comprised 35.23% (n=3,348) of the entire historic assemblage recovered from the Vardeman House Site. The most common waretype represented in the assemblage was whiteware, constituting 48.92% (n=1,638) of the historic ceramics recovered. Pearlware was the next most numerous ceramic, constituting 25.83% (n=865) of the ceramics. Percentages of other historic ceramics recovered include bone china, 4.24% (n=142); Chinese export porcelain, .08% (n=3); coarse earthenware, 11.2% (n=375); creamware, 3.91% (n=131); ironstone, 1.22% (n=41); Rockingham/Bennington-type earthenware, .02% (n=1); American brown stoneware, .05% (n=2); American gray stoneware, .26% (n=9); unidentified ceramics, .11% (n=4); unidentified hard paste porcelain, 1.19% (n=40); unidentified refined earthenware, 2.48% (n=83); unidentified stoneware, .11% (n=4); Whieldon-type refined earthenware, .05% (n=2); white salt-glazed stoneware, .02% (n=1); and yellowware, .2% (n=7).

The historic cultural materials primarily date from the period of Morgan Vardeman's occupation from ca. 1803 to 1847. A mean ceramic date of 1825.44 was calculated based on a total of 3,218 diagnostic historic ceramics which is consistent with the Morgan Vardeman occupation. A mean Moir date of 1808.711 was calculated for the Vardeman House Site based on a total of 1,162 windowpane glass fragments. The Moir date of 1808.71 is considered to represent the initial construction date for the farmstead associated with the site which is consistent with the early nineteenth-century Morgan Vardeman occupation. The historic component dated primarily to the third quarter of the eighteenth through the second quarter of the nineteenth centuries, however, modern materials associated with hunting and the construction, repair, and maintenance of field fences were also recovered. The diagnostic artifacts are consistent with the historical documentation indicating that except for twentieth-century agricultural use of the property, the site area was likely abandoned soon after it was acquired by Ephraim Pennington from Jeremiah Vardeman in 1851.

As previously stated, the ceramics from the Vardeman House Site primarily date to the period of site occupation by Morgan Vardeman, ca. 1803-1847. Comparative analysis of the wealth of Morgan Vardeman as enumerated in his taxed land in 1840 with the land value listed for other farmers of Morgan's age, as well as for all of the farmers

within Lincoln County, suggests that Morgan enjoyed a socio-economic status which was above average. The results of the economic scaling of the imported British ceramics recovered from the Vardeman House Site, which were associated with the Morgan Vardeman occupation, illustrated that Morgan's household enjoyed a socio-economic status not unlike antebellum middling urban residents of Baltimore, Maryland, and Wilmington, Delaware, and at least one rural resident of Chesapeake, Virginia. This is significant because it documents that Vardeman family members were active participants in the Georgian "consumer movement" that stressed individuality, status display, emulation, and gentility through the acquisition and display of material goods (Deetz 1977; Bushman) in much the same way as residents of states along the eastern seaboard. Old notions of a self-reliant, simple, nonmarket Kentucky frontier existence has recently been reassessed in light of historical scholarship that indicates that early nineteenth-century rural Kentucky was within the market of European commodities and the expanding world economy (Perkins 1991:487). Early nineteenth-century Kentucky was socially and economically transformed with improvements to the transportation network, and the resulting efficient diffusion of both goods and ideas via the newspaper and postal service.

The interconnectedness between rural Kentucky and the mercantile network of eastern United States merchants and British traders is exemplified by the high percentage of likely imported to domestically produced ceramics recovered from the Vardeman House Site. Of all the identifiable historic ceramics recovered, likely imported ceramics (imported from Europe and China) accounted for 88.44% of the ceramics. Notions of style, fashion, emulation, and gentility, which swept the eastern United States, permeated rural Kentucky during the antebellum period. The interest in acquiring the latest in fashion and stylish consumer goods by Kentuckians was often catered to by merchants advertising in Lexington newspapers during the early nineteenth century. The wide availability of consumer goods including varieties of imported ceramics from Europe and China during the early Federal period and the active participation by rural Kentuckians in the market economy of the period was exemplified by the ceramic acquisitions of the occupants of the Vardeman House Site.

Fourteen historic cultural features (Features 6, 11, 11c/11d, 15/85, 16/16A, 23, 26, 27, 30, 31, 41, 42, 108A, and 110) were identified and excavated during the Phase III data recovery. Of the 14 historic features, 6 (Features 6, 11c/11d, 26, 30, 31 and 108A) were interpreted as postholes/post molds. Three of the excavated postholes/post molds, Feature 6, 30, and 31, were identified as part of the west-east oriented fence line which may also include possible Features 32, 82, 90, and 95. Few historic artifacts were recovered from the posthole/post mold features. Seven of the features (Features 11, 16, 23, 27, 41, 42 and 110) were interpreted as trash pits. A wide variety of domestic, primarily kitchen and architectural-related artifacts were recovered from these seven historic pit features. One historic feature (Feature 15/85) was interpreted as a limestone field boundary wall post-dating the period of significance. A total of 4 other potential historic features (Features 32, 82, 90 and 95) were interpreted as possible post holes/post molds related to a west-east oriented fence line.

The data recovery included efforts to re-establish the location of the potentially significant cultural deposits and features identified by Sussenbach in 2000 as well as to excavate the features identified but not excavated by Sussenbach in order to evaluate the possibility that these may be cultural features related to the historic or prehistoric components. The sheet midden identified by Sussenbach (2000) was not recorded during the Phase III data recovery indicating that this feature must have been very localized and discrete, or ephemeral. An important aspect of the data recovery included attempts to relocate and identify the five features identified by Sussenbach (2000) so that accurate interpretations could be made

concerning potential spatial relationships between features at the Vardeman House Site and the potential to interpret the changing use of space over time at the site. Four of Sussenbach's five features were located and identified. Three of these, Features 3, 4, and 5, were left unexcavated by Sussenbach, but were excavated by UK-PAR as Feature 41, 141, and 143 respectively. Feature 41 was determined to be an historic trash/waste pit. Feature 141 was determined to be a non-cultural tree root. Feature 143 was determined to be a non-cultural shallow stain extending just 2 cm below the plowzone. Sussenbach had identified his Feature 1 and excavated this feature as a privy. This feature was relocated, named by UK-PAR as Feature 41N and was partially "reexcavated" before it was determined to be the privy identified by Sussenbach in 2000. All cultural materials recovered from the excavation of the backfilled privy were retained and are included in the artifact inventory (see Appendix A). Sussenbach's Feature 2, identified as a filled-in tree fall (Sussenbach 2000:42), was not relocated.

The data recovery also included a comprehensive soil chemistry analysis of soil samples recovered from each of the 901 shovel tests in order to determine the location of activity areas and architectural layout based on soil chemical signatures. Samples were subsequently sent to the University of Kentucky College of Agriculture for analysis. Soil pH was tested as well as calcium, phosphate, manganese, magnesium, and zinc signatures.

The soil chemistry analysis data yielded interesting results which have aided in the evaluation not only of the nature and function of many of the historic features identified at the Vardeman House Site, but also the ability to ascertain historic activity areas and spatial use of the homelot. The concentrations of elements identified during the soil chemistry analysis in several cases mirrored the presence of surviving portions of underlying sub-plowzone historic cultural features. This was most clearly seen in the western portion of the site in the vicinity of the privy identified by Sussenbach (Feature 1 and Features 41 and 42), although the area around the historic trash pit, Features 23 and 27, yielded elevated concentrations of many of the compounds under evaluation. Interestingly, two of the largest historic pit features, Features 11 and 16, were located in portions of the site which contained only slightly elevated concentrations of phosphorous, calcium, magnesium, and manganese. Although cultural materials recovered from Features 11 and 16 largely include the same types of historic materials recovered from Features 41 and 42, the soil chemical results for these areas differed. This was likely due to the nature of the temporal and functional relationship of the features and the respective portion of the site containing these features. The main area of human waste disposal and other discard was within the western and southwestern portions of the site. Consequently, the northern and eastern portions of the site witnessed less intense discard activities.

Portions of the site containing the prehistoric cultural features (Features 39, 108, and 140) generally did not document the pronounced, elevated concentrations of chemical compounds documented in the vicinity of the historic features. It was observed, however, that the prehistoric features were generally located within more diffuse elevated areas of phosphorous, calcium, magnesium, and manganese hinting that although the historic occupation had largely disturbed much of the prehistoric component and had resulted in high concentrations of chemical compounds, some of these elevated, but diffuse areas of compounds may indeed be attributable to the prehistoric occupation.

The lack of features potentially associated with a domestic structure identified at the Vardeman House Site makes the evaluation of the distribution of historic features, artifacts, and the soil chemistry data very important in hypothesizing the likely location of the Vardeman dwelling house. The distribution of chemical compounds across the the Vardeman House Site area was useful in graphically

displaying the boundaries of the Vardeman house homelot and the potential location of the dwelling associated with the site. The areas of elevated concentration of the compounds phosphorous, calcium, potassium, magnesium, manganese, and zinc suggest that the north-central portion of the site to the west-central and south-central portions of the site were the areas in which discard or organic materials, fireplace ash yard scatter, and other refuse and differential burning activities took place. The elevated levels of these compounds document the extent of the homelot and the immediate area of refuse/trash disposal around the likely location of the domestic Vardeman dwelling (see Figures 8.11-8.13). Evaluation of the features, artifact distributions, and concentrations of the compounds tested for as part of the soil chemistry analysis resulted in the likely location of the dwelling in the west-central portion of the site. The "arc" of concentrations of phosphates, potassium, calcium, and magnesium in portions of the northwestern and west-central sections of the site, with adjacent concentrations of architectural artifacts suggested the extent of the "homelot." The soil chemistry indicated that the domestic dwelling at the Vardeman House Site was possibly located within a portion of the west-central section of the site. This portion of the site falls within an area surrounded by the highest concentrations of architectural materials (brick, window glass, and nails).

The identification of a west-east oriented fence line, consisting of Features 6, 30, 31, and possibly Features 32, 82, 90, and 95, potentially associated with the Vardeman occupation is consistent with a dwelling being located within this area. The soil chemistry data reveals a reduction in concentrations of chemical compounds in the area north of the fence line suggesting that the fence line is related to the period of significance as well as demonstrating the differential use of portions of the site for primary and secondary discard. Although the architectural artifact recovery pattern and the soil chemistry data suggest the likely location of the Vardeman family dwelling, the lack of any intact architectural features or components precludes the confirmation of this location as the dwelling site.

The soil chemistry data combined with the spatial configuration of the cultural features identified at the Vardeman House Site suggests that the dwelling may have faced east. The domestic activities of food preparation and waste/refuse disposal would have been largely confined to the rear of the structure in areas which would be largely out of view to visitors and family approaching the dwelling from the front of the house, i.e., from the east. The location of the bluff west of the cultural features associated with domestic waste/refuse disposal served as a natural, unapproachable boundary for the domestic space and, therefore, it is unlikely that the dwelling was approached routinely by family and visitors from the west.

Statistical tests examined the relationship between the horizontal distribution within four regions (north, south, east, and west) around the potential area which was the location of the Vardeman family dwelling. Moir (1987) derived window glass temporal date ranges were calculated from a sample of 369 window glass fragments from these four regions. The result revealed relationships between the distribution of temporally affiliated window glass in areas likely north, south, east, and west of the dwelling location. The analysis suggested that the area likely west of the dwelling location contained higher than statistically expected quantities of window glass dating to the ca. 1773-1803 period than other portions of the areas around the dwelling location. The area east of the likely dwelling location contained a higher than statistically expected quantity of windowpane glass fragments associated with both the 1804-1825 and 1826-1847 periods.

The statistical tests strongly suggest differential distribution of the windowpane glass within the regions likely north, south, east, and west of the Vardeman dwelling location. This distribution offered limited, but potentially informative clues

regarding not only the construction date for the dwelling, but also thoughts regarding the potentially older portions of the construction and the portions of the dwelling which may have been modified during the Morgan Vardeman occupation. Based on the statistically higher than expected numbers of windowpane glass associated with the 1773-1803 period recovered from the area west of the likely dwelling location, it is possible that soon after 1803, the date which Morgan Vardeman acquired the property, the dwelling may have been constructed utilizing older window glass, or window glass which was brought to Kentucky from Virginia with the Vardeman family. It is also possible that the dwelling was constructed after ca. 1780 by William Menifee. In either situation, given the statistically higher than expected quantity of windowpane glass associated with the 1773-1803 period recovered from the area likely west of the dwelling, it seems as though the western portion of the structure was either the oldest portion, or the portion which was subject to less renovation, modification or windowpane glass replacement. In addition, the statistical result suggests that the east (interpreted as the front) side of the dwelling may have been subject to additions, modification or glass replacement during the ca. 1803-1847 Morgan Vardeman occupation. The temporal distribution of the windowpane glass would suggest that modification/renovation and/or windowpane glass replacement during the Morgan Vardeman occupation was not well represented along the north and south sides of the dwelling.

An analysis of the percentage of identifiable nails recovered from the Vardeman House Site reveals similar percentages to the nail types recovered from Structure 1 (McConnell's Homeplace). Structure 1 at McConnell's Homeplace was documented to have been a stone constructed dwelling. Based on the similar nail percentages recovered from the Vardeman House Site, it is possible that the Vardeman family dwelling may have also been of stone construction. Alternatively, the lack of intact stone foundation elements may suggest that the Vardeman family dwelling was of log construction.

An archaeobotanical assessment of botanical remains recovered from the Vardeman House Site was conducted by Jack Rossen of Ithaca College and the University of Kentucky. The results of the archaeobotanical analysis were of limited value for the interpretation of the site. The 175 carbonized wood fragments recovered include unidentifiable species or white oak. Desiccated seeds recovered from four weedy plants commonly recovered from nineteenth-century historic house sites were identified and were indicative of weedy plants which infiltrate neglected gardens. A small amount of carbonized black walnut was recovered from historic pit Feature 16/16A, likely a discarded food item. There were no identified economic plant materials within the archaeobotanical assemblage.

A total of 1,912 faunal specimens were retained from the data recovery at the Vardeman House Site. Minimum number of individual (MNI) counts of animal species within the the Vardeman House Site faunal assemblage were as follows: dog – 1; horse – 1; pig – 9; white-tailed deer – 1; cow – 1; fox squirrel – 1; eastern gray squirrel – 2; Canada goose – 3; turkey – 1; bobwhites – 2. Results obtained from the detailed faunal analysis (see Chapter 7) aided in the interpretation and place of the Vardeman House Site within the larger regional and antebellum upland south agrarian economic practices. Important data regarding the variety of animals present at the Vardeman House Site was obtained, in addition to the apparent similarity between the varieties of animal bone present at the Vardeman House Site and the Upland South cultural tradition (McCorvie 1987; Mitchell 1972, 1978; O'Brien and Majewski 1988).

The Upland South cultural tradition is a social and agrarian system drawing on practices from southeastern Pennsylvania, where corn, wheat and livestock are emphasized, and the Chesapeake region, where tobacco, hemp, and slavery formed

the basis of the antebellum agrarian economy. The high percentage of pig remains within the faunal assemblage from the Vardeman House Site relative to the other identifiable animal bone is the best indicator of the possible practice of the Upland South cultural tradition at the Vardeman House Site. The Upland South cultural tradition included the cultivation of corn, wheat and rye, with a focus on raising pig and cattle for food. In the interpretive discussion of the faunal materials contained in Chapter 7, Dr. Peres has associated the Vardeman House Site faunal assemblage with the Upland South Tradition.

Summary of the Prehistoric Occupation at the Vardeman House Site

Temporally sensitive information regarding the prehistoric component derived from the Phase III data recovery suggested episodic prehistoric occupation at the site from the Early Archaic through the Late Woodland/Late Prehistoric periods. Although the vast majority of the prehistoric materials recovered were retained from plowzone contexts, limiting the identification of discrete temporally sensitive portions of the site or activity areas, observations concerning the types of lithic reduction behaviors present at the Vardeman House Site were made. The main lithic reduction activities at the site seem to have been biface reduction and hafted biface manufacture, use, and maintenance as well as flake tool manufacture and use. The debitage data suggests middle to late stage biface thinning, pressure flaking, edge preparation, and final notching of previously reduced cores, bifacial preforms, and/or medium or large-size flakes into bifaces and hafted bifaces. The biface and hafted biface data show the full spectrum of the biface reduction sequence to the hafted biface end product. Many of the bifaces show manufacture breaks or thinning failures. Many of the hafted bifaces show manufacture or use breaks as well as resharpening on blade margins and breaks. In two cases broken hafted bifaces were reworked into hafted endscrapers. This evidence indicates tool maintenance and reuse. The two flaked celts may indicate that bifaces were also either intentionally produced for their own use or that those that could not or would not be made into hafted bifaces could be used as tools.

All of the unifacially modified tools found at the Vardeman House Site were made from flakes. They range widely in the complexity of the lithic reduction technique used to originate the flake as well as the amount and invasiveness of the modification. Unifaces and edge-modified flakes are typical artifact types found at most prehistoric sites. Usually flakes produced as a result of core and biface reduction are then modified to a greater extent, in the case of unifaces, and to a lesser extent, in the case of edge-modified flakes. Prismatic blades, however, suggest a specialized lithic reduction technique not typically present at most prehistoric sites, in which flakes of a particular shape have been intentionally produced from a specially prepared blade core with the intent of using them as tools.

An analysis of the potential sources and range of distribution of lithic materials has offered some interesting results and insights into potential prehistoric trade networks, and the placement of the Vardeman House Site near known Native American paths. the Vardeman House Site is located approximately 8 km west of the "Tennessee River, Ohio, and Great Lakes Trail," and only a couple km south of the "Wilderness Road" which connects to the more famous "Warriors Path" to the east (see Figure 9.5). The Great Lakes Trail is one of the largest trails on Myer's map, running north-south from Lake Erie and present day Detroit, through Cincinnati, Ohio, down to Georgia. According to Myer, this path would have presented a way for trade goods to make their way to the north or the south, and could explain the presence of Ohio Flint Ridge chert and grit (grit/quartzite) tempered ceramics in south central Kentucky.

The lithic raw material types exhibited at the Vardeman House Site suggest that the vast majority (82%) of the raw material were procured from

local outcrops located within the previously defined *Immediate* (0-6.4 km) and *Local* (6.4-20.9 km) access groups. However, a small percentage of non-local or exotic material (.55%) was recovered from the Vardeman House Site. Included in this group is Flint Ridge chert, which occurs naturally in Ohio, 322 km away. Thirteen prehistoric ceramics were also found at the Vardeman House Site, including three grit tempered fragments. Grit tempered ceramics are not known to be affiliated with prehistoric groups living in Lincoln County. Therefore, these ceramics may have been produced outside the region and imported to the Vardeman House Site. Thus, it is possible that some of the ceramics and the Flint Ridge chert were brought to the Vardeman House Site at the same time, perhaps through trade.

A total of thirteen prehistoric body sherds, representing elements of ceramic vessels, was recovered from plowzone (n=8) and feature (n=5) contexts. No rim, handle, or other appendage fragments were recovered from the data recovery of the Vardeman House Site. No decorated fragments were recovered either. Crossmends reduced the total number of individual sherds to seven. Prehistoric ceramics, which were equal to or larger than 4 cm^2 (n=4) in size, were analyzed completely. The other three fragments measured less than or equal in size to 2 cm^2 and due to their small size were not included within the specialized analysis.

The prehistoric ceramics recovered from the data recovery of the Vardeman House Site do not present clear temporally diagnostic attributes, such as lip, rim, or vessel form, or decoration, that might provide insights into their age. Determining the temporal affiliation of the prehistoric ceramics focused on an analysis of other attributes including temper, paste, and exterior surface treatment. The prehistoric ceramic analysis concluded, based on the physical characteristics of the ceramics, that the fragments may be associated with the Middle Woodland through Late Woodland periods, possibly as late as around A.D. 1400, since limestone tempered ceramics are documented to have been manufactured as late as that date in central Kentucky (Turnbow 1988).

It is interesting that 15 prismatic blades and twenty temporally diagnostic Woodland and Late Prehistoric projectile points were recovered from the site. Fourteen of these projectile points are assigned to the Middle Woodland/early Late Woodland Lowe Cluster (Steuben Expanded Stemmed, Bakers Creek, Lowe Flared Base, and Chesser Notched) (Justice 1987:208). These projectile points were specifically discussed within Chapter 6. It was observed by Gwynn Henderson that the identification of these projectile points might indicate that the prehistoric ceramics are associated with the Middle Woodland/early Late Woodland period.

The prehistoric ceramic analysis of the 13 fragments recovered from the Vardeman House Site indicates that additional archaeological research is needed in order to more fully understand prehistoric ceramic manufacturing tradition in Lincoln County.

The greater presence and variety of diagnostic Middle Woodland artifacts and the greater variety of lithic raw materials during this period may suggest a more intense utilization and/or longer occupation of the site during this period. This may, in part, be a result of the Woodland period being consistent with a more sedentary lifestyle (Railey 1996). However, the abundance of material could also be indicative of a greater focus on hafted biface production and maintenance at the Vardeman House Site during this time, or perhaps the small sample size is responsible for skewing the results.

Research Goals/Conclusions

The historic artifact analyses and comparative material culture and consumerism discussions were written with the intent of answering as many of the questions contained within the research design

as possible as well as to elicit additional questions and issues applicable to current scholarship in historical archaeology. As a result of the limited integrity at the Vardeman House Site due to agricultural plowing and the lack of intact architectural features, data was not returned that would yield substantive observations concerning some of the research questions. Simplified answers to as many of the research questions contained in the report and elaborated upon in Chapter 2 are summarized in the section presented below. The analytic comparison of likely imported to domestic produced ceramics, the economic scaling index, and the comparison of ceramic waretypes recovered from the Vardeman House Site with other contemporaneously occupied sites in Kentucky, Delaware, and Maryland offered interesting insights into regional patterns of consumerism and the dominance of imported ceramics during the late eighteenth and majority of the nineteenth century. Short summaries of the relevant data recovery interpretive results presented within this report are organized according to the individual research goals as discussed in Chapter 2.

1. Consumerism

The ceramic analysis in particular offered the greatest opportunity to compare the consumer spending patterns by the Vardeman family with the occupants of contemporaneously occupied sites in Kentucky, Delaware, and Virginia. Within the Kentucky site group, little differences were observed in the percentages of likely imported to domestically produced ceramics recovered from sites with fort or station components versus purely domestic sites. This may be due to the extended period of occupation of the fort/station sites well into the nineteenth century, masking any potential distinction between ceramic consumption patterns from fort/station and rural domestic sites. More specialized research could be undertaken to separate the ceramics recovered from deposits exclusively associated with the fort/station period to allow for a more substantive comparison of the consumer patterns.

All of the sites from Kentucky, Delaware, and Virginia, within the comparative group yielded a high percentage of likely imported ceramics to domestically produced wares with the exception of the two Nelson County, Kentucky, sites and the Whitten Road Site in New Castle County, Delaware. Reasons for the comparatively low percentage of likely imported ceramics may include proximity to markets and mercantile establishments, particular site function, and consumer product choice. Further research into regional consumer spending patterns in Kentucky and the eastern seaboard states may substantiate, or refute the observations contained in this report.

Although the ceramic assemblages from a number of sites were compared, the representativeness of the site group used can be questioned as can the inclusion of all "likely" imported ceramics into the percentage analysis. It has already been documented that into the 1880s the American market had been dominated by imported ceramics, largely from Britain (Ewins 1997), but also including cheaper porcelains from France and the classic Chinese porcelain from the East. Although local production of coarse earthenwares/redwares ensued early in the historic occupation of Kentucky with production of these wares by several potters in Lexington between 1790 and 1810 (O'Malley 1997), the dependence on imported, primarily British refined wares has been considered to continue through the third quarter of the nineteenth century. The pottery industry in America, although commencing during the early nineteenth century, did not rival the British products in quality and cost until the late nineteenth century. The famous American potteries of Liverpool, Ohio, which came to supply the ceramic needs of the Midwest as well as much of America, only began production during the later part of the nineteenth century (Gates and Ormerod 1982).

Future research in regional consumer spending patterns and the availability of goods may focus on the comparative analysis of particular temporally discrete deposits from a variety of domestic sites

during the pre-1850 and post-1850 periods to evaluate the degree to which imported ceramics continued to dominate the American market during the nineteenth century. The 1851 *terminus ante quem* established for the Vardeman site would make the assemblage well suited to this type of specialized analysis.

One of the interesting observations which developed out of the comparative ceramic analysis between the sites from Kentucky, Delaware, and Virginia, was that although the Kentucky sites were dominated by likely imported ceramic forms, which typically constituted greater than 70% of the total ceramics recovered, a more limited variety of imported ceramics were recovered. This is to say that it may be that case that in the more established and well-connected eastern seaboard states, including Delaware and Virginia, a wider array of imported ceramic waretypes were available to the consumer. The types of ceramics that were recovered from the Delaware or Virginia sites that were not observed within the Kentucky assemblages include Buckley-type coarse earthenware, Staffordshire/Staffordshire slipware and Rhenish stoneware. Other ceramics forms including tin enameled earthenware, Jackfield-type refined earthenware, British stoneware, Chinese export porcelain, and white salt glazed stoneware were all documented with more frequency within the Delaware and Virginia site groups although each of these were recovered from a minority of some of the Kentucky sites. All of these ceramics do largely date to the eighteenth century, so their presence may be a result of more intensive earlier occupation at the Delaware and Virginia sites during the late eighteenth century and/or the limited availability of goods which characterized the first years of settlement in Kentucky.

2. Settlement patterns

The data recovery at the Vardeman House Site offered a unique opportunity to evaluate the social response to the changing settlement pattern in Kentucky from clustered settlement for security and camaraderie and to adjust to the new environment of more diffuse, rural settlement characterized by the establishment of individual family farms that were separated from other farmers. The data recovered from the Vardeman House Site, which was established during the early years of the transition from clustered (fort/station) based settlement to dispersed rural farms during the late eighteenth and early nineteenth century, suggests that this shift in settlement occurred quite rapidly. By the early years of the nineteenth century, improved transportation networks, the advent of steam powered boats, and decreased threats from Native American groups meant that the shift from frontier to a more established, rural agrarian economy had taken place. The variety of imported goods recovered from the Vardeman House Site, the evaluation of late eighteenth- and early nineteenth-century Lexington newspapers, which offered a wide range of imported goods to Kentucky consumers, and the accounts of the travels of Alexis de Tocqueville in 1831 all confirm the transition to a secure, more established agrarian based economy.

The limited archaeological integrity observed at the Vardeman House Site reduced the ability to offer substantive observations concerning the nature of the farm layout, the location of the main family dwelling, the location of potential support structures and outbuildings, and differential use of space at the site. The lack of intact architectural elements relating to the location of the family dwelling limited the intrasite spatial analyses conducted. Having said this, a combination of the documented locations of surviving sub-plowzone features, the distribution of architectural artifacts including brick and nails, the specialized nail and glass analysis, and the soil chemistry data collectively suggest evidence of the "homelot" and its potential location, potential method of construction, and relative size as well as some of the differential discard/waste disposal practices at the Vardeman House Site.

The variety of whole nails documented from the Vardeman House Site is in similar proportions to the nails recovered from both the McConnell's Homeplace site (15BB75) and the Locust Grove Site (Young 1991). This suggests that the domestic dwelling at the Vardeman House Site may have been a stone construction with a wood roof. It is possible that the stone foundation associated with the Vardeman family dwelling was removed from its original location and reutilized in the building of the north/south oriented stone wall. Alternatively, the lack of intact stone foundation elements combined with a strong tradition of log construction in rural Kentucky vernacular building traditions may suggest that the Vardeman family dwelling was of log construction.

The recordation of a number of historic trash pits and the location of the previously identified privy excavated by Sussenbach (2000) all confirm that refuse/waste disposal during the historic period was primarily confined to the western and southwestern portions of the site. The soil chemistry data confirmed this yielding high concentrations of phosphorous, calcium, potassium, magnesium, manganese, and zinc largely within this portion of the site. High concentrations of these compounds have been demonstrated to correlate with a variety of disposal activities including human and animal waste and other organic discards, as well as fireplace ash and other burning waste debris, in an "arc" pattern. This pattern is characteristic of a domestic "homelot" with the dwelling located within the center of the arc. The distribution of the nails and brick fragments recovered within the west-central portion of the site would suggest that the dwelling may have been located in this portion of the site. The soil chemistry data in conjunction with the distribution of the architectural-related artifacts, the location of the trash/waste pits, and the distribution of the architectural artifacts recovered from the shovel tests indicate one plausible location for the site of the antebellum Vardeman family dwelling. The dwelling was likely oriented with the front of the structure facing east, as opposed to facing the bluff overlooking Cedar Creek to the west and north, or south, which would have faced the primary waste/discard areas. In addition, the location of a west-east fence line may have separated the domestic dwelling and associated primary discard areas from agricultural fields, or an area where domestic animals may have been kept north of the fence line.

3. Exchange

The specialized comparative ceramic analysis of the sites in Kentucky, Delaware, and Virginia offered an opportunity to address issues concerning consumerism, the degree to which imported goods were available in antebellum Kentucky compared with antebellum Delaware and Virginia, and the impact of the availability of imported goods present at the Vardeman House Site in relation to improvements in the transportation network during the early nineteenth century. Issues regarding exchange of goods were dovetailed with the consumerism research topic. The conclusions reached within the report concerning the diffusion of goods within Kentucky and at the Vardeman House Site are summarized in this chapter under the "Consumerism" section.

4. Foodways

Analysis of faunal remains is widely accepted to be one of the best avenues to explore issues regarding potential status of the occupants in addition to an understanding of foodways practiced at the site. An assessment of the faunal remains recovered from the Vardeman House Site has the potential to provide an assessment of status for the individuals at the site and form the basis of a regional comparison of the faunal assemblage.

The data recovery of the Vardeman House Site yielded a total of 1,912 faunal specimens which documented a variety of both wild and domestic animal taxa. Dr. Tanya Peres of UK-PAR conducted the detailed faunal interpretation of the

animal remains recovered from the Vardeman House Site contained within Chapter 7. The Vardeman House assemblage includes the remains of dog, horse, pig, white-tailed deer, cow, fox squirrel, eastern gray squirrel, Canada goose, turkey, ducks/geese, quail, bobwhites, chicken/ turkey/prairie-chickens in addition to unidentified birds, unidentified mammals and invertebrates which included bivalves, gastropods and a terrestrial snail.

In the interpretive discussion of the faunal materials contained in Chapter 7, Dr. Peres has associated the Vardeman house site (15LI88) faunal assemblage with the Upland South Tradition. The Upland South cultural tradition is both a social and agrarian system which is interpreted as influencing the diet and foodways of residents of rural antebellum Kentucky. The Upland South cultural tradition stresses a diet heavy on pork with the cultivation of corn, wheat and rye in addition to the practice of cow husbandry. Just one pig bone and one cow bone exhibited evidence of cut marks, prohibiting a substantive analysis of cut marks. Utility indices of selected mammals within the the Vardeman House Site faunal assemblage documented a high percentage of low utility bone elements relative to medium and high utility elements. Low utility elements include bone associated with the head (except for pig mandibles considered to be medium utility) and feet. Medium utility bone includes pig mandible. The remainder of the cuts of meat were considered representative of high utility portions of the mammals. A total of 186 elements of pig, the most numerous identifiable mammal within the assemblage based on fragment count, representing 76.85% of the identifiable pig elements, were considered low utility; no elements of pig were considered medium utility; a total of 56 elements of pig, representing 21.34% of the identifiable pig elements, were considered high utility (see Chapter 7, Table 6). A preponderance of low utility cow elements were also documented within the assemblage; low utility cow numbered 14 elements (87.5%) of the identifiable cow bone, high utility cow numbered 2 elements (12.5%) of the identifiable cow bone.

The specialized historic ceramic analyses conducted at the Vardeman House Site returned significant results regarding the socio-economic status of the Vardeman family, and more specifically the Morgan Vardeman household. As discussed in Chapter 8, the calculation of the overall economic scaling index for Morgan Vardeman was completed based on the British produced ceramic vessels identified within the 263 minimum ceramic vessels identified from the test unit and feature deposits within the assemblage. The results of the economic scaling suggested that Morgan Vardeman's expenditures on ceramics were on a par with the rural Happer farmstead in Chesapeake, Virginia; the C. Allen house in Christiana, Delaware; and the T. Hamlin occupation in northern New Jersey. The comparability of expenditure on ceramics by Morgan Vardeman's household with rural households in New Jersey and Virginia demonstrates the availability and a range of ceramic commodity choices in rural Kentucky which were also available to residents of the eastern United States. Interestingly, the socio-economic standing of the Morgan Vardeman household at the Vardeman House Site as reflected by the expenditure on ceramics is comparable to that of eastern seaboard middle class urban residents. It was observed that although the economic scaling exercise suggested that Morgan Vardeman had a socio-economic status that was similar to middling residents of eastern seaboard states, given the frontier setting of Kentucky, the Vardeman assemblage may reflect an expenditure on ceramics that could have been above that of typical middle class Kentucky settlers.

The similarity of the economic index of the ceramic assemblage from the Vardeman House Site with that of urban residents in Christiana and Wilmington, Delaware, is significant since both are locations close to local east coast and international markets. By the early nineteenth century, goods

commonly found among middle class urban dwellers along the eastern seaboard were also available and acquired by residents of rural Lincoln County, Kentucky. The availability of goods in rural Lincoln County, as reflected by the variety of ceramics associated with the Morgan Vardeman occupation and the comparability of the ceramic assemblage to contemporaneous rural occupations in New Jersey and Virginia, demonstrates the interconnectedness between rural Kentucky and the greater markets of goods and export networks of British ceramics which were re-exported to Kentucky from the eastern seaboard cities of Philadelphia, Boston, and Baltimore.

The analysis of vessel form among the 263 minimum identified vessels also offered interesting data concerning the foodways practices, socio-economic status, and adherence to the Georgian ideals of civilized dining, refined styles of living, and following the notions of gentility. The analysis of the percentage of hollowware to flatware vessels documented that flatware vessels constituted the majority of the vessels which could be identified as to form. This percentage is observed to be consistent with the pattern observed for moderate to upper middle socio-economic status households. This data substantiates the economic scaling data which showed an assemblage largely characteristic of a middle class household.

The vesselization analysis also identified multiple types of imported teawares, suggesting that the Vardeman household adhered to the Georgian practice of "taking tea." The vessels associated with tea drinking include primarily handleless teabowls, handled teacups, and saucers. The ceramic teawares, like the tablewares and platters, were documented to illustrate a gradual progression in the acquisition of more expensive and more highly decorated forms over time during the antebellum occupation period at the Vardeman House Site. The likely earliest teawares present were the Chinese export porcelain and creamware vessels. These two vessels may have been part of an everyday creamware tea service and a more special Chinese porcelain tea service used for entertaining guests or special occasions. These teawares may have been replaced with both transfer printed and polychrome handpainted pearlware teawares used for everyday use and the bone china teawares likely used for entertaining and special occasions.

During the later occupation period at the Vardeman House Site the pearlware and bone china teawares may have been replaced by handpainted and transfer printed whiteware teawares used for everyday occasions and the unidentified hard-paste porcelain teawares used for special occasions. The unidentified hard-paste porcelain may have been affordable French imported wares popular in America during the 1830s. Thus, it is conceivable that three groups of everyday and special occasion teawares were present at the Vardeman House Site, each of the initial sets replaced by subsequently newer and more fashionable teawares. The changing use of ceramic tea and tablewares document not only the importance of the Georgian practice of "taking tea" which embodied the notions of refinement, gentility, and good taste associated with the upper classes, but also the improving economic fortunes of the Morgan Vardeman household. Although Morgan was documented to have had economic troubles in his later years, the archaeological data illustrate that it is likely that during his occupation of the property he was able to afford and saw as important the acquisition of updated, more stylish and fashionable table and teawares.

5. The archaeology of the household

The analysis of the spatial location of the intact sub-plowzone historic features recorded at the Vardeman House Site, the distribution of the architectural related artifacts, and the mapped concentrations of chemical compounds completed as part of the soil chemistry analysis all offered insights into the structure, spatial layout, and intrasite

use of space at the Vardeman House Site. In spite of the limited integrity at the Vardeman House Site, compromised largely as a result of agricultural plowing, substantive data was returned. This data documented not only the location of disposal/waste areas and the location of a west-east oriented fence line, but also the potential location of the antebellum Vardeman family dwelling house and the potential method of construction utilized to build the dwelling. The soil chemistry data reinforced the interpretation of historic features as disposal/waste pits, the interpretation of Sussenbach's Feature 1 as a privy, in addition to providing data which documents an "arc" of disposal of ash and burn refuse which has been determined to be characteristic of a domestic "homelot."

The identification of temporally discrete deposits which date to specific decades within the documented occupation period of ca. 1781-1851 at the Vardeman House Site was not possible due to the impact of the agricultural plowing at the site and the recovery of late eighteenth-century artifacts within features yielding nineteenth-century materials. Having said this, the nature of the deposits and the diagnostic materials recovered from the features, together with the mean ceramic dates calculated for the historic features, document the association of all of the historic features containing diagnostic artifacts with the ca. 1803-1847 Morgan Vardeman occupation. The contemporaneous nature of the identified historic features at the Vardeman House Site precludes the evaluation of the changing use of space at the site over time. Based on the diagnostic historic artifacts recovered from the intact historic features, the features all appear to have been created during the same period. The documented abandonment of the site by 1851 precludes the evaluation of changing use of space at the site during the postbellum period.

One privy was documented at the Vardeman House Site, Feature 1, recorded in 2000 by Sussenbach (Sussenbach 2000). As previously discussed in the report, the privy documented by Sussenbach was determined to be unlined. A lined privy would be indicative of a higher-status occupation. As such the unlined privy documented fits with the interpretation of Morgan Vardeman as a middling to upper middling rural Lincoln County farmer.

As discussed within the report and included within Appendix D, the botanical analysis yielded disappointing results. The lack of sufficient sample size resulted in limited observations based on the botanical ecofacts recovered. Carbonized black walnut shell casing recovered from Feature 16A, the lower portion of Feature 16, added to the understanding of food consumption at the Vardeman House Site. The few wood charcoal fragments analyzed were uniformly white oak which was unexpected. The identification of botanical elements related to weedy plants was not particularly interesting, or informative. The lack of botanical elements, which could be associated with economic plant materials, may be due to the particular character of the deposits associated with the Vardeman House Site.

6. Farmstead archaeology

In spite of the limited archaeological integrity at the site, the data recovery at the Vardeman House Site yielded significant data concerning the structure of the farm, the potential location and manner of construction of the family dwelling house, as well as differential use of space for waste/disposal. Relationships between the reliance of the Vardeman family on domestically produced and likely imported goods has been previously discussed both within Chapter 8 of the report and within the "Consumerism" summary presented within this chapter.

As previously discussed the soil chemistry data in conjunction with the recorded location of the intact portions of sub-plowone historic waste/ disposal features provided excellent data confirming the nature and extent of disposal patterns at the Vardeman House Site. The waste/disposal features

suggest that disposal behaviors were primarily concentrated in the western and southwestern portions of the site. Little evidence of discard behaviors was documented within the eastern portion of the site. The location of the disposal activity areas assisted with the reconstruction of the farm layout, including the potential location of the dwelling and the likely orientation of the dwelling. The lack of the identification of the sheet midden identified by Sussenbach in 2000 eliminated the potential to associate the sheet midden deposit with the intact portions of the historic features.

The archaeological data confirms the historic primary documentation which suggests that no significant domestic occupation of the site continued during the post-1851 period. The diagnostic historic artifacts all suggest a Federal period through antebellum rural domestic occupation terminating during the mid-nineteenth century. The death of Morgan Vardeman in 1847 appears to have signaled the beginning of the end of the domestic occupation of the Vardeman House Site. The property was transferred from Morgan to Jeremiah Vardeman in 1843 and although it is unclear as to whether Morgan remained living at the site until his death, evidently Jeremiah did not envision the farm as the locale where he would reside for an extended period of time. Jeremiah sold the property in 1851 to Ephraim Pennington who lived at the William Whitley House, south of the Vardeman property. Evidently the dwelling must have fallen into disrepair and the property not occupied after 1851 as no record of a post-1851 residence at the site was found. As previously discussed historic maps from the third quarter of the nineteenth century do not document any structures at the site by that date.

Conclusions Regarding the Data Recovery, the Vardeman House Site

The significant level of disturbance to the site as a result of agricultural plowing severely limited the recordation of temporally sensitive, intact prehistoric and historic cultural deposits. Surviving portions of both prehistoric and historic features were documented, recorded, and excavated. It is likely that many additional prehistoric and historic cultural deposits and/or features had been impacted at the Vardeman House Site to such a degree that no subplowzone portion survived for investigation during the Phase III data recovery. This is almost certainly the case with any potential architectural elements which may have been related to a dwelling or other support structures at the Vardeman House Site. Although no surviving architectural elements were documented, the soil chemistry data and the location of surviving sub-plowzone portions of intact historic features suggest the potential location for a dwelling associated with the site. The soil chemistry data, the location of historic features, and the architectural-related artifact pattern documented in the plowzone suggest that the dwelling would have likely been located in the west-central portion of the site area. Given the natural topography of the landform which contains a bluff overlooking Cedar Creek, marking the western boundary of the site, and the location of the privy identified by Sussenbach (2000) and trash pits Feature 41 and 42 it is likely that the dwelling would have faced east, rather than west. The statistical tests of the distribution of temporally diagnostic windowpane glass yielded a statistically significant result suggesting that the eastern face of the dwelling had been the focus of glass replacement, or other structural modification and change during the Morgan Vardeman occupation.

The data recovery of the Vardeman house yielded significant data concerning early nineteenth century lifeways in rural Lincoln County, the high degree of participation of the Vardeman family in the aquisition of available locally produced and imported commercial goods which confirms that the Morgan Vardeman family members were active participants in the Georgian "consumer movement." This movement stressed individuality, status display, emulation and gentility through the acquisition and display of material goods (Deetz 1977). The Georgian period, ca. 1714-1820, ushered in a new sense of cultural norms combined with a reverence for gentile practices and social

graces combined with new merchandising which created a fresh desire among the populous for newer and more fashionable consumer products. The newly established Georgian ideals were ushered in with a host of guidebooks, etiquette books, and courtesy books (Bushman 1992:41), which introduced the literate public to the virtues of the new ideals.

The active participation in the Georgian consumer movement in Kentucky was also interpreted as an important part of the lifeways at the ca. 1820-1870 Enos Hardin Farmstead in Owen County, Kentucky (Andrews and Sandefur 2002). The fluid nature of American society of the early nineteenth century and the active participation of Enos Hardin in the consumerism of the period through the purchase of expensive consumer goods was commented on by Andrew and Sandefur (2002:133). Like Morgan Vardeman in Lincoln County, Enos Hardin was actively engaged in the aquisition of capital with which he purchased a wide array of consumer goods to affirm his increased social standing within his community. The variety of everyday and more elegant table and teawares at both the Enos Hardin Farmstead and at the Vardeman House site affirm each of these Kentucky families aspirations to impress, to engage in gastronomic activities including the taking of tea and genteel dining which would exhibit refinement, achievement and exude a high degree of respectability.

In light of the data recovered during the investigations of the Vardeman House site, old romanticized notions of a self-reliant, simple Kentucky frontier existence with few connections to the expanding world-wide market economy has recently been reassessed. Current historical scholarship indicates that early nineteenth-century rural Kentucky was within the market of European commodities and the expanding world economy (Perkins 1991:487). Former notions concerning the barrier imposed on economic exchange between the states east of the Appalachian Mountains and Kentucky now seem to have been exaggerated. The data from 15LI88 confirms this.

The data recovery bolsters the argument that by the early nineteenth-century rural Kentucky was within the regular sphere of economic trade of commodities from Europe and the eastern United States. For example, the archaeological record at Site15LI88 indicates the increased trade in commodities and the establishment of the Georgian ideals of individuality in America through the presence of a variety of matched tablewares. The presence of matching sets of royal pattern molded creamware tablewares, blue and green shell-edged pearlware tablewares, and transfer printed tablewares all reflect the typical Georgian transformation from communal eating to individual place settings, individual cuts of meat, and a set of ceramic vessels for each individual.

The variety of once matching tablewares recovered at the Vardeman House site indicates that the family likely replaced old, outdated, or mismatched table and teawares with newer, more fashionable wares. It may also be the case that one set of table and teawares could have been utilized for daily food consumption, while a second group of table and teawares may have been saved for special occasions or Sunday meals. The idea of a common and special set of ceramics is best reflected in the teawares from S item 15LI88. Handpainted pearlware teawares may have been the preferred everyday teawares, while the more costly bone china teawares may have been reserved for special occasions or when guests visited the family.

The presence of numerous types of matching tablewares may also have been a result of multiple generations of Vardemans living at the site. The 1840 census record suggests the possibility that an adult child of Morgan Vardeman married and then may have moved back in with Morgan at the Vardeman House Site, or that Morgan and his wife had allowed a family to move in with them.

Additionally, it is not clear that John Vardeman, Jr. moved away from the site when Morgan Vardeman purchased the property from him in 1803. Further more, although Morgan sold the property to Jeremiah Vardeman during the period of his financial difficulties in 1843, he likely remained at the property until his death in 1847. The changing configuration of the household may have brought to the site multiple tablewares which ultimately became part of the archaeological record at the site.

The presence of teawares at the Vardeman House Site is especially reflective of the spread of the Georgian ideals of individualized food and beverage consumption. It indicates the social importance of "taking tea" as participation in Anglo-American behaviors and customs associated with gentility and refinement. The presence of a variety of matching sets of archaeologically recovered teawares from the Vardeman House Site bolsters Perkin's (1991) argument that, "even on the rude frontier of eighteenth-century Kentucky, a remarkably sophisticated, international pattern of consumption laid a cultural base for American life" (Perkins 1991:499).

Historic documentation also suggests that the established Georgian ideals of civility, gentility, and emulation were likely generally practiced in early nineteenth-century Kentucky. Alexis de Tocqueville during his 1830-1831 travels throughout the United States was particularly impressed with the dichotomy between the poor physical condition of the housing in Kentucky and the gentile nature of the rural families. On this subject de Tocqueville commented that, "there is no farmer in Kentucky or Tennessee so poor but can represent a fine example of the country gentleman of old Europe" (de Tocqueville 1959:267). This observation concerning the rural residents of Kentucky is significant. It suggests the pervasiveness of the Georgian notions of gentility and the desire for the emulation of the customs and ways of the gentility in spite of the physical limitations of wealth and position in society. During the early nineteenth-century in Kentucky it is likely that behaviors once considered the practice of the upper classes, such as tea drinking and the social importance attached to the consumption of tea, became the practice of all social classes within antebellum Kentucky society.

The social importance of tea drinking during the Georgian and post-Georgian periods in Anglo-America cannot be understated. Initially extremely expensive and a beverage of the elite, tea consumption became the norm in British and American households of all economic levels by the late eighteenth century. The universality of tea consumption in Kentucky, regardless of social position, during the late eighteenth century is reflected in the purchases of tea from two Kentucky stores, one in Louisville and one in Lexington, between 1794 and 1796. The store ledgers reflect that 40% of the customers who frequented the stores owned no land (a group including one slave and five free women). In addition, 36% of the customers included those within the bottom third economic group of customers purchasing tea (Perkins 1991:498). The bottom third group included individuals paying a tax of 0.0.0 to 0.3.6 English pounds.

Although drinking tea as a marker of status withered by the turn of the nineteenth century, the social and cultural importance of tea drinking in Anglo-America persisted. As an accessible visual element to signify gentility and social refinement, antebellum Kentuckians within all social classes participated in tea drinking and the social aspects of "taking tea." This was a way to signal to the community that although they may not necessarily be members of the upper class, they could emulate the practices and social graces of members within positions in Kentucky society above their own.

Drinking tea inspired social gatherings, aided to create a perceived gentility, and was the beverage of choice while visiting with family and

friends. Together the elements of tea drinking were utilized during what was called "the tea ceremony." This distinctly British tradition brought with it a numerous array of ceramic vessels. Potential ceramic vessels associated with tea drinking that could be encountered archaeologically not only included tea bowls and saucers but also cream jugs, slop/waste bowls, teapots, spoon trays, and sugar bowls. Although the only vessels associated with the tea equipage archaeologically recovered from the Vardeman House Site were tea bowls and saucers, the 1849 sale record of the estate of Morgan Vardeman (see Appendix B) included teaspoons, a sugar (sugar bowl), and a cream pitcher. This documents some of the tea equipage commonly used. In summary, the presence of matching table/dinner wares and teawares illustrates the establishment of the Georgian status conscious ideals and individualized Anglo-American worldview in rural Kentucky during the late eighteenth and early nineteenth centuries.

The historic archaeological assemblage recovered from the Vardeman House Site clearly illustrates that although Lincoln County, Kentucky, consisted of primarily dispersed rural settlements with an agrarian economic base during the early nineteenth century, the county was within the economic sphere of the eastern United States and Britain. Although distance from the eastern seaboard states did stress economic and social ties between Kentucky and these states (Perkins 1991:488), the limited availability and reduced access by Kentucky consumers to imported goods has been overly accentuated in the past. It has been demonstrated that mercantile activities and outlets accompanied the first settlers to Kentucky and that a store was documented as early as 1775, the first year of continuous Anglo-American settlement at Fort Boonesborough (Perkins 1991:489). English refined earthenwares have been observed to have been available in the "major trade centers" of Kentucky "by the 1790s" and later in more rural areas (O'Malley 1995:183). Far from being an economic backwater of self-sufficient, independent, and isolated settlers, the early nineteenth century residents of Lincoln County were participating in largely the same market economy as Americans in Wilmington, Delaware; Baltimore, Maryland; or Chesapeake, Virginia, and had available to them a wide choice of imported consumer goods. The distribution of highly decorated pearlwares and Chinese export wares to Prestonsburg in Floyd County in the southeastern portion of Kentucky by the 1820s, and the records of James Graham's store during the first two decades of the nineteenth century which included ceramics that were likely British imports, signaled that imported commodities from across the world were reaching even mountain locales (O'Malley 1995).

In conclusion, the Phase III data recovery yielded substantive data related to both the prehistoric and historic occupation of the property. Significant data was obtained which was utilized to reconstruct the homelot at the Vardeman House Site, the use of space, the extent to which the Vardeman household participated in the market economy of rural antebellum Kentucky, and the relative socio-economic status of Morgan Vardeman relative to his contemporaries in Lincoln County, as well as other locales in Kentucky and eastern seaboard states of Delaware, Maryland, and Virginia. Important information was obtained regarding the availability of imported goods in antebellum Lincoln County and the degree to which rural Kentuckians participated in the Georgian worldview which stressed emulation, social display, and the goal of creating the impression of gentility and refinement through the use of imported British ceramics. In addition to the recovery of a wide range of lithic raw material types and temporally specific hafted bifaces associated with the Early Archaic through Late Woodland periods, the prehistoric data recovered served to document a number of Native American ceramics which have been recovered in only a few sites in Lincoln County as well as to offer important observations regarding potential prehistoric trade networks. Limited statistically significant correlations and observations based on the disbursement of

prehistoric artifacts recovered from the shovel tests were documented between the types of flake debris recovered and the utilization of portions of the site. The limited extent of intact prehistoric deposits precluded the association of particular portions of the site with behaviors which could be associated with specific temporal periods.

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APPENDIX B:
1849 Sale Record of the Estate of Morgan Vardeman
(Transcription and Copy of Original)

transcribed by Tan Sanders
3-4/2001

Morgan Vardeman Estate Sale Bill 1849
Lincoln County, Kentucky

Addams, Jack
tea pot & pitcher 0.12

Addams, T or J.
3 plains.....1.37
tong & groove.....2.37
3 beak plains.....0.50
2 small plains.....0.25
2 squars.....0.65
1 hand saw & oil stone....1.06
2 moulding plains 0.12
2 small plains 0.12
chisels.....0.43
chisels.....0.06
chisels.....0.25
chisels.....0.45
chisels.....0.25
box shingles (things?).....0.50
2 axes.....0.25

Addams, John
1 black colt.....?

Addams, Lewis
aparatus for lath.....0.55

Addams, Wilson
set cups & saucers.....0.30
axe.....0.10

Adams, W.
big kettle.....0.50

Anderson, D
bed sheet.....0.45
bed sheet.....0.30
1 sugar & saucer.....0.10
1 large water.....0.44
1 copper still.....5.62
1 pail.....0.25
1 bay colt.....7.06

Anderson, Levie (?)
1 dinning table 1.62
hand bellows.....0.25
and iron..... 0.68
---------?------tallller.....1.05
1 bucket.....0.31

Allen, G
1 sow & pigs.....6.25

Ball, George
30 hogs.....300.00 (?)

Bigsby, William
1 roan mare.....25.00

Buford, J or T
??????.....0.33

Buford, Thos
1 mare Betsy Baker.....20.25
bay colt 2 years old 7.12

Chappel, James
1 skillet.....0.43

Dallis (?), W.
1 bay mare & colt (??)

Daws (or Davis?), John
2 claw hammers.....0.25
compass and punch.....0.35
old irons.....0.25
2 bridles.....2.31
1 bed.....5.00
3 pillers.....1.00
grid iron.....0.25
little pot.....1.50
little pot.....0.75
1 pot rack.....1.00
1 baker.....0.75
1 ? 0.25
1 little table.....1.00

Davis, M.
1 bed.....8.62

Davis, Mike
1 mens saddle.....6.25

Delaney, Mat
flat spoon (?) 0.57

Fisher, Mary
3 towles.....0.35
10 cup plates.....0.15
tea spoons.....0.25
1 wash stand.....1.37

Foley, Folby or Fobyy, E.
check blanket.....0.81
1 sugar & saucer 0.12
rives & bolts (???).....0.60

Gill, Ann
wheel.....0.62

Graham (??), R.W.
1 harrow.....5.50
5 - 2 year old steers 36.25

Guest , N.
Big Kettle.....0.50
small skillet.....0.15

Harper, A.
1 cutting box.....1.25

Higgins, W.M.
waffle iron.....0.50

Hoggins, S.C.
1 coffee pot.....0.38
1 log chain.....2.25

Holmes, S
1 coffee mill 0.80
6 (chairs?) @ (?ea).....?
1 ox waggon.....32.50
1 large plow.....0.20

Holmes, Samuel
1 cupboard.....4.00

Hutchens, C.
1 bed.....7.00

Hutchenson, Eliz
tablecloth.....0.41
tablecloth.....0.25
pillow slips.....0.37
coverlit.....2.05
coverlit.....2.56
bed quilt.....1.50
bed quilt.....0.82
plain blanket.....0.75
check blanket.....0.50
check blanket..... 1.60
flannel blanket..... 1.56
bed sheet 0.87
bed sheet.....0.43
3 toiletts (?) 0.20
looking glass.....0.37
1 dish.....0.37
3 plates.....0.25
1 cream pitcher 0.06
1 piller.....0.25
6 split chairs @ 0.25 ea.....1.50
1 pale [pail].....0.92

Hutchenson, John
21 head 2 year mules 802.20
yelow mare.....20.50

Jonson, ? B.
1 pitcher.....0.25

Lee, Esqs.
Bsiuce (?) plow.....7.00
10 3rd choise sheep.....9.12
sheep, 75 by the head .....9.75 (?)

Lackey, A.
1 wheel.....2.00
shovel & tongs.....0.80

Maddox, H.
1 pr of gears (?).....1.96

Mcalister, J (?)
4 hocs.....0.50
1 broad ax.....2.25
1 bed sted.....4.28
1 kittle.....1.25

Miler, J.
1 churn.....0.25

Morehead, Aaron (or Jason?)
Bsuce (?) plow.....25.25
1 pair of geers (or gears?).....1.25

Nelson, H.
1 cyth & cradel.....0.50

Owsley, H.
bow saw.....0.25

Owsley, John
saddle & ivier (wier?) 0.56
1 pr geirs.....2.37
1 pr geirs.....2.00
24 chickens , 7 cts head.....1.68

Pennington, J.M. or Jane (2nd wife)
small chart.....0.12
negro boy Peter
(brother of Ann, son of Caroline) $378.00

Pennington, E.
3 towles.....0.30
3 towles.....0.35
3 towles.....0.10
tablecloth.....0.65
tablecloth.....1.00
tablecloth.....0.50
tablecloth.....1.50
tablecloth.....1.40
tablecloth.....0.40
tablecloth.....0.25
tablecloth.....0.52
tablecloth.....0.25
tablecloth.....0.25
2 pillow slips.....0.15
pair pillow slips.....0.12
pillow slips.....0.10
pillow slips.....0.10
bed quilt.....1.25
countie (??) pin.....0.65
2 pillow & towles.....0.25
check blanket.....1.55
check blanket.....0.90
plain blanket.....0.90
plain blanket.....1.25
bed sheet.....0.50
bed sheet.....0.50
bed sheet.....0.90
bed sheet.....0.50
sheet.....0.20
2 dishes 1.05
2 ck plates 0.25
1 shored plow.....1.37
1 shored plow.....0.80
1 shored plow.....0.80
briddle & hawes.....0.12
6 winser chairs.....0.25
6 fine chairs.....5.00
1 stone churn.....1.00
1 cross cut saw.....1.00
weather boarding plane 6.50

flooring plane 1.70
2 single trees.....1.00
1 white cow.....10.00
1 sead (?) face cow..... 10.00
1 sead cow.....10.00
1 small field of corn.....26.50
1 small field of corn, 2 nd in size., ...58.25
1 large field or corn.....120.12
1 iron wedge.....0.30
crank.....0.25
mill iron.....0.50
2 crocks.....0.46
1 pail.....0.25
negro girl.....426.00 (Ann, Peter's sister, daughter of Caroline)
boy Craig.....374.00 (son of Sarah?)

Perkins (or Purkius), John
old grey (mare?) $8.00

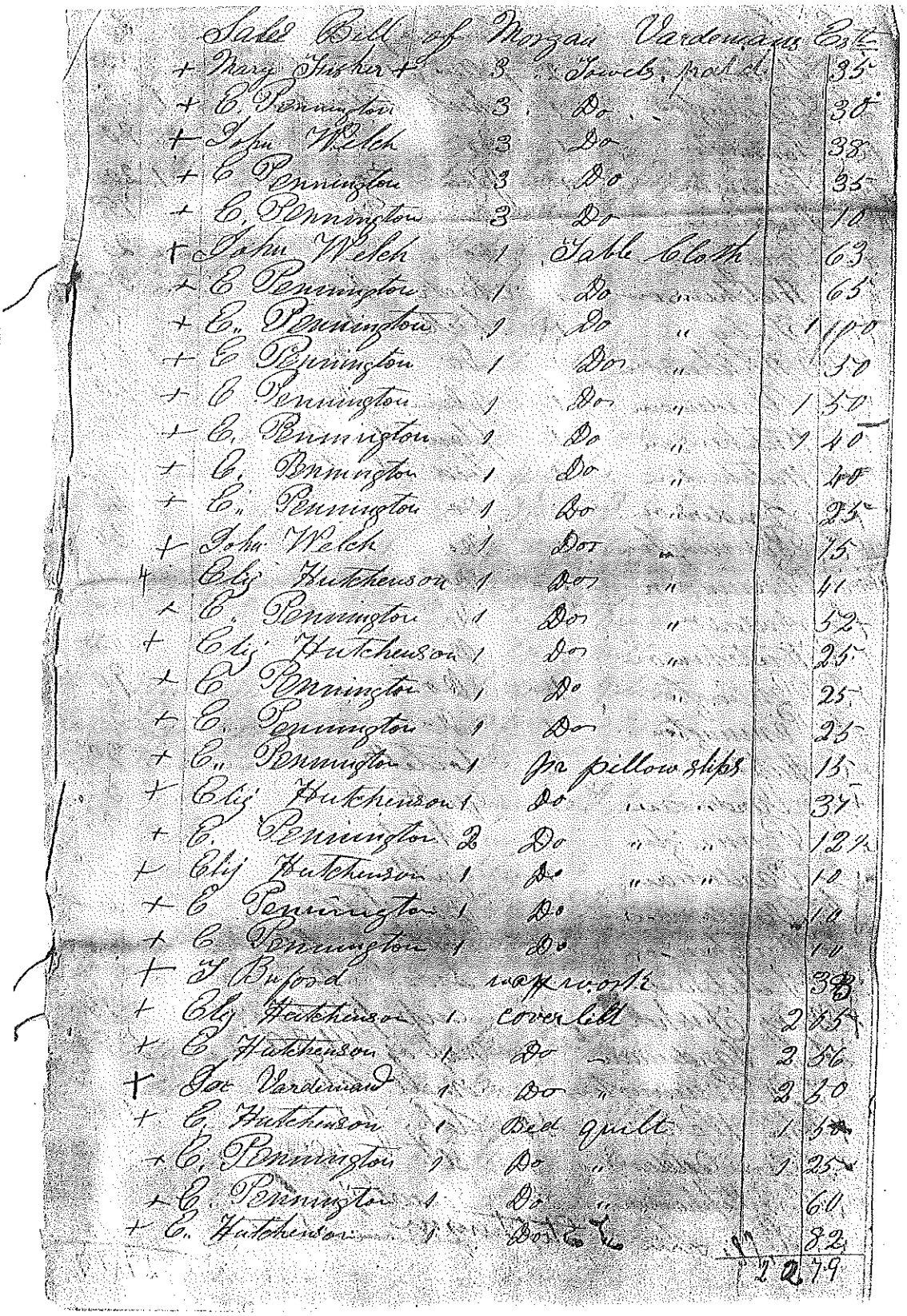
Plesant, H.
scue drives & 2 punches.....0.12

Pollack, William
lot of paint.....0.62 ½

Rayburn, R.H.
190 acres of land $1499.00
10 choise sheep.....12.00
10 2nd choise sheep.....12.00
5 turkeys.....0.62

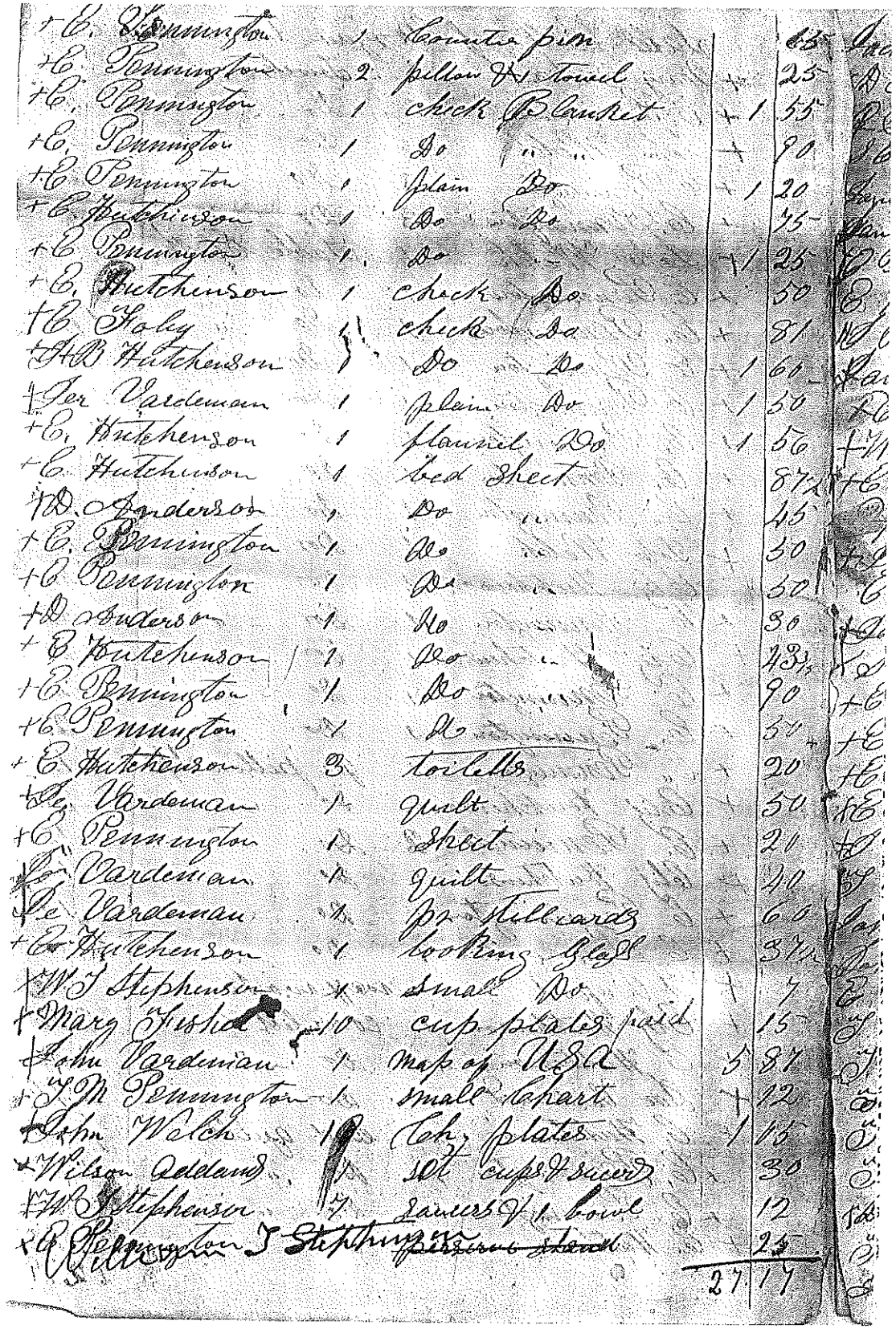
Souteir (?), B.
1 wheel.....0.18

Stephenson, Jayne or Joyce or Jayne A.
large bowl & pepper box 0.37
2 salt cellar & stands 0.30
1 molasses cruet.....0.27
ck coffee pot 0.25
1 water &??? 0.25
1 pan (?) & dish.....0.12
1 bed stead.....3.62
1 bureau.....4.00
1 bed.....3.50
1 trundle bed & furniture.....4.37

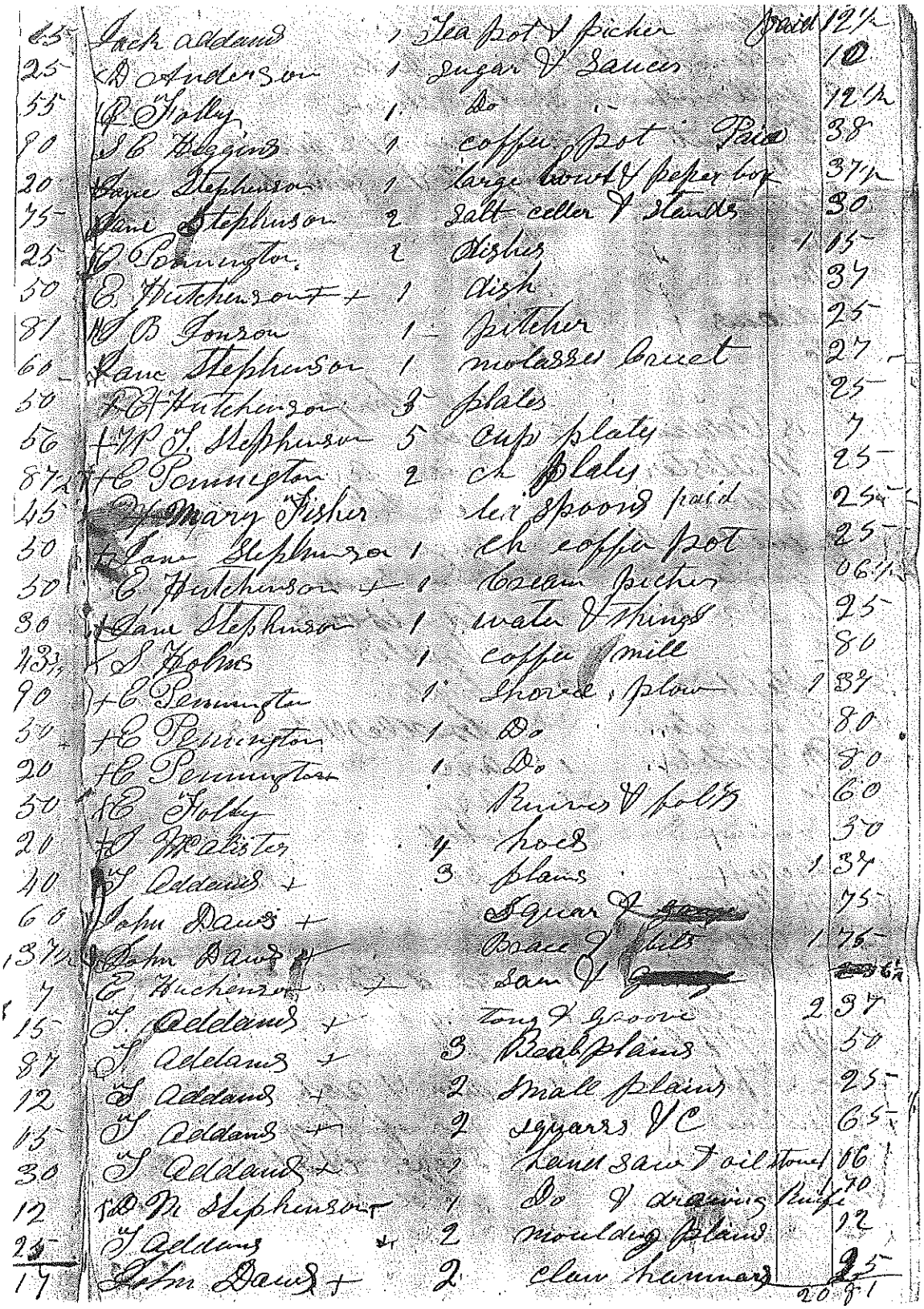


Sales Bill of Morgan Vardeman & Co.

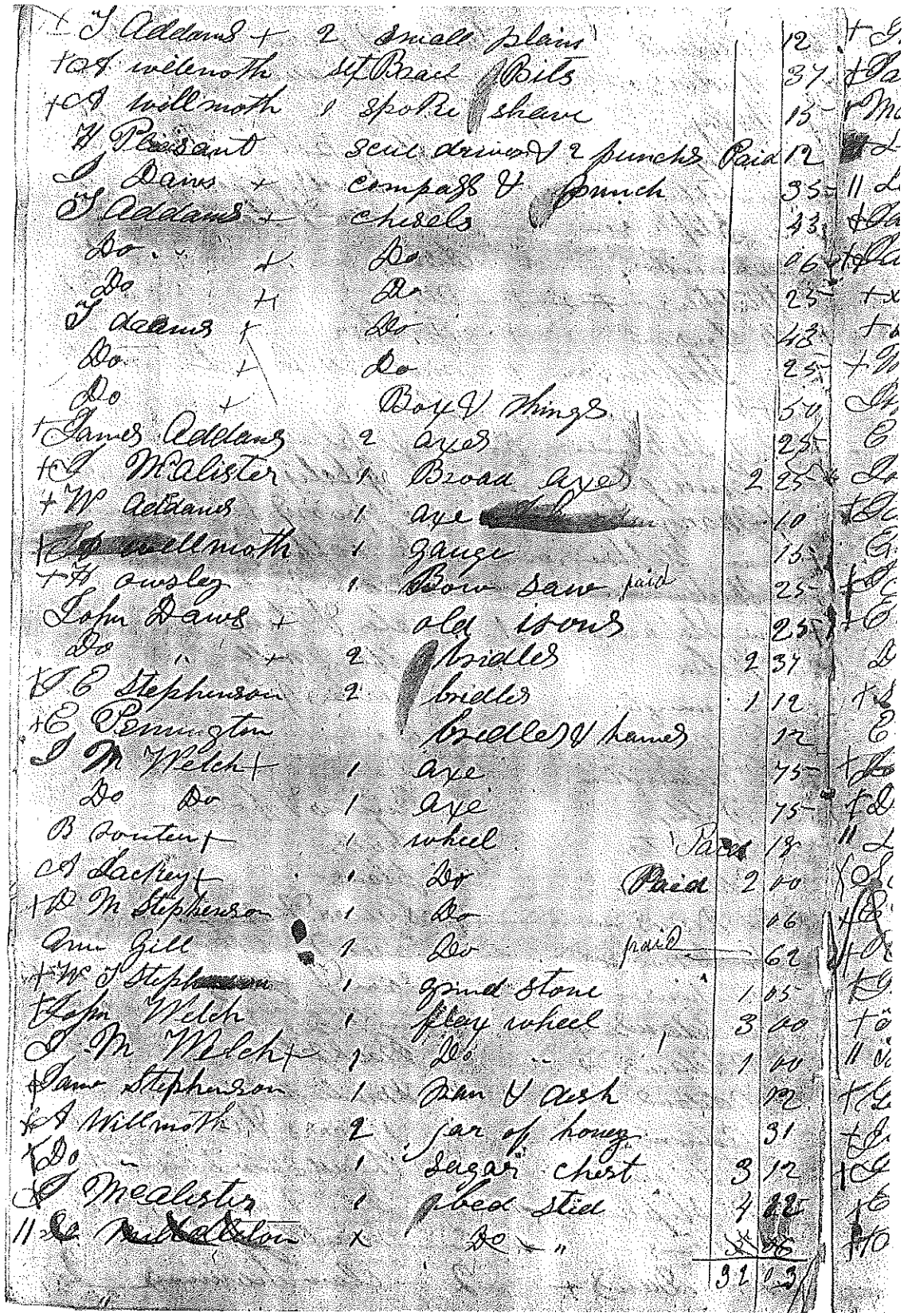
+	Mary Fisher	3	Towels, prd		35
+	E. Pennington	3	Do		30
+	John Welch	3	Do		38
+	E. Pennington	3	Do		35
+	E. Pennington	3	Do		10
+	John Welch	1	Table Cloth		63
+	E. Pennington	1	Do		65
+	E. Pennington	1	Do "	1	100
+	E. Pennington	1	Do "		50
+	E. Pennington	1	Do "	1	50
+	E. Pennington	1	Do "	1	40
+	E. Pennington	1	Do "		40
+	E. Pennington	1	Do "		95
+	John Welch	1	Do "		75
+	Eliz Hutcheson	1	Do "		41
+	E. Pennington	1	Do "		52
+	Eliz Hutcheson	1	Do "		25
+	E. Pennington	1	Do "		25
+	E. Pennington	1	Do "		25
+	E. Pennington	1	pr pillow slips		15
+	Eliz Hutcheson	1	Do " "		37
+	E. Pennington	2	Do " "		124
+	Eliz Hutcheson	1	Do " "		10
+	E. Pennington	1	Do "		10
+	E. Pennington	1	Do "		10
+	J. Buford		counterpane		38
+	Eliz Hutcheson	1	cover Lid	2	85
+	E. Hutcheson	1	Do	2	56
+	Jos Vardeman	1	Do "	2	50
+	E. Hutcheson	1	Bed quilt	1	50
+	E. Pennington	1	Do "	1	25
+	E. Pennington	1	Do "		60
+	E. Hutcheson	1	Do "		82
				12	79



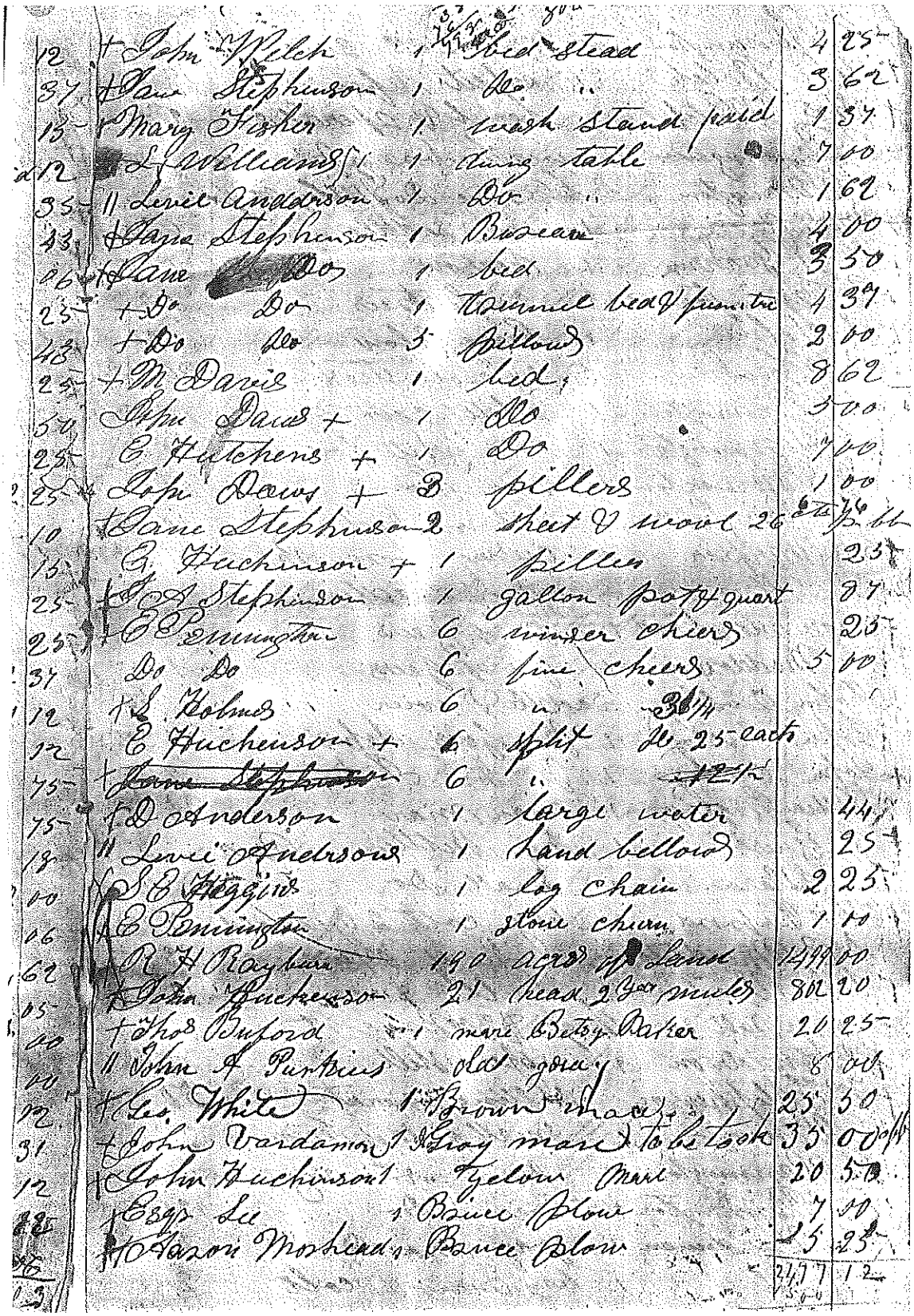
+E. Pennington	1	Counter pin		65	
+E. Pennington	2	pillow & Towel	+	25	
+E. Pennington	1	check B Cassket	+ 1	55	
+E. Pennington	1	Do " "	+	80	
+E. Pennington	1	plain Do	+ 1	20	
+E. Hutchinson	1	Do Do	+	45	
+E Pennington	1	Do	+ 1	25	
+E. Hutchenson	1	check Do	+	50	
+E Foley	1	check Do	+	81	
+HB Hutchenson	1	Do Do	+ 1	60	
+Per Vardeman	1	plain Do	1	50	
+E. Hutchenson	1	flannel Do	1	50	
+E. Hutchenson	1	bed Sheet		87½	
+D. Anderson	1	Do "		45	
+E. Pennington	1	Do "		50	
+E Pennington	1	Do "		50	
+D Anderson	1	Do		80	
+E Hutchenson	1	Do "		43½	
+E. Pennington	1	Do "		90	
+E. Pennington	1	Do		37½	
+E Hutchenson	3	toilells		20	
+E. Vardeman	1	Quilt		50	
+E. Pennington	1	Sheet		21	
+E. Vardeman	1	Quilt		20	
+E. Vardeman	1	pr. Pillowcases		60	
+E. Hutchenson	1	looking Glass		87½	
+WJ Stephenson	1	Small Do		7	
+Mary Fisher	10	cup plates paid		15	
+John Vardeman	1	map of USA	5	81	
+WM Pennington	1	male Chart		12	
+John Welch	10	Teh. plates	1	15	
+Wilson Reddand	1	set cups & saucers		30	
+WJ Stephenson	1	Saucer & 1 bowl		12	
+E Pennington	J Stephenson	~~Pitcher & stand~~		25	
			27	17	



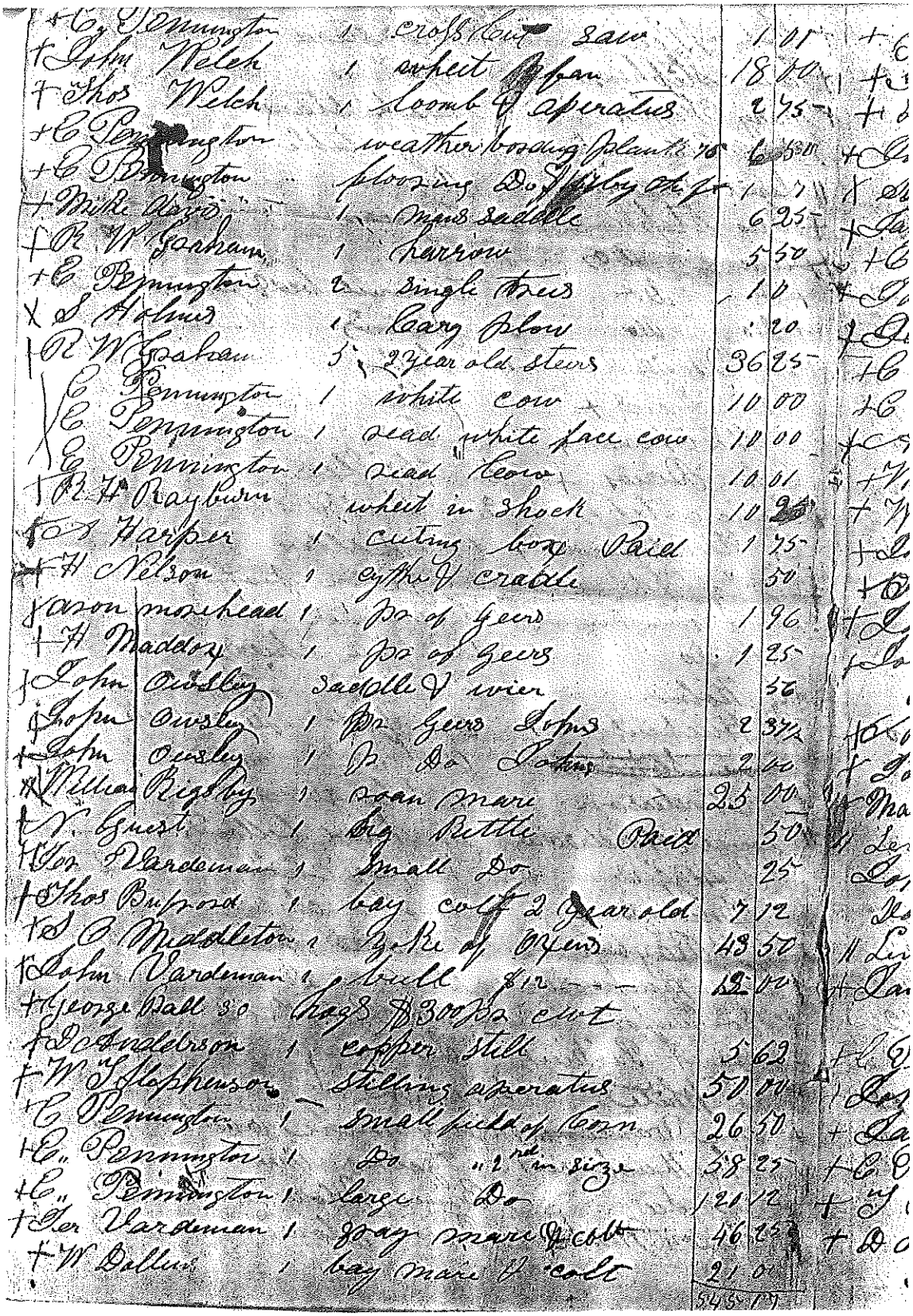
65	Jack Adams	1	Tea Pot & picher	paid	12½
25	D Anderson	1	Sugar & Sauces		10
55	G Fodley	1	Do		12½
90	J B Biggins	1	coffee Pot	Paid	38
20	Jane Stephenson	1	large bowel & pepper box		37½
75	Jane Stephenson	2	Salt cellar & Stands		30
25	C Pennington	2	Dishes	1	15
50	E Hutchenson +	1	Dish		37
81	W B Jonson	1	picher		25
60	Jane Stephenson	1	molasses bucet		27
50	E & Hutchenson	3	plates		25
56	+ W S Stephenson	5	Cup plates		7
87½	+ C Pennington	2	ch Plates		25
45	Mary Fisher		tea Spoons paid		25
30	Jane Stephenson	1	ch coffee Pot		25
50	E Hutchenson +	1	Ocean picher		06½
30	Jane Stephenson	1	water & things		25
43½	S Holmes	1	coffee mill		80
90	+ C Pennington	1	shovel & plow	1	87
30	+ C Pennington	1	Do		80
20	+ C Pennington	1	Do		80
50	+ C Fodley		Knives & forks		60
20	+ D McAlister	4	knocks		30
40	J Adams +	3	plains	1	37
60	John Davis +		Square & [illegible]		75
137½	John Davis +		Brace & bits	1	75
7	E Hutchenson +		saw & [illegible]		[illegible] 6½
15	J Adelams +		tong & groove	2	37
87	J Adelams +	3	Beadplains		37
12	J Adams +	2	Small plains		25
15	J Adams +	2	squares V C		6½
30	J Adelams +	1	Hand saw & oil stone		66
12	+ D M Stephenson +	1	Do & drawing knife		70
25	J Adams +	2	moulding Plains		12
17	John Davis +	2	claw hammers		25
					20 81



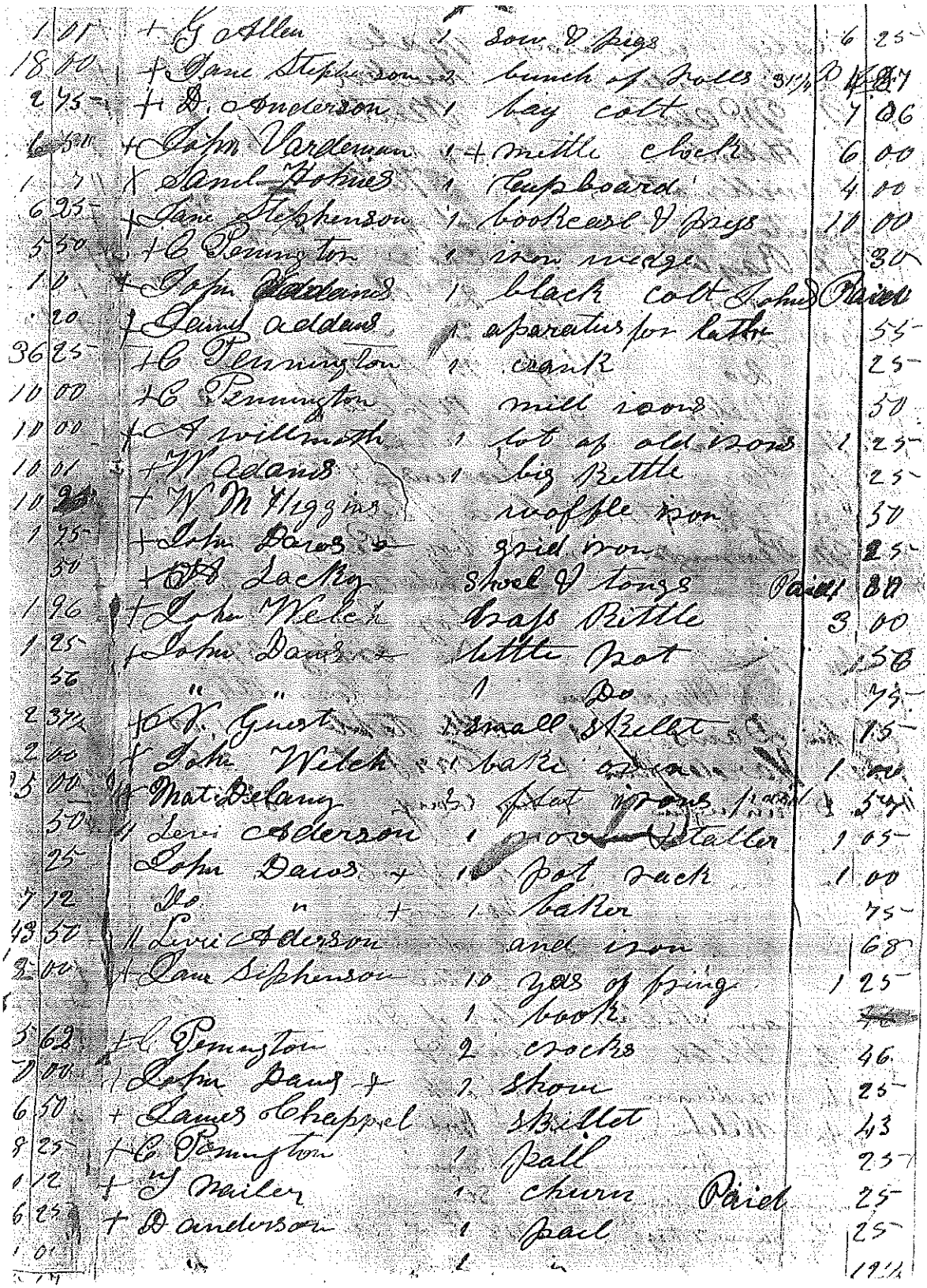
J Addams	2	small plains			12	
A Willmoth	1	Pr Brace Bits			37	
A Willmoth	1	Spoke shave			15	
H Pleasant		Scul driver & 2 punches	Paid		12	
J Davis		compass & Punch			35	11
J Addams		chisels			23	
Do		Do			06	
Do		Do			25	
J Adams		Do			18	
Do		Do			25	
Do		Boy & things			50	
James Addams	2	axes			25	
A McAlister	1	Broad Axe		2	25	
W Addams	1	axe			10	
A Willmoth	1	Gauge			15	
H Owsley	1	Bow saw	paid		25	
John Davis		old irons			25	
Do	2	bridles		2	37	
E Stephenson	2	bridles		1	12	
E Pennington		bridles & hames			12	
J M Welch	1	axe			75	
Do Do	1	axe			75	
B Bonten	1	wheel	Paid		13	11
A Lackey	1	Do	Paid	2	10	
W M Stephenson	1	Do			16	
Wm Gill	1	Do	paid		62	
W Stephenson	1	grind stone		1	05	
John Welch	1	plow wheel		3	10	
J M Welch	1	Do	1	1	10	11
Dan Stephenson	1	Pan & ash			12	
A Willmoth	2	jar of honey			31	
Do	1	sugar chest		3	12	
A McAlister	1	wheat sled		4	22	
Do McAdams	x	Do "			86	
				32	03	



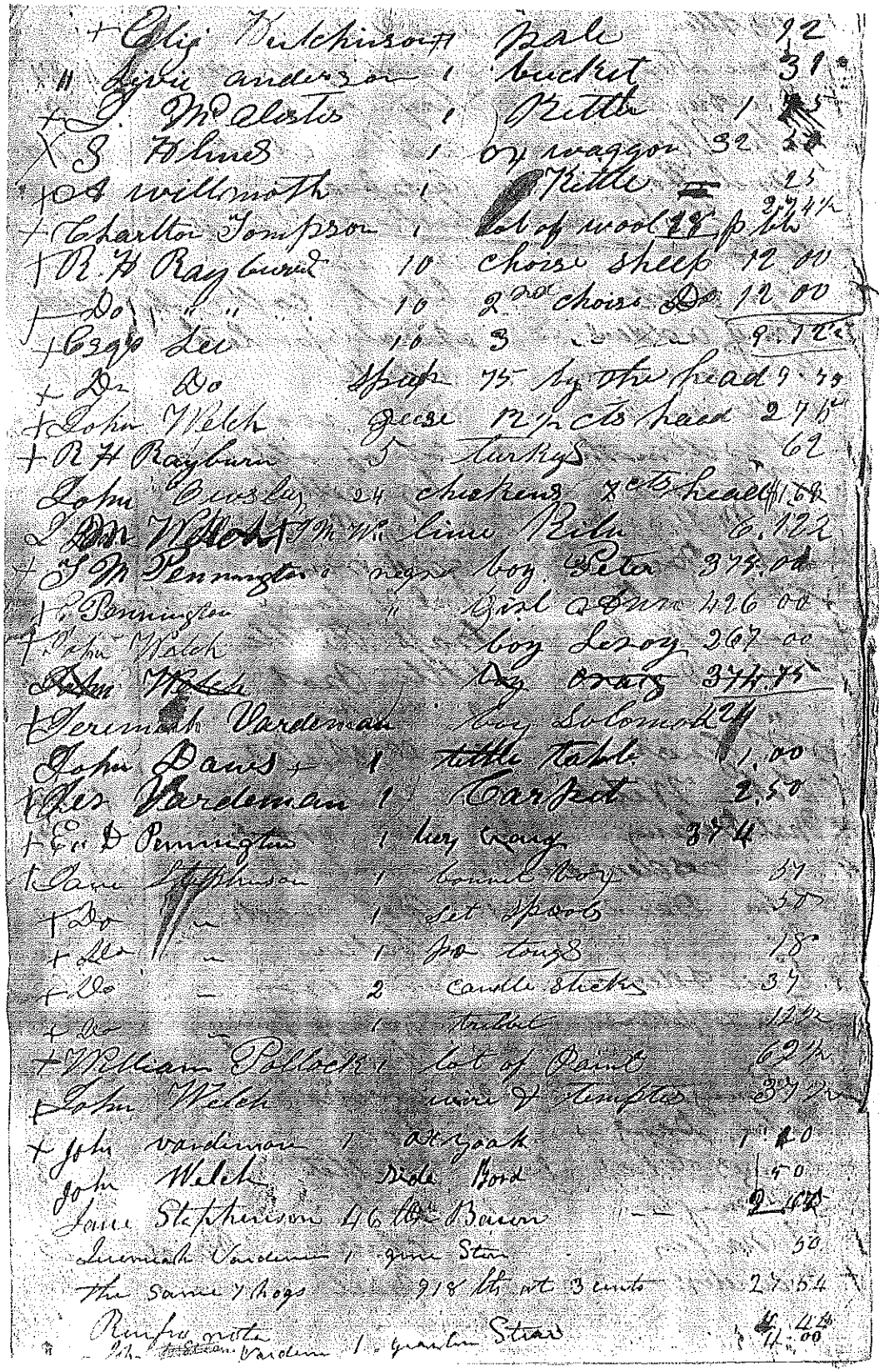
12	† John Welch	1	Bed Stead		4	25
87	† Dan Stephenson	1	Do		3	62
15	† Mary Fisher	1	wash Stand paid		1	37
12	† Williams	1	dining table		7	00
35	† Levi Anderson	1	Do		1	62
43	† Dan Stephenson	1	Bureau		4	00
20	† Dan Do	1	bed		3	50
23	† Do Do	1	Rosewood bed & furniture		4	37
48	† Do Do	5	Bellows		2	00
25	† M. Davis	1	bed		8	62
50	† Wm Davis	1	Do		3	00
25	† E Hutchens	1	Do		7	00
25	† Jos Davis	3	pillers		1	00
10	† Dan Stephenson	2	sheet & wood	26	24	76
15	† E. Hutchinson	1	pillow			25
25	† E A Stephenson	1	gallon pail & quart			87
25	† E Pennington	6	winter chairs			25
37	Do Do	6	fine chairs		5	00
12	† L Holmes	6	"	36¼		
12	† E Hutchenson	6	split Do 25 each			
75	† ~~Dan Stephenson~~	6	"	~~12½~~		
75	† D Anderson	1	large water			44
18	† Levi Anderson	1	hand bellows			25
00	† S & Higgins	1	log chain		2	25
16	† E Pennington	1	stone churn		1	10
62	† R H Boyd	190	acres of land		1499	00
05	† Dan Hutchenson	21	head 2 yr mules		802	20
00	† Thos Buford	1	mare Betsy Parker		20	25
00	† John A Perkins		old gone		6	00
12	† Lee White	1	Brown Mare		25	50
31	† John Vardaman	1	Gray mare to be took		35	00
12	† John Hutchinson	1	Yelow Mare		20	50
88	† Esqr Lee	1	Bauce Blow		7	50
88	† Aaron Morhead	1	Bauce Blow		25	25
					2477	12

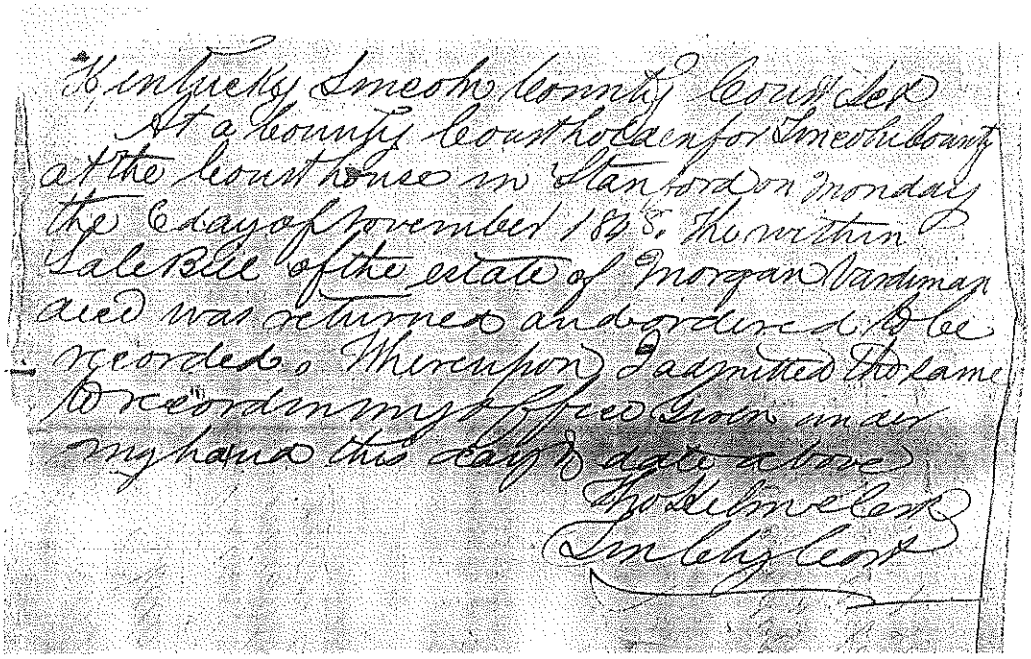


+ C. Pennington	1	cross cut Saw		1	00
+ John Welch	1	wheat Fan		18	00
+ Thos Welch	1	loom & apparatus		2	75
+ C Pennington		weather boarding planed	75	6	50
+ C Pennington		flooring Do Siding Do		1	71
+ Mike Hazel	1	Mans Saddle		6	25
+ R W Graham	1	Harrow		5	50
+ C Pennington	2	single Trees			10
X S Holmes	1	Carry Plow			20
+ R W Graham	5	2 year old Steers		36	25
+ C Pennington	1	white cow		10	00
+ C Pennington	1	dead white face cow		10	00
+ C Pennington	1	Dead Steer		10	01
+ R H Rayburn		wheat in Shock		10	20
+ J Harper	1	cutting box Paid		1	75
+ H Nelson	1	24 in V cradle			50
+ Jason Morehead	1	Pr of Geers		1	96
+ H Maddox	1	Pr of Geers		1	25
+ John Owsley		saddle & irons			36
+ Jno Owsley	1	Pr Geers Lines		2	37½
+ John Owsley	1	Pr Do Do		2	00
X Wm Rigsby	1	Roan Mare		25	00
+ V. Guest	1	Big Buttle Plow			50
+ Geo Vardeman	1	Small Do			25
+ Thos Burford	1	bay colt 2 year old		7	12
+ S C Middleton	1	Pr Pr of Geers		43	50
+ John Vardeman	1	Shuck Sled		12	00
+ George Ball & Co		Bags & Bagging cut			
+ D C Anderson	1	copper Still		5	62
+ W J Stephenson		Stilling apparatus		51	00
+ C Pennington	1	small field of Corn		26	50
+ C. Pennington	1	Do 2 nd in size		58	25
+ C. Pennington	1	large Do		121	12
+ Jer Vardeman	1	gray mare & colt		46	25
+ W Dallas	1	bay mare & colt		21	00
				545	19



1 01	+ G Allen	1	Sow & pigs	6	25
18 00	+ Jane Stephenson	2	bunch of Rolls 31½	Paid	
2 45	+ D. Anderson	1	bay colt	7	06
6 50	+ John Vardeman	1	+ mettle clock	6	00
1 [illegible]	+ Saml Bones	1	Cupboard	4	00
6 25	+ Jane Stephenson	1	bookcase & prys	10	00
5 50	+ C Pennington	1	iron wedge		30
10	+ John Caldens	1	black colt Jahn	Paid	
20	+ Jane Caldens	1	apparatus for Cattle		55
36 25	+ C Pennington	1	crank		25
10 00	+ C Pennington		mill irons		50
10 00	+ A Willmoth	1	lot of old irons	1	25
10 01	+ W Adams	1	big Kettle		25
10 25	+ W M Higgins		waffle iron		50
1 25	+ John Davis +		grid iron		25
50	+ O A Lacky		Shovel & tongs	Paid	80
1 96	+ John Welch		brass Kettle	3	00
1 25	+ John Davis +		little pot		250
50	" "	1	Do		75
2 37½	+ O K Guest		small skillet		15
2 00	+ John Welch	1	base [illegible]	1	00
3 00	+ Mat Delany	2	pocket knives	1	50
50	+ Levi Anderson	1	[illegible] Stalker	1	05
25	John Davis +	1	pot rack	1	00
1 12	Do " +	1	Kettle		75
43 50	+ Levi Anderson		axel iron		68
2 00	+ Jane Stephenson	10	yds of ging	1	25
		1	book		75
5 62	+ C Pennington	2	cocks		46
2 00	+ John Davis +	1	shovel		25
6 50	+ James Chappel		skillet		43
8 25	+ C Pennington	1	pail		25
1 12	+ J Miller	1	churn	Paid	25
6 25	+ D Anderson	1	pail		25
1 01	"	1	"		19½





Kentucky Lincoln County Court Sct
At a County Court holden for Lincoln County
at the Court House in Stanford on Monday
the 6 day of November 1826. The within
Sale Bill of the estate of Morgan Vardiman
dec'd was returned and ordered to be
recorded. Whereupon I admitted the same
to record in my office Given under
my hand this day & date above
Jno Edmiston
Clerk

APPENDIX C:
1832 Will of Morgan Vardeman
(Transcription and Copy of Original)

Transcription of the body of the Will:

I morgan Vardiman of Lincoln County Kentucky Being far advanced in years and in a low State of health do make this my Last Will and testament. I leave to my Sons John T Vardeman and William Vardeman and my grandson Lindsey V Stephenson the Plantation I now Live on including the 25 acres I Purchased of Anthony (?) Awleys Exeters making in the hole about one hundred and ninety acres. By them Paying all my debt stock of horses I also give to them or the proceeds there of to help Pay my debts fearing the Land may be two high to them. I give to my adopted daughter Jane Clemons a mare and colt good Bed Bedsted and furniture. I give Lindsey V. Stephenson a certain Roan colt the Balance of all my Estate. Both Real and Personal Leave to Be sold on twelve months Credit and Equally Divided among my children and Grandchildren Elizabeth Peningtons children to have her Proportion Leaving it in the hands of E. Pennington. I give Ann Stephenson's share to her son Lindsey in the hands of my Exeters here after mentioned for him when he arrives at the age of 21. Should he die before he arrives of age it is to Be Equally Divided among her other children. I give to Jane Clemons a full share with my other heirs. Equally among my Children Except Jeremyah Vardeman I leave him nothing more than what he has al Ready got Believing he has already got more than I am leaving the Rest. Lastly I apoint my Son Jeremiah Vardeman and John Welch my Exaters. I leave the portion Rolling Fixes (?) will be extended to of my Estate in the hands of E. Pennington as trustee for her. Before Benefit signing the above I wish the part Directing a Sale not to take Place untill Lindsey V. Stephenson arives at full age or Dies unless a party as on the part of my two Sons John and William I wish the family as now is to Remain together While they can agree and get along well together and manages Equanimally and sees Proper to do so But if they choose at any time after the Present will is made they may give up all in the hands of my Exeters or on a lawyer (?)or is to take it in hands. I also wish them to have the Benefit of all my chattled Estate of Every Description household and Kitchen furniture Stock and farming utensils (?) them giving Back for the Vallue of all When a final Distribution is to take Place after giving John and William Vardeman and Lindsey V. Stephenson as many Beds and Bedsteads and furniture as the first children got when married. Witness my hand the 23rd of April 1835.

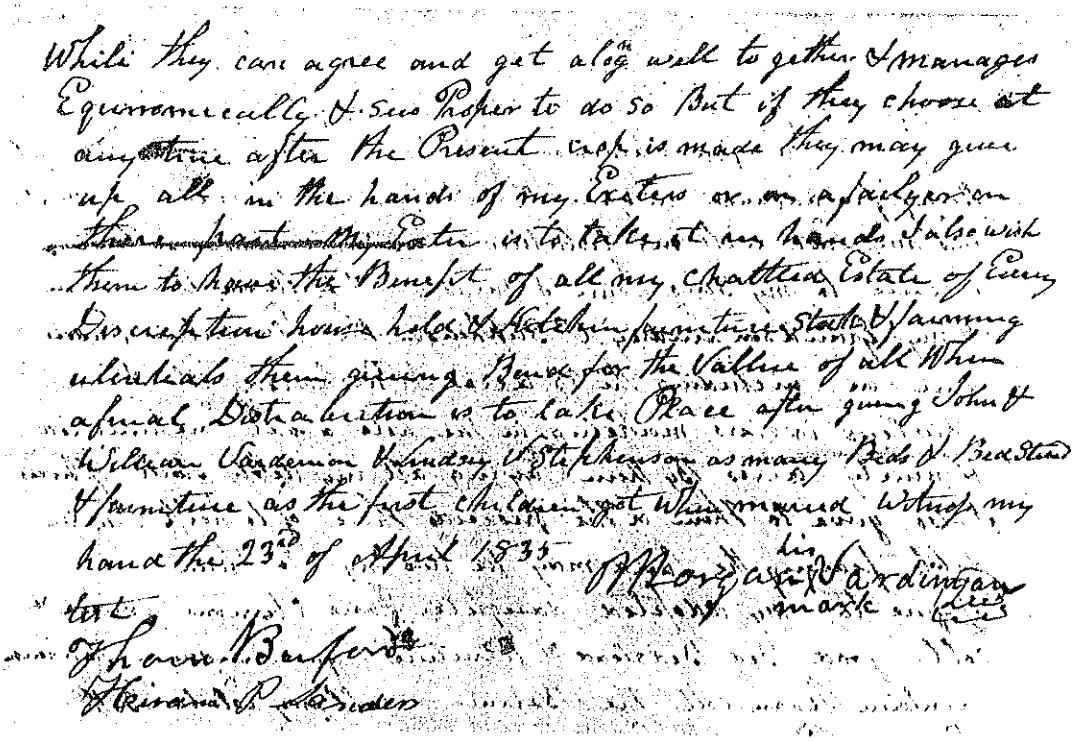
Morgan Vardiman
his mark

test
Thomas Bedford
Herman P. Sanders

Certificate of marriage for obtaining
letters of probate of said will and
of same, hereunto annexed
and to which reference is to be had
has been duly recorded in my office
this day of date above.

Thomas Hewins
Oneida County Surr.

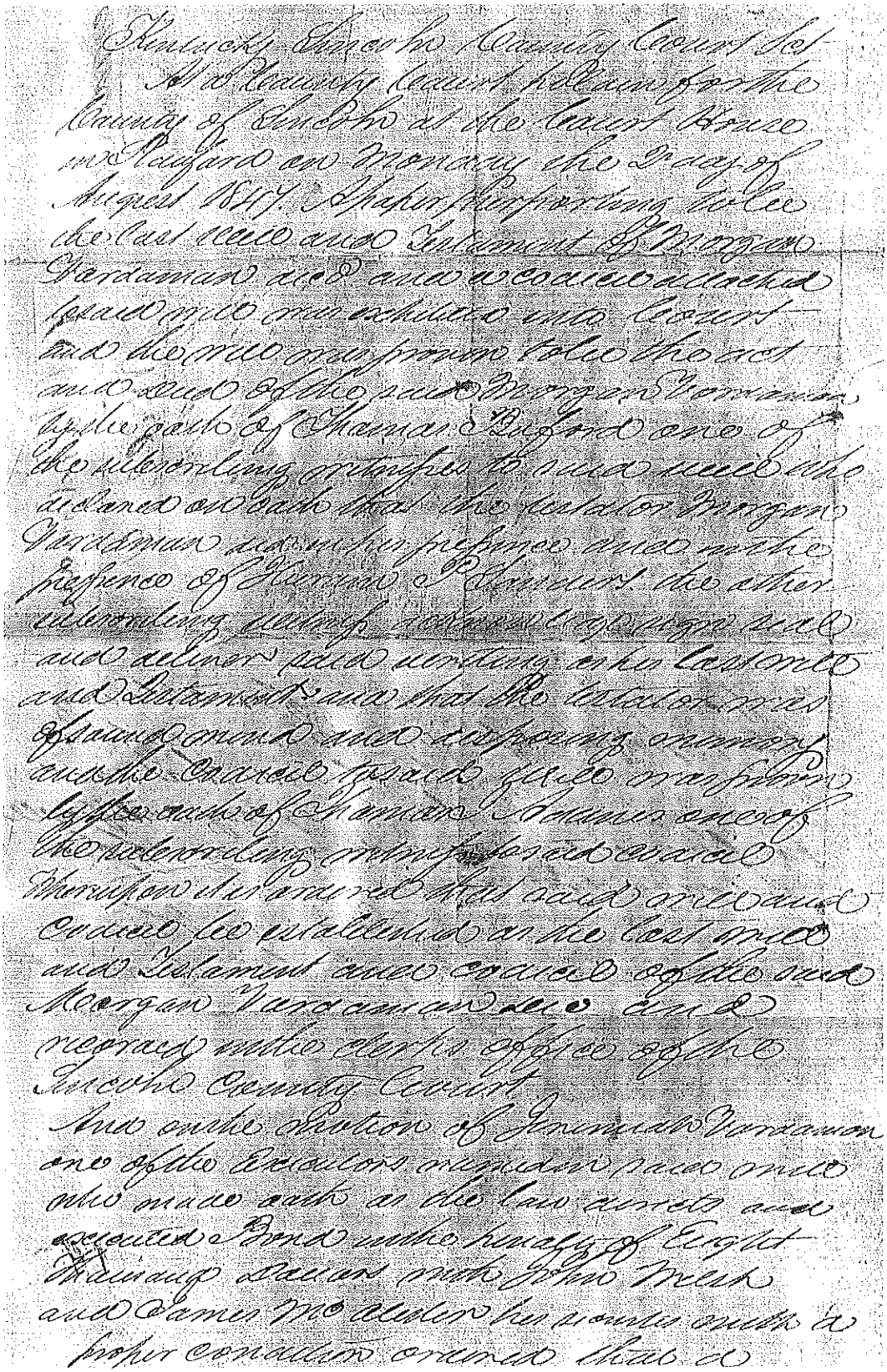
I Morgan Vardeman of Lincoln County Kentucky
Being far advanced in years & in a weak State of Body do make
this my Last will and testament ~~with the manner following~~
I leave to my Sons John & William Vardeman
& my Grandson Lindsey V. Stephenson the Plantation I now
Live on including the 25 acres I Purchased of Whitney
Awleys Excetars making in the hole about one hundred
& ninety acres By them Paying all my debts Stock of Horses
I also give to them or the proceeds there of to help Pay my
debts leaving the Law as may be his right to them
I give to my adopted daughter Jane Clemons a mare &
Colt good Bed Bedstead & furniture I give Lindsey V. Stephenson
a certain Roan colt the Balance of all my Estate Both
Real & Personal Leave to Be Sold on twelve months
Credit & Equally Divided among my Children & Grand
Children Elizabeth Pennington Children to have her Proportion
Leaving it in the hands of Ed Pennington I give unto Stephen
Sears Share to her Son Lindsey in the hands of my Excetors
here after mentioned for him When he arrive at
the age of 21 Should he dye before he arrives of age it is
to Be Equally Divided among her other Children
I give to Jane Clemons a full Share with my other Heirs
~~Excepting~~ & Equally among my
Children Except Jeremiah Vardeman I leave him nothing
more than what he has already got Believing he
has already got more than I am leaving the Rest
Lastly I appoint my Son Jeremiah Vardeman & John Welch my
Excetors executors without security Where of I have hereunto my hand
and ~~affixt~~ my Seal this 13th day of March 1828
I leave the partican Polley Flora will be entitled to
of my Estate in the hands of Ed Pennington as trustee for her
Before Benefits Signing the above I wish the part Directing a Sale not to
take Place until Lindsey V. Stephenson arives at full age
or Dies unless a failyer on the part of my two Sons
John & William I wish the family as now is to Remain togethe



While they can agree and get along well together & manages Equanimically & see Proper to do so But if they choose at any time after the Present cash is made they may give up all in the hands of my Executors or any Lawful Heir Executor is to take it in hands & also with them to share the Benefit of all my Chattles Estate of Every Description Horse hole & Kitchen furniture Stock & farming utensils & them giving a Bond for the Value of all When a final Distribution is to take Place after giving John & William Vardeman Saunders & Stephenson as many Beds & Bedsteads & furniture as the first children got When married Witness my hand the 23rd of April 1835

his
Henry Vardiman
mark

Test
Thomas Barfoot
Thirard Saunders



APPENDIX D:
Archaeobotanical Remains from the Vardeman House Site (15LI88)

Archaeobotanical Remains from the Vardeman House site (15Li88)

Jack Rossen
Ithaca College
and
University of Kentucky
May 2002

Introduction

This brief report discusses plant remains recovered from small soil samples. All samples are between one-half and three liters of soil in volume. The only recovered remains are minute fragments of carbonized white oak wood, a few scattered desiccated seeds of common historic weeds, and a trace of carbonized black walnut shell (Table 1).

Methods

Botanical remains are produced from archaeological sites using a method known as water flotation. Soil samples are placed in a tank with agitated water, and the lighter charcoal and roots float to the surface and are collected in a nylon bag. Portions of the sample that sink are caught below in fine screen. After drying the floated samples, they were passed through a 2 mm geological sieve, before hand sorting botanical materials from contaminants such as roots. The samples were received already floated in a water flotation tank and separated in light (floating) and heavy (sinking) fractions.

The samples were passed through a 2 mm geological sieve. Materials larger than 2 mm sample were identified, counted, and weighed. Sievings smaller than 2 mm were scanned carefully for seeds. This procedure is followed because fragments of wood and nutshell smaller than 2 mm are difficult to reliably identify. Specimens larger than 2 mm are representative of smaller specimens, with a few possible exceptions like acorn and squash rind (Asch and Asch 1975). Laboratory sieving thus saves considerable laboratory sorting time without a loss of information.

Both light and heavy fractions were examined and sorted under a light microscope at magnifications ranging from 10x to 30x. Identification of materials was aided by a comparative collection of both archaeological and modern specimens, along with standard catalogs (Delorit 1970; Martin and Barkley 1973; Panshin and deZeeuw 1970; U.S. Department of Agriculture 1948). Specimens were sorted by species, counted, and weighed to the nearest tenth of a gram. Macroscopic wood characteristics were observed from specimen cross-sections. Changes in the visibility of macroscopic characteristics that occur during carbonization were also accounted for, to insure maximum accuracy of identification (Rossen and Olson 1985). Very small wood specimens or specimens that were badly deformed during the carbonization process were classified as "unidentified."

In open prehistoric sites, only carbonized plant remains may be considered archaeological. However, historic sites often contain desiccated botanical remains. In the case of the Vardeman House site, recovered wood and nutshell was carbonized, while all recovered seeds are desiccated.

Preservation

Archaeobotanical preservation varies greatly between sites for reasons that are only partially understood. Two factors that influence preservation are soil drainage and chemical composition of midden deposits (such as soil pH and ash content). The circumstances surrounding plant carbonization, including firing temperature and the amount of oxygen reduction present, also influence preservation. Soil particle size and inclusions affect whether or not carbonized plant remains are eroded or destroyed by mechanical grinding.

It is difficult to estimate preservation at the Vardeman House site. Recovered soil samples are very small. The few desiccated seeds are typical of historic sites with much larger assemblages, and this, a larger soil sample recovery and flotation effort may have possibly recovered a better assemblage.

Plant Remains and Comments

A total of 175 carbonized wood fragments was recovered (Table 1). These are minute specimens, evident from the fact that they together represent less than one gram in weight. They are all either unidentified specimens (that is, specimens that are too small to have enough wood structure visible to identify), or are white oak (*Quercus* sp.). The only two samples with notable amounts of wood are from Feature 27 (n=219) and Feature 41 (n=88).

Four samples contain the desiccated seeds of weedy plants that are common in 19th century historic house sites. Ragweed (*Ambrosia* sp.), pokeweed (*Phytolacca americana*), elderberry (*Sambucus canadensis*), small-seeded nightshade (*Solanum* sp. cf. *americanum*), and buffalo bur (*Solanum rostratum*) were all recovered in trace amounts. These are all aggressive weeds that invade neglected gardens and waste or disturbed land (Fernald 1950). In the case of buffalo bur, the species was naturalized from Eurasia early in the 19th century and is peculiar to 19th century historic sites (Cummings 1993:7.14). Elderberry and pokeweed may be used economically, elderberry for its berries and pokeweed for its edible greens and as a purple dye from its berries. In cases where the economic use of these plants has been postulated, they appear in specific contexts and in high frequencies (Cummings 1893; Cummings and Puseman 1994; Rossen 1992, 1995; Scarry 1993). Any case for the economic use of plants in historic sites must be ultimately made on large flotation collections.

A trace amount of carbonized black walnut (*Juglans nigra*) shell was recovered from Feature

16A. This could represent either food refuse or a walnut drop.

Recovered artifacts in the flotation samples are worthy of mention. Minute fragments of whiteware and glass are typical of 19th century historic house sites. However, two samples from Feature 16 (Contexts 1117 and 1118) also contain prehistoric chert flakes. Thus, at least a portion of the site may contain a mixture of occupations.

In summary, this small archaeobotanical collection is inconclusive and tantalizing. The uniformity of the wood charcoal (white oak) is an oddity that is difficult to explain. The general absence of economic plant materials may be due to the nature of the site and its deposits, or it may be the result of the very small soil samples that were collected and processed. The recovered desiccated weedy plant seeds are very typical of historic sites, although their frequency is very low, perhaps again because of sample size.

Table 1. Botanical remains from the Vardeman House site (15Li88).

sample	*species*	*freq*	*gm wt*
Feature 11A, Level 1 0.5 liters	ragweed (*Ambrosia* sp.)	1	---
Feature 11B, Level 1 3 liters	wood (white oak)	15	.2
	pokeweed (*Phytolacca americana*)	4	---
	small-seeded nightshade (*Solanum* sp. cf. *americanum*)	2	---
Feature 16, Level 2 Context 1117, 2 liters	[empty]		
Feature 16, Level 2A Context 1118, 2 liters	wood (white oak)	6	.0
Feature 16A 3 liters	wood (white oak)	2	.0
	black walnut (*Juglans nigra*)	4	.0
Feature 27, Level 2 2 liters	wood (white oak)	219	2.0
Feature 39, Level 1 Context 1143 2 liters	wood (white oak)	13	.3
Feature 41, Level 1 Context 1146, 2 liters	wood (white oak)	88	1.1
	elderberry (*Sambucus canadensis*)	1	---
Feature 42, Level 4 Context 1145, 2 liters	wood (white oak)	19	.2
	buffalo bur (*Solanum rostratum*)	2	---
Feature 108A, Level 1 0.5 liters	wood (unidentified)	13	.2
Feature 135, Level 1 Context 1174, 2 liters	[empty]		
Feature 140, Context 2001 2 liters	[empty]		
[complete, 24 x 19 mm]			

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APPENDIX E:
Primary Zoological Data, Vardeman House Site

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 002	*Canis* sp.	tibia	L	1	34.59				1	
Feature 002	Mammalia	long bone frag		1	4.6				0	
Feature 009	*Bos taurus*	femur	R	1	93.3				1	
Feature 009	*Sus scrofa*	canine		1	4.06				0	
Feature 009	*Sus scrofa*	dentary		2	3.49				0	
Feature 009	*Sus scrofa*	dentary	R	1	23.32				0	w/p4, m1, m2
Feature 009	*Sus scrofa*	p1	R	1	0.22				0	lower
Feature 009	*Sus scrofa*	p2	R	1	0.45				0	lower
Feature 009	*Sus scrofa*	p3	R	1	1.15				0	lower
Feature 009	*Sus scrofa*	tibia	R	1	28.57			1	1	
Feature 011b	*Bos taurus*	axis		1	81.11				1	
Feature 016	Mammalia	frags		1	0.26				0	
Feature 016	Mollusca	shell frag		1	0.13				1	frags <1mm2
Feature 016	*Sus scrofa*	canine		1	9.97				0	
Feature 016	*Sus scrofa*	humerus		1	73.06				1	
Feature 016	*Sus scrofa*	m2		1	1.64				0	
Feature 016	*Sus scrofa*	maxilla	L	1	11.13				1	w/p3, p4, m1
Feature 016	*Sus scrofa*	maxilla frags		12	3.93				0	
Feature 016	*Sus scrofa*	p4	R	1	1.1				0	
Feature 016a	*Sus scrofa*	canine		1	15.13				0	w/dentary frag
Feature 016a	*Sus scrofa*	dentary	L	1	6.03				1	w/2 incisors
Feature 016a	*Sus scrofa*	dentary	R	1	7.43				0	w/2 incisors
Feature 016a	*Sus scrofa*	frags		13	3.63				0	
Feature 016a	*Sus scrofa*	i3		1	0.26				0	
Feature 016a	*Sus scrofa*	metac/t		1	1.57			1	0	
Feature 027	*Bos taurus*	humerus	L	1	194.07				1	
Feature 027	Mammalia	cranial frags		3	2.11				0	
Feature 027	Mammalia	epiphysis		2	1.75				0	
Feature 027	Mammalia	frags		109	49.99				0	
Feature 027	Mammalia	long bone frag		9	20.89	50			0	
Feature 027	Mammalia	rib frag		1	27.37		1		0	cut
Feature 027	*Sus scrofa*	astrag	R	1	11.73				0	
Feature 027	*Sus scrofa*	carpal		1	1.59				0	
Feature 027	*Sus scrofa*	condyle	L	1	14.48				0	of dentary
Feature 027	*Sus scrofa*	dentary	R	2	116.82				2	
Feature 027	*Sus scrofa*	humerus	L	1	33.11			1	0	
Feature 027	*Sus scrofa*	humerus	R	1	76.43				0	includes epiph
Feature 027	*Sus scrofa*	illium	L	2	163.42				0	
Feature 027	*Sus scrofa*	incisor		2	2.4				0	
Feature 027	*Sus scrofa*	innominate	L	1	43.94				0	illium&ischium
Feature 027	*Sus scrofa*	ischium	R	1	5.67				0	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 027	*Sus scrofa*	molar		1	1.27				0	
Feature 027	*Sus scrofa*	pubis	L	1	2.05				0	
Feature 027	*Sus scrofa*	scapula	L	1	6.57				0	
Feature 027	*Sus scrofa*	temporal	L	1	30.41			1	0	
Feature 027	*Sus scrofa*	tooth frag		1	0.65				0	
Feature 027	*Sus scrofa*	ulna	R	1	13.09			1	0	
Feature 027	Vertebrata	dentary	L	1	0.49	1			0	
Feature 035	*Sus scrofa*	long bone frag		2	20.95				1	
Feature 039	*Bos taurus*	horn core		3	60.02				1	plus very small assoc. frags
Feature 039	Mammalia	frags		2	0.97				0	
Feature 039	Mammalia	scapula frags		1	7.67				0	
Feature 039	*Odocoileus virginianus*	antler frags		5	79				1	
Feature 039	*Sus scrofa*	canine		2	4.54				0	broke in 2;
Feature 039	*Sus scrofa*	molar frag		1	1.63				0	
Feature 039	*Sus scrofa*	prox phalanx		1	4.43				1	
Feature 041	Anatidae	cranial frag		1	0.95				0	
Feature 041	Anatidae	phalanges		5	1.03				0	
Feature 041	Anatidae	tibiotarsus frags	R,L	4	4.74				1	
Feature 041	Anatidae	vertebrae		4	1.93				0	
Feature 041	Aves	1st phalanx	L	1	0.29				0	
Feature 041	Aves	carpometacarpus	L	1	2.17				0	
Feature 041	Aves	corocoid frag	L	1	0.15				0	
Feature 041	Aves	crania		2	11.33				0	
Feature 041	Aves	cranial frags		1	0.46				0	
Feature 041	Aves	dentary		1	1.96				0	broke in 2 pieces
Feature 041	Aves	distal phalanges		3	0.48				0	
Feature 041	Aves	egg shell		2	0.02				0	
Feature 041	Aves	egg shell		6	0.43				0	
Feature 041	Aves	femur	L	1	0.42				0	
Feature 041	Aves	femur	R	1	0.7				0	
Feature 041	Aves	fibula		2	0.32				0	cf.
Feature 041	Aves	frag		1	1.00				0	
Feature 041	Aves	frags		7	1.48				0	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 041	Aves	furculum		3	1.24				0	
Feature 041	Aves	humerus	L	2	0.97				0	
Feature 041	Aves	humerus	R	1	0.41				0	
Feature 041	Aves	long bone frag		25	9.33				0	
Feature 041	Aves	pectoral frags		2	0.15				0	
Feature 041	Aves	phalanx	L	1	0.14				0	
Feature 041	Aves	phalanx		1	0.24				0	
Feature 041	Aves	premaxilla		1	0.6				0	
Feature 041	Aves	rib frag		13	1.37				0	
Feature 041	Aves	rib frags		1	0.21				0	cf.
Feature 041	Aves	scapula		3	1.26				0	
Feature 041	Aves	tarsometatarsus		4	2.60				0	
Feature 041	Aves	tarsometatarsus		1	0.55				0	
Feature 041	Aves	tibiotarsus	L	1	0.54				0	
Feature 041	Aves	ulna frag		3	2.10				0	
Feature 041	Aves	ulna frag	R	2	0.40				0	same bone
Feature 041	Aves	vertebra		1	0.82				0	
Feature 041	Bivalvia	lateral teeth		1	0.92				1	
Feature 041	Bivalvia	shell frag		2	0.19				0	plus dust
Feature 041	*Bos taurus*	astragalus	L	1	59.41				0	
Feature 041	*Bos taurus*	calcaneus	L	1	73.99			1	1	
Feature 041	*Bos taurus*	cervical vert		1	114.97				0	
Feature 041	*Bos taurus*	fused c&4 tarsal	L	1	41.68				0	
Feature 041	*Bos taurus*	M1	L	2	13.10				2	
Feature 041	*Bos taurus*	M1	R	1	7.30				0	
Feature 041	*Bos taurus*	molar frag		1	2.30				0	
Feature 041	*Bos taurus*	P	L	2	23.70				0	
Feature 041	*Bos taurus*	thoracic vert frag		1	28.50				0	
Feature 041	*Bos taurus*	tibia	L	1	101.76				0	
Feature 041	*Branta canadensis*	distal phalanx		3	0.56				0	
Feature 041	*Branta canadensis*	femur	R	1	0.51				0	
Feature 041	*Branta canadensis*	interm phalanx		3	0.73				0	
Feature 041	*Branta canadensis*	pelvis		1	2.26				0	broke in 3 pieces

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 041	*Branta canadensis*	tarsometatarsus	L	1	0.75				0	
Feature 041	*Branta canadensis*	tarsometatarsus	R	1	0.69				0	
Feature 041	*Branta canadensis*	tibiotarsus	R	3	4.21				3	
Feature 041	*Branta canadensis*	tibiotarsus	L	2	2.43				0	
Feature 041	*Branta canadensis*	ulna		1	1.05				0	broke in 2 pieces
Feature 041	*Branta canadensis*	Vert frag		3	3.5				0	
Feature 041	cf. *Sus scrofa*	distal phalanx		1	0.85				0	
Feature 041	Galliformes	1st phalanx	R	2	1.65				0	
Feature 041	Galliformes	carpometacarpus	L	3	1.68				0	
Feature 041	Galliformes	carpometacarpus	R	1	0.43				0	
Feature 041	Galliformes	tibiotarsus	L	1	0.92				0	
Feature 041	Galliformes	tibiotarsus	R	1	0.34				0	
Feature 041	Gastropoda	shell frag		1	0.07				0	broke in 2 pieces
Feature 041	Gastropoda	spire		1	0.11				1	
Feature 041	Lg. Mammalia	astragalus	L	1	8.40				0	
Feature 041	Lg. Mammalia	bulla tympan		1	1.30				0	
Feature 041	Lg. Mammalia	canine		1	1.00				0	
Feature 041	Lg. Mammalia	cranial frag		7	9.50				0	
Feature 041	Lg. Mammalia	frags		104	162.55				0	mostly long bones
Feature 041	Lg. Mammalia	frags		2	1.90	2			0	
Feature 041	Lg. Mammalia	frontal/orbit frag		1	3.60				0	
Feature 041	Lg. Mammalia	innominate frag	R	1	6.90				0	
Feature 041	Lg. Mammalia	mand. condyle		1	1.40				0	
Feature 041	Lg. Mammalia	manubrium		1	4.90				0	
Feature 041	Lg. Mammalia	max. frag		1	7.00				0	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 041	Lg. Mammalia	molar/PM frags		5	2.60				0	
Feature 041	Lg. Mammalia	radius frag		1	1.60				0	
Feature 041	Lg. Mammalia	rib frags		3	47.40				0	
Feature 041	Lg. Mammalia	rib frags		4	2.30				0	
Feature 041	Lg. Mammalia	vert. body frag		1	1.20				0	
Feature 041	Lg. Mammalia	vert. epiphyses		2	8.40				0	
Feature 041	Lg. Mammalia	vert. frag		2	2.40				0	process
Feature 041	Lg. Mammalia	vertebra		1	3.30				0	
Feature 041	Mammalia	frags		13	7.67				0	
Feature 041	Mammalia	frags		240	330.72				0	mostly rib and long bone frags
Feature 041	Mammalia	frags		1	5.11				1	
Feature 041	Mammalia	rib frag		10	36.49				0	
Feature 041	Mammalia	Vert frag		1	15.55			1	0	
Feature 041	Med. Or indet. Mammalia	coccyx		1	0.90				0	
Feature 041	Med. Or indet. Mammalia	metapodial frag		1	1.60				0	
Feature 041	*Meleagris gallopavo*	carpometacarpus	R	1	6.48				0	
Feature 041	*Meleagris gallopavo*	femur	L	1	3.75				1	
Feature 041	Mollusca	shell frag		1	0.09				1	
Feature 041	Phasianidae	coracoid	R	1	0.8				0	
Feature 041	Phasianidae	femur	L	1	1.73				1	
Feature 041	Phasianidae	femur frag	R	1	2.31				0	diff. Size than L femur below
Feature 041	Phasianidae	frag	R	2	0.7				0	
Feature 041	Phasianidae	innominate frag	R,L	2	0.9				0	
Feature 041	Phasianidae	radius	L	1	0.4				0	
Feature 041	Phasianidae	scapula	R	1	0.6				0	
Feature 041	Rodentia or Lagomorpha	canine		2	0.42				1	
Feature 041	*Sciurus carolinensis*	calcaneus	L	1	0.20				0	
Feature 041	*Sciurus carolinensis*	coccyx		1	0.03				0	
Feature 041	*Sciurus carolinensis*	dentary w/tooth	R	1	0.53				0	
Feature 041	*Sciurus carolinensis*	femur	L	1	1.05				1	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 041	*Sciurus carolinensis*	innominate frag		1	0.21				0	
Feature 041	*Sciurus carolinensis*	rib	R	1	0.06				0	
Feature 041	*Sciurus carolinensis*	sacrum frag		1	0.13				0	
Feature 041	*Sciurus carolinensis*	scapula	R	1	0.11				0	
Feature 041	*Sciurus carolinensis*	scapula frag	L	1	0.10				0	
Feature 041	*Sciurus carolinensis*	tibia frag	L	2	1.20				2	
Feature 041	*Sciurus carolinensis*	tibia frag	R	3	0.96				0	
Feature 041	*Sciurus niger*	dentary frag	R	1	0.07				0	
Feature 041	*Sciurus niger*	dentary frag w/canine	L	1	0.12				0	
Feature 041	*Sciurus niger*	femur	R	1	0.80				1	
Feature 041	*Sciurus niger*	femur frag	L	1	0.81				0	
Feature 041	*Sciurus niger*	humerus	L	1	0.47				0	
Feature 041	*Sciurus niger*	humerus frag	R	1	0.20				0	
Feature 041	*Sciurus niger*	innominate frag	R	1	0.25				0	
Feature 041	*Sciurus niger*	max. frag	R	1	0.10				0	
Feature 041	*Sciurus niger*	metacarpal /tarpal		1	0.19				0	
Feature 041	*Sciurus niger*	radius frag	L	1	0.18				0	
Feature 041	*Sciurus niger*	ulna	R	1	0.20				0	
Feature 041	Sm. Mammalia	frags		216	58.85	1			0	
Feature 041	Sm. Mammalia	mandible frag		1	0.50				0	
Feature 041	Sm. Mammalia	phalanx epiphy.		1	0.20				0	
Feature 041	*Sus scrofa*	1st phalanges		10	30.50				0	
Feature 041	*Sus scrofa*	canine frag		1	1.60				0	
Feature 041	*Sus scrofa*	carpal		3	16.87				0	
Feature 041	*Sus scrofa*	carpals		2	7.50				0	
Feature 041	*Sus scrofa*	cranial frags		12	14.07				0	
Feature 041	*Sus scrofa*	cuneiform		1	6.80				0	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 041	*Sus scrofa*	dentary	R	1	7.68				0	w/p2, p1
Feature 041	*Sus scrofa*	dentary	L	1	5.25			1	0	w/p1, p2
Feature 041	*Sus scrofa*	dentary	L	1	4.13			1	0	anterior portion
Feature 041	*Sus scrofa*	dentary frag	L	1	1.68			1	0	
Feature 041	*Sus scrofa*	dentary frag		2	5.78				0	
Feature 041	*Sus scrofa*	dentary frags	R	5	14.56			5	0	
Feature 041	*Sus scrofa*	distal phalanx		2	3.17				0	
Feature 041	*Sus scrofa*	epiphysis		1	0.7				0	
Feature 041	*Sus scrofa*	fibula frag		4	5.94				0	
Feature 041	*Sus scrofa*	frags		90	10.49				0	
Feature 041	*Sus scrofa*	frontal frag	R	1	3.00				0	
Feature 041	*Sus scrofa*	frontal/parietal frag		1	3.40				0	
Feature 041	*Sus scrofa*	hard palatte		1	1.16			1	0	
Feature 041	*Sus scrofa*	humerus	L	1	5.00				0	
Feature 041	*Sus scrofa*	humerus	L	1	31.17				0	
Feature 041	*Sus scrofa*	incisor		1	0.65				0	
Feature 041	*Sus scrofa*	incisor		3	1.22				0	
Feature 041	*Sus scrofa*	incisor frag		1	0.64				0	
Feature 041	*Sus scrofa*	incisors		5	6.40				0	
Feature 041	*Sus scrofa*	innominate frag	L	1	15.10				0	
Feature 041	*Sus scrofa*	interm phalanx		1	2.38				0	
Feature 041	*Sus scrofa*	lacrimal max./ par.	R	1	14.67				0	
Feature 041	*Sus scrofa*	m1	R	1	1.32			1	0	includes max frag
Feature 041	*Sus scrofa*	M1 frag	R	1	0.70				0	
Feature 041	*Sus scrofa*	M1 frag		1	3.90				0	
Feature 041	*Sus scrofa*	m3	L	1	4.92				0	
Feature 041	*Sus scrofa*	mandible frag	R	1	9.40				0	
Feature 041	*Sus scrofa*	maxilla	R	1	12.98				1	w/m3
Feature 041	*Sus scrofa*	maxilla	L	1	15.23			1	0	w/m2, m1, p4, p3
Feature 041	*Sus scrofa*	maxillary frag	R	1	2.60				0	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 041	*Sus scrofa*	maxillary frag	L	1	1.20				0	
Feature 041	*Sus scrofa*	medapodial		1	2.3				1	
Feature 041	*Sus scrofa*	metacarpal	R	1	5.81				1	
Feature 041	*Sus scrofa*	metacarpal		1	2.55				0	
Feature 041	*Sus scrofa*	metacarpals/frags		19	30.20			19	0	
Feature 041	*Sus scrofa*	molar		1	0.81				0	
Feature 041	*Sus scrofa*	molar		1	0.72				0	
Feature 041	*Sus scrofa*	molars		3	9.00				0	
Feature 041	*Sus scrofa*	occipital frag		1	2.73				0	
Feature 041	*Sus scrofa*	p1	R	1	0.19				0	worn
Feature 041	*Sus scrofa*	p1	L	1	0.19			1	0	
Feature 041	*Sus scrofa*	P2 w/ bone	L	1	1.50				0	
Feature 041	*Sus scrofa*	p3	R	1	0.43				0	includes max frag, worn
Feature 041	*Sus scrofa*	p4	R	1	0.68				0	includes max frag, worn
Feature 041	*Sus scrofa*	phalanges		3	7.40				0	
Feature 041	*Sus scrofa*	phalanges, 2nd		3	6.80				0	
Feature 041	*Sus scrofa*	premolar		1	0.33				0	
Feature 041	*Sus scrofa*	rib frags		31	58.99				0	
Feature 041	*Sus scrofa*	rib frags		1	1.57			1	0	first
Feature 041	*Sus scrofa*	tarsals		3	34.48				0	
Feature 041	*Sus scrofa*	temporal	R	1	3.70				0	
Feature 041	*Sus scrofa*	tibia (diaphysis)	L	1	6.90				1	
Feature 041	*Sus scrofa*	tooth frag		5	4.90				0	
Feature 041	*Sus scrofa*	upper premolar	R	1	2.40				0	
Feature 041	*Sus scrofa*	vert frags		6	19.20			6	0	
Feature 041	Vertebrata	bulla tympan		2	0.50				0	
Feature 041	Vertebrata	cranial frag		11	2.60				0	
Feature 041	Vertebrata	frag		36	54.63				0	
Feature 041	Vertebrata	frags		39	19.51				0	
Feature 041	Vertebrata	teeth		3	0.60				0	small

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 041 N	Aves	long bone frag		2	1.51				1	
Feature 041 N	Mammalia	cranial frag		4	14.91				0	
Feature 041 N	Mammalia	long bone frag		2	6.76				0	
Feature 041 N	Mammalia	misc. frags		13	10.49				0	
Feature 041 N	*Sus scrofa*	incisors		2	5.83				1	
Feature 041 N	*Sus scrofa*	tooth frag		2	0.81				0	
Feature 041 N	Vertebrata	indet. frags		3	0.81				0	
Feature 041N	Mollusca	shell frag		13	3.1				1	may be Bivalvia, not sure
Feature 041S	Gastropoda	outer lip		1	0.04				1	
Feature 041S	Mammalia	frags		3	2.13				0	
Feature 041S	Mammalia	radius		1	1.38				1	
Feature 041S	Mammalia	rib frag		1	0.21				0	
Feature 041S	Mollusca	shell frag		1	0.15				1	
Feature 042	Mammalia	frags		17	22.95	14			1	
Feature 042	Mammalia	frags		2	2.34				1	
Feature 042	Mammalia	long bone frag		2	17.62				1	
Feature 042	Mammalia	tibia	L	1	0.23				1	small mammal
Feature 042	Mollusca	shell frag		8	2.34				1	
Feature 042	*Sus scrofa*	dentary	L	1	64.66				1	w/m3
Feature 042	*Sus scrofa*	dentary	R	1	120.13				0	w/m1,m2, p2, p3, p4, can
Feature 042	*Sus scrofa*	humerus	L	1	29.27				0	
Feature 042	*Sus scrofa*	innominate	L	1	38.53				0	
Feature 042	*Sus scrofa*	maxilla	R	1	24.63				0	w/m1, m2, p3, p4
Feature 11	*Sus scrofa*	canine	L	1	3.88				0	
Feature 11	*Sus scrofa*	canine frag		1	0.28				0	
Feature 11	*Sus scrofa*	cf. tibia, distal		1	26.83				0	
Feature 11	*Sus scrofa*	dentary frags		30	33.69				0	
Feature 11	*Sus scrofa*	dentary wM2,3,1	L	1	33.10				1	
Feature 11	*Sus scrofa*	dentary wM2,3,2	L	1	28.96				1	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Feature 11	*Sus scrofa*	incisors 1-2	L	2	5.03				0	
Feature 11	*Sus scrofa*	long bone frag		1	4.89				0	
Feature 11	*Sus scrofa*	premolar frags, P2		2	0.94				0	
Feature 11	*Sus scrofa*	premoloar 3	L	1	1.32				0	
Feature 110	Mammalia	tooth		1	0.68				0	worn
Feature 110	*Sus scrofa*	canine		2	10.81				0	
Feature 110	*Sus scrofa*	frags		18	25.14	16			0	
Feature 110	*Sus scrofa*	incisor		4	8.9				0	
Feature 110	*Sus scrofa*	long bone frag		3	49.52				0	
Feature 110	*Sus scrofa*	molar		2	5.36				1	
Feature 110	*Sus scrofa*	tooth frag		1	0.74				0	
Feature 140	Bovidae	atlas		1	125.38				1	cut
Feature 140	Bovidae	lumbar vert		1	40.15				0	
Feature 140	Mammalia	long bone frag		1	2.51				0	
Feature 140	Mammalia	Vert frag		17	28.48				0	
Feature 140	*Sus scrofa*	humerus, distal	R	1	19.15			1	1	
NE Quad	Mammalia	rib frag		1	0.52				1	
NW Quad	Mammalia	frags		2	1.46	2	1		0	cut
NW Quad	*Sus scrofa*	canine frag		3	4.96				1	
NW Quad	*Sus scrofa*	tooth frag		2	3.65				0	
SE Quad	*Sus scrofa*	canine frag		1	1.98				0	
SE Quad	*Sus scrofa*	dentary	R	1	22.63				1	w/m1, m2, m3
SE Quad	*Sus scrofa*	dentary frag		10	12.87				0	
STP 101	Mammalia	vertebra, small		1	0.48				1	
STP 101	*Sus scrofa*	tooth frag, large		1	1.06				1	
STP 103	*Sus scrofa*	incisors		2	1.40					
STP 104	*Sus scrofa*	indet. Phalanx		1	1.60					
STP 106	cf. *Branta canadensis*	long bone frag		2	2.51					
STP 112	Mammalia	frags		2	0.43					
STP 112	*Sus scrofa*	PM or M frag		1	0.97					

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
STP 114	*Bos taurus*	long bone frag		1	47.99					possibly cut
STP 114	*Bos taurus*	phalanx		1	2.07					
STP 130	*Sus scrofa*	molar frag		2	2.37					
STP 230	*Equus caballus*	tooth frags		5	72.10					enamel frags included (3)
STP 268	*Sus scrofa*	molar or PM frag		1	0.50					
STP 287	Mammalia	tooth frag		1	0.20					
STP 308	*Sus scrofa*	frags		18	12.14					
STP 308	*Sus scrofa*	M1or M2		1	1.90					
STP 308	*Sus scrofa*	M3		2	6.40					
STP 52	Mammalia	frags		3	3.78				1	
STP 73	*Sus scrofa*	molar frag		1	0.80				1	
STP 74	*Sus scrofa*	tooth frag		1	0.70				1	
STP 75	*Sus scrofa*	canine frag		1	0.35				1	
STP 75	Vertebrata	cranial frag		1	0.20					
STP 76	*Sus scrofa*	PM or M frag		1	0.51				1	
STP 83	Bivalvia	shell		1	0.42				1	
STP 83	Mammalia	frag		1	0.12	1			1	
STP 84	Mammalia	tooth frag		1	0.40				1	
STP 85	cf. *Sus scrofa*	tooth frag		1	104				1	
STP 89	cf. *Sus scrofa*	tooth frag		1	0.33				1	
STP 91	*Sus scrofa*	canine	R	1	0.84				1	
STP 92	*Sus scrofa*	canine		1	1.35				1	
STP 93	Mammalia	frag		1	0.84				1	
STP 93	Mammalia	frag		1	0.90	1				
STP 93	Vertebrata	phalanx		1	0.73	1				
Sur.	*Equus caballus*	tooth		1	20.42				1	
Sur.	Mammalia	frags		1	0.75				0	
Sur.	Mammalia	frags		2	0.46				0	
Sur.	*Sus scrofa*	canine frag		1	1.64				1	
Sur.	*Sus scrofa*	m3	R	1	4.2				1	upper
Sur.	*Sus scrofa*	molar		1	2.05				1	
Sur.	*Sus scrofa*	molar frag		1	1.47				0	
SW Quad	Aves	long bone frag		2	1.18				0	
SW Quad	*Branta canadensis*	phalanx		2	0.9				1	
SW Quad	*Canis familiaris*	metacarpal		1	3.86				1	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
SW Quad	*Canis familiaris*	metacarpal frag		1	0.98				0	
SW Quad	Gastropoda	shell frag		1	0.03				1	
SW Quad	Mammalia	frags		1	0.02				1	
SW Quad	Mammalia	frags		34	62.5				0	
SW Quad	Mammalia	vert frag		3	24.24				0	
SW Quad	*Sus scrofa*	canine frag		6	7.79				0	
SW Quad	*Sus scrofa*	carpal		1	2.35				0	
SW Quad	*Sus scrofa*	interm phalanx		1	3.07				0	
SW Quad	*Sus scrofa*	tibia		1	3.82				1	cut
SW Quad	Vertebrata	frags		8	5.06				0	
SW Quad	Vertebrata	vert frag		3	3.51				0	
Unit 01 NE	Mammalia	tooth frag		1	0.15				1	
Unit 01 NW	Mammalia	tooth frag		1	0.46				1	
Unit 01 SE	*Sus scrofa*	tooth frag		1	0.36				1	
Unit 01 SW	Mammalia	frags		1	0.26				1	
Unit 01 SW	Mammalia	long bone frag		5	1.79	5		1	0	
Unit 02 NE	*Sus scrofa*	i3		1	0.68				1	
Unit 02 NE	*Sus scrofa*	incisor frag		1	0.44				0	
Unit 02 NE	*Sus scrofa*	molar frag		1	0.98				0	
Unit 02 NW	Mammalia	frags		1	0.13	1			0	
Unit 02 NW	*Sus scrofa*	tooth frag		1	0.36				0	
Unit 02 NW	*Sus scrofa*	tooth frag		1	0.4				1	
Unit 02 NW	*Sus scrofa*	tooth frag		1	0.3				1	
Unit 02 SE	Mammalia	frags		1	0.22				1	
Unit 02 SE	Mammalia	tooth frag		1	0.35				0	
Unit 02 SE	*Sus scrofa*	i3	L	1	0.54				1	
Unit 02 SE	*Sus scrofa*	incisor frag		1	0.75				1	
Unit 02 SW	*Bos taurus*	dentary	R	1	6.01				1	w/m1
Unit 02 SW	Mammalia	carpal		1	1.57		1		1	cut maybe recent
Unit 02 SW	Mammalia	frags		1	1.76				0	
Unit 02 SW	Mammalia	frags		1	0.3	1			0	
Unit 02 SW	*Sus scrofa*	canine frag		1	1.15				1	
Unit 02 SW	*Sus scrofa*	incisor frag		1	0.85				0	
Unit 03 NE	Mammalia	cranial frags		1	0.41				1	
Unit 03 NE	*Sus scrofa*	dentary frag		1	0.42				1	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Unit 03 NE	*Sus scrofa*	tooth frag		3	1.18				0	
Unit 03 NW	*Sus scrofa*	canine frag		1	0.24				1	
Unit 03 SE	Mammalia	canine		1	2.39				0	
Unit 03 SE	Mammalia	canine frag		1	0.35				0	
Unit 03 SE	Mammalia	tooth enamel		2	0.15				0	
Unit 03 SE	*Sus scrofa*	m2		1	1.24				1	worn
Unit 03 SW	*Bos taurus*	molar		1	28.4				1	
Unit 03 SW	*Bos taurus*	tooth frag		2	0.98				0	
Unit 03 SW	*Sus scrofa*	canine frag		1	0.79				1	
Unit 03 SW	*Sus scrofa*	incisor frag		2	0.57				0	
Unit 03 SW	*Sus scrofa*	molar frag		2	2.91				0	
Unit 03 SW	*Sus scrofa*	tooth frag		1	0.24				0	
Unit 05	*Sus scrofa*	incisor frag		1	0.7				0	
Unit 05	*Sus scrofa*	molar frag		1	0.98				1	
Unit 05	*Sus scrofa*	tooth frag		3	0.67				0	
Unit 05 NE	*Sus scrofa*	incisor frag		1	0.43				0	
Unit 05 NE	*Sus scrofa*	p1		1	0.07				1	
Unit 05 NW	Mammalia	frags		1	0.23	1			1	
Unit 05 NW	*Sus scrofa*	canine frag		1	0.28				1	
Unit 05 NW	*Sus scrofa*	tooth frag		2	0.64				0	
Unit 05 SE	Mammalia	frags		1	0.52	1			0	
Unit 05 SE	*Sus scrofa*	molar frag		1	1.92				1	
Unit 05 SE	*Sus scrofa*	tooth frag		3	0.56				0	
Unit 06	Mammalia	frags		1	3.08				0	
Unit 06	Mammalia	long bone frag		1	1.7		1		0	
Unit 06	*Sus scrofa*	incisor		2	4.37				0	
Unit 06	*Sus scrofa*	m2		1	5.17				1	
Unit 06	*Sus scrofa*	molar		1	2.22				0	
Unit 07	Mammalia	carpal		1	2.01				0	
Unit 07	*Sus scrofa*	molar		1	3				1	
Unit 09	*Sus scrofa*	molar frag		2	0.91				1	
Unit 1	*Sus scrofa*	canine	L	1	2.43				0	
Unit 1	*Sus scrofa*	dentary w/incisors	L	1	10.24				0	
Unit 1	*Sus scrofa*	frags		7	0.93				0	
Unit 1	*Sus scrofa*	premolars and frags	L	4	1.37				0	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Unit 1	*Sus scrofa*	dentary w/P2, M	L	1	21.28				0	very worn teeth cusps
Unit 11	*Helix* sp.	complete shell		1	0.49				1	
Unit 12	*Sus scrofa*	canine frag		3	2.33				1	
Unit 12	*Sus scrofa*	tooth frag		1	0.24				1	
Unit 12	*Sus scrofa*	tooth frag		1	0.46				0	
Unit 12 E	*Sus scrofa*	canine		1	1.74				1	
Unit 12 E	*Sus scrofa*	incisor		1	1.02				0	
Unit 13	*Sus scrofa*	radius	L	1	136.78				1	
Unit 13 E	*Sus scrofa*	incisor		2	4.68				0	
Unit 13s/ Fea. 16a(s)	Bivalvia	shell and frags		1	11.57				1	
Unit 15	Gastropoda	body, aperture frag		1	0.03				1	
Unit 15	Mammalia	frags		4	1.15	4			0	
Unit 15	Mammalia	frags		5	1.77				0	
Unit 15	Mammalia	indet. Frags		2	3.57	2			0	
Unit 15	Mammalia	long bone frag		1	1.45				0	
Unit 15	*Sus scrofa*	canine		1	0.91				0	
Unit 15	*Sus scrofa*	incisor		1	0.85				1	
Unit 15	*Sus scrofa*	incisor		1	0.65				1	
Unit 15	*Sus scrofa*	molar		1	1.39				0	
Unit 15	*Sus scrofa*	tooth frag		2	1.21				0	
Unit 17 N	Mammalia	frag		1	0.27	1			1	
Unit 17 S	*Sus scrofa*	canine frag		1	0.46				1	
Unit 20	*Sus scrofa*	incisor frag		1	0.26				0	
Unit 20	*Sus scrofa*	molar frag		1	0.6				1	
Unit 21 W	Mammalia	frags		2	0.85	2			0	
Unit 21 W	Mammalia	long bone frag		16	8.53	16			1	
Unit 24	*Bos taurus*	tooth		1	2.55				1	
Unit 24	*Bos taurus*	tooth frag		3	3.79				1	
Unit 24	Gastropoda	outer lip		1	0.04				1	
Unit 24	Mammalia	frags		1	0.17				0	
Unit 24	Mammalia	tooth frag		2	1.58				0	
Unit 24	Mollusca	shell frag		1	0.1				1	
Unit 24	*Sus scrofa*	incisor		1	1.08				1	
Unit 24	*Sus scrofa*	molar frag		2	3.5				1	
Unit 24	*Sus scrofa*	tooth frag		1	0.28				0	

Appendix E. Primary Zooarchaeological Data, Vardeman House Site.										
Provenience	**Taxon**	**Element**	**Side**	**Count**	**Weight**	**Heat Alt**	**Modif**	**Immat**	**MNI**	**Comments**
Unit 24	*Sus scrofa*	tooth frag		1	0.28				0	
Unit 24	*Sus scrofa*	tooth frag		1	0.26				1	
Unit 24 E	Bivalvia	shell frag		1	1.14				1	
Unit 24 E	Mammalia	long bone frag		1	2.6				1	
Unit 24 E	*Sus scrofa*	incisor frag		1	0.43				0	
Unit 24 E	*Sus scrofa*	molar frag		1	0.35				1	
Unit 24 E	*Sus scrofa*	molar frag		2	2.08				1	
Unit 24 E	*Sus scrofa*	premolar		1	0.49				0	
Unit 24 E	*Sus scrofa*	tooth frag		3	1.04				0	
Unit 25 SW	Mammalia	frags		1	0.67				0	
Unit 25 SW	*Sus scrofa*	canine		1	0.95				1	
Unit 25 SW	*Sus scrofa*	molar frag		1	1.08				1	
Unit 26 W	*Bos taurus*	tooth frag		1	0.8				1	
Unit 26 W	*Sus scrofa*	canine frag		1	0.21				0	
Unit 26 W	*Sus scrofa*	molar frag		1	0.88				0	
Unit 26 W	*Sus scrofa*	p1		1	0.87				1	
Unit 27	Mammalia	long bone frag		1	1.61				0	
Unit 27	*Sus scrofa*	molar frag		3	1.88				1	
Unit 27 N	*Sus scrofa*	canine		1	0.53				1	
Unit 27 N	*Sus scrofa*	frags		1	0.4				0	
Unit 27 N	*Sus scrofa*	molar frag		4	6.12				0	
Unit 28	Mammalia	frags		1	0.79				0	
Unit 28	*Sus scrofa*	canine frag		2	0.89				0	
Unit 28	*Sus scrofa*	molar frag		2	3.5				1	
Unit 30 E	*Sus scrofa*	distal phalanx		1	1.34				1	
Unit 30 E	*Sus scrofa*	frags		1	3.32				0	
Unit 30 E	*Sus scrofa*	p4 or m1		1	1.34				0	
Unit 30 W	Mammalia	frags		1	0.68				0	
Unit 30 W	*Sus scrofa*	canine		1	2.09				1	
Unit 30 W	*Sus scrofa*	molar frag		2	3.41				0	
Unit 32	Mammalia	frags		1	0.72				0	
Unit 32	*Sciurus, sp.*	femur	R	1	0.54				1	
Unit 32	*Sus scrofa*	canine frag		1	1.1				0	
Unit 32	*Sus scrofa*	incisor frag		2	0.67				0	
Unit 32	*Sus scrofa*	molar		1	4.44				0	
Unit 32	*Sus scrofa*	phalanx		1	2.85				1	
Unit 32	*Sus scrofa*	tooth frag		1	0.38				0	
TOTALS				**1912**	**5002.46**	**123**	**4**	**47**	**25**	