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***Archaeological Reassessment
of the Hallowes Site (44WM6)***

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with contributions by
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INTRODUCTION

The John Hallowes Site (44WM6) is located along the shores of Currioman Bay in Westmoreland County, Virginia. John Hallowes and his wife Restitute were among the earliest English settlers of that county. The site contains the archaeological remains of a house inhabited by members of the Hallowes family from 1647 to ca.1666 and by tenants until 1681, and is the subject of this reanalysis report.

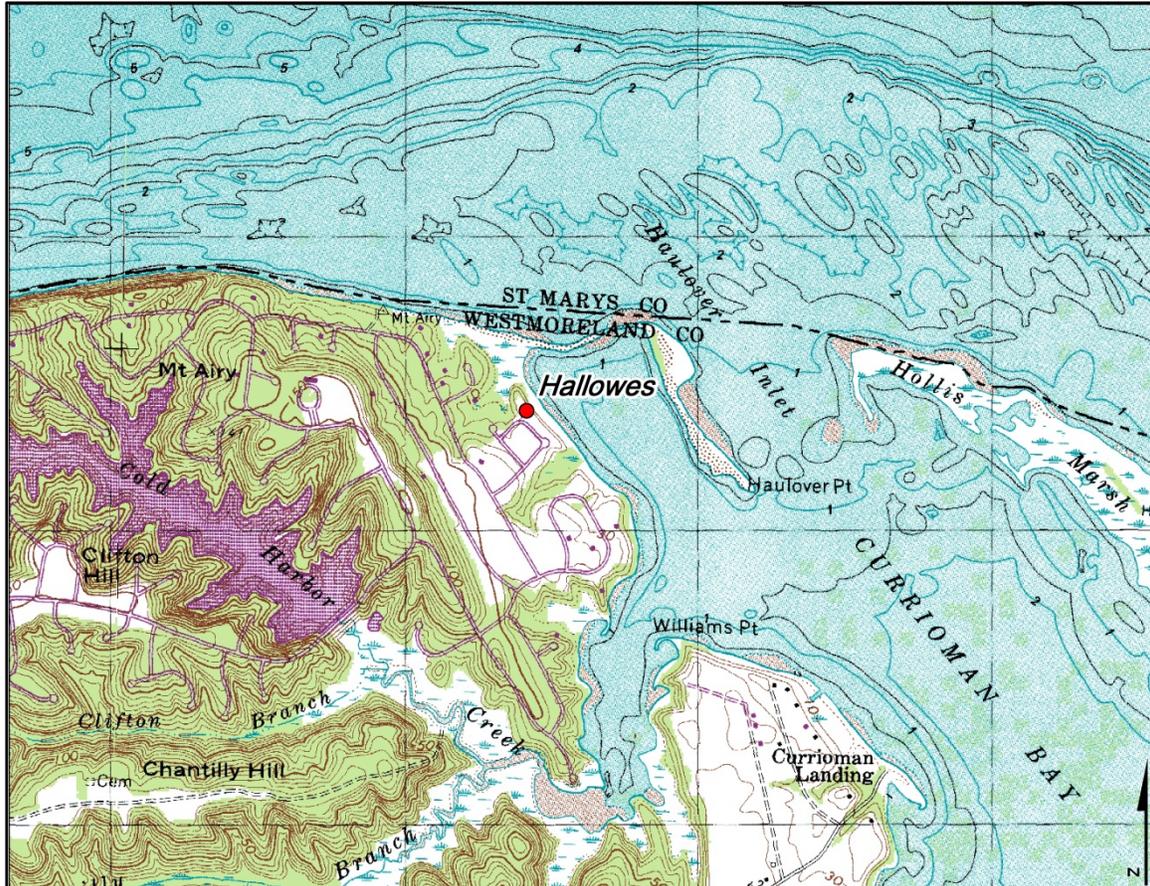


Figure 1: Location of Hallowes Site (44WM6) on 7.5 Minute USGS Topo, Stratford Hall Quad.

The site, known commonly as Hallowes, is now located in the Stratford Harbour development in Virginia's Potomac valley, directly south of a small sandbar known as Hollis Marsh along Currioman Bay. Judging from site maps and notes, the archaeological remains now appear to be beneath and around a house located on Cove Circle (Figure 2). Virginia Sherman and William T. Buchanan, Jr. first identified the site in 1968 during a survey prior to construction on the lot on which the site is located (Buchanan and Heite 1971:38). Archaeological excavation at the site lasted from July 1968 to August 1969. Excavations were conducted by a crew of volunteers under the direction of William Buchanan, Jr. and Edward Heite with some support from the Virginia Historic Landmarks Commission (Buchanan and Heite 1971:40). No formal report was ever completed for the site, although the findings and methods were discussed by Buchanan and Heite in an article published in the journal *Historical Archaeology* (1971:38-48).



Figure 2: Current Condition of the Hallows Site.

While Virginia Sherman conducted a great deal of historical research on John Hallows, the information was never fully synthesized to create a context for the site or a narrative of Hallows' life. Indeed, the artifacts were not cataloged in any systematic fashion until 1984 during the course of Charles Hodges' thesis research, and the faunal remains were never analyzed. Despite the lack of comprehensive analysis, however, the site has been referenced in several pieces of research, particularly in reference to its fortified plan (Neiman 1978, 1980; Carson et al. 1981; Hodges 1993). From 2009-2012 Dr. Barbara Heath in the Department of Anthropology, in collaboration with students and faculty at the University of Tennessee, Knoxville, oversaw a reanalysis of the site at the Charles H. Faulkner Archaeology Laboratory with the collection on loan from the Virginia Department of Historic Resources (VDHR), where it is curated.

This report presents the first complete analysis of the Hallows site since its excavation in 1968-1969. By combining detailed historical documentation for the site residents, particularly John Hallows and his family, with the reanalysis/analysis of material culture from the excavations, new and significantly different interpretations of the site and the broader region of the Northern Neck are presented that challenge previous research and help to clarify the early history of Virginia's Potomac Valley. The following report summarizes the findings of the historical research pertaining to the site, the archaeological excavations, and analyzes or reanalyzes the material culture. This

reanalysis offers a new chronology for the site that places its settlement approximately 30 years earlier than previously thought and interprets the site in a broader regional and Atlantic context.

HISTORICAL OVERVIEW

John Smith initiated English exploration of the upper reaches of the Chesapeake Bay in 1608, arriving in the Potomac River valley in June of that year (Wells 1994:15). The area was home to dispersed communities of Native American Algonquian-speakers who became important suppliers of both foodstuffs and furs to English colonists in the years that followed (Wells 1994:17; Rice 2009). While trading partnerships emerged, during the first four decades of the seventeenth century, the lands lying north of the York River remained contested territory between Indians and English settlers from Maryland and southern Virginia.

Much of the northern portion of Westmoreland County held rich tobacco soils distributed between tributary rivers and creeks emptying into the Potomac and Chesapeake Bay. Fertile farmland and easily navigable waterways, combined with a landscape that had been partially cleared by Native American farmers, made the inlets and necks of the area desirable locations for seventeenth-century English settlement (Potter and Waselkov 1994; Klein and Sanford 2004:66-67).¹

The third Anglo-Powhatan War (1644-1646) resulted in a 1646 treaty between the Virginia Colony and an alliance of native groups. The treaty specified that all land north of the York River, including the area along the southern shore of the Potomac, was to remain free of English settlement. The colonial government, however, does not appear to have strictly enforced the ban. Northumberland County, which encompassed modern-day Westmoreland, was created in 1648, when the ban on settlement was lifted. At that time, a community known as Chicacoan, established near the Coan River in the early 1640s, became the political center of the new county. Within a short time, colonists began entering land patents in Northumberland County into the official record (Nugent 1934; Morgan 1975:231; McCartney 1990:13).

The Hallowes site represents one of the earliest colonial settlements in present-day Westmoreland County. These early settlements, which were clustered along an approximately 10-mile stretch of the southern shore of the Potomac from Mattox Creek to Nomini Bay, in the area known as Appamattucks, began appearing in late 1646 and into 1647, before the ban on settlement north of the York River had been lifted. The majority, if not all, of the early settlers of this region, including John Hallowes, were Protestant rebels from Maryland who had allied with Richard Ingle and usurped power from the Catholic Lord Baltimore in 1645-1646 (See Riordan 2004; Hatch 2012; McMillan and Hatch 2012). Hatch established this relationship by tracing individuals through the Maryland court records and into the Northumberland and Westmoreland County court records and Northern Neck land patents. This research allowed him to correlate their affiliation with Richard Ingle to their settlement of Appamattucks after

¹ Researchers have found that Northern Neck sites established during this period average 750 ft. from navigable water (Klein and Sanford 2004:67).

Baltimore regained control of the colony in December 1646 (Hatch 2012; McMillan and Hatch 2012). Secondly, there is a telling reference in the Maryland records in 1647 that speaks of Nathaniel Pope, a leader of the Maryland rebels, inciting residents of Kent Island to come live with him at Appamattucks until a large enough force could be mustered to regain control of Maryland from Baltimore (AOMOL 3:192; Riordan 2004:294). Pope later became a prominent resident of Westmoreland County, serving as a county commissioner and owning a great deal of land (WCR1; Nugent 1934).

English immigrants arrived in the lower York, Rappahannock, and Potomac counties during the 1650s and 1660s in large numbers, many of them servants imported to work on plantations that produced medium-to-high quality tobacco, specifically the Oronoco strain (Morgan 1975:227-228; Walsh 2010). By 1653, population on the Northern Neck had grown so rapidly that Westmoreland County was formed from Northumberland and by 1664 settlement upriver necessitated the formation of yet another Potomac River county, Stafford. Merchants from London and Bristol supplied colonists living along the Potomac and Rappahannock, purchasing tobacco on credit and delivering a variety of finished goods from English factories (Horn 1988:75). Rapid settlement of the Northern Neck resulted in shortages of land within a few decades, and as servants fulfilled the terms of their indentures, they were forced to look elsewhere for patentable land (Sprinkle 1985:3992-3993).

John Hallowes

Maryland

John Hallowes was born in December 1615 in Lancashire, England to Henry and Elizabeth (Fishwick 1888:158). He was baptized in the Anglican Church in Rochedale Parish on December 31 of that year, indicating that he was a Protestant, a fact that would influence his eventual move to Westmoreland County in 1647. Hallowes was the fourth child according to Buchanan and Heite (1971:38), but he may have been the second, since parish records only list John and a daughter born in 1612 (Fishwick 1888:137). Hallowes came to Maryland on the *Ark* in March 1634, at the age of 19, as servant to Thomas Cornwalyes, an original Commissioner of the Maryland Colony, friend to Richard Ingle, a member of Leonard Calvert's inner circle, and one of the richest men in Maryland until the eighteenth century (Riordan 2004:24-26, 29, 195-196).

The first reference to John Hallowes in the Maryland records places him on the *St. Margaret* when it was fired upon by William Claiborne in 1635 during the Chesapeake fur wars, in which Claiborne sought to defend his rights to the Kent Island fur trading post from Lord Baltimore (AOMOL 4:22; Fausz 1988:71; McMillan and Hatch 2012). This reference reveals that during his early life in the colonies Hallowes defended Baltimore's claims to power in Maryland. In 1638, Hallowes and Cuthbert Fenwick were given permission by the Maryland Council to arrest anybody trading with Indians without a license and to confiscate their goods and vessel, effectively making them privateers (AOMOL 3:83-84).

John Hallowes' indenture ended in 1639 and he married Restitue Tew on June 2, 1639 (AOMOL 4:52). The ceremony was performed by Mr. Thomas White.² Mr. White was probably a justice of the peace, meaning that Hallowes would have been married outside the Catholic Church, another piece of evidence suggesting that Hallowes was a Protestant.

John Hallowes then acquired land on St. Michael's Hundred, near present day Point Lookout, probably near Hollis Lake. Hallowes was referred to as a mariner and carpenter throughout the 1640s and was referenced as transporting tobacco to Virginia as early as 1642 (AOMOL 4:67, 154, 169). In 1642, he participated in a raid on the Susquehannock tribe, organized and led by his former master, Thomas Cornwallyes, in retaliation for Indian raids on the Maryland colonists the previous year (Riordan 2004:113). Apparently, during this raid, Hallowes transported men up the Chesapeake Bay and into the Susquehanna River; two references indicated that he demanded pay for the hire of his boat for the expedition (AOMOL 3:119-120). Prior to the raid, however, he had been trading with Indians, evidenced by a warning from the Council about not observing the ban on unlicensed Indian trade (AOMOL 4:186). Until 1646 Hallowes appeared numerous times in the Maryland records suing or being sued for payments of tobacco, beaver, and Roanoke (AOMOL 4:164, 175-176, 192, 206, 220, 282). He was also warned against giving guns to Indians, again indicating his close association with the Indian trade in the upper Chesapeake Bay (AOMOL 4:259).

In 1644 Richard Ingle, a prominent trader, Parliamentarian, and friend to Thomas Cornwallyes, was accused of treason by Giles Brent, acting on behalf of Leonard Calvert. The accusation stemmed from an incident that took place in Accomack, Virginia which set off a series of events that brought the effects of the English Civil War to the Potomac Valley (Riordan 2004:3-6). Under orders from the Maryland Council, Thomas Cornwallyes apprehended Ingle. Cornwallyes eventually let him go because Ingle was never convicted of a crime. Brent accused Cornwallyes of being in league with Ingle and tried to arrest him as well. Both men left Maryland together in 1644 for England (Riordan 2004: 139-149). Ingle eventually returned to the Chesapeake later that year and recruited men from Chicacoan to capture Maryland in the name of Parliament in February, 1645 (Riordan 2004:185-186). Ingle captured Cornwallyes' house and used it as a base of operations until he moved the rebel force to Nathaniel Pope's house, fortified with a palisade and formerly the home of Leonard Calvert (Riordan 2004). Ingle left about a month after the invasion and the rebels controlled Maryland until December, 1646. The rebel forces were comprised primarily of Protestant settlers who lived on the manors controlled by the Catholic gentry of Maryland (Riordan 2004:221-223).

Virginia

One of these rebels was John Hallowes. Hallowes' role as a rebel is confirmed by the oath of fealty to Lord Baltimore he had to swear in January, 1647 (AOMOL 3:174). Edward Hill, a Virginian illegally appointed as governor of Maryland during the rebellion, made Hallowes his power of attorney to collect the salary he was owed from

² Thomas White is not to be confused with Andrew White, the well-known Jesuit priest.

his tenure as governor (Riordan 2004:268), another piece of evidence that implicates John Hallows as a rebel against the proprietary government. Whether Hallows retrieved this pay for Hill is unknown, because by September of 1647 he left Maryland and began to be referenced as John Hallows of Appamattucks, which is in present-day Westmoreland County, Virginia (AOMOL 4:331). His reasons for leaving are ultimately unknown, but it is likely that he left because he did not approve of how the Maryland colony was being governed by Lord Baltimore. In fact, during the late 1640s there appears to have been an influx of former Maryland rebels to the Nomini Bay area of Westmoreland County, including Hallows, Nathaniel Pope, and Walter Broadhurst, among others (NCR1:49, 67, 71-73; WCR 1:36; Riordan 2004:221-223; Hatch 2012). These men all left Maryland at about the same time, and for a similar reason. Indeed, they may have feared retribution for their role in the rebellion.

By 1647, John Hallows had established a residence along Nomini Bay in Northumberland County, present-day Westmoreland, as shown by the historical documentation and confirmed by the archaeological evidence (AOMOL 4:331; NCR1:49; WCR 1:15). However, he still nurtured close ties to Maryland settlers after his flight from Lord Baltimore. The Maryland records from 1647 to 1657 are filled with entries that reference John Hallows owing or being owed payments for services or loans (AOMOL 4:361, 419; AOMOL 10:93, 99, 102, 547). In fact, it appears that he made relatively frequent trips to the court at St. Mary's City. Why would he continue to return to Maryland after fleeing the oppressive government of Lord Baltimore? The answer to this question may lie in the fact that the population of the Potomac Valley was exceedingly low in the mid-seventeenth-century. As others have noted, the small numbers of early Marylanders created an environment where people could not afford to be overly selective in terms of friends and especially business partners (Carr, Menard, and Walsh 1991:138-139). While Hallows would probably have preferred to sever many ties in Maryland, St. Mary's City was the closest urban center and his economic prospects would have suffered greatly had he not continued to do business there.

Clearly, business and trade were key components to John Hallows' success both before and after he arrived in Virginia, demonstrated by the artifact assemblage associated with his house. The historical records also serve to reveal the importance of trade in his life. First, there were numerous references to his interaction and trade, sometimes illicit, with local Algonquian Indians, most likely Matchotics (AOMOL 4:186, 259, 534; WCR 1:15). Additionally, he was referenced as trading livestock to the colonists at Chicacoan, just down the Potomac (AOMOL 4:411, 415). Finally, he had international trading connections that are revealed through an account with the Dutch merchant, Abraham Jansen, which lists items such as shoes, alcohol, silk, and hose (WCR 1:41-42).

Hallows was a wealthy man by the standards of the day, owning well over 5,000 acres of land and several servants. He served as a commissioner for Northumberland County from at least 1650, when records for the county begin (NCR1:49; Nugent 1934:207, 252). Additionally, when Westmoreland County was created from Northumberland, Hallows was appointed a commissioner for that county and Major in the militia (WCR 1:36). In 1655, Restitute Hallows died and John married Elizabeth

Sturman (Nicklin 1938:444). By 1657, the year that he died, Hallowes had been appointed Sherriff of the county, a position generally reserved for members of the gentry (WCR 1:80). Apparently, his funeral was an event befitting a member of the Virginia elite in the mid-seventeenth-century. Simon Overzee, a prominent Dutch merchant and tavern keeper in St. Mary's City, demanded payment in 1658 from the husband of Hallowes' widow for the funeral expenses (WCR 1:139). These expenses probably stemmed from copious amounts of alcohol provided by Overzee for the event; generous servings of alcohol being a common element in seventeenth-century funerals (Meacham 2009:18).

The life of John Hallowes reflects and was greatly affected by the political and social climate of the Potomac valley in the mid-seventeenth century. His rise from an indentured servant to a wealthy, respected, and important member of the community in only two decades illustrates the social fluidity of seventeenth-century society in the Potomac and societies in general on the frontier. His migration from England to Maryland to Virginia is representative of larger migrations in the Chesapeake region and the changing settlement patterns and fluid boundaries of the area (Hatch 2012). His oath of fealty to Lord Baltimore, flight from Maryland, and oath to the Commonwealth of England in 1652 reveal that the effects of the English Civil War in the Chesapeake were real and quite serious (AOMOL 3:174; NCR 1:72-73; Riordan 2004). Finally, his connections and interactions with the people of the Chesapeake, including Europeans, Native Americans, and possibly Africans, speak to the diverse nature of the Potomac frontier and the influence that each of these groups would have on the society that emerged from the seventeenth century.

Andersons, Whistons, Steels, Manleys, Tenancy, and the Lees

Upon John Hallowes' death in 1657, his widow Elizabeth married David Anderson and probably lived at the site until 1666 when Anderson moved to Stafford County (Nicklin 1938:440). The property then passed to Hallowes' daughter, Restitute, and her husband John Whiston, who re-patented the land in 1667. In 1674, Restitute, granddaughter of John Hallowes, and her husband, Matthew Steel, acquired the property. Upon Steel's death in 1680, Restitute married John Manley, who obtained permission to evict the tenants off their land the next year (Buchanan and Heite 1971:39). It is most likely that the site began to be occupied by tenants sometime in the 1660s, perhaps 1666, when the Andersons moved to Stafford. Tenants probably remained on the land until 1681, based on the historical reference to their eviction (WCR 3:220). The land stayed in the Manley family until 1722, when Samuel Hallowes, a distant cousin of John, sued for and won the property. He never came to Virginia and sold the land to Thomas Lee of Stratford Hall in 1733. The land then stayed in the Lee family until 1838 as part of the plantation at Stratford Hall (Buchanan and Heite 1971:39). The property then went through a series of owners before being acquired by the Stratford Harbour Development in the 1960s.

ARCHAEOLOGICAL INVESTIGATIONS

Field and Laboratory Methods

Unfortunately, the only surviving outline of field methods for the excavation at the Hallows site is a short section in the 1971 Buchanan and Heite article (39-41). Therefore, field methods have had to be recreated based upon field records, photographs, and the material culture recovered from the site. Excavations were led by Buchanan and Edward Heite starting in July 1968 (Buchanan and Heite 1971:40). Prior to excavation every weekend, the volunteer crew would surface collect the site, evidenced by the large number of artifacts with context number 21, a general surface context. While these artifacts have no horizontal provenience, they still remain useful for the interpretation and chronology of the site, since the occupation period is so narrow, 1647-1681. Indeed, there are only two post-1681 artifacts at the site, both ironstone sherds, dating to the mid-nineteenth century or later.

Excavations followed standard practices of historical archaeology in the 1960s and 1970s. The site was first divided into 50 ft. x 50 ft. lots that were numbered with a Roman numeral and a letter, with numerals running grid south to north and letters running east to west (Figure 3). These lots were then further divided into 10 ft. x 10 ft. units, which were numbered sequentially from grid south to north, thereby creating 25 10 ft. x 10 ft. units within each lot (Figure 3). The smaller units were then excavated to subsoil with a shovel and artifacts were likely picked out by sight, since there is no mention of screening or photographs of screens, and the artifacts appear to be generally much larger than one quarter of an inch. However, the site appears to have been either partially stripped or at least disturbed by a bulldozer at some point during the excavation (Figure 4). After the plow zone was removed, the excavators then scraped the subsoil and examined it for features. Due to the small crew and limited excavation time, units were generally backfilled upon completion (Buchanan and Heite 1971:40). Features were measured and drawn, though not all were photographed, and horizontal control was kept by mapping with a transit. While layers were designated in several features, including Feature 17 and the structural post holes, no profile drawings were made.

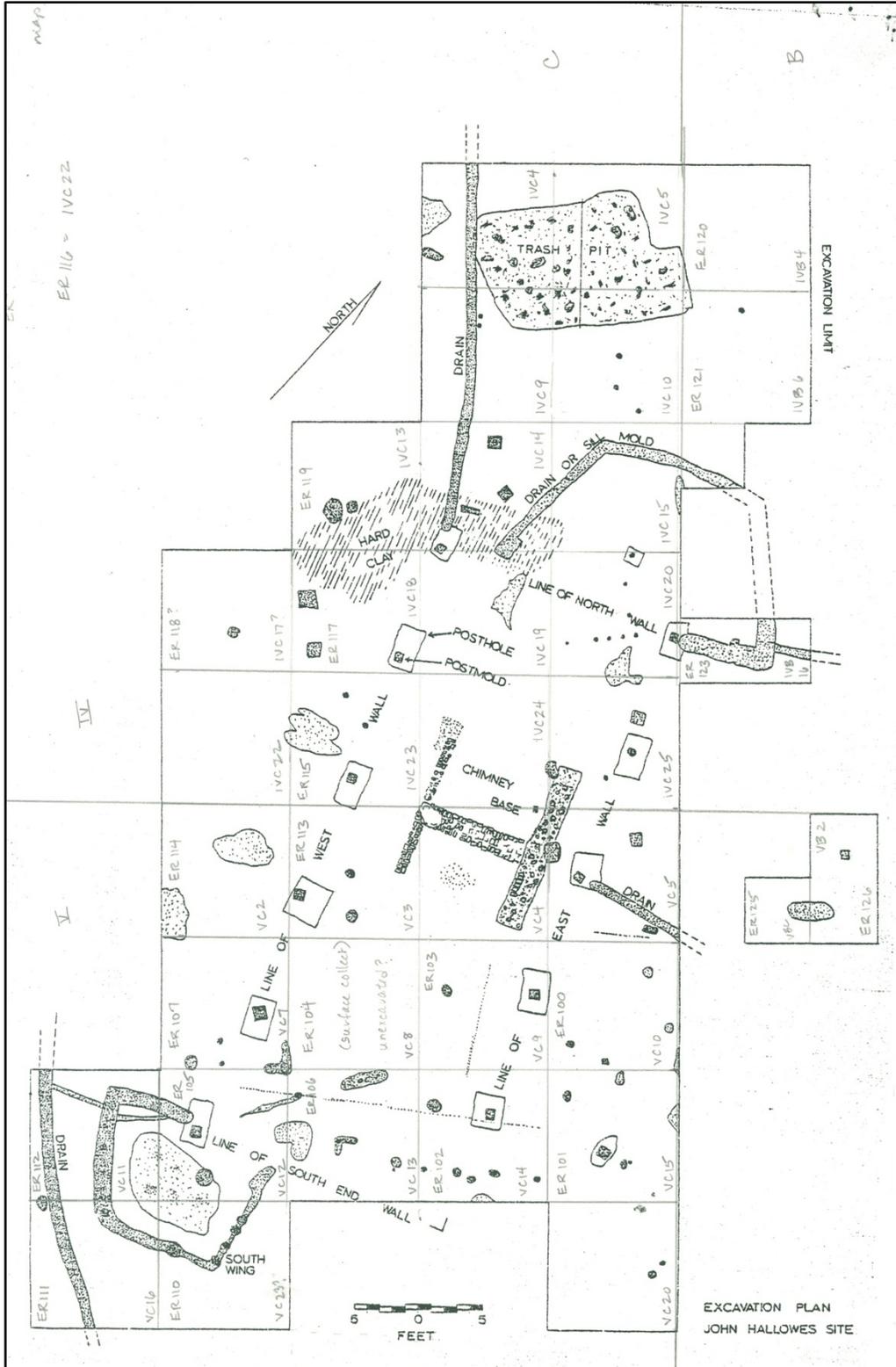


Figure 3: Reconstructed Site Map Showing 50 ft. x50 ft. Numbering on Left with V and IV and at Top with B and C as well as 10 ft. x10 ft. units. Feature Map Copied from Buchanan and Heite (1971:40), with Superimposed Grid and Context Notes Based on Partial Project Maps Curated by the VDHR.



Figure 4: Bulldozer Stripping at the Hallowes Site (Photo Courtesy of the VDHR).

Excavation of features appears to have been more careful than plow zone excavation. Judging from photographs, all features were trowel-excavated and distinct layers were noted, recorded, and, in many cases, kept separate, although some post hole and post mold fills were combined. Like their counterparts in plow zone, the artifacts within these features were probably picked out by sight rather than screened. However, the recovery within features appears to have been better than in plow zone judging from the smaller size of artifacts, likely a result of more careful trowel-excavation. These excavation methods have biased the assemblage in favor of larger and more noticeable artifacts, probably leading to a lack of beads, straight pins, and small animal bones in the collection.

All features and units were given unique identification numbers by the excavators. The plow zone units were numbered based upon lots, described above, and the features appear to have been numbered sequentially as they were discovered. Within units and features, individual layers were also assigned unique numbers. Therefore most plow zone units have a single ER number, representing the plow zone fill within that unit. For features, this method was the same, although in cases such as Feature 17, where more than one layer was present, letters were assigned to the original ER number to differentiate the layers. Therefore, Feature 17, which had four identified layers, encompassed ER numbers 29, 29A, 29C, and 29D. Additionally, the surface collection ER 21 was divided in a similar way with 21A, 21B, 21C, and 21D corresponding to

materials collected over certain features or groups of features, thereby providing some horizontal control over a portion of the general surface collection.

Soil and Biological Samples

No soil or biological samples were saved for later analysis. This type of sampling that we now consider standard in the practice of historical archaeology was not common in the 1960s and 1970s when field was still developing. Indeed, it appears that even oyster shell was not sampled or weighed, as there is no mention of it in the context records. This lack of documentation is particularly evident for Feature 17, which appears to be filled with oyster shell in the site photographs, but has no mention of shell in the context records and none was collected (Figure 5).



Figure 5: Feature 17 during Excavation Showing the Large Amount of Oyster Shell Present (Photo Courtesy of the VDHR).

Brick is the one exception to the general lack of sampling on the site. There are eight boxes of brick³ in storage at the VDHR, which were not analyzed as part of this report. All of these bricks come from the fireplace feature, Feature 10, and they were

³ These bricks will be examined as part of an NEH-funded project (2013-2015), headed by Dr. Julia King, entitled “Colonial Encounters: The Lower Potomac River Valley at Contact”.

chemically analyzed during, or shortly after the excavation, by M.D. Kerby and compared with the soil from Feature 17 to determine if the feature was a borrow pit that served as the source for the bricks on site. Based upon the chemical analysis, it did not appear that the soil from Feature 17 was related to the bricks (Buchanan and Heite 1971:41).

Artifacts appear to have been processed and some conservation was performed after the initial excavation ended in 1969. The conserved artifacts were generally iron objects and seem to have been cleaned and coated with wax, though it may be beneficial to the collection for a professional conservator to re-evaluate these materials. A preliminary catalogue was completed by Charles Hodges in 1984 for the non-faunal artifacts. More comprehensive cataloguing, as part of the reassessment, is described below.

Cataloguing

Excavation information was originally entered on paper field forms and paper maps were created of features, structures, and portions of the site. For the reassessment project, all field forms were entered into Re:Discovery, a relational database, at the Charles H. Faulkner Archaeology Laboratory at the University of Tennessee (Figure 6). The data were transferred to the VDHR via .xls files. Information transferred from the paper catalogue includes (where available) ER number, excavator's initials, date of excavation, feature size, project number, stratigraphic identification (feature, layer, lens), soil description, stratigraphic relationship, whether a drawing was available, closing elevation, associated features and artifacts, excavator interpretation, a summary of samples collected, notes, excavation methods and recovery methods. These data were copied from the field forms with no attempt at revision or reinterpretation. Additionally, all of these context records were digitized and saved as an .xls file. If additional information about a feature was included in the report or on a map, it was transferred to the context record.

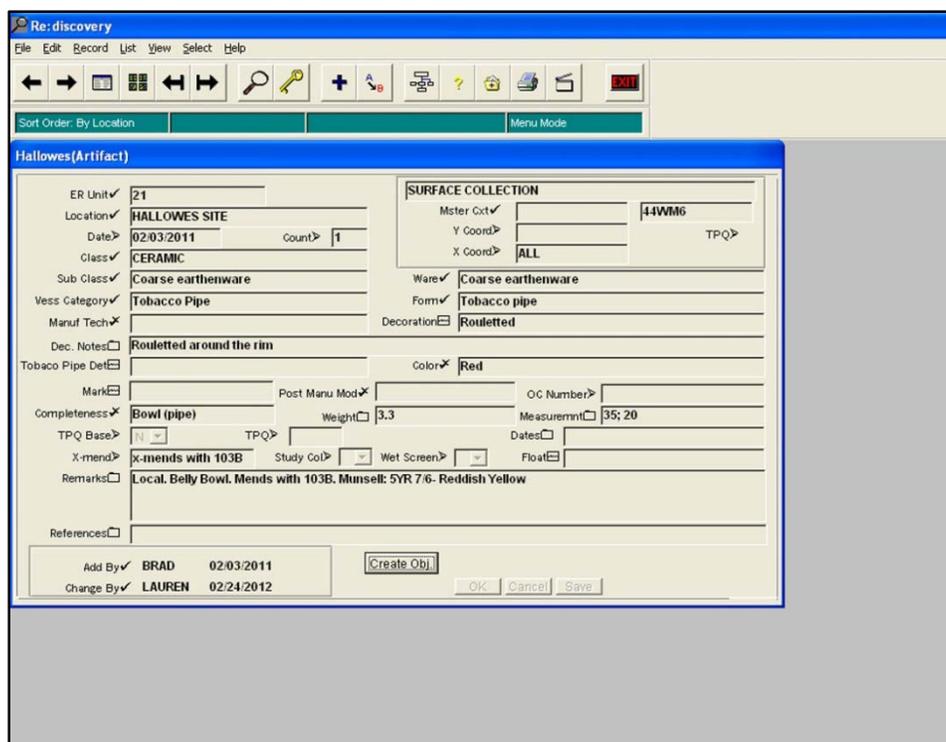


Figure 6: Screen Shot from the Re:Discovery Database Program Showing Fields for Recording Information from the Hallowes Site Artifacts.

All artifacts were re-catalogued at the Charles H. Faulkner Archaeology Laboratory at the University of Tennessee, Knoxville using Re:Discovery. Standard information collected includes ER unit, location, date of excavation, artifact count, class, subclass, material, vessel category, form, manufacturing technique, decoration, decoration notes, color, maker's marks, post manufacturing modification, old DHR catalogue number, completeness, weight (in grams), measurement (in millimeters), information about TPQ and date ranges of specific artifacts, a TPQ for the context as a whole, whether the artifact cross-mended to others in the collection, whether the artifact was recovered by wet screening or flotation, any additional remarks, and any references relevant for documenting the artifact. Digital photographs were taken of selected artifacts and are on file at the Charles H. Faulkner Archaeology Laboratory at the University of Tennessee, Knoxville.

Faunal remains were identified using the comparative zooarchaeological collection at the University of Tennessee, Knoxville. Faunal remains were identified to species, where possible, and at least to class. Element, portion, and side of the bone were recorded, as well as any modification, such as burning, butchery marks, or gnawing, and all bone was weighed (in grams).

Additional information was captured for certain artifact types. These include tobacco pipes and nails. Details captured about tobacco pipes included the bore diameter, the bowl form, and the decorative motif, if present. Although the nails were in an advanced state of decay, additional information such as head and tip type, manufacture

method, modification, completeness, and length were recorded, if possible. Detailed information on faunal remains, wine bottles, buttons, beads, and other small finds were recorded in the remarks sections of individual records.

A minimum vessel count was performed on the collection in order to better understand the number and variety of vessel forms present at the site. The minimum number of vessels was calculated by examining all sherds from each ceramic type and attempting to crossmend between contexts. However, sometime prior to this analysis, ceramic re-fitting had already been undertaken for the assemblage and many vessels were already mended. After crossmends were taken into account, vessels were then determined based upon a combination of rim/base diameters, decoration, and paste. While this process is time consuming and somewhat subjective, it does provide the most accurate estimate of the number of vessels on the site. The vessel count included sherds from both features and plow zone/surface because of the general paucity of ceramics in the features coupled with the relatively short occupation of the site and our inability to reliably phase the ceramics themselves.

GIS

A GIS was developed for the Hallowes reanalysis. ESRI's ArcGIS 10 was used to arrange the data and create site maps. This process involved digitizing the existing site map based on an arbitrary grid. All of the maps produced were exported into jpeg format. Because there are no real-world coordinates available to georeference the established datums on-site, no projection was given to this project. Maps were generated with a grid based in feet. The existing base map was scanned, digitized based on the scale on the map, and stored within the Hallowes' organized shapefiles. Archaeological features (bastions, fence lines, post holes, post molds, and small features, in addition to the 10 ft. x10 ft. excavation units) were vectorized. The house outline was conjectured to enhance the visual display of the data. Site maps were also created by phases, which were associated with an earlier and a later occupation period.

The creation of artifact distribution maps constituted an important part of the reanalysis project. These maps allow for the analysis of spatial relationships within the house and a limited amount of yard space. Maps were generated using splines, a spatial analysis tool. Splines use an interpolation method that estimates values using a mathematical function which minimizes overall surface curvature, resulting in a smooth surface that passes exactly through the input points. Resulting maps resemble contour maps. Points were placed at the center of each 10 ft. x10 ft. excavation unit and contained the artifact type and quantity information from which the splines generated. Values represent standard deviation from the mean (or average, as represented in each map's legend) with mapping based on an interval size of one-half of one standard deviation. Plow zone quantities were used for this analysis. Historic artifacts from topsoil were also included where possible. A mask, or boundary, was used in order to establish limits for the spline to run. Smaller boundaries surrounded each 10 ft. x10 ft. test unit and excluded unexcavated spaces, while a larger mask included irregular test units. Distribution maps were created for most artifact types, including both prehistoric and historic materials.

After the distribution maps were made and exported, comparisons were conducted based on the concentrations of artifacts over the site. Attempts at explaining site usage could be made in terms of both exterior and interior space. The use of geographic information systems to reevaluate the Hallows Site has allowed for a new understanding of how parts of the site might have been used. Although the data did not allow for more in-depth spatial analysis, they did provide the project with site maps, distribution maps, a map document, and organized shapefiles that can be used by future researchers.

Archaeological Features

The site contains a single post-in-ground dwelling with a brick chimney base and ditch-set bastions at opposite corners, several possible ditch-set fencelines, a shallow basin-like feature (Feature 63) located in the southwest bastion, and a large pit feature (Feature 17) directly north of the dwelling, among other small features in the yard and within the building (Figure 7).



Figure 7: Overall Map of Features at the Hallows Site.

The following section of this report reviews the evidence for the dwelling and other features on the site and discusses how a site chronology was constructed. Table 1 summarizes the dimensions of the structure and major features.

| Structure/Feature | North-south (in feet) | East-west (in feet) |
|--------------------------|------------------------------|----------------------------|
| Dwelling | 50 | 20 |
| Feature 17 | 9.5 | 13 |
| Feature 63 | 5 | 8 |
| Northeast Bastion | 13 | 20 |
| Southwest Bastion | 9 | 12 |

Table 1: Dimensions of Structures and Major Features.

The discussion of structural and associated landscape features is organized by master context/feature type. Although an exact chronology of individual feature construction, use, and abandonment is not possible due to some methodological issues described above, three phases of development can be seen. The earliest phase incorporates initial occupation of the site and construction and use of the dwelling, bastions, shallow basin-like feature (Feature 63), and the large pit feature (Feature 17). This phase began in 1647 upon John Hallowes' settlement in Virginia and ended around 1666 with the migration of Hallowes' widow, Elizabeth, and her husband, David Anderson, to Stafford County (Figure 8). Phases 2 and 3, dating from about 1666 to 1681 and representing the likely occupation of the site by tenants, includes the demolition of the bastions, the filling of the large pit feature, the filling of the shallow basin-like feature, the construction of an addition along the eastern façade, three or more ditch-set fences, and the abandonment of the site (Figure 9 and Figure 10).

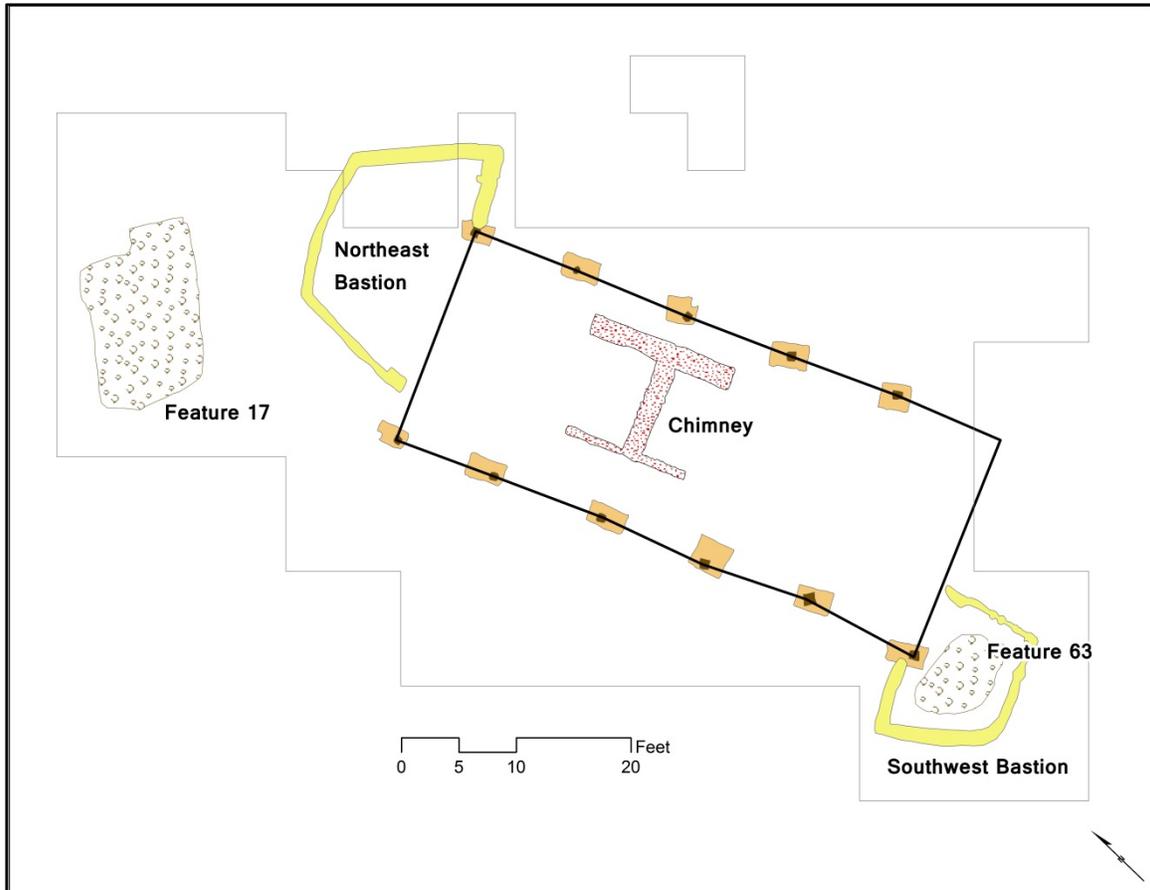


Figure 8: Major Features Associated with Pre-1666 Phase 1 of the Site with Dwelling Conjecture.

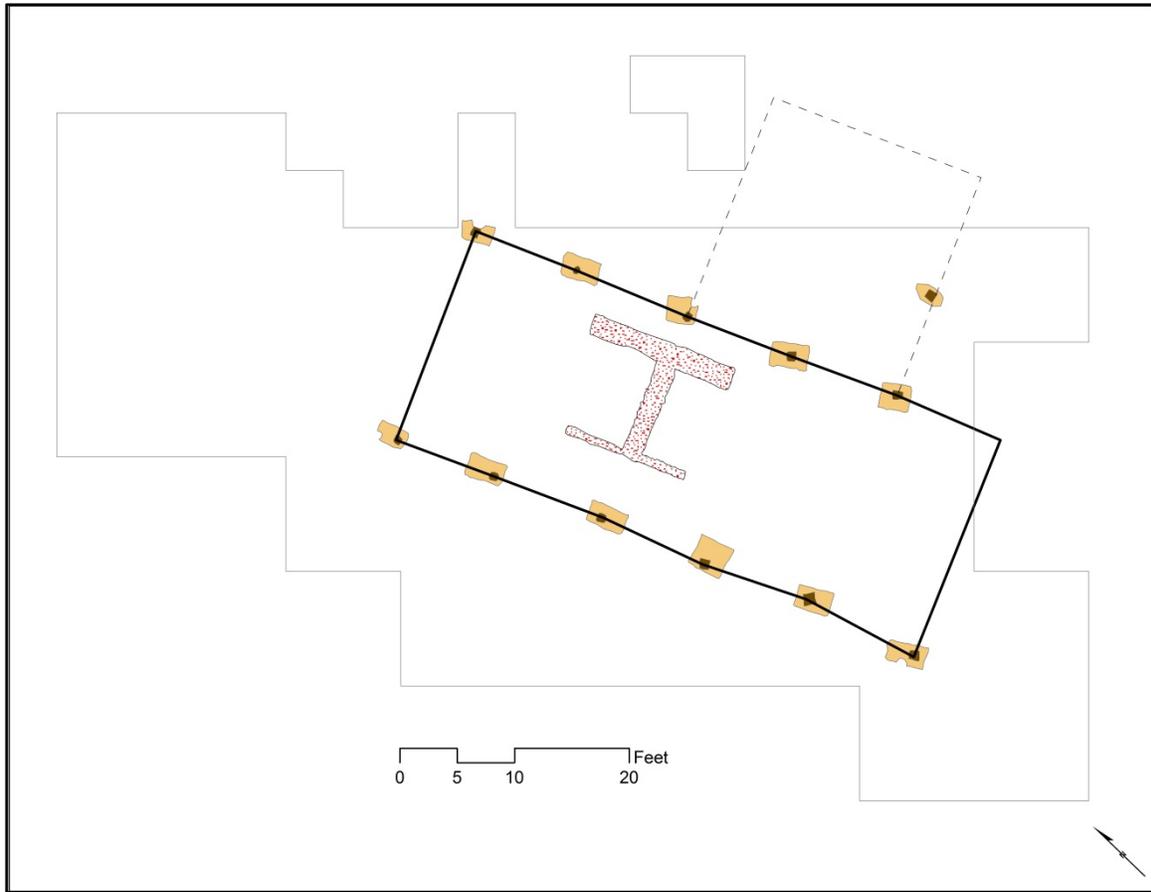


Figure 9: Major Features Associated with Post-1666 Phase 2 of the Site with Dwelling and Addition Conjectures.



Figure 10: Major Features Associated with Post-1666 Phase III of the Site with Dwelling Conjecture.

Phase 1: Dwelling and Features

Archaeological evidence indicates that the largest and possibly only structure at the site (the dwelling) was an earthfast hall and parlor house with a central brick hearth, oriented with its east façade facing Currioman Bay (Buchanan and Heite1971:41).

The house measured approximately 50 ft. north-south by 20 ft. east-west. It contained a total of 12 structural posts, 11 of which were exposed and excavated. The distances between post molds starting from the northeast corner of the east wall were 9.5 ft., 10.5 ft., 9.7 ft. and 9.9 ft, while from the northwest corner along the west wall, they measured 9.1 ft., 10 ft., 9.9 ft., 9.7 ft. and 10.4 ft. This spacing is consistent with construction methods used in seventeenth-century “Virginia houses,” where studs, placed between posts set at 10 ft. intervals, served as points of attachment for 5 ft. lengths of clapboarding that formed the outer walls of the structure (Stone 1982:233).

Judging from the orientation of the post holes, with long axes perpendicular to the wall line, and the location of the post molds, the dwelling appears to have been assembled using what is variously known as the tie-beam, reverse, or bent assembly

method, by tying together and raising pairs of posts (Carson et al. 1981:150; Moser et al. 2003:200-201; Carson et al. 2008:54-55). If one story in height, the dwelling contained 1000 square feet of interior space within the main block; if two storied, or, more likely, one story with a loft, the available space doubled to 2000 square feet. Summary data for post hole and mold features are presented in Table 2.

| Context # | Description | Shape | N-S (ft.) | E-W (ft.) | Artifacts | Feature # | Corresponding post hole/ post mold context # |
|-----------|-------------|----------|-----------|-----------|--|-----------|--|
| 22 | Post mold | Square | 0.6 | 0.8 | Bone, Brick, Green Vessel Glass | 9 | 301 |
| 27 | Post mold | Circular | 0.6 | 0.6 | Pipe stem, Window Glass | 12 | 305 |
| 102A | Post mold | Square | 0.8 | 0.8 | Bone, Brick, Morgan Jones-Type coarse earthenware, North Devon gravel-tempered coarse earthenware, Rhenish blue and gray stoneware, Imported Pipe stem, Green vessel glass, Wrought nail fragments, Lead shot, Chert | 48 | N/A |
| 103A | Post mold | Square | 0.8 | 0.8 | Bone, Brick, Imported Pipe stem, Wrought | 51 | 103B |

| | | | | | | | |
|------|-----------|-------------|-----|-----|---|----|------|
| | | | | | nail | | |
| 103B | Post hole | Rectangular | 3.4 | 2.2 | Locally-made rouletted belly bowl pipe | 51 | 103A |
| 105D | Post mold | Square | 1 | 0.8 | Bone, Morgan Jones-Type coarse earthenware, Imported Pipe stem, Wrought nail, Quartz | 71 | 105E |
| 105E | Post hole | Rectangular | 3.6 | 2.0 | Bone, Brick, Prince George-Type pottery | 71 | 105D |
| 107B | Post mold | Square | 1.0 | 1.0 | Imported Pipe stem, Wrought nail | 67 | N/A |
| 113B | Post mold | Square | 1.0 | 0.8 | Bone, Green vessel glass, Wrought nail | 81 | N/A |
| 115B | Post mold | Square | 0.8 | 0.8 | Bone, Brick, Rhenish blue and gray stoneware, Imported Pipe stem, Straight pin, Wrought Nail, Flint, Mortar | 85 | N/A |

| | | | | | | | |
|------|-----------|-------------|-----|-----|---|----|------|
| 117B | Post mold | Square | 0.8 | 0.6 | Bone, Imported Pipe stem, Straight pin | 92 | N/A |
| 123A | Post mold | Square | 0.6 | 0.6 | Bone, Morgan Jones- Type coarse earthenwa re, North Devon gravel- tempered coarse earthenwa re, Imported Pipe stem, Green vessel glass, Wrought nail | 21 | 361 |
| 301 | Post hole | Square | 2.6 | 2.4 | None | 7 | 22 |
| 305 | Post hole | Rectangular | 3.4 | 2.0 | None | 11 | 27 |
| 316 | Post hole | Rectangular | 2.8 | 1.8 | None | 31 | 317 |
| 317 | Post mold | Square | 0.8 | 0.6 | None | 32 | 316 |
| 361 | Post hole | Rectangular | 2.8 | 1.6 | None | 21 | 123A |
| N/A | Post hole | Rectangular | 2.6 | 2.2 | None | 48 | 102A |
| N/A | Post hole | Rectangular | 3.2 | 2.0 | None | 67 | 107B |
| N/A | Post hole | Rectangular | 3.0 | 2.8 | None | 81 | 113B |
| N/A | Post hole | Rectangular | 3.6 | 2.0 | None | 85 | 115B |
| N/A | Post hole | Rectangular | 3.4 | 2.0 | None | 92 | 117B |

Table 2: Summary Data of Dwelling Post holes and Post molds.

A single dateable artifact was recovered to set a TPQ for construction. This was a locally-made belly bowl-style pipe bowl fragment with a rouletted rim recovered from context 103B, the post hole fill for Feature 51. While this particular style of pipe is unable to be dated with certainty, it is generally associated with contexts dating to the

early to mid-seventeenth century (Luckenbach and Sharpe 2007). With the exception of context 105E, the post hole fill for Feature 71, which contained three fragments of Prince George-type Native American pottery, none of the other structural post holes contained any artifacts.

The exposed and excavated post holes comprising the walls of the house were features 7, 11, 31, 48, 51, 67, 71, 81, 85, 92 and 21. Holes averaged roughly 3 ft. north-south by 2 ft. east-west, though there was some variation. Depth for the post holes is unknown, since it was not recorded in the field. However, it does appear that stone shims were placed at the bottoms of selected post holes to raise posts to the proper height and dirt was scooped out to lower posts where needed (Carson et al. 1981:129).

Features 9, 12, 21, 32, 48, 51, 67, 71, 81, 85, and 92 were post molds. They averaged about 11 in. square, and contained numerous artifacts, including a fragment of North Devon gravel-tempered ceramic in context 102A, the post mold fill for feature 48, that sets a TPQ of 1675 for the destruction of the house (Noël Hume 1969:133). Depths of the post molds, like the post holes, are unknown due to the fact that depths and profiles were not recorded in the field. The posts were not replaced during the life of the structure, again indicating a relatively short occupation for the site. The average lifespan of a post-in-ground structure in the Chesapeake was about 20 years, although with the right materials and conditions some posts could last much longer without replacement (Carson et al. 1981:133). It is likely that John Hallows was familiar with the durability of various species from his experience as a carpenter in Maryland and would have selected the proper wood for a long-lasting house, probably red cedar or black locust. Indeed, the fact that the building stood for more than 30 years without repair to the structural posts speaks to his skill as a carpenter.

Located slightly off center in the structure were the remains of an H-shaped brick chimney base, measuring approximately 11 ft. north-south by 10.5 ft. east-west, that divided the dwelling into a minimum of two rooms. The southern room, the hall, might have measured roughly 30 ft. x 20 ft. Irregular spacing between the last two post molds in the west wall line, however, suggests that this space might have been partitioned, with an unheated space measuring 10.5 to 11 ft. x 20 ft. along the south gable end, and the hall measuring 20 ft. x 20ft. In this scenario, the house follows the cross-passage plan represented below (Figure 11). The northern room, the parlor, would have measured roughly 20ft. x 20 ft.

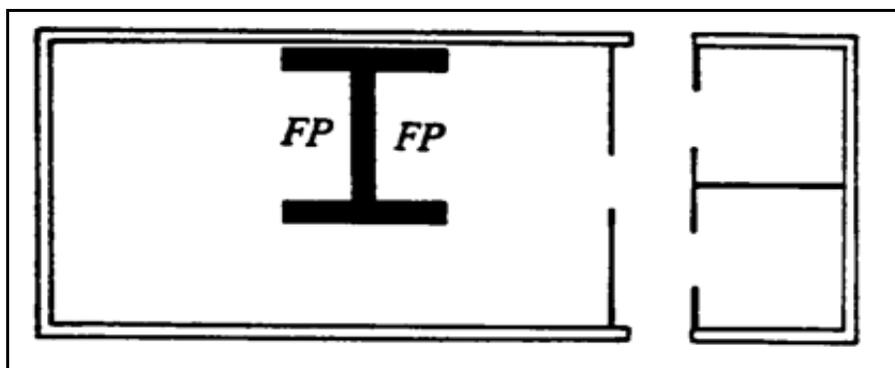


Figure 11: Cross Passage Plan House with Unheated Lower Room (from Neiman 1990:261).

Some of the small post features within the building and near the chimney may have been scaffolding posts used during construction. Much of the eastern portion of the chimney base had been robbed. Buchanan and Heite's previous analysis of the bricks indicate that their average size was 6.5 in. x 3 in. x 1.5 in. and that they were generally yellow, irregular, sandy, and poorly fired (1971:41). The description that they provide seems to be consistent with their identification as yellow "Dutch" bricks. However, upon the examination of several specimens during this reanalysis, it appears that the bricks are made of local clays, but poorly fired, thereby giving them a light color. This interpretation should be confirmed by studying the remainder of the bricks not addressed in this reanalysis.

Bastions

Directly off of the southwest and northeast corners of the house were two large ditch-set bastion features. Previously interpreted by Buchanan and Heite as wing additions or drains (1971:41), these features have subsequently been recognized as components of domestic fortifications (Neiman 1980:74, 1993:265-266; Carson et al. 1981; Hodges 1993). Ditch fill and post molds were not separated during excavation, although, based upon the site plan and notes, it appears that the excavators did recognize post molds in some sections of the bastions, particularly the southwest bastion (Figure 12). Their inability to identify these features as bastions during excavation is understandable since during the excavation at the Clifts site (44WM33) about a decade later, the excavators were unable to recognize post molds in the palisade they excavated until they were near the bottom of the feature (Neiman 1980:74). Additionally, it must be recognized that Hallowes was the first fortified house excavated in the Chesapeake as well as one of the first post-in-ground buildings; therefore, methods for identifying and excavating this type of structure were almost non-existent.



Figure 12: Close-up of Southwest Bastion after Excavation Showing no Evidence of the Excavation of Post molds (Photo Courtesy of the VDHR).

The southwest bastion measured approximately 9 ft. north-south by 12 ft. east-west and enclosed 105 square feet. It was designed to defend the western façade of the structure and the southern gable end. The northeast bastion measured approximately 13 ft. north-south by 20 ft. east-west and enclosed 212 square feet. It would have defended the eastern façade and the northern gable end. The reason for the much larger size of the northwest bastion is unknown, but it may be due to the fact that this bastion faced the water, thus making the dwelling seem more imposing to those viewing the site from Currioman Bay. The bastion's larger size supports the argument that the house was fortified either due to fear from attack by Lord Baltimore's Maryland forces or as a show of strength by the former rebels, since an attack by Native Americans would likely have come by way of land and not water.

The southwest bastion consists of Features 64 and 74, while the northeast bastion is represented by Features 19, 35, and 96. The fill for these features does not offer a clear construction date, but the fact that both bastions cut into structural post holes indicates that they were put up after the building was completed. The fill from the bastions, which included Morgan Jones-type ceramic, indicates that they were taken down after the mid-1660s. However, as discussed below, the identification of this type and its use to date features is tenuous at best. Based upon the lack of North Devon gravel-tempered coarse earthenware in the fill, it appears that the bastions were not present for the whole life of the structure. Therefore, it stands to reason, based upon John Hallowes' historical context and the artifacts contained within the features, that the bastions were probably

constructed right after the house was finished and removed shortly after Hallows' death, probably in the 1660s.

Feature 63

Within the southwest bastion, the excavators discovered a shallow basin-like feature that they interpreted as a pit, privy, or buttery (Buchanan and Heite 1971:41). It measured approximately 8 ft. east-west by 5 ft. north-south. The depth of the feature is unknown, but based upon photographs, it appears relatively shallow compared to the bastion and Feature 17 (Figure 13). The feature contained two layers, contexts 105A and 105B, both containing similar artifact assemblages and identified as dark fill layers. This feature was intruded by a burned post mold, Feature 73, which was round and measured approximately 8 in. in diameter. This post mold did not contain any artifacts. It is unlikely that this feature is related to the pit or bastion, since both Feature 63 and the bastion were filled around the same time, judging from the similarity of their artifact assemblages. Feature 63 contained a large number of artifacts, particularly faunal remains (it is second only to Feature 17 in terms of the number of faunal remains on the site). Using the same logic that was used to date the bastions, the TPQ for this feature was determined to be sometime in the 1660s based upon the presence of ceramics identified as Morgan Jones-type in both layers. However, like the bastions, dating features based upon this type of ceramic may be difficult (see section on Morgan Jones-type coarse earthenwares, below).



Figure 13: Feature 63 after Excavation Showing its Shallow Bowl-Like Shape and Possible Shovel Marks (Photo Courtesy of the VDHR).

Based upon the location of Feature 63 and the way in which it respects the boundaries of the bastion ditch, it was likely constructed while the bastion was in use. It is possible that the feature was excavated and the fill was thrown against the sides of the

bastion to create a firing step, which would have allowed defenders to shoot over the palisade from the interior (Noël Hume 1982:223-225). This interpretation is supported by the presence of several divots within the feature cut, possibly suggesting shovel marks created during the initial excavation of the feature in the late 1640s (Figure 13). The feature was, in all likelihood, filled when the bastions were taken down, probably sometime in the 1660s. Judging from the presence of large amounts of fish remains in this feature, particularly sheepshead and black drum, it was likely filled in late spring, since those species spawn during May and June and would have been more accessible to colonists at that time of year. If the feature was filled in the 1660s, the timing of the filling may indicate that John Hallowes' wife, Elizabeth, continued to inhabit the site before leaving and renting the land to tenants, at which point the palisade was probably removed and Feature 63 filled.

Feature 17

Feature 17, a large square pit measuring approximately 13 ft. east-west by 9.5 ft. north-south, with a 2 ft. ramp extension from the southeast quadrant, was located approximately 20 ft. north of the dwelling. Like the other features on the site, the exact depth and profile are unknown. Judging from photographs, the walls of the feature appear to have been relatively vertical, but the depth could not be determined because there were no post-excavation images (Figure 14). Originally, the feature was interpreted as a possible cellar or pipe kiln consisting of three layers of fill. The first layer, context 29, appears to have been a dark, artifact- and oyster shell-rich deposit. The second layer, context 29A, was a layer defined by ash and oyster shell. The third layer, context 29C, was defined by significant amounts of mortar. The final layer, context 29D, was a brick disturbance.



Figure 14: Profile View of Feature 17 Facing West and Showing a Depth of approximately Two Feet, but Excavation Does Not Appear Complete (Photo Courtesy of the VDHR).

The uppermost layer, context 29, was assigned a TPQ of 1660s based upon the presence of Morgan Jones-type ceramic, though, as previously mentioned, the use of this ceramic to establish dates is questionable. However, a post-1660 TPQ is supported by a single fragment of Rhenish stoneware with manganese decoration (Noël Hume 1969:281). It should also be noted that the largest amount of Native American pottery came from this context, possibly indicating an early date. The middle layer, context 29A, contained the largest number of artifacts on the site, particularly faunal remains, and was assigned a TPQ of ca. 1640 due to the presence of a Bookbinder-style pipe stem (Luckenbach and Kiser 2006:165). Finally, the lowest layer, context 29C, contained a single fragment of Martincamp type ceramic, which set the TPQ for this context as 1634 (Hurry and Miller 1989). The brick disturbance, context 29D, contained few artifacts, but a TPQ of ca. 1640 was assigned based upon the presence of a Bookbinder-style pipe stem (Luckenbach and Kiser 2006:165). The TPQs for these layers within Feature 17 indicate that it was constructed about the same time as the dwelling, 1647, and probably completely filled after ca. 1666 when tenants began to occupy the site. The brick disturbance, however, may be later, and is certainly intrusive based upon its description in the excavation notes as a “brick intrusion”.

While the dating of Feature 17 is relatively straightforward, the function is somewhat more enigmatic. The shape of the feature, in plan, appears to indicate that there was some sort of entrance into the pit from the eastern end. Whether this projection was a

ramp or bulkhead entrance is unknown, but if steps were present it is likely that the excavators would have noted them. If the projection was a ramp, then the pit may have functioned as a source of clay during the construction of the building, but based upon previous analysis performed by Kerby, the soil in the feature does not appear to match the bricks (Buchanan and Heite 1971:41). Buchanan and Heite also suggest that the feature could have been a temporary shelter, such as a pit-house, erected for Hallows and his family during the construction of the main dwelling (1971:41). This is a possible explanation and would explain the projection on the eastern end as an entrance as well as the early dates for the lower layers of fill. Indeed, the use of temporary houses built in this fashion may have been familiar to Hallows due to his arrival with the first wave of immigrants to the colony (Stone 1982:191-194)

Regardless of the use of this feature, it is clear that shortly after its construction, it became a location for the disposal of refuse from the Hallows' household. The sheer number of artifacts and faunal remains contained within this feature attest to its use as a trash pit for several years (see discussion of artifact assemblage below). Based upon the fact that the orientation of this pit does not respect the orientation of the dwelling, it is unlikely that the pit was any kind of dependency associated with the house, or even constructed after the house was finished. In addition to the TPQ, the fact that a ditch-set fence cuts the feature indicates that it was filled before the house was abandoned, and before a landscape rearrangement took place, probably when the occupants of the site switched to tenants rather than members of the Hallows family, in ca. 1666.

Phase 2: Addition

A post hole and mold was uncovered 10 ft. east of the last excavated post hole and mold along the eastern wall of the dwelling. It is oriented parallel to the wall line, but the hole is smaller than the structural holes for the main house (3 ft. x 1.5 ft.) and thus does not appear to be contemporaneous with them. However, the post mold is roughly the same size as the other structural posts, being about 1 ft. square. It may represent the corner post for a room added to the dwelling sometime after the original construction, with an additional post or posts aligned to a structural timber from the east wall line falling just outside of the excavated area (Figure 10). While the evidence for such a construction is tenuous, it would explain the presence of Feature 43 (post hole and mold), and would result in a floor plan strikingly similar to the plan of the earliest rendition of the Clifts manor house (Figure 15) and the ca. 1670s manor house at Newman's Neck (Neiman 1978, 1980a:39-47; Heath et al. 2009). If this room were added, it must have post-dated the fortification of the dwelling, as its presence along the east façade of the house would have obscured lines of sight from the northeast bastion.

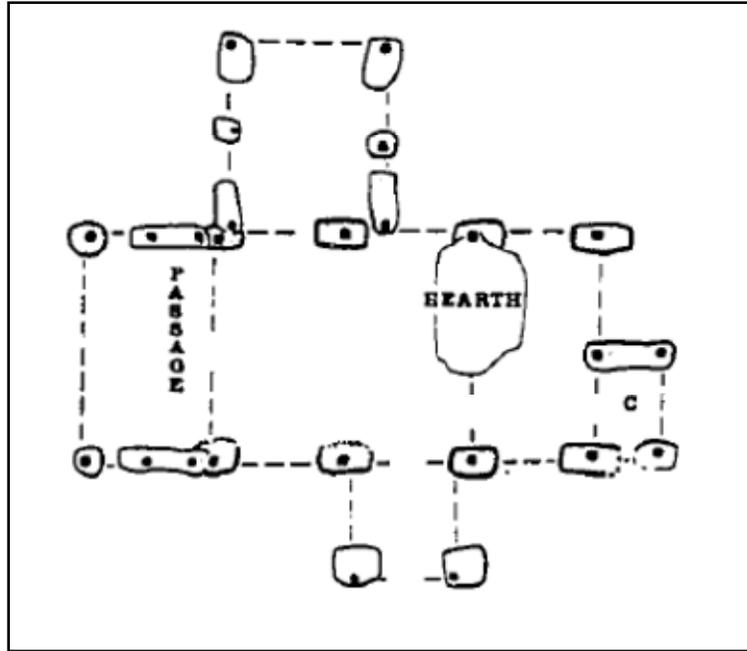


Figure 15: Earliest Plan of The Clifts (ca. 1670) (from Stone 1982:259).

Phase 3: Fences

There are numerous other features on the Hallowes site, but most consist of small posts or amorphous yard features, the dates and functions of which are difficult, if not impossible, to determine. However, there do appear to be at least three distinct ditch-set fences related to the house and the rearrangement of the landscape that took place after ca. 1666 with the occupancy of the site by tenants. This rearrangement of landscape at the site may have included not only the incorporation of fences near the house, but also the reversal of the orientation of the building and the demolition of the addition (this will be discussed more at length in the sections of artifact distributions and interpretations).

The possible fence lines that define the post-1666 landscape at the Hallowes site consist of five features: 2, 18, 35, 96, and 97. All of these features appear to be narrow ditches measuring, on average, 8 in. in width with unknown depth and unknown length, due to excavation limits. They likely contained post molds, but like the bastions, they probably were not visible to the excavators. Excavations at Rich Neck Plantation near Williamsburg, Virginia uncovered ditch-set fence lines of a similar width, 6 in.-10 in., which were about 6 in.-8 in. in depth, as did excavations at the Clifts Site (Neiman 1980: 93-105; McFaden et al. 1999:20). Based upon the relationship between feature 96, a corner of the northeast bastion, and feature 97, it seems likely that the later fence co-opted this portion of the bastion ditch, and possibly incorporated a remnant of the bastion. The latest-dating artifacts contained within these features come from context 123 B, in Feature 96, and are Morgan Jones-type coarse earthenwares, suggesting a post-1660s date for filling. Few artifacts were recovered from these features, and even fewer dateable artifacts.

The primary reason for assigning these fence features to the period after the dismantling of the bastions is their stratigraphic relationships and the effect of the fences on the utility of the fortifications. The fence line represented by Features 35 and 18 cuts the large trash pit, Feature 17, indicating that it post-dated this feature, which has a 1660s TPQ. Additionally, the location of the fences represented by Features 2, 96, and 97 would have obstructed lines of sight from the northeast bastion, which would have significantly hindered the defensive capability of the fortifications, creating blind spots along the eastern portion of the structure.

The division of the yard space through the use of fences on the site is reminiscent of the yard at the St. John's site in St. Mary's City, Maryland during the ca.1675-1690 period and at Mattapany-Sewall, ca. 1660-1740 (Keeler 1978:54-58, 63-64, 147; Chaney and King 1999). During this phase of construction at St. John's, the residents delineated a large forecourt area with fences on the primary façade of the structure. Additionally, the back yard space was divided into two areas by a fence that corresponded to the interior hall and parlor rooms, effectively creating two outdoor spaces that mirrored the interior of the dwelling (Keeler 1978:54-58). These two spaces served two distinct functions at St. John's, indicating the increasing formalization of space in the Chesapeake over time (Keeler 1978:72-74). Additionally, yard space at the Clifts Plantation site was also segmented, although at a later date, indicating similar processes on the Northern Neck (Neiman 1990:320). The division of yard space through the use of fences at the Hallowes site may indicate similar processes taking place from the 1660s to 1681, but with almost no excavation in the yard area, this conclusion is only speculative.

ARTIFACTS: SITE SUMMARY

Introduction

The Hallowes Site produced an assemblage of 8,256 artifacts, 3,675 of which were faunal remains. These artifacts filled four boxes. An additional eight boxes of brick from Feature 10 have not been included in this reanalysis. Faunal remains were the most common artifact type. Historic ceramic vessel sherds and tobacco pipes also accounted for significant portions of the assemblage, 19% and 12% of the total number of artifacts, respectively. Of the entire assemblage, 1,974 (or 24%) of the artifacts are from surface collections. For the surface collected artifacts, 1,571 are general surface collection, context 21. However, 403 of the surface collected artifacts, contexts 21A, 21B, 21C, 21D, and 21E have some spatial information that can assign their location to within about 15 feet of their original contexts. Additionally, there are 1,136 artifacts (14% of the total assemblage) excavated from plow zone that can be associated with individual 10 ft. x10 ft. units. Finally, there are 1,084 artifacts (13% of the total assemblage) that have no provenience data associated with them. The majority (N=551) are unidentifiable bone fragments and may be the result of fragmentation after storage. This section will discuss the artifact assemblages by functional group and artifact type.

Ceramics

Dating

One thousand five hundred and ninety-nine ceramic sherds representing no less than 199 individual vessels were excavated or collected from the Hallowes Site. Of that total count, 216 (14%) sherds came from features while the other 1,383 (86%) sherds were collected from the surface or plow zone units. A mean ceramic date (MCD) for the whole site was calculated to be 1676. An MCD for ceramics from site features was calculated to be 1675. These dates were based upon all of the historic ceramic types on the site. However it is useful to remove ceramic types that can skew the calculated dates (South 1977).

There are three ceramic types at the Hallowes site that complicate the MCD. The first is delft/tin-glazed earthenware, which has a very long date range, 1634-1800, that can cause the MCD to appear later than it actually should. The second problematic ceramic is ironstone, of which only two fragments were surface collected. This ceramic type is clearly intrusive due to the lack of artifacts anywhere on the site dating after the late seventeenth century. Finally, ceramics identified as Morgan Jones-type are problematic because of the uncertainty involved in their identification. While many fragments appear to resemble ceramics produced by Morgan Jones, there is a great deal of variation within this category. Furthermore, locally-produced coarse earthenwares are a poorly understood ceramic type in the seventeenth-century Chesapeake region, due both to their variation and similarities (Kelso and Chappel 1974; Straube 1995), and using them to assign dates to a site is inappropriate. Therefore, these three ceramic types were removed from the previously calculated MCDs and the dates were recalculated. The adjusted MCD for the site was 1667 while the adjusted MCD for features was 1662, both of which strongly agree with the date range predicted from the historical records of 1647-1681.

The ceramic-based TPQ for the site is 1675, since North Devon gravel-tempered coarse earthenware is the latest dating artifact from features at Hallowes. In general, all ceramics, except for the two intrusive sherds of ironstone, have beginning manufacture dates in the second or third quarter of the seventeenth century, suggesting that the site was occupied during this period and for a relatively short period of time. The 1681 end date for the site, while gleaned from a historical reference, is supported by the presence of North Devon gravel-tempered earthenware as the latest-dating ceramic type, as well as the absence of English Brown stoneware, which entered the Chesapeake around 1690, and the presence of only a single fragment of leaded table glass, first produced about 1674/1676 (Noël Hume 1969:114, 187; Lanmon 2011:20; 24-34).

Sherds and Wares

The assemblage is dominated by coarse earthenwares, comprising 1,455 sherds or 91% of the site's entire ceramic assemblage (Figure 16).

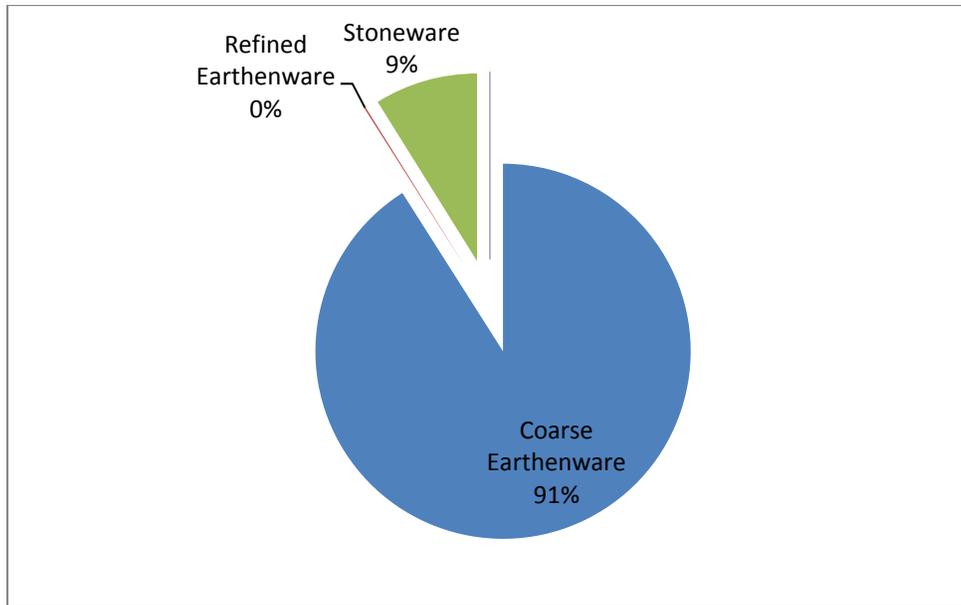


Figure 16: Total Sherd Counts by General Ware Type.

Fifteen unique historic ceramic ware types are represented in the assemblage ranging in date from some of the earliest European ware types in the Chesapeake region to ironstone (Table 3). Although an apparently diverse assemblage, seven of the types are minimally represented by ten or fewer sherds. Of these 15 types, 9 are represented in feature assemblages. The features, unlike the surface collection assemblage, did not contain ironstone, Spanish costrel, Metropolitan slipware, Staffordshire slipware, Raeren brown stoneware, or Saintonge. All 15 of the ware types are represented in the surface collection. The majority of the assemblage is made up of Morgan Jones-type ware, likely locally-made coarse earthenware with uncertain dates. However, it is probable that many of the ceramics from Hallowes identified as this type are not true Morgan Jones earthenwares, but other types that resemble them, which may date earlier. Additionally, some of these fragments identified as Morgan Jones-type may be unidentified European coarse earthenwares or locally-made wares originating from other colonies, such as New England. Mérida earthenware, Rhenish blue and gray stoneware, delft/tin-glazed earthenwares, and North Devon gravel-tempered earthenwares comprise the other highest sherd counts from the Hallowes Site. Together, these five ware types comprise 95% of the total historic ceramic assemblage.

| Total Site | Feature | Surface | Ware |
|------------|---------|---------|---------------------------------|
| 240 | 29 | 211 | Mérida |
| 1 | 0 | 1 | Spanish costrel |
| 11 | 4 | 7 | Martincamp |
| 2 | 0 | 2 | Raeren brown stoneware |
| 2 | 0 | 2 | Saintonge |
| 131 | 17 | 114 | Rhenish blue and gray stoneware |
| 8 | 1 | 7 | North Italian slipware |

| | | | |
|------|-----|------|------------------------------|
| 59 | 9 | 50 | Delft/tin-glazed earthenware |
| 955 | 148 | 807 | Morgan Jones-type |
| 9 | 1 | 8 | Rhenish brown stoneware |
| 5 | 0 | 5 | Metropolitan slipware |
| 20 | 2 | 18 | North Devon sgraffito |
| 13 | 0 | 13 | Staffordshire slipware |
| 59 | 2 | 57 | North Devon gravel-tempered |
| 2 | 0 | 2 | ironstone |
| 1517 | 213 | 1304 | TOTAL |

Table 3: Breakdown of Historic Sherd Count by Specific Ware Type.

Most of the ware types found at Hallowes and discussed in this report are defined and illustrated on the Diagnostic Artifacts in Maryland, Colonial Ceramics website, the Florida Museum of Natural History website, and the Jamestown Ceramic Research Group website (Maryland Archaeological Conservation Lab 2002; FLMNH 2011; Jamestown 2011). However, summary data for each colonial ware type present in the collection will be presented, organized based upon their frequency in the collection.

Morgan Jones-type ceramics were the most prominent by sherd count (N= 955), and by vessel count, 109. This ceramic is almost certainly produced locally in either Maryland or Virginia and is defined by a buff to reddish paste with ochre and/or quartz inclusions. It is generally poorly potted, poorly fired, and thick walled and tends to be glazed at least on the interior, but sometimes on the exterior as well (Kelso and Chappell 1974:60; Straube 1995:25-27; Figure 17). The glaze ranges from clear to brown to green in color and is sometimes poorly applied. Forms for this ceramic type are exclusively utilitarian in nature, with the most common form being milkpans/pans. This type also accounted for butter pots, baluster jars, pitchers, and bowls. While some of these sherds may, in fact, be the products of Morgan Jones, many do not clearly match the ceramics recovered from his kiln site at Glebe Harbor (44WM39) or those from the Newman's Neck site (44NB180) (Heath et al. 2009). It is possible that some of the sherds may be from Jones' Maryland kiln due to the strong connections between the residents of the Hallowes site and Maryland. However, it is also possible that these sherds may be the products of another, as yet unidentified, local potter operating in the Potomac Valley in the mid-seventeenth century. Whatever the case, this ceramic type is clearly dubious as a temporal marker, but invaluable in terms of understanding vessel use on the site and local production in the area.



Figure 17: Typical Morgan Jones-Type Sherds from the Hallowes Collection.

The second most common ceramic type recovered from the Hallowes site was Mérida. This ceramic type is defined by a fine, highly fired red paste with mica inclusions (Deagan 1987:40-41). It is unglazed, sometimes smoothed or burnished and sometimes incised. Two hundred and forty sherds of this ware are contained in the collection, which account for a minimum of 47 vessels, the overwhelming majority of which are small bowls (Figure 18). This ware has been identified at several mid-seventeenth-century sites in Maryland and is referred to as Mérida Micaceous I, or Mérida-type ware, with a tentative date range of ca. 1650- ca. 1675 (Hurry and Miller 1989; Newstead 2008).



Figure 18: Sample of Mérida Rims Recovered from the Site.

Rhenish blue and gray stoneware, defined by a dense gray stoneware body with a salt glaze, rounds out the top three most common ceramic types on the site (Figure 19). It is generally decorated with cobalt blue, sprigged medallions, or incising. Some of the sherds in this collection are decorated with manganese purple, in addition to cobalt blue, indicating a post-1660s date (Noël Hume 1969:281; Maryland Archaeological Conservation Lab 2002). This ware type accounts for 131 of the sherds on the site and at least 10 vessels, all of which are jugs. Additionally, one fragment, which we did not have access to as it is now lost, but which is documented photographically, is the one of the earliest dated ceramics found in the Chesapeake, a medallion with the date 1632 (Noël Hume 1969:281; Figure 20).

Additionally, there were several other medallion/sprig molds in the collection. The most recognizable among these was a large gray medallion surrounded by cobalt of what appears to be a tulip with other flowers and dots surrounding it (Figure 78). Other sprigged medallions include a diamond-shaped design containing what appear to be flowers surrounded by cobalt and manganese decoration, and several small round sprigged medallions with flowers of varying sizes smaller than 15mm surrounded by cobalt. In general, all of the medallions and sprigged decorations recovered from the site appear to be detailed and sharp in their decoration and are almost all floral motifs.



Figure 19: Sample of Rhenish Blue and Gray Stoneware from the Site.



Figure 20: Rhenish Blue and Gray Medallion Dated 1632 (Photo Courtesy of the VDHR).

North Devon gravel-tempered ware comprised 59 sherds and at least 9 vessels, all of which were milkpans (Figure 21). While many sources place the TPQ for this type at 1675, there is some evidence that it became available in the Chesapeake by 1650 (Noël Hume 1969:133; Maryland Archaeological Conservation Lab 2002). Delft/tin-glazed earthenware also accounted for 59 sherds, but only 6 vessels. The vessels represented by this ware included bowls, an ointment pot, a charger, and a bottle. There were 20 sherds of North Devon sgraffito that represent at least 2 vessels, 1 of which was a charger. Staffordshire slipware comprised 13 sherds representing at least 2 vessels, 1 of which was a dotted reversed slipped mug. Eleven sherds of Martincamp, representing at least one flask, were present in the collection. This ceramic, defined by a dense red body with throwing rings on the interior, generally dates no later than ca. 1660 (Hurry and Miller 1989).



Figure 21: North Devon Gravel-Tempered Milk Pan Fragments.

There were nine fragments of Rhenish brown stoneware that accounted for at least six jugs on the site (Figure 22). North Italian marbelized slipware was represented by eight sherds that made up at least one charger. This ware is commonly found in mid-seventeenth-century contexts, but is generally not found in the Chesapeake after ca. 1670 (Hurst et al. 1986:33-38; Jamestown 2011; Figure 23). There were five sherds tentatively identified as Metropolitan slipware in the collection that represented one unknown vessel. The attribution of this ceramic type is tentative because the sherds were very small and no specimens were accessible for comparison. Raeren brown stoneware comprised two sherds, which represented one jug. Saintonge also comprised two sherds and one vessel (Figure 24). This ceramic type was produced in southwest France starting in the thirteenth century but is generally not found in the Chesapeake after ca. 1660 (Hurst et al. 1986: 76-99; Jamestown 2011). Finally, a single Spanish costrel handle fragment was identified in the collection. This form of this ceramic type tends to date no later than the first half of the seventeenth century (Hurst et al. 1986:63).



Figure 22: Rhenish Brown Fragments.

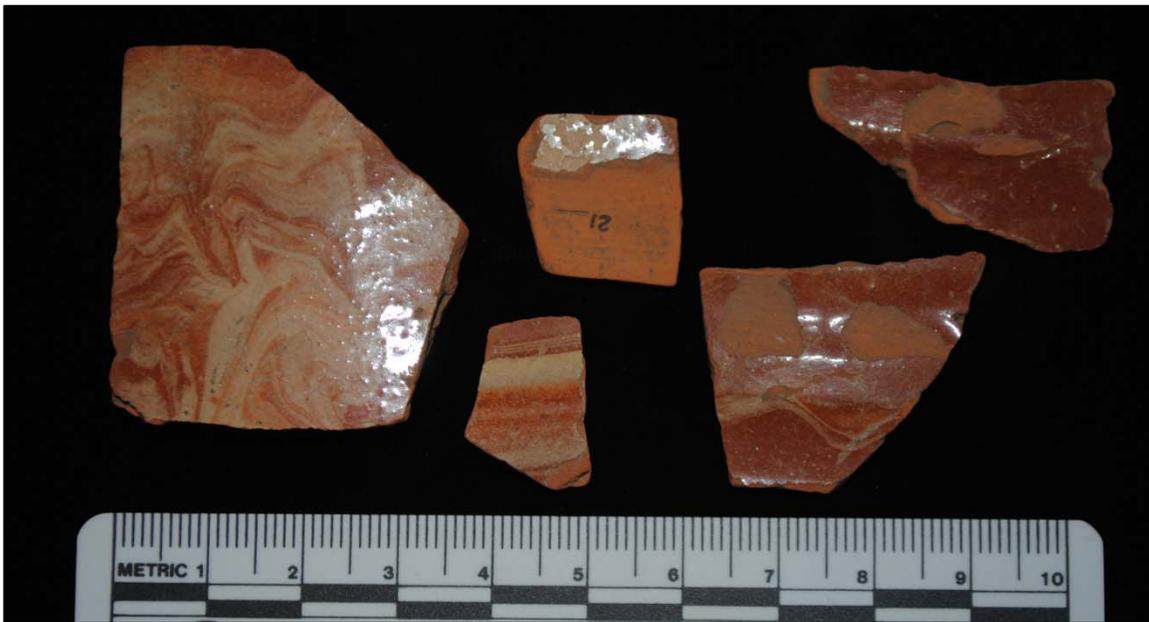


Figure 23: North Italian Marbled Slipware Fragments.



Figure 24: Saintonge Fragment.

Vessels

A minimum vessel count was completed for this collection and cross-mending had been performed prior to this reanalysis. While many crossmends between feature contexts and plow zone/surface collection were noted, there were no crossmends between features, indicating that they were likely distinct depositions. Definitions and names of vessel forms were modeled after the Potomac Typological System (Beaudry et al. 1988).

An initial minimum ceramic vessel (MNV) count yielded 199 vessels (Table 4). The vessel count was performed using standard methods, which include sorting sherds by type and then determining the minimum number of vessels needed to account for the sherds present in each type based upon form, decoration, paste, and other diagnostic features (Orton, Tyers, and Vince 2007:21, 172; Voss and Allen 2010). The majority of sherds (N=955) and vessels (N=109) are of Morgan Jones-type; the second most frequent type is Mérida (240 sherds, 47 vessels). Because the overall number of vessels in the assemblage is significantly higher than counts from previously analyzed seventeenth-century sites in the region, and because the high counts resulted primarily from the large number of vessels attributed to these two types, it was decided that they should be recounted using a method that was as conservative as possible. The revised vessel count was conducted using only rim sherds that had measureable diameters or were so unique in form or paste that they had to be unique vessels. The revised counted yielded a total of 71 Morgan Jones-type vessels and 33 Mérida vessels. While this exercise reduced the number of vessels for both of these types, and the overall vessel count for the site, it still revealed that both Morgan Jones-type and Mérida dominate the assemblage and are present in unusual quantities. Their presence is likely the result of cultural activity rather than the idiosyncrasies of the analyst.

The revised minimum vessel count omitted sherds that were unique, but which did not consist of measurable rim fragments. As a result, it is clear that that method undercounted the assemblage and the resulting count is not an accurate reflection of the true minimum. Therefore, the following discussion will refer to the count as originally calculated since it is likely more accurate.

One hundred and ninety-nine individual vessels were identified in the entire site assemblage based upon characteristics such as rim diameter, decoration, and ware type (APPENDIX 7: *MINIMUM VESSEL LIST*). Most of the vessels were Morgan Jones-type locally-made coarse earthenware with Mérida, Rhenish blue and gray, North Devon gravel-tempered, delft/tinglaze and Rhenish brown rounding out the top six vessel counts by ware type (Table 4). Food and beverage preparation/storage vessels were the most common function in the assemblage (accounting for 84 vessels or 42%), followed by food and beverage consumption (80 vessels or 40%), other/decorative (3 vessels or 1.5%), and ambiguous/unknown (32 vessels or 16%). The ratio of flat wares to hollow wares is 3 to 175 (17% to 93%). By specific function, the most common identifiable vessels were milk pans, followed by bowls and jugs (Table 5 and Table 6).

| Ware type | Vessel Count |
|--------------------------------|---------------------|
| Morgan Jones-Type | 109 |
| Mérida | 47 |
| Rhenish blue and gray | 10 |
| North Devon gravel-tempered | 9 |
| Delft/tinglaze | 6 |
| Rhenish brown | 6 |
| North Devon sgraffito | 2 |
| Staffordshire slipware | 2 |
| Colonoware | 1 |
| Martincamp | 1 |
| Metropolitan slipware | 1 |
| North Italian marbled slipware | 1 |
| Raeren brown | 1 |
| Saintonge | 1 |

| Ware type | Vessel Count |
|------------------|---------------------|
| Spanish costrel | 1 |

Table 4: Vessel Counts by Ware Type

| Ware Type | Vessel Type | Count |
|-----------------------------------|----------------------|--------------|
| Morgan Jones-type | Baluster Jar | 1 |
| Morgan Jones-type | Bowl | 10 |
| Morgan Jones-type | Bowl or Mug | 2 |
| Morgan Jones-type | Bowl or Pitcher | 5 |
| Morgan Jones-type | Bowl or Pot | 5 |
| Morgan Jones-type | Butter Pot | 3 |
| Morgan Jones-type | Milk Pan | 59 |
| Morgan Jones-type | Pan | 3 |
| Morgan Jones-type | Pitcher | 2 |
| Morgan Jones-type | Pitcher or Pot | 2 |
| Morgan Jones-type | Pot | 6 |
| Morgan Jones-type | UID Hollow | 11 |
| Mérida | Bowl | 39 |
| Mérida | Bowl/Pan | 1 |
| Mérida | Milk Pan | 1 |
| Mérida | Pan | 6 |
| North Devon gravel-tempered | Milk Pan | 8 |
| North Devon gravel-tempered | Butter Pot/ Milk Pan | 1 |
| Delft | Bottle | 1 |
| Delft | Bowl | 2 |
| Delft | Bowl/Ointment Pot | 1 |
| Delft | Charger | 1 |
| Delft | UID | 1 |
| Rhenish brown | Jug | 5 |
| Rhenish brown | UID Hollow | 1 |
| Rhenish blue and gray | Jug | 10 |
| North Devon sgraffito | Charger | 1 |
| North Devon sgraffito | UID | 1 |
| Staffordshire slipware | Mug | 1 |
| Staffordshire slipware | UID | 1 |
| Raeren brown | Jug | 1 |
| Martincamp | Flask | 1 |
| Metropolitan slipware | UID | 1 |
| North Italian marbelized slipware | Charger | 1 |
| Saintonge | UID | 1 |

| Ware Type | Vessel Type | Count |
|------------------------|--------------------|--------------|
| Spanish costrel | costrel | 1 |
| Colonoware | bowl | 1 |
| UID coarse earthenware | UID Hollow | 1 |

Table 5: Vessel Forms by Ware Type.

| Specific Vessel Form | Count |
|-----------------------------|--------------|
| Milk Pan | 68 |
| Bowl | 52 |
| Jug | 16 |
| Pan | 9 |
| Bowl or pot | 5 |
| Bowl or pitcher | 4 |
| Butter Pot | 3 |
| Charger | 3 |
| Pitcher | 2 |
| Bowl or mug | 2 |
| Pitcher or pot | 2 |
| Mug | 1 |
| Baluster Jar | 1 |
| Bottle | 1 |
| Flask | 1 |
| Costrel | 1 |
| Bowl or ointment pot | 1 |
| Bowl or pan | 1 |

| Specific Vessel Form | Count |
|-----------------------|-------|
| Butter pot or milkpan | 1 |
| Mug or pitcher | 1 |

Table 6: Specific Vessel Form Counts for Entire Site.

Of the hollow wares, the milk pan assemblage consists of 59 Morgan Jones-Type vessels with rims ranging in diameter from 140mm to 480mm, eight North Devon gravel-tempered vessels ranging in diameter from 310mm to 420mm, and a Mérida vessel measuring 300mm in diameter. At least 52 bowls are present, 39 of which are Mérida bowls with rim diameters ranging from 150mm to 200mm, ten of which are Morgan Jones-Type with unmeasurable rims, two are delft, one of which has a 70mm base diameter, and one is colonoware, but is missing from the collection and could therefore not be measured. Three Morgan Jones-type butter pots had rim diameters ranging from 140mm to 160mm. Finally, a Morgan Jones-type baluster jar had a rim diameter of 120mm.

Twenty-two beverage storage or serving vessels are present in the assemblage including ten Rhenish blue and gray jugs, five Rhenish brown jugs, and one Raeren brown jug. There are two Morgan Jones-type pitchers, a delft/tinglazed bottle, a Spanish costrel, a Martincamp flask, and a Staffordshire slipware mug (Figure 25).



Figure 25: Staffordshire Reverse Slipware Mug Base (Right).

The flatwares on the site are represented by three chargers. The delft/tinglazed charger has a blue painted design on the interior, possibly representing a vine motif (Figure 26). The North Italian marbelized slipware charger is represented by eight

fragments, all but one of which came from the plow zone. Finally, the sgraffito charger was the only one with a measureable rim of 220mm (Figure 27).

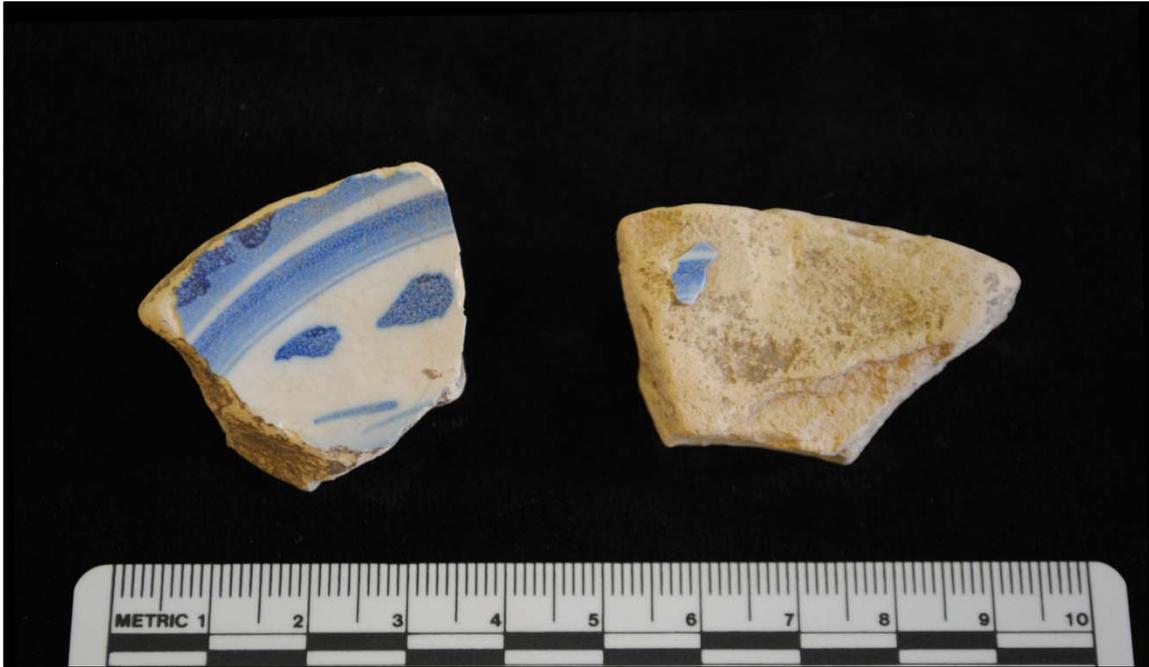


Figure 26: Lead-Backed Tin Glazed Earthenware Charger.



Figure 27: North Devon Sgraffito Charger Fragments.

Of the 199 vessels in the collection, only 24 are associated with features. The majority of these feature-related vessels came from Feature 63, the pit within the southwest bastion. This feature contained two Mérida bowls, a Rhenish blue and gray jug, four Morgan Jones-type milk pans, two Morgan Jones-type pots, and a colonoware

bowl. Feature 17 contained only one identified vessel, a Martincamp flask. Despite the presence of additional ceramics in both features, none contributed to the minimum vessel count on the site.

Glass Vessels

Two hundred seventy nine fragments of container glass were found at the Hallowes Site, representing case bottles, wine bottles, and at least one phial. Of this total, 151 fragments (54%) were from features and 128 (46%) were from plow zone or surface collection. The majority of the glass appears to be from case bottles, but the condition and small size of many of the fragments made a precise count difficult. When possible, the manufacture method for glass sherds was noted and the results fell into three categories: free blown, mold blown, and blown/mouth blown. The latter was used when the sherds were known to be blown (as opposed to machine made), but the distinction between free and mold could not be made. Most of the glass sherds fell into the blown/mouth blown category.

A minimum vessel count was undertaken for the container glass assemblage. Five individual vessels are present, calculated by the presence of unique bases or finishes based on container type (Figure 28).



Figure 28: Glass Vessels from the Hallowes Site. Top, Left to Right: Case Bottle Base, Vessel 4, and Vessel 2. Bottom: Vessel 1.

Vessel 1, from Feature 9, is a complete case bottle finish with neck and a portion of the shoulder extant. It is a one-part finish with an everted lip, though it is quite uneven, and would have been mold blown. Additionally, there is evidence of twisting during manufacture from striations in the glass. In general, case bottles were most widely used

prior to the mid-seventeenth century when globular bottles were introduced (Noël Hume 1969:62).

Vessel 2 is an unprovenienced complete case bottle finish with the majority of the neck present. It is a one-part finish with an uneven everted lip and is mold blown.

Vessel 3 is represented by approximately 50% of an unprovenienced case bottle finish with only a very small portion of the neck present. It is a one-part finish with an everted lip and is mold blown.

Vessel 4 is characterized by approximately half of the base of a “globe and shaft” bottle excavated from Feature 36. The base looks similar to bottles depicted in the Museum of London collection (Museum of London 2011a) dating from ca.1650-1660 that are classified as wine bottles. Noël Hume references a form similar to this and dates it to 1652 (Noël Hume 1969:63). The base is free blown, has a domed pushup, and a glass-tipped pontil mark.

Vessel 5 is represented by a single unprovenienced body fragment that appears to be from a phial. It is quite thin, curved, and aqua in color, indicating that it is not window glass or a fragment of wine bottle.

Table Glass

A small assemblage of glass tableware was found at the Hallows site consisting of four fragments. A minimum of two stemware vessels, represented by a unique step or basal knob, and a unique base, came from plow zone and unprovenienced contexts. Context 104, unit VC8, contained a gray-colored step, which, although fragmentary, appears similar in style to the step seen on a vessel in the Museum of London collection dated 1591-1610 (Museum of London 2011b). Additionally, there are two vessel forms with similar steps that Noël Hume presents dating from 1590-1650 (Noël Hume 1969:191). There is also a single fragment of a stemware base from an unprovenienced context. This fragment is unique in both color and thickness, which seems to indicate that it is a separate vessel from the one above.

Tobacco Pipes

The tobacco pipe assemblage at the Hallows site consists of 1,021 fragments. Eight hundred and eighty-two (86%) of these pipe fragments are imported white ball clay, while the remaining 139 (14%) are locally-made. Imported white clay pipes from at least four identifiable pipe makers were present in the collection, including Llewellyn Evans (1661-1689), William Evans (1667-1682), Robert Tippet (1660-1720), and Priamus Williams (1677). However, the Robert Tippet and Priamus Williams examples are among the artifacts that were loaned to the Westmoreland County Museum and are now missing; the only records of them are the illustrations in the 1971 Buchanan and Heite article. In addition to the English white clay pipes, there are also several Dutch examples, though none have makers' marks. The locally-made pipes comprised both

mold-made and handmade examples, which could, in several cases, be attributed to previously recognized makers or similar types in the region.

There are 623 measurable imported pipe stems that were used to calculate a mean occupation date and to create a Harrington histogram for the entire site (Figure 29; Table 7). The pipe stems were measured with drill bits in 1/64th inch increments and the data were aggregated for both the site as a whole and for the occupation features. The occupation features include the previously-discussed features 17 and 63, in addition to features 84 (a shallow pit) and 91 (a sheet midden). Two mean formula dating techniques were used, the Binford linear regression formula and Hanson's third formula which is used for sites dating from 1650 to 1710 (Binford 1962; Hanson 1968). The Binford formula is $Y=1931.85-38.26X$, in which X is the mean bore diameter for the sample being used and Y is the mean date of the sample. Hanson's third formula, $Y= 1869.31 - 28.88X$, is similar to Binford's in that X is the mean bore diameter for the sample, and Y is the mean date of the sample.

The Harrington histogram of the entire assemblage shows that the majority of the bore diameters were 7/64th of an inch, placing the occupation of the site between 1650 and 1680 (Figure 29). The Binford formula produced a mean date of 1660, and Hanson's formula produced a date of 1665. The same dating methods were applied to the occupation features. The results are similar to those from the overall pipe assemblage. The histogram again shows that these features fall within the 1650-1680 date range with the majority of the bores measuring 7/64" (Figure 30). The Binford formula produced a mean occupation date of 1657, and the Hanson formula yielded a mean of 1662.

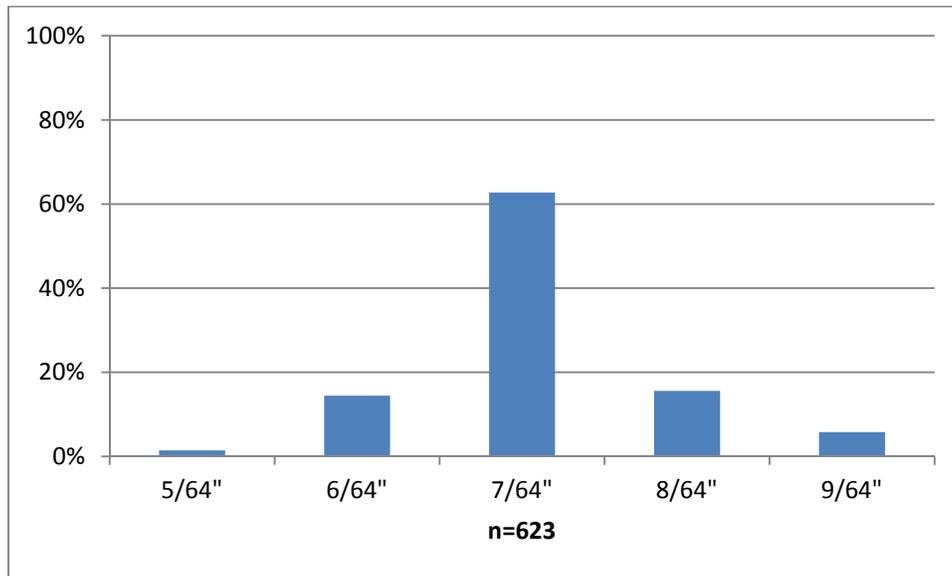


Figure 29: Pipe Stem Bore Diameter Distribution for Entire Assemblage.

| Bore Diameter | Number of Fragments |
|---------------|---------------------|
|---------------|---------------------|

| | |
|------|-----|
| 9/64 | 38 |
| 8/64 | 104 |
| 7/64 | 399 |
| 6/64 | 95 |
| 5/64 | 9 |

Table 7: Summary of Bore Diameters from Entire Site.

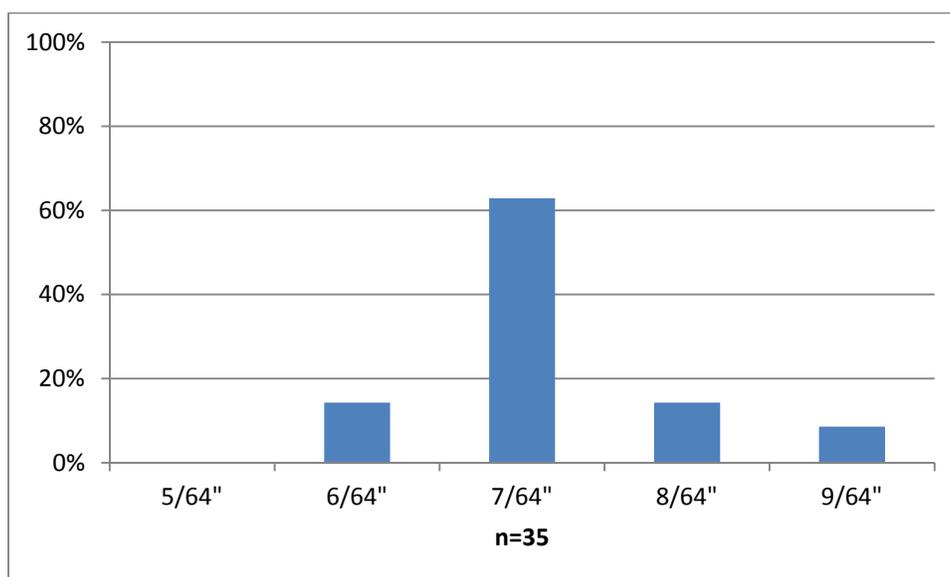


Figure 30: Pipe Stem Bore Diameter Distribution for Occupation Features.

Marked Pipes

While many of the white ball clay stems and bowls were decorated with simple milled rouletting, 21 were marked with identifiable motifs (Table 8). Twelve of these decorated fragments are definitively English, and more specifically, from Bristol. Two stems and one bowl are marked with Llewellyn Evans maker's marks, and one bowl is stamped with a William Evans mark (Figure 31). Llewellyn Evans was working in Bristol from circa 1661 to 1688/9 (Walker 1977:1428-1429; Hurry and Keeler 1991:58). It is unclear if the WE pipes were made by Llewellyn's son, William Evan I, or his grandson, William Evans II. The dates for the WE pipes are 1667 to 1682/1697 (Walker 1977:1434-1435; Hurry and Keeler 1991:58). The remaining eight English fragments are stems with Bristol-style diamond rouletting. All of these pipe stems date to circa 1660 to 1700 (Hurry and Keeler 1991:63-64).

| Maker | Date | Origin | Count |
|-----------------|-------------|---------|-------|
| Llewellyn Evans | 1661-1688/9 | English | 3 |

| | | | |
|----------------------------------|----------------|---------|---|
| William Evans | 1667-1682/1697 | English | 1 |
| Bristol-style Diamond Rouletting | 1660-1700 | English | 8 |
| Tudor Rose | ca. 1630-1660 | Dutch | 2 |
| Fleur-de-lis | ca. 1630-1660 | Dutch | 3 |
| Vine and flower | ca. 1625-1660 | Dutch | 1 |
| Oval and dot | ca. 1660-1680 | Dutch | 3 |

Table 8: Marks on Imported White Clay Pipes from Hallowes.



Figure 31: William Evans and Llewellyn Evans Marked Pipe Bowl Fragments.

Nine of the decorated pipes are likely Dutch. Two fragments, a bowl and a heel, are stamped with a Tudor rose (Figure 32 and Figure 33), a motif dating to circa 1630 to 1660 (Atkinson and Oswald 1972:182; Duco 1981:257; McCashion 1979:104-105; Oswald 1970:129-130). Three fragments (Figure 34 and Figure 35), including one stem and two heels, are stamped with another Dutch motif dating to roughly the first half of the seventeenth century, the fleur-de-lis (Atkinson and Oswald 1972:182; Hurry and Keeler 1991:66). The two stamped heels have what appear to be a WT underneath the fleur-de-lis. This mark was also recovered from Newman's Neck, another seventeenth-century site located just east of the Hallowes Site in Northumberland County (Heath et al. 2009:99). Buchanan and Heite (1971:44-45) originally identified this mark as a man on horseback, while others (Heath et al. 2009:99) have suggested that the WT is actually a cross with a ribbon. Lastly, four highly decorative stems were recovered. One of these stems is molded with what appears to be a vine and flower motif (Figure 36) which dates to circa 1625 to 1660 (Duco 1981:251; Hurry and Keeler 1991:66). Two of the decorative stems have repeat scrolling with half-circles and dots (Figure 37), and lastly, one stem is

rouletted with dotted ovals (Figure 38). Duco (1981:250) illustrates similarly decorated pipes manufactured in Gouda from circa 1660 to 1680.



Figure 32: Tudor Rose Stamped Bowl Fragment.



Figure 33: Tudor Rose Stamped Heel.



Figure 34: Dutch Pipe Stem Fragment with Rouletting and Fleur-De-Lis.



Figure 35: WT Stamped Pipes with Fleur-De-Lis.



Figure 36: Molded Dutch Pipe Stem Fragment.



Figure 37: Pipe Stem with Half Circle and Dot Rouletting.



Figure 38: Stem with Dotted Oval Rouletting.

Bowl Shapes

Only two bowls were complete enough to assign a bowl shape, both of which are belly-bowls. The first pipe stem/bowl juncture was assigned a Noël Hume style type #10, which dates to circa 1645 to 1665 (Noël Hume 1969:303; Figure 39). The second pipe stem/bowl juncture was assigned a Noël Hume style type #9, which dates to circa 1645 to 1680 (Noël Hume 1969:303).

Four junctures were identified as Dutch elbow style pipes (Figure 40). These heelless pipes were made for trade with Native Americans because of their resemblance to the handmade funnel pipes produced by the local Indians. Huey (2008) states that Dutch pipe makers began to produce elbow pipes in the 1640s for the New World market specifically to trade for beaver hides with the Iroquois tribes. This style of pipe was produced in Gouda for export to the American market into the 1680s (Miller 1991:83).



Figure 39: Belly Bowl Style Pipe Recovered from Feature 63.



Figure 40: Dutch Elbow Pipe Juncture Recovered from Feature 63.

Locally-Made Pipes

The majority of the 149 local pipes recovered are undecorated red-brown handmade pipes; however there are a few fragments that can be attributed to specific makers or to identifiable local traditions. Many of the decorated pipes from Hallows were adorned with Native American motifs. The majority of these decorations were simple punctated geometric designs; however, there were nine that displayed the classic Running Deer motif (Miller 1991; Mouer 1993:136) (Figure 41). While it is nearly impossible to assign a specific maker or even production location to these pipes, it is possible that some of the pieces were made nearby.



Figure 41: Locally-Made Pipe Bowl with Running Deer Motif Recovered from Feature 17.

Nomini Plantation (Figure 42) is located on the mouth of the Nomini River near Currioman Bay and the Hallowes Site (Mitchell 1983:1). The presence of a pipe maker at or near the Nomini property throughout the 1650s, 1660s, and 1670s (Luckenbach and Kiser 2006:171-173) is suggested by the recovery of wasters on the property and by a 1659 description of property boundaries that stated “near the side on an Indian field commonly known as the Pipemaker’s field” (Westmoreland County, Virginia Deeds and Wills No.1:11-12, cited in Mitchell 1983:28). The Nomini pipes were decorated with classic Algonquin motifs, including the Running Deer and geometric designs, but were modified and appear more angled and boxy, and are often highly burnished. These modifications to the traditional Algonquin motifs suggest that the Nomini maker was a creolized Native American (Luckenbach and Kiser 2006: 174). There are two pipe fragments that may have been produced by the Nomini maker: a highly burnished stem and a burnished bowl with tooled rouletting (Figure 43 and Figure 99). Additionally, one Susquehannock-style pipe was recovered from the Hallowes Site (Figure 44).



Figure 42: Map Showing the Relationship of the Hallowes Site to the Nomini Site.



Figure 43: Nomini Style Pipe Bowl Fragment.



Figure 44: Susquehannock Style Pipe Stem Fragment.

In addition to the Native American-made pipes, other pipes found at Hallowes are comparable to those recovered at Nomini Plantation; of particular interest are the mold-made pipes attributed to local English makers. Three mold-made belly-bowl, low-heeled

pipes were recovered at the Hallows Site. These pipes exhibit distinctive rouletting along the bowl-stem juncture at the back of the bowl and were made of similar buff-colored clay with ochre inclusions (Figure 45). Four locally-made pipes with the same decoration were found at the Pope's Fort site (1645-ca. 1655) in St Mary's City across the Potomac River in Maryland and at least two more were recovered from the Nomini Site only a few miles from Hallows (Mitchell 1983:30; Miller 1991:82; Figure 46 and Figure 47).



Figure 45: Three Pipe Stem-Bowl Junctures with Distinctive Rouletting Recovered from Hallows.



Figure 46: Rouletted Juncture Pipe from Pope's Fort (Courtesy Historic St. Mary's City).



Figure 47: Rouletted Juncture Pipes from Nomini.

Two more locally-made mold-made pipe types from the Hallowes Site are similar to those in the Nomini Plantation collection. The first is a bowl fragment with a Tudor rose stamped on the heel (Mitchell 1983:30-31). One heeled juncture from Hallowes has the same stamp (Figure 48), and five pipes with the Tudor rose motif were recovered from Pope's Fort (Figure 49) (Miller 1991:82).



Figure 48: Pipe Heel from Hallowes with Tudor Rose Stamp.



Figure 49: Tudor Rose Stamped Heels from Pope's Fort (Courtesy Historic St. Mary's City).

The last fragment from Nomini that has seven counterparts from Hallowes is an agatized stem (Mitchell 1983:30-31). These elaborately decorated pipes have been identified as the products of a distinct school named by Taft Kiser as “Bookbinder” (Figure 50). These pipes were produced in the 1640s somewhere near the Chesopean site

(44VB48) in Virginia Beach but have been recovered on sites all over Virginia and Southern Maryland (Luckenbach and Kiser 2006:165-167). However, unlike the locally-made pipes with the rouletted juncture or those with the Tudor Rose stamp, which were belly-bowl styles, the Bookbinder pipes were made in the elbow style, with no heel and a funnel shaped bowl, similar to the Dutch elbow style and most handmade Native American pipes.



Figure 50: Bookbinder Pipe Fragments Recovered from Hallows.

Architectural Artifacts

Bricks and Mortar

The assemblage of architectural artifacts recovered from the Hallows Site includes brick, mortar, daub, nails, window glass, and window lead. Both brick and daub were present at Hallows in feature and surface collection contexts (Table 9). All of the brick was handmade. All bricks in this analysis were characterized as fragments, bats, or complete. Bats, of which there were eight, were defined as having at least two measureable sides. A single complete brick was included in this analysis, although there are eight boxes of brick from Feature 10 housed at the VDHR that should be analyzed in the future. Daub and mortar were significantly less prevalent in the collection, represented by only 20 fragments.

| Material | Size | Count | Weight (g) |
|-----------------|-------------|--------------|-------------------|
| Brick | Bat | 8 | 3223.4 |
| Brick | Fragment | 110 | 2248.9 |
| Brick | Complete | 1 | 1818.5 |
| TOTAL | | 119 | 7290.8 |

Table 9: Summary of Brick Counts and Weights.

A total of 7,290.8 grams (16.08 lbs.) of brick, examined in this analysis, was excavated or collected from the Hallows Site, 5,419.2 grams (11.95 lbs.) of which came from feature contexts. The majority of bricks came from Feature 17 and all of the bats were recovered from this feature, likely a byproduct of better preservation within the feature. However, brick fragments appear to have been scattered throughout many features on the site.

Several of the brick fragments appeared to have been poorly fired and ranged from pink to gray to yellowish in color and were often sandy and brittle. It is possible that some of the bricks may have been of Dutch origin, but a thorough examination of the unanalyzed specimens at the VDHR would be necessary to make a positive identification. The single complete brick in this analysis measured 210mm in length by 95mm in height by 55mm in thickness (8.27"x3.74"x2.17") and is clearly a red, probably locally-made, specimen.

Daub was rare on the site, with only three fragments collected. All three fragments came from features (13, 17, and 43) and weighed an average of 1.8g. The general absence of daub in the collection is likely due to excavator bias, since it seems that very little in the way of building material was saved in the field or even recorded. Judging from the presence of a brick hearth, it seems likely that more brick fragments, as well as daub, were recovered from the site than what is in the collection.

Mortar follows the same general pattern for brick fragments and daub. Only 17 fragments of mortar are contained in the collection, 13 of which come from features (8 and 85). The average weight for a mortar fragment was 0.9g. All of the mortar present appeared to be shell mortar, and again, it is likely that more was present on the site, but was not saved. No plaster was present in the collection.

Nails

The Hallows assemblage contained 808 nails or nail fragments. The site significantly pre-dates the shift in technology to cut nails that began in 1790 (Miller 2000:14), with 806 of the nails being hand wrought. Two cut nails were present, but were unprovenienced and were likely intrusive surface collections. A minimum nail count (based on complete nails and heads) was performed and resulted in an estimated

minimum total of 553 nails. Two hundred and twenty-eight of these were excavated from feature contexts and the remainder from surface collections or plow zone. Of the total minimum nail count, 76 were clinched and 121 were pulled. Two hundred and six nails were complete with lengths measuring from 30mm to 90mm or 1.18 in. to 3.5 in. Almost all of the identifiable heads were of the rosehead type, with the exception of the two cut nails and a wrought L-head nail.

Window Glass and Lead

Evidence for glazed windows at the Hallows Site is scarce, but three artifacts point to the presence of glass casement windows. One identifiable window glass fragment was recovered in Feature 12. It was aqua in color and very small, weighing only 0.3g. No other glass fragments readily identifiable as window glass were recovered. Additionally, two fragments of window lead, or came, were recovered (one from Feature 63 and one from plow zone). The fragments were examined for dates, but none were present.

Faunal Remains

Three thousand six hundred and seventy-five bone fragments were excavated or collected from the Hallows Site. Of that total count, 2,757 (75%) fragments came from features while 918 (25%) fragments were collected from the surface or plow zone units, or were unprovenienced (Figure 51 and Figure 52). Due to excavation method bias, particularly the lack of screening, the absence of sampling in some plow zone units, the poor preservation of bone in the plow zone, and the general fragmentary nature of faunal remains from surface collection and plow zone, only the faunal remains recovered from features will be used in this analysis (APPENDIX 8: *ABBREVIATED FAUNAL CATALOG*). Of the 2,757 fragments recovered from features, 1,919 (70%) were identifiable at least to the family level with the remainder being too fragmentary to reliably identify below class. The rate of identification was high due to lack of screening, but was also affected by taphonomic processes, particularly burning, which significantly affected the condition and identification of the bone.



Figure 51: Mammal Bones from Hallows.



Figure 52: Fish Bones from Hallowes.

Taphonomy

Several factors contribute to the preservation and identification of faunal remains on archaeological sites. Generally, taphonomic analyses in zooarchaeology tend to focus on soil conditions, post-depositional processes, or bone modification as agents or results of taphonomic change (Cornwall 1956:204-208; Gordon and Buikstra 1981; Miller 1984:202-205; Lyman and O'Brien 1987:495-497; Lyman 1994:384-392; Reitz and Wing 1999:133). In the case of this collection, soil conditions, particularly pH, are probably not an important factor in bone degradation, due to the micro-environments created in features with large amounts of oyster shell or bone (Miller 1984:204; Scudder 1993). Indeed, at least for Feature 17, this appears to be the case based upon site photographs where significant amounts of oyster shell are visible. Additionally, the presence of large amounts of bone recovered from features compared to plow zone or surface collections supports this assertion across the site. Since this analysis only includes bone recovered from features, the role of post-depositional processes such as plowing on the collection is negligible.

The primary taphonomic concern for the faunal collection from Hallowes is heat modification. Burning tends to occur at temperatures up to 500°C and alters bone by removing the organic material; it generally changes the color of the bone to brown or black. Calcining of bone occurs at temperatures over 500°C and can shrink the bone and

make it more brittle and prone to fragmentation; it usually changes the color of the bone to white or blue-gray (Lyman 1994:384-392; Reitz and Wing 1999:133). The role of heat alteration on the Hallowes assemblage is significant, with 1,217 fragments (44%) showing evidence of heat alteration. Of the total assemblage, 198 fragments were burned and 1,019 were calcined, with the remaining 1,540 bone fragments showing no evidence of heat alteration (Figure 53). The average weight of a heat-altered bone fragment was 1.7g, while the average weight of a natural bone fragment was 2.7g, indicating a smaller size for heat-altered bone compared to natural bone fragments. This smaller size, likely resulting from heat alteration, was a major factor in identification of fragments below the class level. Of the natural bone fragments, the average weight of an identified specimen was 2.7g, while an unidentified specimen weighed 0.6g. For the heat-altered fragments the average weight of an identified specimen was 1.78g, while the weight for an unidentified specimen was 1.16g. Using weight as a proxy for bone size, it is evident that the heat-altered fragments were smaller than the natural fragments. Additionally, the fact that unidentified heat-altered specimens weighed about twice as much as unidentified natural specimens indicates that burning affected the accurate identification of fragments below the family level.

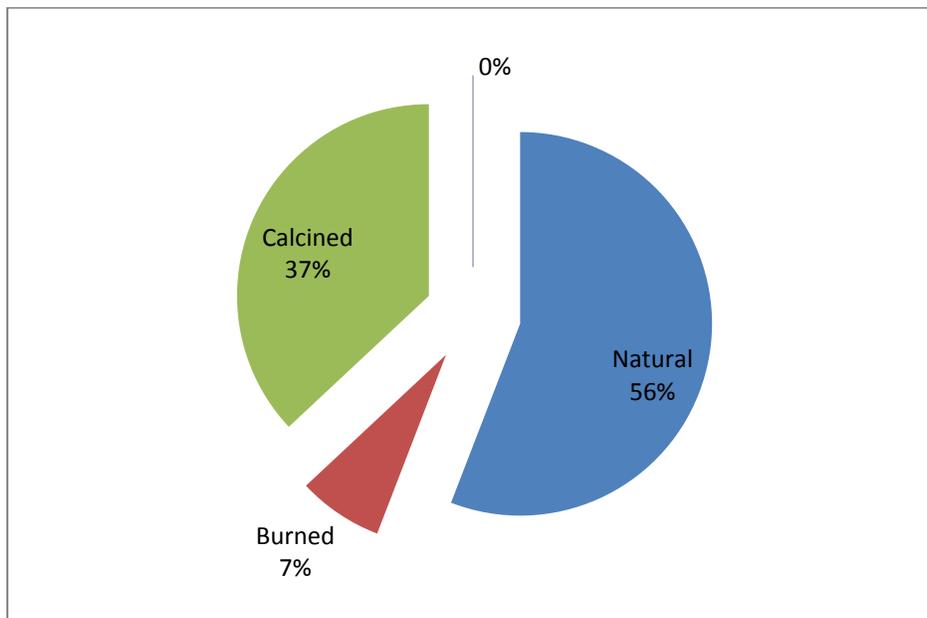


Figure 53: Proportion of Heat Altered Bone in the Assemblage.

Other taphonomic processes that may have acted upon the faunal assemblage at Hallowes were not readily apparent from the faunal remains. Only three bones from the assemblage showed evidence of rodent gnawing and none showed evidence of carnivore gnawing. Clearly, the fragmentation of the natural bone in the assemblage indicates some type of pre-depositional, post-depositional, or post-excavation modification to the bone, but it is unclear if all of these factors or only certain ones account for the majority of fragmentation. Perhaps the bones were broken as a part of the cooking process or to extract marrow prior to deposition. Alternatively, mechanical or chemical action may have led to greater fragmentation after the bones were deposited in the ground. Finally,

the fragmentation of the bone may stem from natural decay, resulting from more than 40 years of storage. Indeed, all of the bags containing bone showed evidence of decay with bone dust and tiny fragments at the bottom of the bags. In order to answer this question, a more detailed analysis focusing on bone condition would have to be conducted. The purpose of this analysis is to better understand diet and the relationship of animals to the occupants of the Hallows Site. Therefore, only basic taphonomic concerns have been addressed here.

Relative Frequencies of Taxa and Dietary Contribution

After identification, standard zooarchaeological techniques were employed in the analysis of the Hallows assemblage, including the calculation of Number of Identified Specimens Present (NISP), Minimum Number of Individuals (MNI), and Biomass (White 1953; Reitz and Cordier 1983; Reitz et al. 1987; Reitz and Wing 1999:227-228). All three of these analytical methods have advantages and disadvantages; therefore the calculation and presentation of all of them is imperative for the least biased analysis of faunal remains (Jackson 1989; Reitz and Wing 1999:192, 195). MNI and biomass were calculated for each feature and then combined in order to more accurately represent the animals used on the site (Reitz and Cordier 1983; Horton 1984; Reitz et al. 1987; Reitz and Wing 1999:227-228). The assemblage was divided in this way because most of the features, particularly the two containing the majority of the faunal remains (Features 17 and 63), likely represent discrete depositions and assemblages, meaning that they would have the remains from different individuals, supported by the fact that ceramics do not mend between features (discussed above).

There was a total of 16 distinct taxa within the feature assemblages (Table 10). The top five taxa, as represented by NISP, were *Artiodactyla* (even-toed large mammals), *Sus scrofa* (Pig), *Archosargus probatocephalus* (Sheepshead), *Odocoileus virginianus* (White-tailed Deer), and *Bos Taurus* (Cow). The MNI analysis revealed a minimum of 79 animals represented, with the top five being *Sus scrofa*, *Odocoileus virginianus*, *Bos taurus*, *Archosargus probatocephalus*, and *Testudines* (Turtle). The biomass calculation revealed a total of 86.961kg of meat represented by the bone from the features. The top five contributors to biomass at Hallows were *Bos taurus*, *Artiodactyla*, *Sus scrofa*, *Odocoileus virginianus*, and *Archosargus probatocephalus*. Upon the examination of all of these measures, it is clear that the residents of the Hallows Site relied heavily upon a few specific species, particularly, *Bos taurus*, *Sus scrofa*, *Odocoileus virginianus*, and *Archosargus probatocephalus*.

| Taxa | NISP | % | MNI | % | Weight (g) | % | BIOMASS (kg) | % |
|-------------------------------|------|------|-----|-----|------------|-------|--------------|-------|
| <i>Mammalia</i> | | | | | | | | |
| <i>Bos taurus</i> | 74 | 2.7% | 12 | 15% | 1632.1 | 26.2% | 24.415 | 28.1% |
| <i>Sus scrofa</i> | 181 | 6.6% | 18 | 23% | 1090.5 | 17.5% | 16.51 | 19.0% |
| <i>Odocoileus virginianus</i> | 120 | 4.4% | 15 | 19% | 723.6 | 11.6% | 10.738 | 12.3% |
| <i>Procyon lotor</i> | 1 | 0.0% | 1 | 1% | 0.4 | 0.0% | 0.012 | 0.0% |
| <i>Sylvilagus floridanus</i> | 5 | 0.2% | 1 | 1% | 1 | 0.0% | 0.026 | 0.0% |
| <i>Sciurus carolinensis</i> | 1 | 0.0% | 1 | 1% | 0.1 | 0.0% | 0.003 | 0.0% |
| <i>Scalopus aquaticus</i> | 4 | 0.1% | 1 | 1% | 0.4 | 0.0% | 0.012 | 0.0% |

| Taxa | NISP | % | MNI | % | Weight (g) | % | BIOMASS (kg) | % |
|------------------------------------|-------------|-------|-----------|-----|---------------|-------|---------------|-------|
| <i>Artiodactyla</i> | 1345 | 48.8% | | | 1884.6 | 30.3% | 23.318 | 26.8% |
| UID <i>Mammalia</i> | 427 | 15.5% | | | 493.6 | 7.9% | 6.983 | 8.0% |
| <u><i>Aves</i></u> | | | | | | | | |
| <i>Gallus gallus</i> | 4 | 0.1% | 3 | 4% | 3.2 | 0.1% | 0.065 | 0.1% |
| <i>Meleagris gallopavo</i> | 3 | 0.1% | 1 | 1% | 3.3 | 0.1% | 0.061 | 0.1% |
| <i>Branta canadensis</i> | 2 | 0.1% | 2 | 3% | 6.3 | 0.1% | 0.116 | 0.1% |
| <i>Anas platyrhynchos</i> | 1 | 0.0% | 1 | 1% | 0.4 | 0.0% | 0.009 | 0.0% |
| <i>Anatidae</i> | 1 | 0.0% | 1 | 1% | 0.3 | 0.0% | 0.007 | 0.0% |
| UID <i>Aves</i> | 8 | 0.3% | | | 3.5 | 0.1% | 0.073 | 0.1% |
| <u><i>Osteichthyes</i></u> | | | | | | | | |
| <i>Archosargus probatocephalus</i> | 134 | 4.9% | 9 | 11% | 190.7 | 3.1% | 2.012 | 2.3% |
| <i>Pogonias cromis</i> | 19 | 0.7% | 6 | 8% | 22 | 0.4% | 0.432 | 0.5% |
| UID <i>Osteichthyes</i> | 403 | 14.6% | | | 136.3 | 2.2% | 1.702 | 2.0% |
| <u><i>Reptilia</i></u> | | | | | | | | |
| <i>Testudines</i> | 24 | 0.9% | 7 | 9% | 27 | 0.4% | 0.467 | 0.5% |
| Total | 2757 | | 79 | | 6219.3 | | 86.961 | |

Table 10: Species Table for Entire Assemblage.

Meat diet at the Hallowes Site, as represented by biomass, relied heavily on domestic taxa, which accounted for 72% of the total biomass (excluding unidentified and commensal taxa). The majority of domestic meat contribution on the site came from beef and pork, which accounted for 43% and 29% of the total feature biomass, respectively. This pattern in beef and pork contribution closely resembles the pattern for the 1620-1660 period defined by Henry Miller and Joanne Bowen in their studies on Chesapeake subsistence (Miller 1984, 1988; Bowen 1996). Wild taxa at Hallowes accounted for 28% of the total feature biomass, which represents a significant proportion of the meat diet on the site. The majority of wild meat contribution on the site came from venison and fish, which accounted for 19% and 7% of the total feature biomass, respectively. The percentage of wild meat contribution also reflects pre-1660 subsistence patterns in the Chesapeake, which show wild taxa contributing 13% to 38% of the total meat on a site (Bowen 1996:95).

Skeletal Portion Analysis

Skeletal part frequency is useful in faunal analyses to help determine butchering activities, transport, and preference for certain cuts of meat, among other things (Reitz and Wing 1999:202-221). An analysis of skeletal part frequency, based on NISP, was performed where elements were assigned to six categories: teeth, cranial, axial, foot, front quarter, and hind quarter. The archaeological assemblage was then compared to an expected specimen of the same species using percentages. Three species (*Bos taurus*, *Sus scrofa*, and *Odocoileus virginianus*) were analyzed using this method.

Elements were assigned to the skeletal categories as follows. Teeth accounted for all of the teeth from a typical mature specimen. The cranial category counted the entire skull as one element, the mandible as two, and the hyoid bones. The axial category

included the pelvis and all ribs and vertebrae, with the exception of caudal vertebrae, which were not identified in the archaeological assemblage. The foot category consisted of all elements including and below the carpals and tarsals. The hind quarter category was represented by the femur, tibia, and patella. Finally, the front quarter category consisted of the scapula, humerus, radius, and ulna.

The comparison of observed to expected skeletal portions for *Odocoileus virginianus* revealed a significant under-representation of teeth, cranial, and foot parts with a preponderance of axial, hind quarter, and front quarter portions (Figure 54). It is especially important to note that *Odocoileus virginianus* teeth were not found at the Hallowes Site and that the one cranial fragment, a petrous process, came from context 29D, a disturbed layer. This is especially odd considering that teeth often preserve much better than other bones and are quite easy to identify (Reitz and Wing 1999:117-118). Additionally, teeth are much more prevalent than expected for the other two species in this analysis. The lack of cranial and foot fragments on the site coupled with the increased frequency of axial, hind quarter, and front quarter portions likely indicate either a preference for meatier cuts of venison or the butchery of animals off-site, or a combination of both (discussed below).

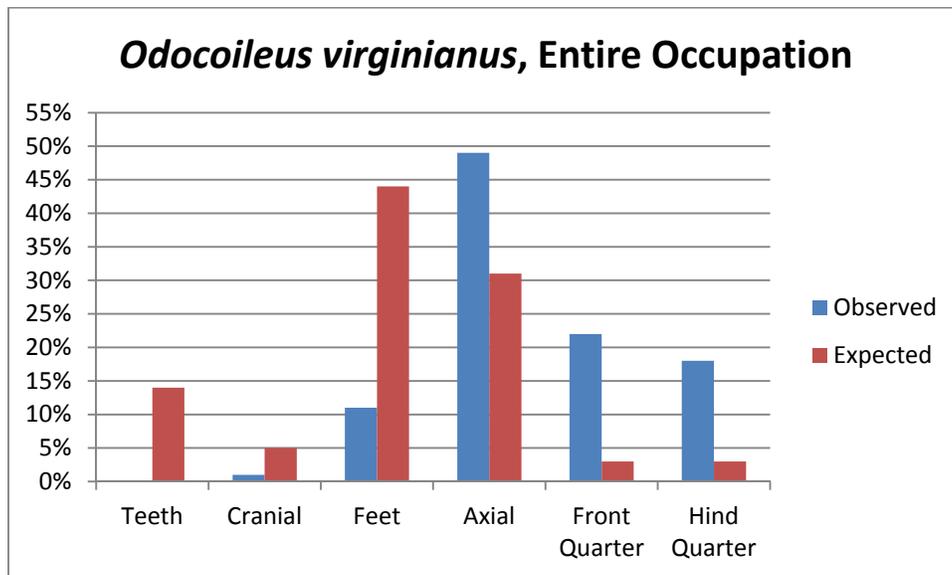


Figure 54: Skeletal Portion Analysis for Deer within the Entire Assemblage.

The skeletal portion analysis for *Bos taurus* indicated a greater than expected proportion of teeth and cranial parts with a significantly low proportion of foot parts (Figure 55). The large number of teeth on site may be due to preservation or sampling issues, as mentioned above. The lack of foot parts in the assemblage is somewhat more difficult to explain, but is similar to the pattern seen for *Sus scrofa* on the site. The remaining skeletal categories for *Bos taurus* were similar to what should be expected for that species, likely indicating that the cattle were butchered on site.

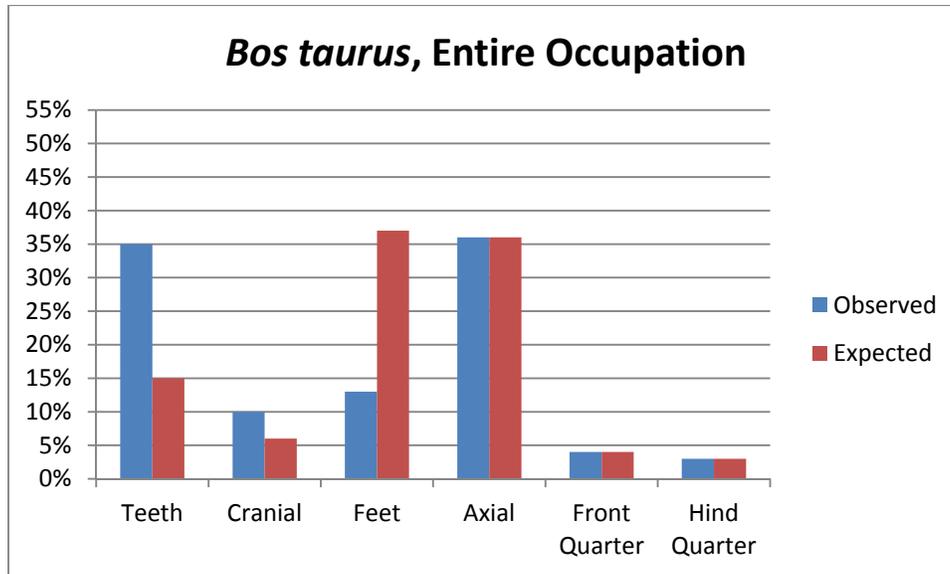


Figure 55: Skeletal Portion Analysis for Cattle within the Entire Assemblage.

The skeletal portion analysis for *Sus scrofa* presents a unique pattern that may pose some interpretive problems (Figure 56). Cranial and teeth portions revealed a significantly high proportion while feet and axial portions were much lower than expected. Front and hind quarters were slightly higher than expected. Again, the cranial and tooth categories may be representative of preservation and sampling. The low proportion of axial elements combined with the slightly higher proportion of front and hind quarters may indicate a preference for cuts from the quarters compared to ribs or back meat. However, much of the meat from the axial portion could have been de-boned and salted, thus leaving no archaeological evidence. Nevertheless, it is well known from other faunal analyses and historical records that swine played a very important role in the diet of early Chesapeake colonists (Miller 1988; Carr, Menard, and Walsh 1991; Anderson 2004).

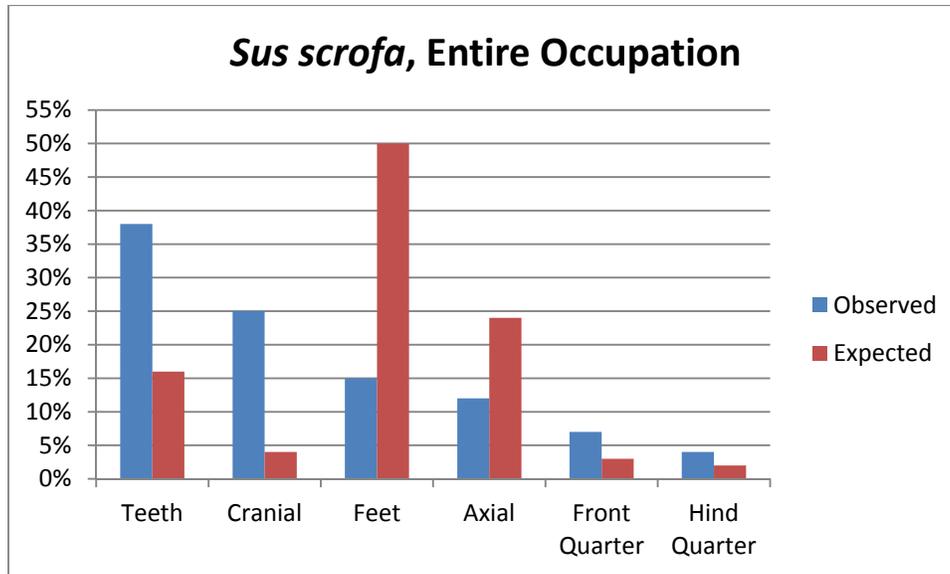


Figure 56: Skeletal Portion Analysis for Swine within the Entire Assemblage.

Small Finds

The following section details the artifacts from the site that are not easily placed into the previously-defined artifact categories. These objects have been categorized as small finds because of their relatively low density on sites compared to more common artifact categories such as ceramics and faunal remains. To give a sense of order to this broad category of artifacts they have been divided based upon function into the sub-categories of personal adornment, horse-related, furniture, work/tools, sewing, arms and ammunition, utensils, and a miscellaneous category.

Personal Adornment

The personal adornment assemblage from the Hallowes Site was small, consisting of three buttons, two hook and eyes, one buckle, and one bead. The small size of the personal adornment assemblage is likely due to recovery methods during excavation of the site, which would have, in all likelihood, been biased toward larger objects. Therefore, beads, particularly small shell beads, would have been missed due to lack of screening and flotation.

Of the three buttons found at the Hallowes Site, one came from a feature (Feature 63) while the other two came from plow zone contexts (Figure 57). The button found in Feature 63 was a domed black glass button measuring 14.46mm (0.57in) in diameter. Originally, the button had a wire eye made of iron. However, the majority of the eye has been lost and only two small fragments protrude from the back of the button. The eye was attached to the button while the glass was still hot, evidenced by the remaining fragments of the eye as well as a slight bulge in the glass near where the eye attached. Examples similar to this object were found at the Posey site in Maryland, a contact-period Indian site dating from the mid-to-late-seventeenth century (Chesapeake Archaeology 2009b). The second button, recovered from context 108, the plow zone

from unit VC17, is a round two-piece hollow-cast pewter button with a loose eye measuring 12.04mm (0.47in) in diameter. Judging from the size and shape of the button it is likely a doublet or sleeve button. It is in a poor state of preservation, evidenced by white corrosion, and it appears to have deteriorated significantly since excavation, evidenced by small fragments of the button in the bottom of the bag which contains it. The final button is cast iron with a round one-piece shank. It has a small protrusion on its face opposite the shank and is too fragmentary to measure. However, judging from the size of the shank, it appears to have been a large button, possibly for a coat.



Figure 57: Domed Glass Button and Hollow-Cast Pewter Button.

In addition to buttons, there were two iron hooks for hook and eye fasteners. One was recovered from plow zone and one was unprovenienced. The hook from the plow zone context 118, in unit IVC17, was broken in half, laterally. The unprovenienced hook was complete.

There was a buckle related to personal adornment recovered from the site. This buckle is cast copper alloy and broken in half. It appears similar to type 1 in Noël Hume's typology (1969:85). He dated this style to the second half of the seventeenth century. Judging from its size it appears to be a knee buckle rather than a shoe buckle (Figure 58).



Figure 58: Copper Alloy Buckle Fragment.

The single bead recovered from the site was a tubular bead similar to type 1b in Kidd and Kidd (1982:224). It is drawn, recovered from surface collections, and has a light blue interior with white exterior and alternating red, white, and blue stripes (Figure 59). There is a similar example from the Old Chapel Field site in Maryland, dating to the mid-seventeenth century (Chesapeake Archaeology 2009a). Additionally, a similar type with red, white, and green stripes was found at the Zekiah Fort site, a late-seventeenth-century Piscataway Indian site in Maryland (Flick et al. 2012).

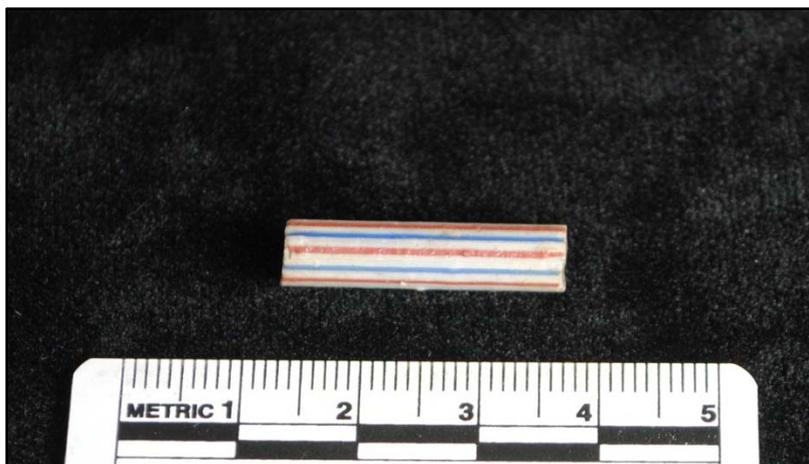


Figure 59: Tubular Bead.

Horse-Related

The horse-related artifacts recovered from the Hallows Site consist of ten objects: three boss fragments, three buckles, one leather ornament, one bit fragment, one

stirrup, and one spur. Two of the boss fragments were surface collected, while the third was recovered from plow zone context 100 in unit VC10. Of the two surface-collected fragments, one was a copper alloy rivet tab, while the other was a domed copper alloy object that was likely a bridle boss fragment. The plow zone-excavated fragment was also copper alloy and difficult to accurately identify.

The three buckles recovered from the site were all utilitarian iron frame buckles without tangs. Two were unprovenienced and one was excavated from plow zone context 121 in unit IVB6. Of the two unprovenienced buckles, one was a square frame buckle and the other was a rectangular double-frame buckle. The buckle excavated from plow zone was a square frame buckle similar to example 10 in Noël Hume's typology (1969:85).

A single complete leather ornament was excavated from plow zone context 103 in unit VC9. This ornament was cast copper alloy and octagonal in shape with protrusions that formed a cross-shape (Figure 60). This ornament is similar to an example from the Charles' Gift site in Maryland dating from ca.1675-1814 (Maryland Archaeological Conservation Lab 2002).



Figure 60: Copper Alloy Leather Ornament.

The three remaining horse-related artifacts all directly relate to riding. All three of the artifacts were unprovenienced. The first, a jointed-bit fragment, is wrought iron and consists of the half of the jointed bit that has a loop for hooking the other half into it. The second artifact is a wrought iron stirrup with a rectangular bar platform and a rectangular strap loop. This stirrup appears to have been conserved at some point, probably by wax

coating (Figure 61). The final artifact is a cast copper alloy spur with figure 8 loops and a broken neck (Figure 62). The spur also appears to have been conserved and treated with some sort of sealant.



Figure 61: Iron Stirrup.



Figure 62: Copper Alloy Spur.

Furniture

The furniture-related artifacts from the Hallows Site were represented by four tacks and a bale handle. Three of the tacks were excavated from features (features 8, 14, and 83) and one was recovered from plow zone (unit VC17). All four were cast copper alloy and three were complete, one had a broken shank. The tack recovered from Feature

14 appeared to have a tinned or silvered head. The other furniture-related artifact is a wrought iron bale handle. It was excavated from feature 75 and may be a handle to a cabinet or trunk, though its precise function is difficult to identify.

Work/Tools

Work-related artifacts at the Hallowes Site were not particularly diverse or easily identifiable. Five wrought iron knives were present on the site, two from plow zone (units VC12 and VC17), one from a feature (Feature 91), one from general surface collection, and one unprovenienced. Then knife excavated from unit VC17 is represented by only the blade, which appears to be rounded and resembles example number 2 as illustrated by Noël Hume (1969:182). The unprovenienced knife is also represented only by the blade; however, the shape of the blade could not be determined. The remaining knives in the collection consisted of fragments with both a portion of the blade and tang present. The knife from the surface collection consists of two fragments that mend and were conserved through the use of a sealant. The knife excavated from unit VC12 was conserved with a sealant as well. None of the knives were complete, so no reliable measurements could be taken that might help better determine their function (Figure 63).



Figure 63: Knife from Unit VC12 (Top) and Surface-Collected Knife.

The tool assemblage also consisted of two possible tool fragments, one excavated from the plow zone in unit VC15 and the other unprovenienced. Both were flat, handmade iron fragments that did not appear to be scrap or nail fragments. Their identification as tools is tentative due to their extremely fragmentary nature. Finally, there

is an unprovenienced triangular file in the collection. This artifact is made of cast iron and is likely intrusive, probably dating to the nineteenth century or later.

Sewing

The sewing-related artifacts recovered from the Hallowes Site include four straight pins and two pairs of scissors. Three of the pins, which are complete, were recovered from features (Features 85, 91, and 92), while one, which was broken, was unprovenienced. All four of the pins were copper alloy wire with wound heads with the broken pin showing some evidence of tin or silver plating. The complete examples measure between 18.56mm and 27.94mm (0.73in-1.1in), placing them within or near the range of sewing pins, also known as “short whites,” as defined by Beaudry (2006:24, table 2.1).

Of the two scissor fragments recovered from the site, one was surface collected and one was unprovenienced. The surface-collected fragment is wrought iron and is a portion of the bow and hinge with some of the shank (Figure 64). The shape of the bow appears similar to type 5 in Noël Hume’s typology, which he dates to the mid-seventeenth century (1969:268). The unprovenienced scissor fragment is also wrought iron, but is represented by only a small portion of the bow and shank. Therefore, comparison to a type or determination of function was not possible. However, it is likely that the scissors were not used exclusively for sewing, but served many functions (Beaudry 2006:122).



Figure 64: Surface-Collected Scissor Fragment.

Arms and Ammunition

Eighty-eight artifacts related to arms and ammunition were recovered from the Hallowes Site. Of this total, 76 were flint fragments, 11 were lead shot, and 1 was a

cartridge case. The lead shot were recovered from feature, plow zone, and surface contexts and were either cast or manufactured using the Rupert method (Figure 65). The eight cast shot, which were identified based upon the presence of mold seams or sprue, ranged in size from 8.57mm in diameter to 19.23mm in diameter (0.34in-0.76). The three shot manufactured using the Rupert method, identified based upon their oval shape and dimple on the flattened side, ranged in size from 4.64mm in diameter to 5.18mm in diameter (0.18in-0.20in).



Figure 65: Sample of Lead Shot.

The flint fragments were recovered from features, plow zone, surface collection, and some of the fragments were unprovenienced (Figure 66). None of the fragments were identifiable as gunflints, gunspalls, or even cores, most appeared to be flakes created during the manufacture of gunflints or use of flint for other purposes. Seventy of the flint fragments were grey or “English” flint, while six were honey-colored or “French” flint (Kenmotsu 2000:344).



Figure 66: Grey Flint Fragments.

The cartridge case, recovered from the plow zone, dates to the late-nineteenth century or later and appears to be a .22 caliber rimfire shell. It is copper alloy and has three firing pin strike marks on the base.

Utensils

The single utensil recovered from the Hallows Site was a copper alloy spoon bowl with a portion of the stem. It was surface collected from the northern portion of the site (context 21A). The bowl is of the “Puritan” shape, which places it in the post-1660 period (Noël Hume 1969:183; Figure 67). There is an impressed mark in the bowl just below the juncture of the bowl and stem, but the details of the mark could not be discerned due to the amount of wear. It is likely that the spoon is Latten, an alloy of copper that was often tin-plated to give the appearance of silver, but no plating survives (Noël Hume 1969:180).



Figure 67: Puritan Spoon Bowl.

Miscellaneous

The miscellaneous artifact category encompasses the small finds from the Hallowes Site that do not easily fit into any of the other categories. The majority of this category consists of iron hardware, which comprises six artifacts. The first, recovered from plow zone context 101, is a large cast iron leg fragment, probably a pot leg. There are two iron hinge fragments present in the collection, also excavated from plow zone. There is also an iron pintle fragment, hooked at one end. Two of the artifacts relate to locking mechanisms on the site. The first is an iron bolt fragment that appears to have been part of a lock plate. The second artifact is the barrel to an iron key with a portion of the loop present, which was surface collected. The final artifact in this category was a portion of a lead cloth bale seal. This seal fragment was round with a hole in the center and appeared to have small dots or lines molded around the edges. It is similar in appearance to the outer ring portion of the seal in example 1 as illustrated by Noël Hume (1969:270; Figure 68).



Figure 68: Cloth Bale Seal Fragment.

Prehistoric

Four hundred and five prehistoric artifacts were recovered from the Hallows Site, representing 5% of the total artifact assemblage. Of this total, 220 artifacts were lithic and 185 were ceramic. The lithic assemblage was composed of 80 fragments of chert (36%), 49 quartzite fragments (22%), 27 quartz fragments (12%), 7 rhyolite fragments (3%), and 1 fragment of jasper (0.5%). The majority of the lithic assemblage consisted of debitage; however, there were 15 identifiable projectile points. Ten of the points were surface collected, four were recovered from plow zone, and two were excavated from features (Features 17 and 91). The majority of the points dated to the Middle and Late Archaic period (12 points) and comprised Savannah River types, Morrow Mountain types, and Calvert or Lamoka types (VDHR 2011). Feature 17 contained one of the quartzite Morrow Mountain type points. The remaining three points ranged from the Middle Woodland to Contact period and were represented by a Clarksville type, Badin type, and Clarksville or Yadkin type point (VDHR 2011). Feature 91 contained the quartzite Clarksville or Yadkin type point (Figure 69).



Figure 69: Quartzite Clarksville or Yadkin Point.

Some of the other lithic material on the site included two steatite fragments, probably dating to the Late Archaic period. One fragment was probably a vessel fragment, while the other appears to have been a plummet or sinker due to the groove along the center of the long axis. Twenty fossil shark teeth or bone fragments were also recovered from the site, which were likely collected from the shorelines in the area during the prehistoric or historic period.

Of the 185 ceramic fragments, 69 were Townsend type (37%), 64 were Mockley type (35%), 23 were Moyaone type (12%), 15 were Potomac Creek type (8%), and 14 were Prince George type (8%). The ceramic types ranged in date from the Middle Woodland to Contact period. The majority of the prehistoric ceramics (56%) were recovered from features, while the remaining proportion was surface-collected or recovered from plow zone. Some of the prehistoric vessels appear to have been used by members of the Hallows household, such as a Potomac Creek type vessel recovered from Feature 17, while others were likely re-deposited in features during their filling (Figure 70). A minimum vessel count was not performed on this ceramic assemblage, however due to the presence of only six rim fragments and two distinct bases, it appears that the minimum vessel count is low.



Figure 70: Potomac Creek Vessel from Feature 17.

Missing Artifacts

In addition to the artifacts described above, there are at least nine others in this collection that were loaned to the Westmoreland County Museum in July of 1976 and have subsequently been lost. These artifacts include two Rhenish blue and gray stoneware medallion fragments that mend. This medallion is one of the earliest dated pieces of ceramic in the Chesapeake with the date of 1632 (Figure 20). A locally made pipe stem and bowl fragment from context 29A is included in this group also. These two fragments also mend to form a nearly complete pipe with a running deer motif on the bowl (Figure 71). At least two marked English pipe fragments, a stem and bowl, are also lost. A Morgan Jones-type pan base fragment and a rim fragment are listed as removed to the museum, and photographs show what appears to be a pot fragment that is also missing (Figure 72). Finally, a large reconstructed colonoware collared bowl from context 105A is no longer in the collection (Figure 73). However, it should also be noted that there are other pipes illustrated in the 1971 Buchanan and Heite article that are also no longer in the collection. It is unknown whether these objects were also loaned to the Westmoreland County Museum since no record of them exists.



Figure 71: Missing Running Deer Pipe (Photo Courtesy of the VDHR).



Figure 72: Missing Morgan Jones-Type Bowl Base (Photo Courtesy of the VDHR).



Figure 73: Missing Colonoware Bowl (Photo Courtesy of the VDHR).

ARTIFACTS: SUB-ASSEMBLAGES

The remaining discussion of the artifact assemblage from the Hallowes Site consists of an examination of the assemblages from major features on the site, including Features 17, 63, and the complex of bastion features. Features 17 and 63 were rich in artifacts, while the bastion features (features 19, 35, 64, 74, and 96) had relatively few artifacts, even when combined.

Feature 17—Northern Pit Feature

One thousand seven hundred and eighty-five artifacts were recovered from the four layers of Feature 17. Of the total artifact assemblage, 1,511 artifacts were faunal remains, which were dominated by *Sus scrofa*, *Odocoileus virginianus*, and *Bos taurus*, based upon biomass. The high proportion of domestic stock in addition to deer, combined with the general absence of fish remains, seems to indicate a late fall/early winter season for feature deposition (Miller 1984, 1988). Specifically, the feature may have been filled in late November or early December, since that was the traditional time for slaughtering hogs and cattle (Miller 1988:185; Rice 2009:112). In addition to the large mammals, Feature 17 also contained a small amount of *Testudines*, *Meleagris gallopavo* (Wild Turkey), *Gallus gallus* (Chicken), and *Osteichthyes* (Bony Fish) remains, though not in any significant amount. Additionally, the layers were not analyzed individually since in some cases the sample sizes would be very small. However, it should be noted that the majority of the faunal remains (918 fragments) came from context 29A.

The dating of this feature has been described above, but it will be briefly re-stated. Context 29, the uppermost layer, contained 165 non-faunal artifacts and dated post-1660s based upon the presence of a fragment of Rhenish blue and gray stoneware with manganese decoration. Context 29A, the second layer, contained 70 non-faunal artifacts and dated after 1640 based upon the presence of a Bookbinder-style pipe stem fragment. Context 29C, the third layer, contained 17 non-faunal artifacts and yielded a TPQ of 1634 based upon the presence of a fragment of Martincamp ceramic. Finally, the brick disturbance, context 29D, contained 18 non-faunal artifacts and dated after 1640 based upon the presence of a Bookbinder-style pipe stem fragment. The TPQ for the whole feature is post-1660s. When faunal remains are factored in, the richest layer was context 29A; however, context 29 was the richest in non-faunal artifacts.

Only 17 tobacco pipe fragments were recovered from this feature. The majority of the pipes, 13, were locally-made, five of which were Bookbinder-style pipe fragments (Figure 74 and Figure 75). Of the 4 white clay pipe stem fragments, all had 7/64" bore diameters. However, sample sizes this small do not give accurate dates. The large proportion of locally-made pipe fragments in the feature indicates a pre-1660 date for deposition. Researchers from the Lost Towns project in Maryland have shown that percentages of local pipes in an assemblage can fairly accurately place a site within a date range in the seventeenth century (Cox et al. 2005). They group sites into three time periods: pre-1660, 1660-1680, and post-1680. Local pipes represent more than 50% of the assemblage at sites dating to before 1660. At sites dating from 1660-1680, local pipes make up 9-25% of the collection. Assemblages from the last group, sites dating after 1680, have zero to 3% local pipes.



Figure 74: Bookbinder Stem Fragment from Context 29A.



Figure 75: Locally-Made Pipe Bowl with Running Deer Motif from Context 29.

Feature 17 contained numerous architectural and domestic artifacts, in addition to numerous prehistoric artifacts that may have been re-deposited when filling the feature. Architectural artifacts in this assemblage included ten brick bats, ranging in color from red to yellowish, weighing a total of 4136.2g and 12 brick fragments weighing a total of 100.4g. In addition, there were two fragments of daub that weighed 9.3g as well as a minimum of 68 wrought nails. Historic-period ceramics included Rhenish blue and gray stoneware as well as Martincamp, Mérida, and Morgan Jones-type earthenware. The minimum vessels from Feature 17 included a Martincamp flask, a Mérida bowl, and two Morgan Jones-type cups/porringers (Figure 76 and Figure 77). There was also a body fragment of manganese-decorated Rhenish blue and gray stoneware; however, the vessel type was unable to be determined.



Figure 76: Martincamp Flask Fragments.



Figure 77: Mérida Bowl Rim Fragment.

Ten case bottle glass body fragments were recovered as well as one wine bottle base fragment. One fragment of gray “English” flint was also present. The remaining artifacts from Feature 17 were in the prehistoric category, although some of these objects were likely used by the historic-period occupants. Eighteen flakes of chert, quartz, and quartzite were recovered from the feature, in addition to one quartzite Morrow Mountain-type point. The steatite sinker/plummet was also recovered from this feature. There were 65 prehistoric ceramic sherds recovered from the feature. The majority of the prehistoric ceramics were Townsend, Moyaone, and Potomac Creek types, with one fragment of Mockley. While Townsend, Moyaone, and Potomac Creek are late Woodland period wares, it is most likely that only the Moyaone or Potomac Creek types could have been used by the historic-period occupants at the Hallowes Site since those types persist into the Contact period. This interpretation is supported by the fact that a large base fragment of a Potomac Creek vessel was recovered from the feature, indicative of primary rather than secondary deposition (Figure 70).

Feature 63—Pit Feature in Southern Bastion

One thousand two hundred and sixteen artifacts were recovered from two layers in Feature 63. Eight hundred and fifty-five of these artifacts were faunal remains, which were dominated by *Bos taurus*, *Sus scrofa*, and *Archosargus probatocephalus*, based upon biomass. Based upon the significant presence of fish remains in this feature, roughly equal to the percentage of biomass contributed by pork, it appears that Feature 63 may have been filled in the summer months. May or June would be particularly likely, since these two months encompass the spawning times for sheepshead and black drum, the two fish species identified on the site and in the feature (Wenner and Archambault 2006). The pattern of fish dominating the assemblage is particularly prevalent in the

uppermost layer of the feature, in which fish make up 36% of the total biomass, indicating the availability and extensive use of fish just prior to the filling of this feature. Other species represented in the faunal assemblage for this feature were *Odocoileus virginianus*, *Testudines*, *Branta canadensis* (Canada Goose), *Gallus gallus*, *Procyon lotor* (Raccoon), and *Sciurus carolinensis* (Eastern Gray Squirrel). The majority of the faunal remains (778 fragments) came from context 105A, the uppermost layer.

Context 105A contained 224 non-faunal artifacts and dated to post-1660s based upon the presence of Morgan Jones-type ceramic. The lower layer in the feature, context 105B, contained 135 non-faunal artifacts and also dated to post-1660s based upon the presence of Morgan Jones-type ceramic. While the two layers do not contain the minimum of 25 white clay pipe stem fragments necessary for a formula date on their own, when combined the total comes to 25. Using these 25 measureable white clay pipe stem fragments yielded formula dates of 1664 and 1667 for the Binford and Hanson methods, respectively. Of the pipes recovered from this feature, 19% were locally made, placing this feature in the 1660-1680 range. The richest layer in this feature in terms of both faunal and non-faunal artifacts was the uppermost layer, 105A.

Architectural artifacts recovered from Feature 63 included two brick bats weighing 645g, in addition to a window lead fragment, and a minimum of 85 wrought nails. Historic ceramics included Rhenish blue and gray stoneware, Mérida, Morgan Jones-type, and Tin-glazed earthenware. The minimum vessels from Feature 63 included a Rhenish blue and gray stoneware jug, a Mérida pan and bowl, a Morgan Jones-type milk pan, pot, pitcher, and two possible mugs, and a tin-glazed plate or charger (Figure 78, Figure 79, and Figure 80). The feature also contained two fragments of gray “English” flint and a cast lead shot that measured 16.3mm (0.64in) in diameter. Glass artifacts included 16 green container glass fragments, most of which were likely case bottle fragments. A black glass button with a missing iron shank was also excavated from the feature.



Figure 78: Rhenish Blue and Gray Fragment with Tulip Motif Recovered from Context 105B.



Figure 79: Morgan Jones-Type Handle Recovered from Feature 63.



Figure 80: Tinglazed Earthenware, Fragment on Right Recovered from Context 105A.

Prehistoric artifacts in Feature 63 included both lithic debitage and ceramic fragments. The 16 debitage fragments recovered from the feature included both chert and quartzite flakes. The 10 prehistoric ceramic fragments included sherds of Moyaone and Prince George wares, ranging from the middle to late Woodland period. The Moyaone ware may have been used by the historic-period occupants of the site since its date range overlaps with the Hallowes occupation, but the Prince George ware, a Middle Woodland period ceramic, was probably re-deposited during the filling of the feature.

Features 19, 35, 64, 74, and 96—Bastions

One hundred and ninety-six artifacts were recovered from the five features that comprised the two bastions on the northeast and southwest corners of the house. Ninety-two of the artifacts were faunal remains, which consisted mostly of *Sus scrofa*, *Odocoileus virginianus*, and *Bos taurus*, based upon biomass. Other species identified in the faunal assemblage from the bastions included *Testudines*, *Branta canadensis*, and *Archosargus probatocephalus*. The small faunal sample within the bastions makes the interpretation of seasonality or diet difficult and less powerful than the previous two features. Therefore, little can be said about the faunal assemblage from the bastions at a micro-level. The majority of the faunal remains (32 fragments) came from context 110A in the southwest bastion, Feature 74.

Rather than discussing the assemblages of each feature separately, all of the bastion features will be combined into one large assemblage since they were, in all probability, constructed and destroyed at the same time. The non-faunal assemblage from the bastions was comprised of 104 artifacts. The TPQ for the bastions was determined to be post-1660s, based upon the presence of Morgan Jones-type ceramic, which was the latest dating artifact in both the southern and northern bastion. Ten pipe fragments were present in the bastion features, of which seven were white clay. However, only two of the

white clay stems were measureable, meaning that the sample size was not nearly large enough to attempt a pipe stem date.

Architectural artifacts recovered from the bastions included one brick fragment (2.3g), one daub fragment (3.7g), and a minimum of 22 wrought nails. Fourteen green glass container fragments were recovered, many of which were probably case bottle fragments. Historic ceramic types recovered from the bastions included Rhenish blue and gray stoneware, Mérida, Morgan Jones-type, and tin-glazed earthenware. Minimum vessels included a Morgan Jones-type milk pan. While several other ceramic sherds were recovered from the features, none could be assigned to a distinct vessel.

Ten prehistoric artifacts were recovered from the bastions, five of which were lithic debitage and five of which were ceramic. The debitage included chert, quartz, and quartzite flakes. The prehistoric ceramic types represented were Potomac Creek, Prince George, and Townsend. These sherds span the Middle Woodland to Contact period. However, only the Potomac Creek type would have been available for use by the historic-period occupants of the Hallows Site, while the other sherds likely represent previous Native American occupation of the site.

ARTIFACTS: SPATIAL DISTRIBUTIONS

The examination of artifact distributions from the plow zone has proven to be a particularly powerful tool for understanding how space was used in the past, and has become a defining attribute of Chesapeake historical archaeology since the 1980s (King and Miller 1987; King 1988; Pogue 1988; Heath and Bennet 2000; Fesler 2010). Despite the early date of the site's excavation, plow zone data were collected, albeit in a rudimentary fashion, through the excavation of 10 ft. x 10 ft. units. Among the problems affecting the plow zone data from this site are the the lack of screening and the concentration of units immediately around the dwelling features. Acknowledging these major biases in the data, the analysis and interpretation of artifact distributions at the site is a worthwhile exercise and far better than ignoring the data altogether. Therefore, the spatial distributions of certain artifact types, including bone, ceramics, and pipes were analyzed using ArcGIS in order to begin to understand how space was used at the Hallows Site (Figure 81). The following interpretations are at best tentative considering the problems with the sampling strategy at the site. All distributions are based upon z-scores and the legends in the maps represent the counts that correspond with certain z-scores.

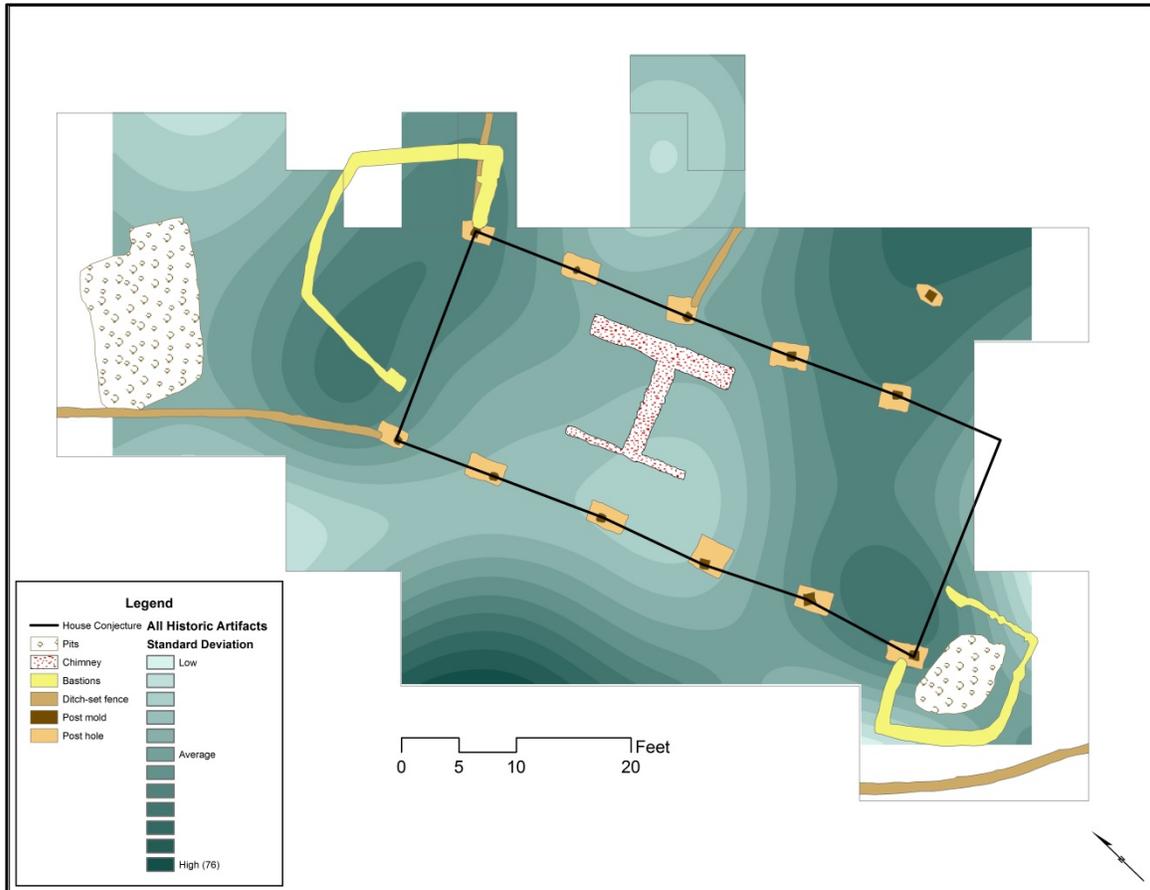


Figure 81: Distribution of All Historic Artifacts across the Site.

Bone

Distributions of heat-altered versus non-heat-altered bone in the plow zone were considered. However, the spatial boundaries of these two bone categories did not appear to be significantly different. Indeed, the distribution of burned bone appeared to mirror that of the non-burned category, except with smaller amounts, which is logical considering that the majority of bone in the collection was not burned. Therefore, the decision was made to examine the distribution of bone (n=180) as a single category (Figure 82).

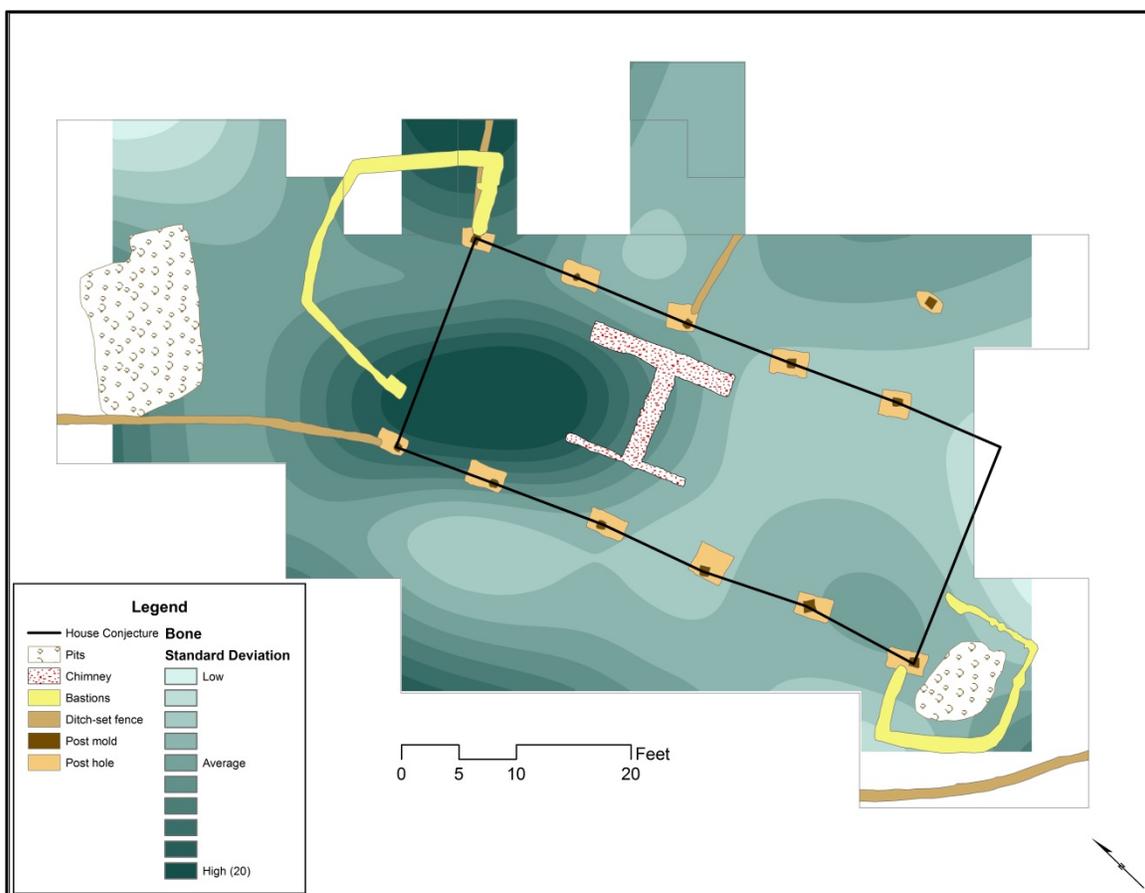


Figure 82: Distribution of Bone across the Site.

The spatial distribution of bone shows three main concentrations on the site. The first is a large concentration in the northwest quadrant of the dwelling. The large bone count in this area is somewhat puzzling considering that there are no large features below plow zone in this area and it is unlikely that large amounts of refuse would have been deposited in the house. It may stem from refuse disposal immediately outside a door or window in this area or a shallow feature that was plowed away, but it may also be due to a slightly better artifact recovery technique in the area. The second concentration occurs at the northeast corner of the northeast bastion feature. While much of this concentration appears to be outside the excavation area, the distribution does suggest increasing bone counts toward the east. Finally, bone counts appear to increase along the western edge of the excavation. Again, much of the concentration appears to be outside the excavation area.

Ceramics

Distributions were first analyzed for all ceramics in order to gain insight into overall disposal patterns and were then divided up into pre-1660 (n=73) and post-1660 (n=408) categories in order to attempt to define changing uses of space over time. The overall distribution of ceramics revealed two strong concentrations on either end of the dwelling (Figure 83). One concentration lies within the northeast bastion, just north of the

house, while the second lies just within the eastern wall at the southern end of the house. These two artifact concentrations may represent either doors or windows at these spots. In addition to these two main concentrations, it also appears that ceramic counts begin to increase to the west, outside the excavation area, like bone counts.

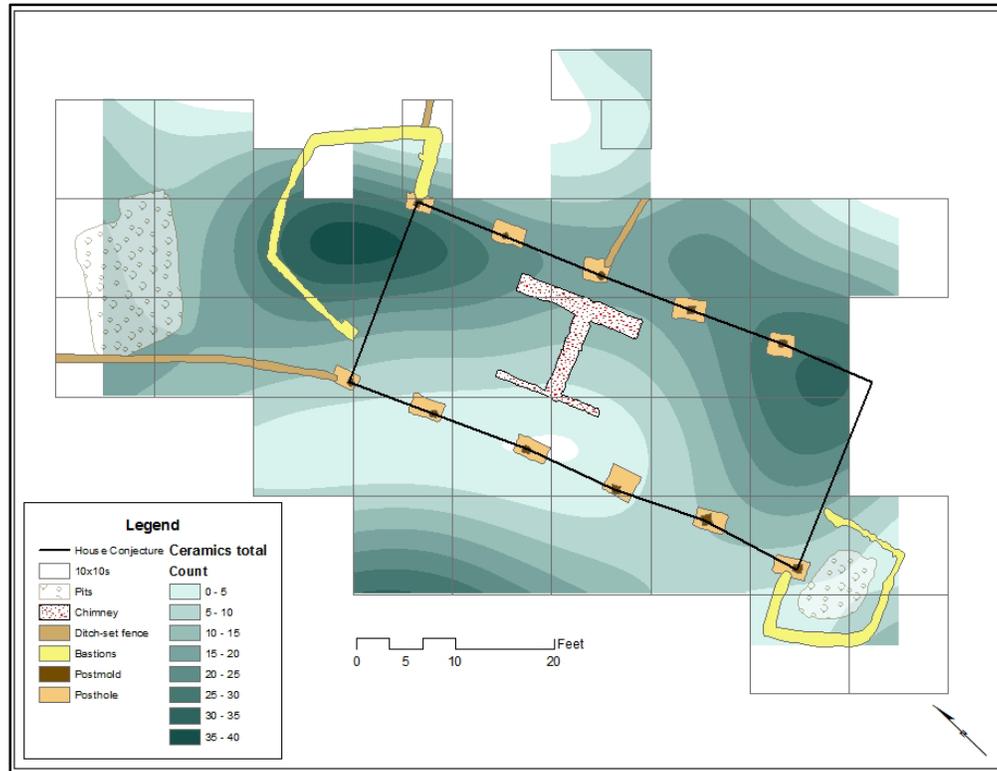


Figure 83: Distribution of Ceramics across the Site.

The pre-1660 ceramics, consisted of Mérida (n=68), Martincamp (n=2), North Italian marbelized slipware (n=1), and Metropolitan slipware (n=2). While several other wares could be placed in this category, these were the only wares that could be assigned a date prior to 1660 with any certainty. These wares showed two main areas of concentration on the site (Figure 84). First, there appears to be a ridge of deposition running roughly east-west along the northern end of the building. Examining this distribution more closely, however, shows a distinct spike in the northeast bastion, already accounted for in the overall distribution, coupled with a smaller spike toward the middle of the eastern façade of the house. This second small concentration is interesting because if a door were located along the eastern façade, it is likely that it would occur in that spot. The second main area of concentration for pre-1660 ceramics is in the southeastern quadrant of the house, again mirroring the overall ceramic distribution and perhaps indicating the location of a window.

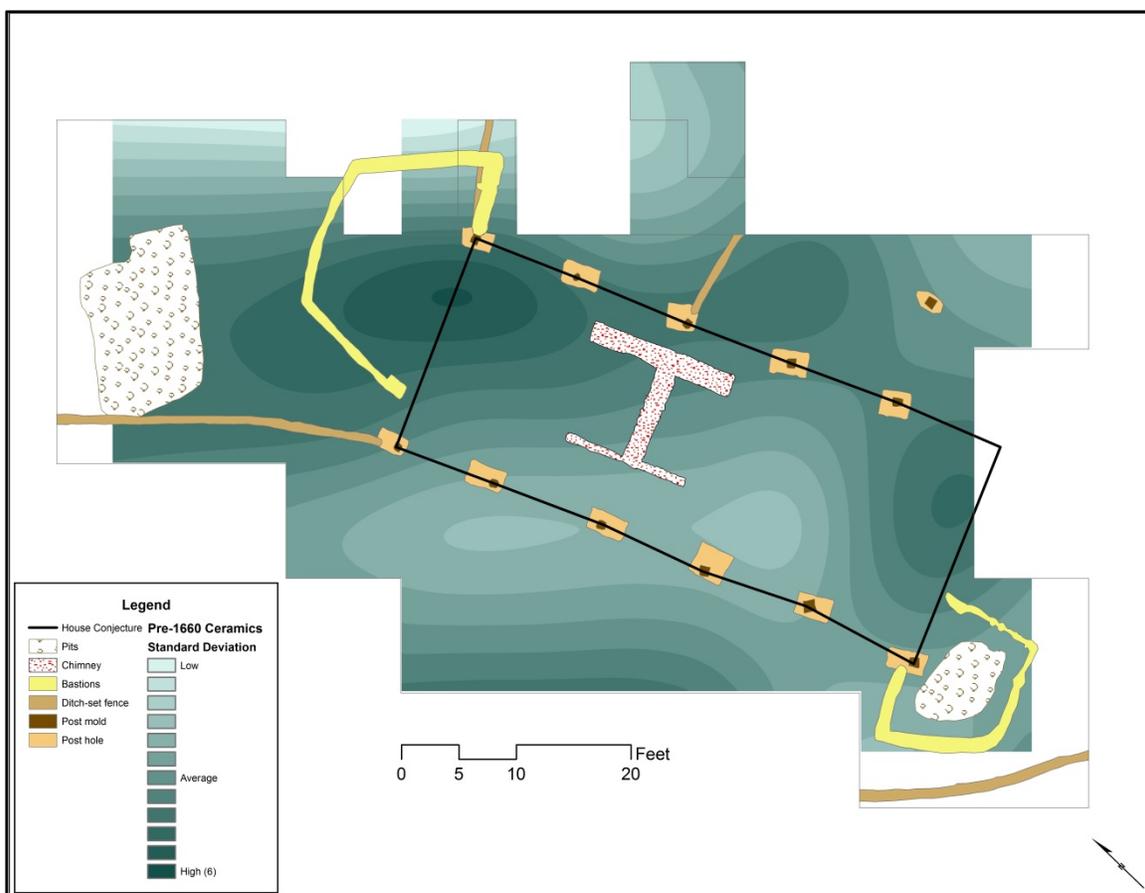


Figure 84: Distribution of Pre-1660 Ceramics across the Site.

The post-1660 ceramics, consisted of Morgan Jones-type (n=386), Staffordshire slipware (n=6), and North Devon gravel-tempered (n=16). While the placement of Morgan Jones-type in this category is debatable, due to reasons stated above, the other post-1660 ceramics were not numerous enough to give reliable distributions. Due to the difficulty of positively identifying and dating these locally-made coarse earthenwares, the distribution for post-1660 material must be viewed as suggestive rather than conclusive. However, it should also be noted that many of the ceramics identified as Morgan Jones-type do likely date after 1660.

The distribution for the post-1660 ceramic assemblage closely mirrors that of the total ceramic assemblage, which is not surprising considering the large number of Morgan Jones-type sherds (Figure 85). There are three main areas of concentration. First is a spike within the northeast bastion off of the northern end of the house. Second, is a spike near the southeast quarter of the house, and, finally, the ceramic count appears to increase to the west outside the excavation area. What is interesting about this distribution compared to the pre-1660 distribution is that there appears to be a break along the center of the eastern façade. This break is particularly important because it supports the interpretation that the ditch-set fence line extending east from this point along the façade was constructed after 1660, probably around 1666, as well as the addition to the eastern wall of the house. The placement of a fence in this area may

explain why there are two distinct spikes in refuse along the eastern side of the house rather than a continuous ridge of ceramics. The construction of the possible addition to the eastern side of the house may also explain this break in the distribution. Most importantly, it indicates that the use of space at the site changed when the site shifted occupation from members of the Hallows family to tenants.

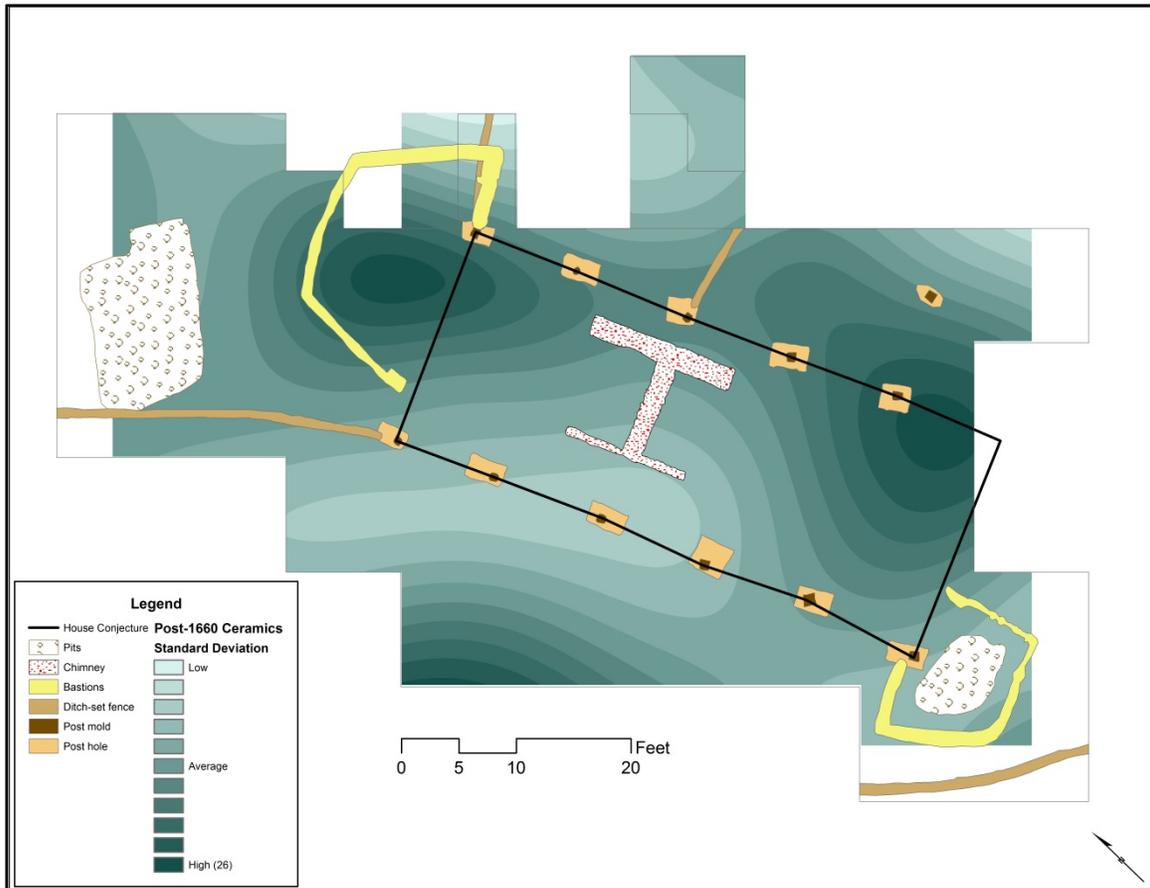


Figure 85: Distribution of Post-1660 Ceramics across the Site.

Tobacco Pipe Stems

Like ceramics, the distribution of tobacco pipe stems at the site was divided into two different categories in order to attempt to tease out temporal variability in the use of space. The first category consisted of pipes with bore diameters of 8/64” or 9/64”, assuming that pipes with larger bore diameters are earlier, and may represent the pre-1660 occupation of the site. The second category consists of pipe stem fragments with bore diameters of 5/64” or 6/64”, which likely represent the post-1660 occupation of the site.

The large bore pipe stem fragments (n=55) concentrate in three distinct areas along the northern, eastern, and southern ends of the dwelling, but are conspicuously absent from the western yard (Figure 86). The first concentration is just to the west of the point where the northeast bastion joins the north wall of the house, perhaps indicating a

window on the house or an entrance to the bastion. While there is a spike in pipe stems at this point, the concentration seems to run roughly east to the center of the east façade of the house. The second pipe stem concentration occurs just inside the center of the south wall of the house, near where the southwest bastion joins the south wall. Like the first concentration, this spike may indicate the location of a window or the entrance to the bastion. The third concentration appears to be approximately ten feet east of the larger room in the house, but is mostly outside the excavation area. Interestingly, the west yard is almost completely free of large bore pipe stems, perhaps indicating that this area of the yard was kept clean during the early period of occupation at the site.

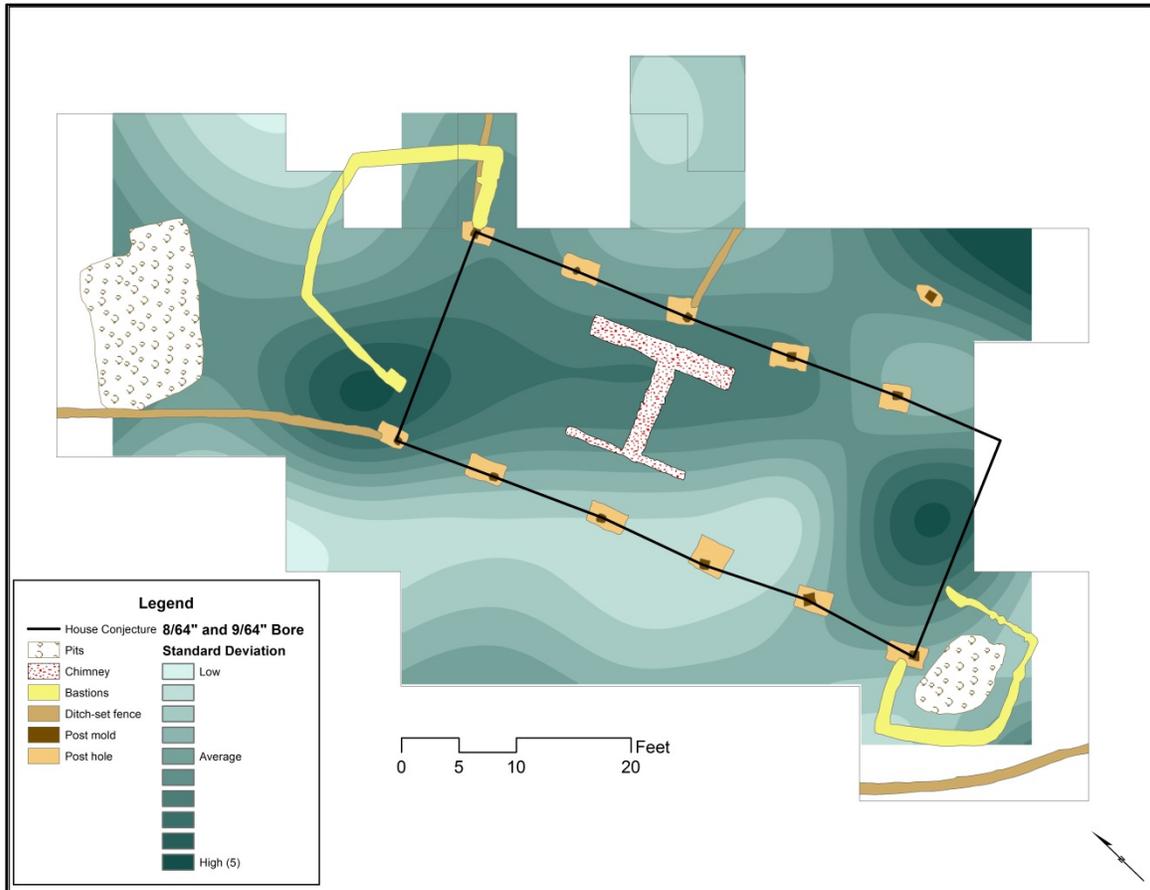


Figure 86: Distribution of Large Bore Pipe Stems across the Site.

The small bore pipe stem fragments (n=39) have two distinct areas of concentration— along the northern and western walls of the house (Figure 87). First, there is a large spike close to where the northeast bastion joins the north wall of the house, possibly indicative of a window. Secondly, there is a distinct concentration of small bore pipes that extends out from the center of the western wall and creates an arc in the west yard. The general absence of small bore pipes in the eastern yard indicates that there was, indeed, a shift in the use of space from the early period of occupation to the later period, probably coinciding with the inhabitation of the site by tenants around 1666. Changing households and household compositions have been shown to act as catalysts

for landscape rearrangement at sites during the entirety of the historic period (Groover 2004), and the Hallowes Site appears to be no exception.

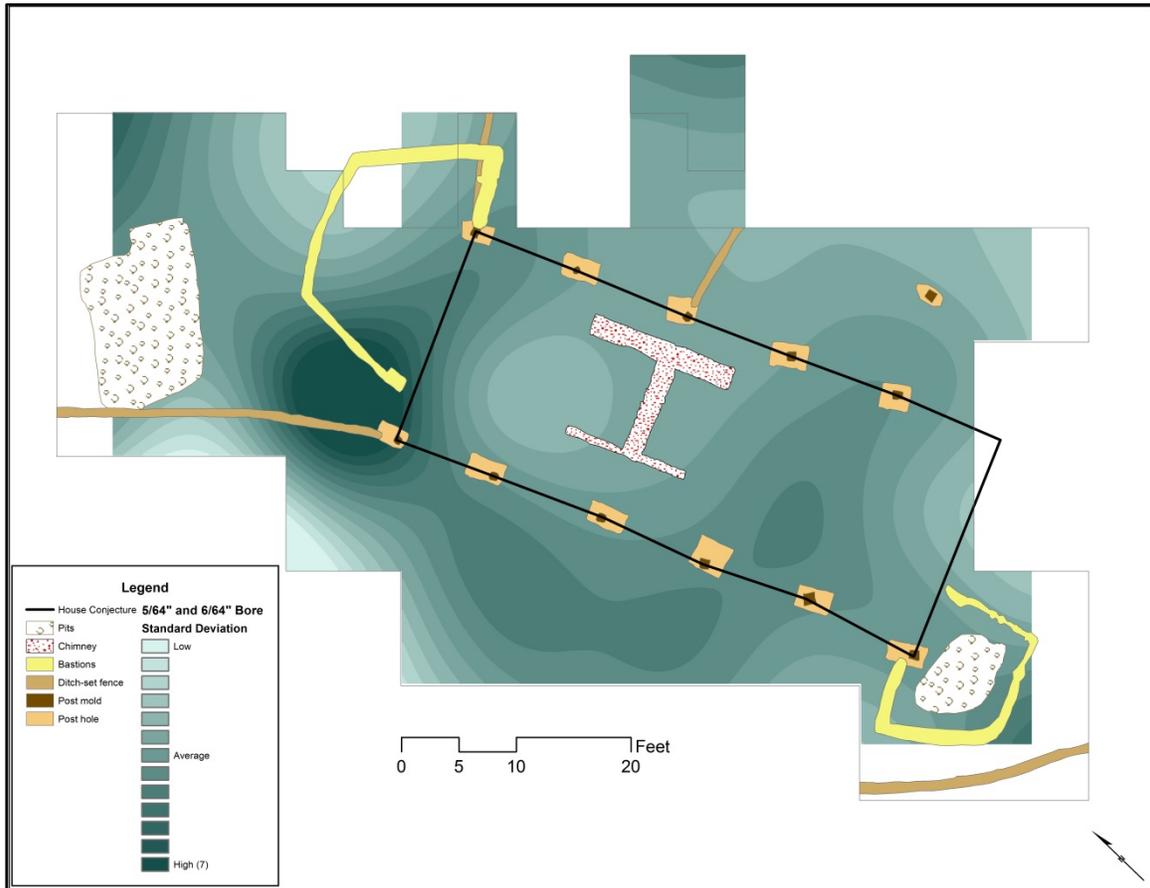


Figure 87: Distribution of Small Bore Pipe Stems across the Site.

Middens

Based upon all of the artifact distributions, there appear to be three distinct middens at the site, two of which shift over time and one that remains relatively static. In general, it appears that the shift in the use of yard space occurred when David Anderson, Elizabeth Hallowes Anderson, and their family moved to Stafford County in 1666 and tenants began to occupy the Hallowes Site. The phase I midden (1647-1666) has two main components (Figure 88). The first component is a strong concentration of artifacts along the northern wall of the dwelling, likely related to the location of a window. The second component of the midden is a relatively constant distribution of artifacts that runs along the eastern wall of the building and extends into the eastern yard and toward the south wall of the building. In general, there seems to be a distinct absence of pre-1660 artifacts in the western yard, particularly along the western wall.

Phase I Midden

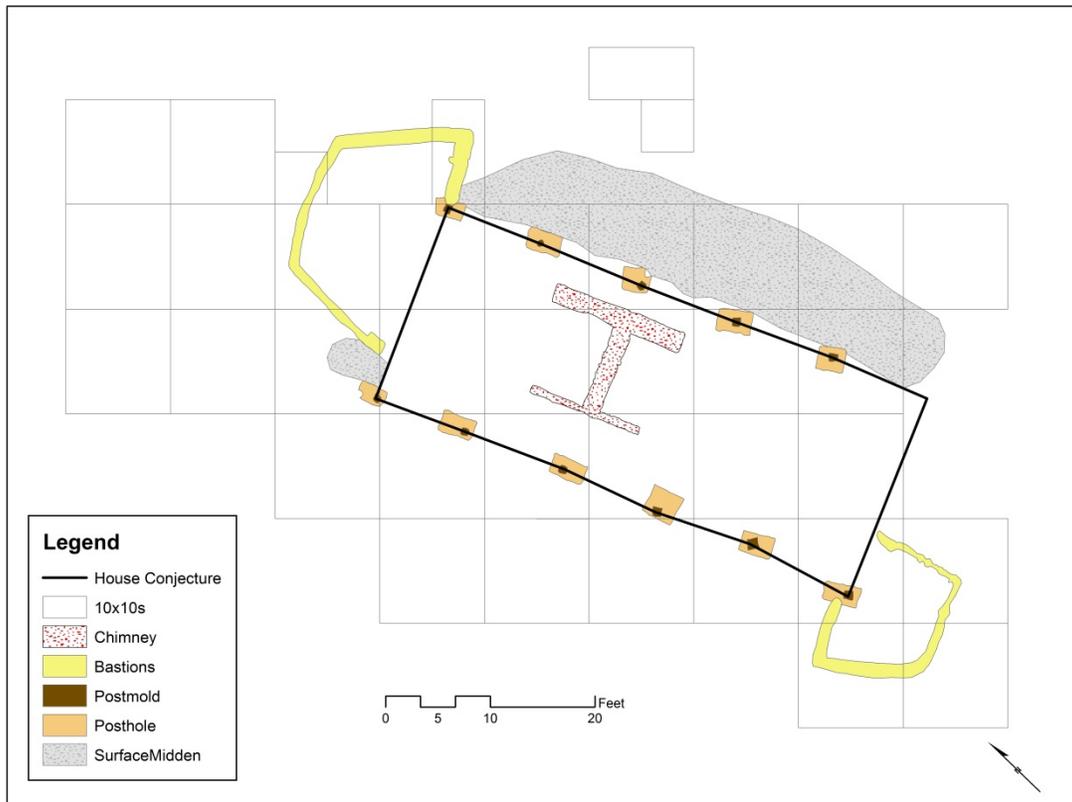


Figure 88: Extent of the Phase I Midden.

The phase II midden (1666-1681), which represents the tenant occupation of the site, also has two main components. This midden coincides with a landscape rearrangement on the site that encompasses the removal of the bastions and erection of at least three ditch-set fences, which have a distinct effect on the spatial distribution of the midden. The phase II midden has three primary components (Figure 89). First, like the earlier midden, there is a concentration of artifacts along the northern wall of the dwelling, likely indicative of a window. While ceramics still appear to concentrate along the eastern wall of the building, there is a distinct break in the distribution where the ditch set fence bisects the east yard and where the eastern addition to the house was located. It should also be noted that much of this ceramic distribution is based upon Morgan Jones-type ceramics, which may or may not date after 1660. Finally, the western yard shows a distinct concentration of pipes, coupled with an increasing concentration of ceramics, west of the excavation limits. These concentrations indicate that while the east yard was still being used, the west yard began to be utilized more heavily. The temporal shift in midden usage at the site is difficult to interpret based upon the sampling strategy and difficulty in dating certain artifacts, but the preliminary indications from the artifact distributions and yard features seem to indicate that a shift in the orientation of the house may have occurred.

Phase II Midden

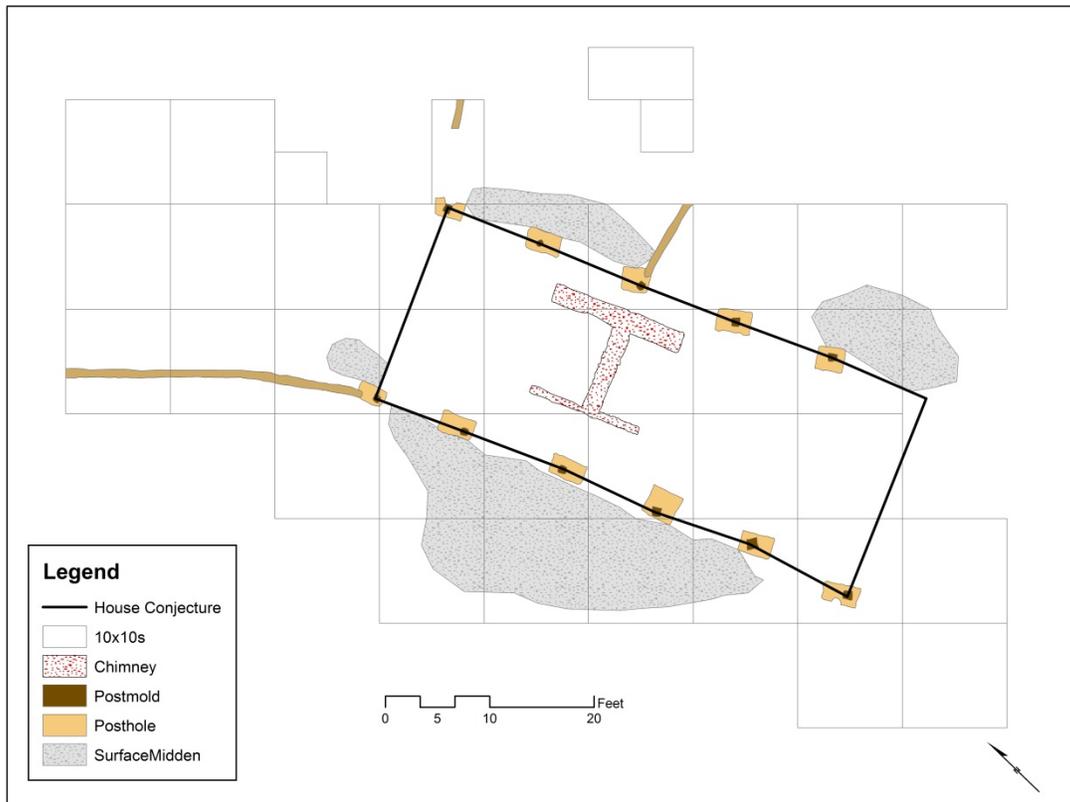


Figure 89: Extent of Phase II Midden.

ARTIFACTS: INTERPRETING SITE CHRONOLOGY

Prior to this reanalysis, the Hallowes Site was thought to have been occupied during the last quarter of the seventeenth century (Buchanan and Heite 1971:39; Neiman 1980:74; Carson et al. 1981:129; Hodges 1993:205-206; Neiman 1993:265). However, this reanalysis places the site occupation approximately 30 years earlier and has broad implications for the history and historical archaeology of the Potomac Valley and of the entire Chesapeake region (discussed below).

All common methods of dating for archaeological sites from the seventeenth and eighteenth centuries, including terminus post quem (TPQ), mean ceramic dating (MCD), ceramic intersection (Figure 90 and Figure 91), and pipe stem dating, resulted in an occupation date for the site that placed it in the third quarter of the seventeenth century (Table 11). Historical research allowed for the creation of a hypothesized date range of 1647-1681. This date range is bracketed on one end by John Hallowes' flight from Maryland to Virginia in the wake of Calvert's re-capture of the Maryland government from Protestant rebels. The end date was derived from a reference in the Westmoreland County records that describes the eviction of tenants from the land (WCR 3:220). This hypothesized date range yielded a mean occupation date of 1664, extremely close to the dates arrived at through the analysis of the archaeological assemblage.

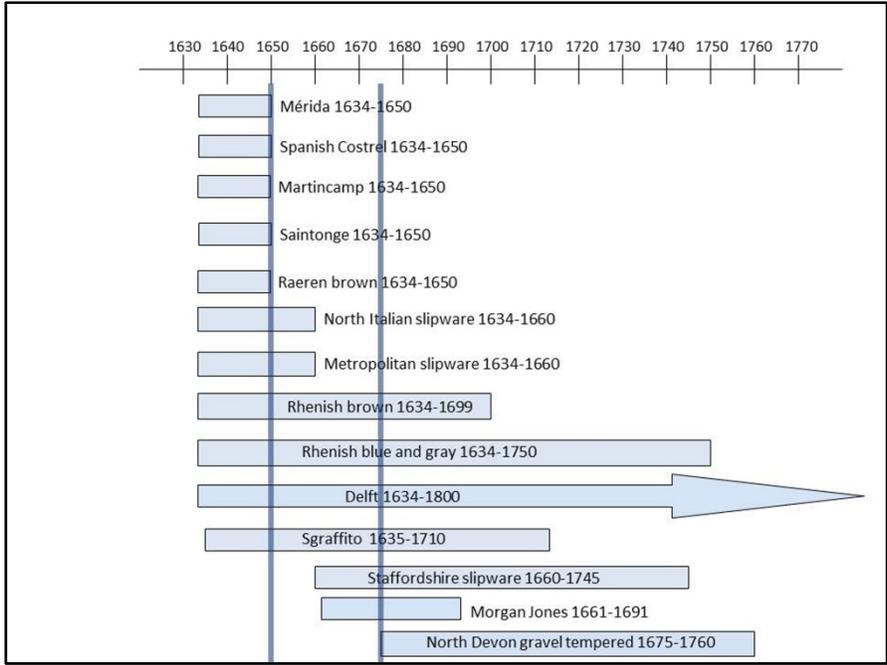


Figure 90: Ceramic Intersection for the Hallows Site.

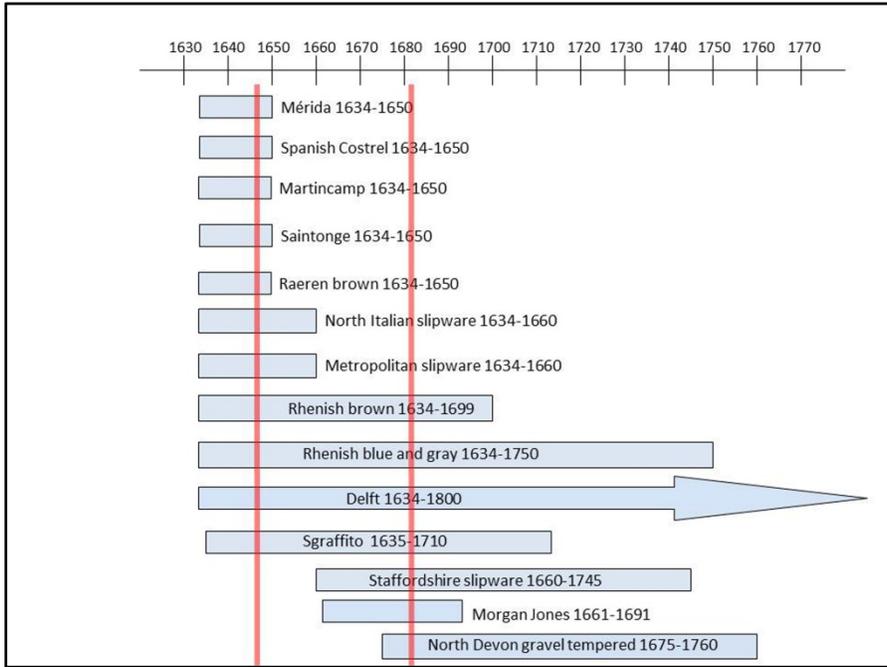


Figure 91: Ceramic Intersection with Occupation Dates Derived from Historical Records.

| Dating Method | Entire Site | Features |
|----------------|-------------|----------|
| TPQ (adjusted) | 1675 | 1675 |

| Dating Method | Entire Site | Features |
|--------------------------|-------------|-----------|
| MCD (adjusted) | 1667 | 1662 |
| Binford | 1660 | 1657 |
| Hanson | 1665 | 1662 |
| Harrington | 1650-1680 | 1650-1680 |
| Ceramic Intersection | 1650-1675 | 1650-1675 |
| Historical Records Range | 1647-1681 | |
| Historical Records Mean | 1664 | |

Table 11: Dating Methods and Results for Entire Hallows Assemblage and Features.

A brief explanation of the methods used in the ceramic dating techniques is needed to understand how and why the dates were adjusted. As mentioned in the ceramics section of this report, dates were adjusted by removing wares with extremely long periods of production, in this case tin-glazed earthenware, in order to prevent the date from being pulled artificially away from the actual site occupation range. Additionally, the beginning dates for all of the early ceramic types were pushed forward to 1634 since the European occupation of the Potomac Valley did not begin until the settlement of St. Mary's City in that year. In effect, the adjustment of these dates kept the MCD from being pulled back in time artificially. Morgan Jones-type ceramics were also excluded from the MCD since their identification is difficult and the date ranges for the ware are uncertain at best. Finally, the two fragments of surface-collected ironstone were not included since they were clearly intrusive.

All of the 623 measurable imported pipe stems were used to calculate a Harrington histogram and calculate formula mean dates using Binford's linear regression formula and Hanson's third regression formula (which is used for sites dating from 1650 to 1710) (Binford 1962; Hanson 1968). Four features/feature groups (Feature 17, Feature 63, the bastion ditches, and the fence ditches) were also separated out from the assemblage, and the same dating methods were applied to them. The Harrington histogram of the entire assemblage shows that the majority of the bore diameters were $7/64^{\text{th}}$ of an inch, placing the occupation of the site between 1650 and 1680 (Figure 29). The Binford formula produced a mean date of 1660, and Hanson's formula produced a date of 1665. The results from the features are similar to those from the overall pipe assemblage. The histogram again shows that these features fall within the 1650-1680 date range with the majority of the bores measuring $7/64^{\text{th}}$. The Binford formula produced a mean occupation date of 1657, and the Hanson formula yielded a mean of 1662.

A fourth dating technique using tobacco pipes was applied to the entire assemblage. Using the temporal divisions proposed by staff of the Lost Towns project in Maryland, the Hallows Site can be placed in the 1660-1680 time period due to the fact that 14% of the total pipe assemblage is comprised of locally-made pipes (Cox et al. 2005).

Other artifacts recovered from the site support the conclusion an occupation dating to the third quarter of the seventeenth century. First, the proportions of beef, swine, and wild game in the faunal assemblage at the site fall within the pre-defined

Chesapeake faunal patterns for the pre-1660 time period (Miller 1984, 1988; Bowen 1996). While the use of patterns in faunal remains to date a site is speculative at best, the assemblage from Hallowes certainly supports the dates arrived at by other methods. The use of these Chesapeake faunal patterns at this site is particularly fitting since they were derived using data from several sites in the St. Mary's City area, where John Hallowes lived from 1634 to 1647, and continued to visit until his death in 1657. The presence of a significant amount of case bottle glass and only a small amount of wine bottle glass also points to a third quarter of the seventeenth century date, since globular wine bottles were not produced until ca.1650 (Noël Hume 1969:60). Finally, the "Puritan" spoon bowl recovered from the site is of a type dating to the third quarter of the seventeenth century, particularly since it does not have the rat tail reinforcement common on later types of this bowl style (Noël Hume 1969:181-183). Indeed, none of the artifacts, with the exception of clearly intrusive surface-collected objects, appear to date after 1681, and all of them comfortably fall within the 1647-1681 occupation range.

INTERPRETATIONS AND CONCLUSIONS

The reanalysis of the Hallowes site has created an opportunity for a detailed examination of the history and culture of early-colonial Potomac society. While the Potomac Valley has been at the heart of numerous historical and archaeological studies, the majority of work has focused on seventeenth-century Maryland and prehistoric or eighteenth-century Virginia, often treating the two localities as distinct from one another (Fausz 1988; Carr, Menard, and Walsh 1991; Potter 1993; Wells 1994; Riordan 2004; Rice 2009; Walsh 2010). Archaeological and historical research focusing on Virginia's seventeenth-century Potomac shore has been conspicuously absent when juxtaposed to Maryland (see Buchanan and Heite 1971; Neiman 1980; 1993; Heath et al. 2009 for exceptions). In these final pages, the Hallowes Site will be placed into the context of early colonial Potomac society, which will illuminate the strong connections that existed between people on both sides of the river in the seventeenth century. These connections, seen through the combination of archaeological and historical data, reveal how intercolonial interaction affected settlement, politics, and trade in Virginia's Potomac Valley.

A Fortified House at Appamattucks: Conflict and Settlement in the Potomac Valley

Re-examining the history of John Hallowes and his neighbors has revealed the extent to which conflict affected the timing and geography of settlement in Virginia's Potomac Valley in the middle of the seventeenth century. The movement of Hallowes and his family across the Potomac in 1647 was mirrored by several former Marylanders who would eventually rise to prominence as leaders within their new Virginia community. The archaeological manifestations of conflict in the Potomac Valley can be viewed on both the broad scale of settlement patterning around the Hallowes Site as well as the narrow scale of site architecture, particularly relating to the fortification of Hallowes' house. The settlement and community at Appamattucks illustrates the important role that the people and politics of Maryland had in Virginia, while the fortification of John Hallowes' house reveals how conflict in the Potomac Valley impacted individuals on a day-to-day level. Both examples serve to illustrate why the river valley as a unit of analysis can be more useful than tobacco region, modern and past

political boundaries, or the Chesapeake Bay for interpreting archaeological assemblages (see Morgan 2011).

Settlement

A detailed examination of land patents, Virginia county court records, and Proprietary records from Maryland reveals that there were eleven landowners who moved from Maryland to Virginia during 1647 and 1648 in what appears to be an intentional migration stemming from the aftermath of Ingle's Rebellion (Table 12). All but one of these settlers had obtained land patents by 1652 and all of the patents indicate that they settled in the area known as Appamattucks.⁴ These settlers appear to have generally come from either St. Mary's or St. Michael's Hundreds in Maryland, which were two neighboring hundreds, indicating that they had likely known and interacted with each other long before their relocation. However, two of the men in this wave came from Kent Island. Perhaps the most significant factor in this wave of migration is the role that most, if not all, of these men played in Ingle's Rebellion and how that conflict helped lead to their migration.

| Name | Year Moved | Place of Origin in MD | Place Settled in VA | Last Reference from MD |
|------------------|-------------------|------------------------------|----------------------------|-------------------------------|
| John Aires | 1647 | Kent Island | | AOMOL 3:182 |
| James Baldrige | 1647 | St. Marys | Appamattucks | AOMOL 3:179 |
| Thomas Baldrige | 1647 | St. Marys | Appamattucks | AOMOL 4:453 |
| Walter Brodhurst | 1647 | St. Michaels? | Appamattucks | AOMOL 3: 174 |
| John Hallowes | 1647 | St. Michaels | Appamattucks | AOMOL 4: 310 |
| William Hardidge | 1647 | | Appamattucks | AOMOL 10: 122 |
| Andrew Monroe | 1647/8 | | Appamattucks | AOMOL 4: 499 |
| Nathaniel Pope | 1647 | St. Marys | Appamattucks | AOMOL 4: 21 |
| John Rosier | 1647 | | Appamattucks | AOMOL 4: 378 |
| Thomas Speke | 1647 | | Appamattucks | AOMOL 4: 333 |
| Thomas Yuell | 1647 | Kent Island | Appamattucks | AOMOL 4: 540 |

Table 12: List of Marylanders that Fled to Virginia after Ingle's Rebellion.

⁴ The area called Appamattucks consisted of approximately 15 miles of Potomac shoreline bounded on the east by Nomini Bay and on the west by Mattox Creek. While eleven people may not seem like a large number, it must be realized that this is a sample of property owners, specifically patentees, almost all of whom would have been accompanied by families, servants, and tenants. Prior to 1652, only 103 land patents had been granted in Virginia's Potomac counties, many of which were duplicates or for speculation purposes and the population by 1653 was only 846 people (Morgan 1975:412-413). Patents were not usually granted immediately upon seating land, particularly in the Northern Neck, where English settlement was not sanctioned by the government until 1648 (Morgan 1975:231). The timing for migration from Maryland to Virginia was deciphered by cross-referencing individuals in Maryland and Virginia records, finding entries that revealed their place of residence, and seeing when that place of residence changed.

At least eight of these eleven men are known to have rebelled against the Maryland Proprietary during the Plundering Time of 1645-1646 (Nicklin 1938; AOMOL 3:174, 182, 228). This wave of migration stemmed from the recapture of Maryland by those loyal to Lord Baltimore in late 1646 and early 1647, which caused these former rebels to seek out new homes free from the influence of the Calverts. Indeed, one of the settlers is known to have moved to Appamattucks for this very reason, as evidenced in a reference in the Proceedings of the Council of Maryland. The reference states that in 1647, shortly after Leonard Calvert had regained control of the Maryland colony from the rebels, Nathaniel Pope attempted to recruit people on Kent Island to come live with him at Appamattucks until they were able to retake Maryland from Lord Baltimore (AOMOL 3:192). This reference shows that Appamattucks, the area in which John Hallowes lived, had become a haven for former rebels who did not want to submit to the rule of Baltimore. This motivation for movement and the common bonds shared by these former rebels served as important factors in community formation in this area, shown in the fact that the majority of Westmoreland County commissioners were former Marylanders.

Conflict in Maryland played an important role in the creation of a distinct community at Appamattucks that would eventually serve as the political center of Westmoreland County. Not only did Ingle's Rebellion act as a catalyst for the mass migration of people in 1647, but it also served to unite these migrants in terms of political viewpoints, essentially anti-Calvert views. Unlike the relative diversity that defined many other communities settled by unrelated trans-Atlantic migrants, the community at Appamattucks was formed in the crucible of rebellion by people who shared common beliefs and already knew one another and the Potomac landscape. Many of these immigrants had lived on two neighboring hundreds in Maryland before the rebellion, St. Michael's and St. Mary's, which certainly must have allowed them to interact with each other frequently prior to 1645 (Figure 92). The direct participation of the majority of these settlers in this defining moment for the early history of the Potomac Valley served to create distinct community bonds that would be reflected for the next decade and more in the lists of commissioners for Westmoreland County, which were dominated by former rebels (Table 13).

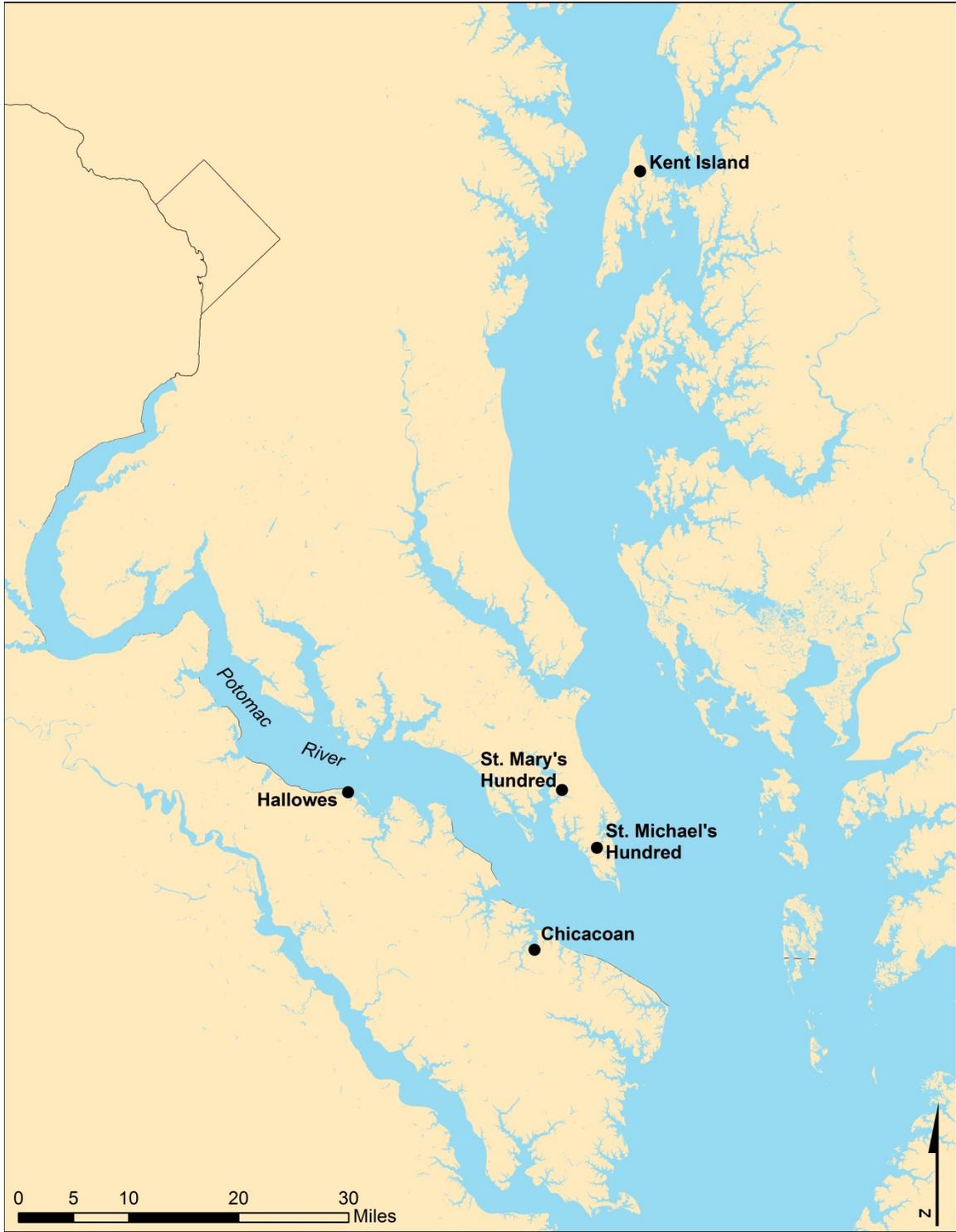


Figure 92: Relationship of St. Michael's and St. Mary's Hundreds, Chicacoan, Kent Island, and the Hallowes Site to One Another.

| Nov. 20, 1651 (NCR1: 67) | Sept. 20, 1652 (NCR2: 1) | Nov. 25, 1652 (NCR2: 5) | Jan. 20, 1653 (NCR2: 8) | March 10, 1653 (NCR2: 11) | April 4, 1655 (WCR1: 36) |
|---|--|---|---|--|--|
| John Mottrom Thomas Speke William Presly Thomas Baldrige John Hallowes Walter Brodhurst | John Mottrom George Fletcher Thomas Speke John Trussell William Presly William Mosly John Hallowes Walter Brodhurst Sam Smith Nicholas Morris | John Mottrom Thomas Speke John Trussell William Presly Nathaniel Pope Thomas Baldrige Walter Brodhurst Sam Smith Nicholas Morris | John Mottrom George Fletcher Thomas Speke John Trussell William Presly John Hallowes Walter Brodhurst Sam Smith Nicholas Morris | John Mottrom Thomas Speke John Trussell Thomas Baldrige John Hallowes | Thomas Speke Nathaniel Pope John Hallowes John Hiller Walter Brodhurst John Dodman Gerrard Fowke John Tew James Baldrige Alex Bainham Thomas Blagg |

Table 13: Sample of Northumberland and Westmoreland County Commissioners with Former Marylanders in Bold (Most Fled Maryland as a Result of Ingle's Rebellion).

The movement of these people to a single area of Virginia over a short span of time speaks to the formation of a distinct community by the former rebels. The coordination that a migration like this one would have required testifies to the strong relationships that existed between these people. The fact that they chose not to move to Chicacoan, which had been settled further downriver almost a decade earlier, but rather settled in an area of the Potomac Valley that had not yet been populated by Europeans, indicates that they created a distinct community identity for themselves through geographic separation. Additionally, these former Marylanders continued to have frequent interactions with one another, evidenced by several references in the Northumberland and, later, Westmoreland County court records that show these men extending credit to each other and participating in various other transactions (NCR 2:9, 11; WCR 1:20, 38, 45, 53, 81-82). Finally, the Maryland rebels often engaged with one another through their roles as county commissioners well into the 1650s. Indeed, a significant proportion of the commissioners of Northumberland County up to 1652 were Appamattucks men as were the majority of justices in the newly-formed Westmoreland County after 1653.

Movement and settlement of the Maryland rebels at Appamattucks clearly shows the effect that conflict in Maryland had on settlement patterns Virginia. The fact that the same rebels who fled Maryland ended up as commissioners for Northumberland and

Westmoreland Counties further illustrates the important role that these former rebels had on the political and social development of the Northern Neck during the mid-seventeenth century. An important aspect of this Maryland influence that can still be seen today is the location of Westmoreland's county seat in Montross, only a few miles from the former homes of the Appamattucks settlers, which served as the seventeenth-century county seat. Conflict in the Potomac Valley has significantly influenced life on the Northern Neck in ways that may not seem so obvious, such as the location of settlements, but it also played a more visible role in peoples' everyday lives, as illustrated by John Hallowes' choice to fortify his house.

Fortification

The archaeological remains of domestic fortifications in the Chesapeake region are well-documented from the 1620s to about 1680 (Hodges 1993; Pecoraro 2010). The earliest fortifications tend to enclose housing complexes, which could include several buildings, and have been interpreted as being heavily influenced by the experience of early Virginia Company leaders with colonization in Ireland, specifically bawn architecture (Hodges 1993; Pecoraro 2010). Fortifications from the early period of settlement in Virginia are explained as reactions to fears of Indian attack, specifically in the wake of the 1622 and 1644 Powhatan uprisings, and as precautions against attacks from foreign European powers, specifically the Spanish (Deetz 1993; Hodges 1993; Pecoraro 2010). All of the early fortified sites come from the Peninsula and Southside of Virginia, for obvious reasons of settlement patterning, but no fortified houses post-dating 1640 have been found in those regions, perhaps due to increased English settlement.

The later-dating fortified houses, of which there are at least four, all appear to occur in the upper Chesapeake region, three along the Potomac and one along the Patuxent. These four fortifications at Pope's Fort in St. Mary's City (1645-1655), Hallowes in Westmoreland County (1647-ca.1666), Mattapany along the Patuxent in St. Mary's County (1665-ca.1695), and The Clifts in Westmoreland County (1675-1685), have a less unified interpretive scheme compared to those in the southern Chesapeake. In general, archaeologists working on these sites have opted for more site-specific contextual explanations for fortification, likely due to the completeness of the historical records in the region (Neiman 1980; Miller 1991:73; Chaney and King 1999). Two of these four sites, however, have direct connections to Ingle's Rebellion and the Plundering Time in Maryland: Pope's Fort and Hallowes. Pope's Fort was a palisade erected around Nathaniel Pope's house that acted as a base of operations for the Maryland rebels before Calvert's return in 1646 (Riordan 2004). The fortification at the Hallowes site is unique not only in its form, but also in how it reveals the effects of conflict in the Potomac Valley.

Unlike other fortified houses in the Chesapeake, which are generally houses surrounded by palisade fences, the fortifications at Hallowes were incorporated into the house through the construction of ditch-set bastions on the northeast and southwest corners of the building. The bastions, which were erected at the same time as the house, effectively turned the house itself into a fort, rather than constructing a fort around it, as was the case with Pope's Fort. The presence of a large pit in the center of the southwest

bastion seems to indicate that dirt was excavated and thrown against the interior bastion wall in order to create a firing step. No evidence for this same technique exists for the northern bastion, however. It is possible that, rather than construction a firing step, loopholes were cut into the bastion for defenders to fire from under cover or that they fired from spaces between the rails.

The most interesting aspect of the architecture, however, is the vast discrepancy in size between the two bastions. The northern bastion measured 13 ft. x 20 ft., while the southern bastions measured only 9 ft. x 12 ft., encompassing half the area of its counterpart. The difference in bastion size appears to have little to do with practicality of defense but is likely best explained in terms of visual perspective at the site. The orientation of the house is such that the northeast bastion faces both Currioman Bay, which would have been the primary means of access to the site by water, and the Potomac River, the primary route of travel up and down the Northern Neck during the mid-seventeenth century (Figure 93). When this fact is taken into account, it seems probable that John Hallows purposefully constructed the northern bastion at a larger scale in order to make his home seem more imposing from the water, along which most English settlers would have traveled.⁵ The size and prominence of the waterside bastion does not support the proposition that the house was fortified to protect against Indian attacks, since most Indian raids would have been overland. Additionally, Hallows' close relationship with local Native groups, based upon historical and archaeological evidence of trade, would also seem to rule out that possibility. The important aspects of orientation and scale, when coupled with John Hallows involvement in Ingle's Rebellion, help to explain why the house was fortified in the first place.

⁵ The importance of visibility for church and state-sponsored architecture to emphasize power in colonial frontier settings has been discussed by Stephan Lenik on Dominica and Kimberly Pyszka in South Carolina (Lenik 2010; Pyszka 2012).

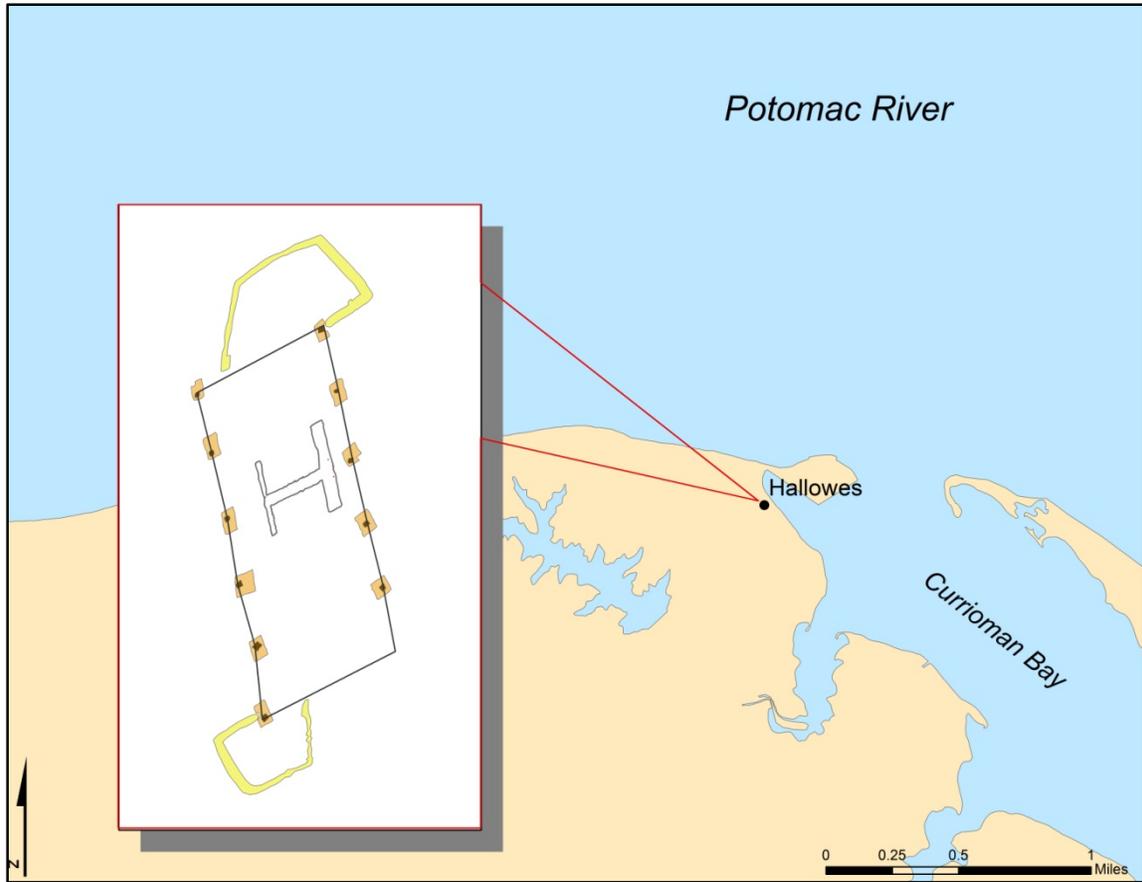


Figure 93: Map Showing the Orientation of the Dwelling in Relation to the Potomac and Currioman Bay.

Hallowes' role as a rebel during Ingle's Rebellion is well-documented in Maryland Proprietary records, most convincingly by the Oath of Fealty he was forced to swear to Lord Baltimore in January of 1647 (AOMOL 3:174). This oath was required of all former rebels who wished to remain in Maryland after Calvert's return in late 1646 and was sworn by several men who would soon re-settle in Appamattucks. This conflict in the Potomac Valley was what first drove Hallowes and his comrades from Maryland to Virginia, and then led him to fortify his home. Upon his return to Maryland, Baltimore passed several laws that suppressed the rights of former rebels. One of these acts forbade leaving the colony without permission (AOMOL 3:193-194).

This law was a clear attempt to prevent the rebels from conspiring with sympathizers in Virginia, particularly those at Chicacoan, who had aided in the overthrow of Calvert. However, for men like Hallowes, who made a significant portion of their living from trade with Indians and the colonists of Virginia, this law proved oppressive to commerce, no doubt influencing his decision to leave the colony. Perhaps Hallowes thought that if Baltimore would pass laws to restrict the freedom of former rebels, it was only a small step to seek martial retribution. His fears may have been magnified by the fact that Calvert used a group of hired mercenaries from southern Virginia to reclaim his colony and then gave them land to settle near present-day Annapolis (Riordan 2004). In this sense, the fortification of his house may have been a way for John Hallowes to

assuage his own fears of retribution from the Calvert faction in Maryland. The orientation of the larger bastion towards the Potomac created a more imposing façade for those approaching the site from Maryland, presenting a show of strength that would have helped to discourage any form of attack.

Calvert, however, never sought military action against the former rebels and the Virginia records show no evidence of any fear of an attack from Maryland. With this being the case, perhaps the fortification at Hallowes was less of a defensive strategy and more of a statement to the Calvert faction about their treatment of the former rebels. In addition to the law that kept former rebels from leaving the colony without permission, Baltimore also passed a law that required people involved in the rebellion to surrender their arms and ammunition while they were within the colony (AOMOL 3:193). While this law seems quite practical at first glance in preventing another uprising, a closer examination of the importance of weapons in the colonial Chesapeake reveals that it may have been meant as a way of insulting the people involved in the rebellion.

By the mid-seventeenth century, gun ownership in the Chesapeake was almost universal among free men (Brown 1996:177). Guns were essential to frontier life in order to defend life and property as well as to acquire food. As a result, the possession of firearms by property holding men came to symbolize colonial masculinity, so much so that guns would be passed down from fathers to sons as a form of “patrilineal continuity” (Brown 1996:177). The ideas of masculinity and patriarchal authority associated with guns would have been all the more important in the Chesapeake during the mid-seventeenth century when mortality rates were high and demography was skewed such that traditional English family roles were difficult or impossible to duplicate. By stripping former rebels of their weapons while in Maryland, Calvert was effectively stripping them of their manhood and reinforcing his own patriarchal authority. This same strategy was mirrored by Westmoreland County petitioners after Bacon’s Rebellion when they suggested, unsuccessfully, that Baconians be denied the right to carry guns (Brown 1996:178). The access to firearms by the majority of men was clearly a challenge to the patriarchal authority of colonial leaders like Leonard Calvert and William Berkeley, but denying the possession of firearms to people served to hinder the colonial venture. Unlike Berkeley, Calvert decided to suspend this right for free men in the wake of rebellion and, as a result, many of the former rebels abandoned the Maryland colony.

If the fortifications at John Hallowes’ house are viewed in light of the suspension of gun ownership to former rebels, then the bastions may be seen as a reaction to Lord Baltimore’s overbearing patriarchal authority. The simple presence of fortifications at the site would indicate that the inhabitants possessed multiple guns. The orientation of the largest bastion toward the water would have made it easy for any passerby, perhaps Maryland traders, to see the fortification and thus realize that the property owner, in all likelihood, possessed weapons. In the simplest terms, by fortifying his home John Hallowes was reclaiming his own masculinity and patriarchal authority that had been taken by Leonard Calvert by clearly signaling his ability to respond with force against anybody against current or future threats. At the same time, the bastions also served to display his power as a leading member of the community on the southern shore of the Potomac in the mid-seventeenth century.

While fortifications in the Chesapeake have not explicitly been interpreted as symbols of colonial masculinity, their relationship to gun ownership and military prowess create important connections between the concepts. The context of Hallowes' flight from Maryland after Ingle's Rebellion, coupled with the passage of laws by Lord Baltimore aimed at punishing the former rebels, provide important support to this interpretation. The orientation and larger size of the northern bastion support the idea that the fortification of the house was not just defensive, but also acted as a signal to the Europeans that would have been plying the waters of the Potomac. Whatever the meaning of the fortifications at Hallowes, it becomes clear that they were the direct result of Ingle's Rebellion, further illustrating the extent to which conflict shaped the lives of the early settlers in Virginia's Potomac Valley.

Local and Atlantic Trade at the Hallowes Site

One of the defining aspects of the seventeenth-century Potomac, and for the entire Chesapeake in this period, was trade. Trade networks ranged from tight-knit local groups, to regional exchanges, to trans-Atlantic ties, all of which facilitated the exchange of ideas, goods, and people throughout the Chesapeake and Atlantic World (Hatfield 2004). This trade in goods helped to bring Marylanders to Virginia to settle the southern shore of the Potomac in addition to sowing the seeds of rebellion in the minds of the people that participated in Ingle's rebellion. Without the trading networks that existed in the Potomac Valley, early-colonial society in southern Maryland and on Virginia's Northern Neck would have been vastly different.

This section discusses the trading networks in which the inhabitants of the Hallowes site participated and how these networks contributed to the formation of early colonial society in the Potomac Valley. The people who lived at the Hallowes Site participated in exchange networks that included intimate local trade with Native Americans and Marylanders in St. Mary's City, broader regional networks that stretched from the upper reaches of the Chesapeake Bay to its mouth near modern-day Virginia Beach, and trans-Atlantic connections that brought goods from the Old World. In order to address these interactions and their meanings, three distinct forms of material culture were examined. First, the remains of deer at the Hallowes Site point to the fact that this source of meat was acquired through trade with local Indian hunters, particularly during the pre-1666 phase of occupation. Second, the rich assemblage of tobacco pipes at the site illustrates the multiple spheres of interaction that the inhabitants participated in from 1647 to 1681. Finally, the European ceramics recovered from the site hint at trans-Atlantic supply networks and illicit trade into the Chesapeake.

Deer Remains and Native American Interaction at the Hallowes Site

Interaction and trade with Native Americans during the early years of settlement in the Potomac Valley was a commonplace occurrence that ranged from fur trading, to land purchases, to war, to marriage (Merrell 1979:555-557; Fausz 1988:63-74; Potter and Waselkov 1994; Riordan 2004:33-39, 114-115). John Hallowes was no stranger to this interaction and participated in it actively throughout his life. He took part in a raid against the Susquehannocks in 1642 in which he came close to losing his life during an ambush.

He was also listed as a trader with Indians while in Maryland and reprimanded for providing Indians with guns in both Maryland and Virginia (AOMOL 4:186, 259; WCR1:15).

Hallowes' close geographical proximity to Indians, particularly in Virginia, no doubt led to intercultural interactions being commonplace for him and members of his household. The location of his 1647 home in Virginia was only a few miles from the Matchotic Indian village, located across Nomini Bay and first described by John Smith in 1608 (Potter 1993:9-10, 194; Figure 94). His home was also adjacent to a "great Indian path" referenced in Andrew Monroe's 1650 land patent (VLP2:225). Further evidence for interaction with local Native Americans at the Hallowes Site comes from the conspicuous presence of Contact-period Indian ceramics, particularly Potomac Creek and Moyaone wares. While several fragments were surface-collected and might be attributed to Native occupation prior to the arrival of John Hallowes, there are numerous large fragments in features that appear to represent primary deposition, indicating that members of the Hallowes household traded for and used them.

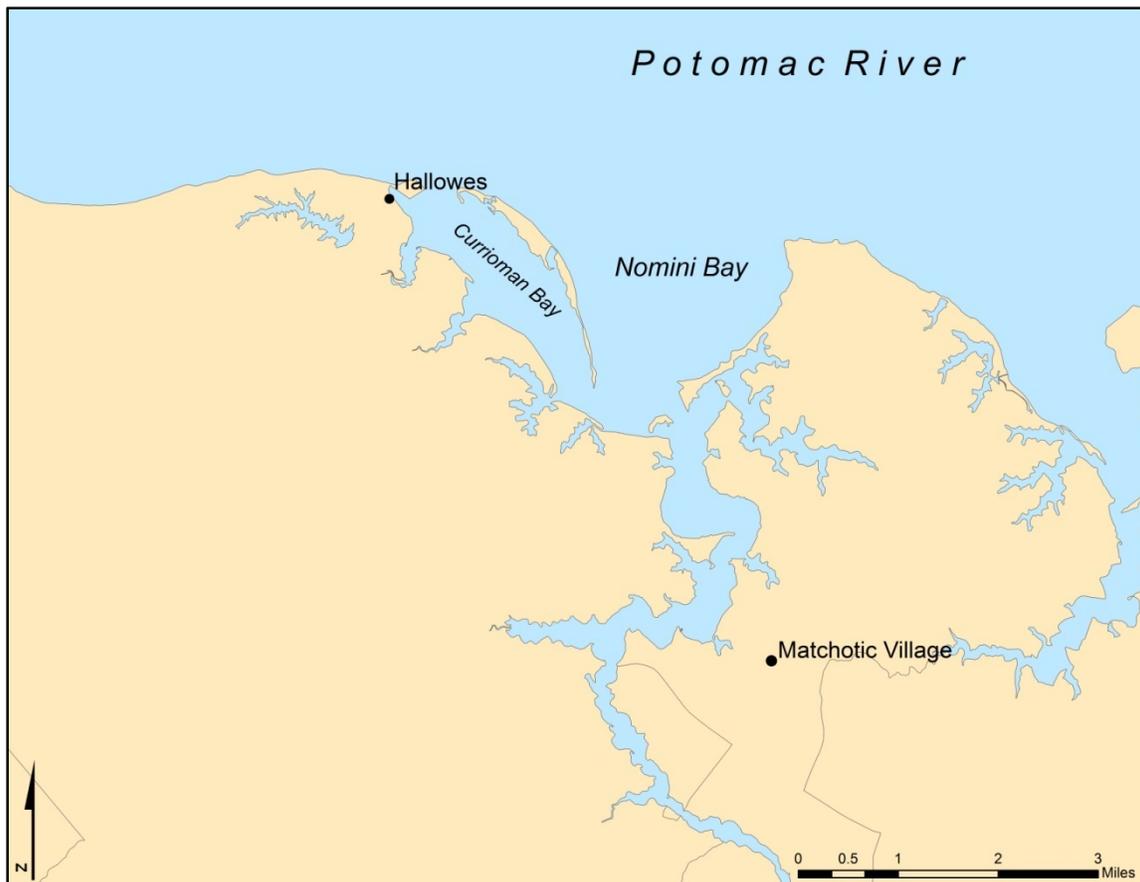


Figure 94: Map Showing Proximity of Hallowes Site to Matchotic Indian Village.

Another, perhaps less obvious, indicator of Native American trade on the Hallowes Site is animal bone, specifically deer remains. While the simple presence, or even abundance, of deer remains on a site does not signal Indian trade networks, the

skeletal part composition of the deer specimen assemblage from the pre-1666 features at the site does seem to indicate that venison was being procured through trade (Table 14). Deer played a vital role in Native American economies during the early colonial period in the Chesapeake region, particularly in terms of the deer skin trade (Lapham 2005). The presence of dressed hides in historical records from the seventeenth century also indicates the importance of these commodities to Europeans (AOMOL 4:243, 17:94). Deer hides, however, were not the only deer-based products traded amongst Indians and colonists. Deer meat also played a significant, and perhaps more common, role.

| Taxa | NISP | % | MNI | % | Weight (g.) | % | Biomass (kg.) | % |
|------------------------------------|-------------|---------|-----------|---------|---------------|---------|---------------|---------|
| <i>Mammalia</i> | | | | | | | | |
| <i>Bos taurus</i> | 57 | 2.328% | 4 | 10.811% | 1303 | 23.751% | 18.61 | 24.249% |
| <i>Sus scrofa</i> | 155 | 6.332% | 7 | 18.919% | 1047.6 | 19.095% | 15.439 | 20.117% |
| <i>Odocoileus virginianus</i> | 111 | 4.534% | 7 | 18.919% | 650.6 | 11.859% | 9.326 | 12.152% |
| <i>Procyon lotor</i> | 1 | 0.041% | 1 | 2.703% | 0.4 | 0.007% | 0.012 | 0.016% |
| <i>Sciurus carolinensis</i> | 1 | 0.041% | 1 | 2.703% | 0.1 | 0.002% | 0.003 | 0.004% |
| <i>Scalopus aquaticus</i> | 4 | 0.163% | 1 | 2.703% | 0.4 | 0.007% | 0.012 | 0.016% |
| <i>Artiodactyla</i> | 1255 | 51.266% | | | 1709 | 31.151% | 22.605 | 29.454% |
| UID <i>Mammalia</i> | 313 | 12.786% | | | 394.1 | 7.183% | 6.168 | 8.037% |
| <i>Aves</i> | | | | | | | | |
| <i>Gallus gallus</i> | 3 | 0.123% | 2 | 5.405% | 1.8 | 0.033% | 0.037 | 0.048% |
| <i>Meleagris gallopavo</i> | 3 | 0.123% | 1 | 2.703% | 3.3 | 0.060% | 0.061 | 0.079% |
| <i>Branta canadensis</i> | 2 | 0.082% | 2 | 5.405% | 6.3 | 0.115% | 0.116 | 0.151% |
| UID <i>Aves</i> | 6 | 0.245% | | | 2.6 | 0.047% | 0.054 | 0.070% |
| <i>Osteichthyes</i> | | | | | | | | |
| <i>Archosargus probatocephalus</i> | 132 | 5.392% | 7 | 18.919% | 190 | 3.463% | 2.005 | 2.612% |
| <i>Pogonias cromis</i> | 13 | 0.531% | 1 | 2.703% | 20.8 | 0.379% | 0.368 | 0.479% |
| UID <i>Osteichthyes</i> | 376 | 15.359% | | | 132.4 | 2.413% | 1.565 | 2.039% |
| <i>Reptilia</i> | | | | | | | | |
| <i>Testudines</i> | 16 | 0.654% | 3 | 8.108% | 23.8 | 0.434% | 0.366 | 0.477% |
| Total | 2448 | | 37 | | 5486.2 | | 76.747 | |

Table 14: Species Table for Pre-1666 Features.

Historical records indicate that planters would often hire Indians to hunt deer, possibly as a way of acquiring an alternative source of meat during busy portions of the tobacco growing season (AOMOL10:354, 657:54; Miller 1988:186; Chaney 2005; Rice 2009:112). Tobacco was an extremely labor-intensive crop that left little free time during any portion of the year, since it required preparation of new seed beds, transplanting, stemming and stripping, drying, careful packing, and the clearing of land when the crop exhausted the soil (Carr, Menard, and Walsh 1991; Rice 2009:113; Walsh 2010). These tasks would have occupied most, if not all, of the laborers on a plantation, especially during the busiest parts of the season. Therefore, it is unlikely that John Hallows or any of the people living on his property would have had the time necessary to hunt deer intensively. The hiring of Indian hunters would have contributed welcome variety to a diet dominated by beef and pork and served to maintain amicable relationships with Native neighbors in a comparatively unsettled region.

If members of the pre-1666 Hallowes household were trading with Indians for venison, what should the faunal assemblage look like? Assuming that the occupants of the site were interested in venison mainly for consumption, the deer specimen assemblage should contain an over-representation of high-utility, or meaty, parts. These parts should include forequarters (shoulder roasts), hindquarters (rump roasts), and axial portions (loins). If Indian hunters were harvesting deer and then trading the meat to the residents at the Hallowes Site, we should also expect the deer to be dressed to a certain degree, since the transportation of venison portions or quarters would be much easier than the transportation of an entire carcass. Therefore, low-utility portions from deer on the Hallowes Site should be at a minimum level, meaning few to no feet or head portions. Additionally, the skeletal part frequencies for deer should be significantly different from those of cows or pigs, since it is reasonable to assume that those two species were raised, slaughtered, and consumed at the site.

Based upon the skeletal part frequency analysis of the pre-1666 features, deer axial, forequarter, and hindquarter portions were significantly more prominent than expected while head and foot portions were greatly under-represented (Figure 95). Deer head portions were almost completely absent from the site, represented by a single petrous process, which has a somewhat dubious context since it is from the brick intrusion in Feature 17. The cow bone assemblage was considerably different, with most of the skeletal portions equal to, or near, their expected proportions, indicating that cows were, in all likelihood, butchered and consumed at the site (Figure 96). Skeletal portions of pigs show an over-representation of head portions, but otherwise follow expected proportions, again indicating butchery and consumption on site. The prominence of pig teeth and head parts may be a function of preservation and sampling since pig teeth both preserve well and are easily identified (Lyman 1994: 79-80; Reitz and Wing 1999:47-50; Figure 97).

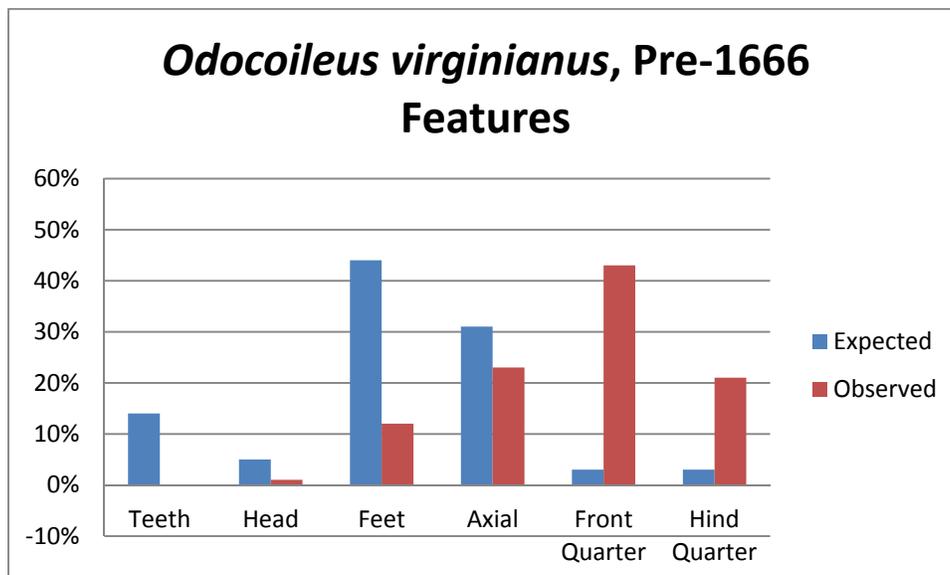


Figure 95: Skeletal Portion Analysis for Deer Remains in Pre-1666 Features.

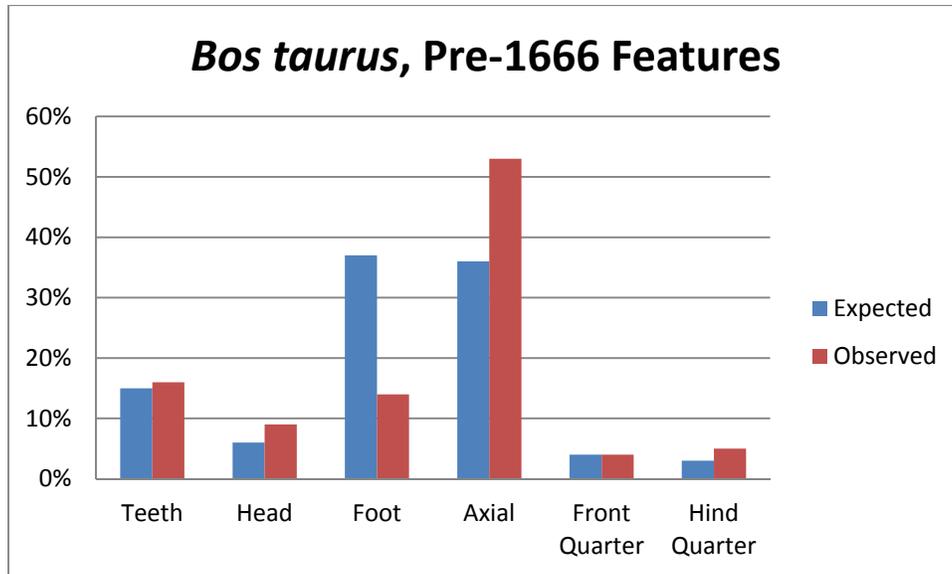


Figure 96: Skeletal Portion Analysis for Cattle Remains in Pre-1666 Features.

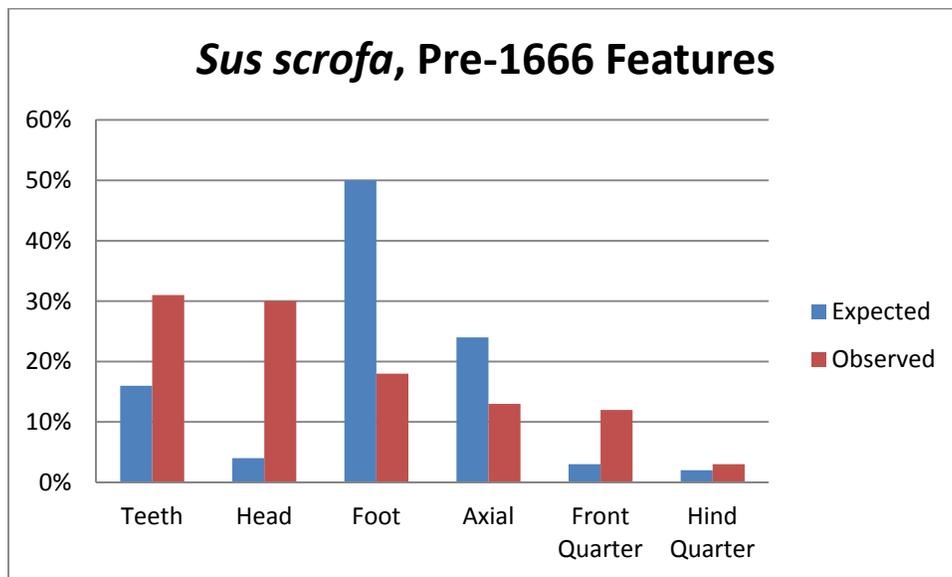


Figure 97: Skeletal Portion Analysis for Swine Remains in Pre-1666 Features.

The faunal evidence does seem to indicate that venison was being processed off-site and that the residents of the Hallows Site were consuming and discarding high-utility portions of deer. While there is no single piece of evidence that conclusively links deer remains with trade at the Hallows site, multiple sources, both historical and archaeological, work together to support the conclusion that the pre-1666 occupants of the Hallows site obtained much, if not all, of their venison through Indian trade.

The evidence lending support to the assertion that venison at the Hallows Site was obtained through Indian trade comes from geography, historical records, and archaeological evidence. First, the site's geographical location near a Native American

settlement at Matchotic and a “great Indian path” would have provided the necessary spatial proximity to foster intercultural interaction and trade. Interaction with the Matchotic Indians would have likely figured prominently in the lives of John Hallows and his family, particularly in the early years of the site’s settlement before most of the land around Nomini Bay was patented and settled in the 1650s and the Matchotics had migrated upriver (Potter 1993:193-195). The site’s location near an Indian path would have fostered interaction through constant exposure and encounter as Indians made their way through a landscape increasingly shaped by European settlement, agriculture, and husbandry.

Second, John Hallows is known, through historical records, to have traded and interacted with Native Americans in both Maryland and Virginia with some frequency. The fact that he was referenced in court records interacting with Native Americans at least three times probably indicates that these interactions were much more frequent. Hallows’ provisioning of guns to local Indians clearly indicates that he was trading with them, and may offer indirect evidence that he was hiring them to hunt for him and providing them with a weapon to do so more efficiently.

Previous research in the seventeenth-century Chesapeake region has demonstrated that the hiring of Indian hunters was not uncommon and occurred throughout the region, and especially in the Potomac Valley (Miller 1988:186; Chaney 2005; Rice 2009:112). The relationships built through the hiring of Indian hunters would have served multiple purposes for the inhabitants of the Hallows site. John Hallows and his family were able to create strong economic, and perhaps social, connections between themselves and their Indian neighbors which would have provided a sense of security in an area that acted as a highway for Susquehannock raiding parties in the seventeenth century, who were hostile to both English settlers and local Native American groups (Potter 1993:188-193; Rice 2009:182; Flick et al. 2012). Additionally, meat acquired through Indian hunters would have been a welcome source of calories for people engaged in the strenuous schedule associated with tobacco planting, which would have provided little of the free time needed to hunt deer on a large scale. Finally, venison provided by Indian hunters would have contributed to dietary diversity at the site, easing the monotony of a meat diet dominated by beef and pork.

Archaeological evidence of Native American interaction at the Hallows Site provides the last line of evidence to support the presence of Indian-acquired venison at the site. First, there are several fragments of Contact-period wares, represented by Potomac Creek and Moyaone types, in the pre-1666 features. Particularly important are the large fragments, such as a base for a Potomac Creek vessel excavated from Feature 17 and a large colonoware vessel recovered from Feature 63 that appear to be the result of primary deposition and, thus, were used and traded for by the residents of the site (Figure 70 and Figure 73). A bone awl recovered from Feature 17 was likely deposited by the site inhabitants since it is complete and does not show any evidence of weathering that might be expected for a prehistoric bone tool that was re-deposited from a surface context (Figure 98). This artifact, possibly indicative of Indian trade, at least shows Native American influence on the material culture at the site. Lastly, several pipe bowl and stem fragments made and decorated in the Native American style were recovered from the pre-

1666 features, again indicating sustained interaction and trade with local Indian groups (Figure 99). Two of these pipe fragments appear to be consistent in style with the Nomini Maker, a local Indian pipe maker from the mid-seventeenth century located a few miles from the Hallows site (WCR 2:11-12; Luckenbach and Kiser 2006:171-173; McMillan 2012a; McMillan and Hatch 2013).



Figure 98: Bone Awl Recovered from Feature 17.



Figure 99: Nomini-Style Pipe Stem Recovered from Feature 17.

The Multiple Interaction Spheres of Tobacco Pipes

The clay tobacco pipes recovered reveal that the occupants of the Hallows Site were engaged in multiple spheres of interaction and participated in local, regional, trans-ethnic, trans-Atlantic, and trans-national trade networks. Instead of living on the edge of a borderland with little to no contact with the wider world, John Hallows, his descendents,

and his neighbors were actively engaged in the formation of an expanding frontier based around the many waterways that geographically and culturally defined the Chesapeake.

In his discussion of similar processes that occurred in the seventeenth-century Long Island Sound, historian Andrew Lipman argues for the use of the term "saltwater frontier" to describe areas where the defining feature is a body of water that connected people locally and to the broader Atlantic World (2010). The Chesapeake as a whole, and the Potomac Valley specifically, can be viewed as a saltwater frontier; a politically and culturally negotiated space where the inhabitants' main focus is on the maritime networks that allowed them access to goods and ideas from across the river, down the bay, and overseas. The seventeenth-century Potomac River should especially be viewed in this way; occupants on the Virginia side of the river engaged more often with settlers in Maryland, who were under a different colonial rule than themselves, than with other Virginians from the southern part of the colony. John Hallowes and his neighbors were focused on the river and what the water could bring and did not view the Potomac as a border, but a conduit of trade and exchange. Hallowes' emphasis on river transportation over land-based routes is most dramatically demonstrated by the large defensive bastion facing the water discussed above.

One of the many types of material culture that arrived at the Hallowes Site by water, and to a lesser extent, by land, were clay tobacco pipes. Smoking pipes are a unique category of archaeological artifacts because they are one of the few finds that are not associated with subsistence practices, but instead are often linked to either leisure activity or ritualistic behavior. Pipe forms and meaning have changed over the millennia since first introduced during the Late Archaic in the southeastern United States, but have always been used to ingest mind-altering substances, most notably tobacco (Rafferty 2004:4). Tobacco pipes, particularly those made of clay, are plastic mediums that can be used to reflect and shape individual and group identity, and can be studied to understand trade and interaction between groups of people.

Tobacco pipes are one of the most ubiquitous artifact types found in colonial contexts and the Hallowes Site is no exception. Both imported and locally made tobacco pipe fragments comprise 25% of the artifact assemblage (excluding faunal remains), and provide an excellent data set to explore the varied exchange networks in which the occupants of the Hallowes site were engaged. Although the majority of the pipes recovered from the site are undecorated and unmarked, there are several fragments that can be traced to specific points of origin, and thus are useful in a discussion of trade networks.

Locally-made Pipes

Most of the 139 locally-made pipes recovered at Hallowes were likely produced by local Algonquian Indians. There have been many publications devoted to determining who was making and using non-imported pipes in the seventeenth century (Harrington 1951; Henry 1979; Emerson 1988, 1994, 1999; Deetz 1993, 1996; Mouer 1993; Magoon 1999; Monroe 1999, 2002; Mouer et al. 1999; Neiman and King 1999; Agbe-Davies 2004a, 2004b, 2006; Luckenbach 2004; Luckenbach and Kiser 2006; Sikes 2008), which

Dan Mouer (1993:129) has called "the most intriguing surviving examples of folk art in the early Chesapeake."

In 1951 J.C. Harrington, as the first archaeologist to discuss locally-made clay pipes, stated that he believed that the red, yellow, and brown pipes were manufactured by local Native American groups for trade with European colonists, but did leave open the possibility of European colonial manufacture. This was the generally accepted interpretation of local-pipes until 1979 when Susan Henry added to Harrington's interpretations with a formal typology that included pipes made of local clay but in European forms, and in some cases, from European style molds. Henry believed that these European style mold-made pipes were produced by European colonists and that hand-made pipes were manufactured by local Indians. In 1988, Matthew Emerson was the first researcher to offer an alternative explanation to the origins of locally-made pipes, promoting the interpretation that both hand-made and mold-made pipes were mainly produced by enslaved Africans and African-Americans. Emerson also provided the most widely used moniker for this artifact type, "Chesapeake pipes." While some scholars accept Emerson's broad assertions that enslaved West Africans made these pipes (Monroe 1999, 2002), most archaeologists favor Dan Mouer and his colleagues' interpretations that these pipes were the products of the creolization processes that were occurring in the seventeenth-century Chesapeake (Mouer 1993; Mouer et al. 1999; Sikes 2008).

Mouer et al. (1999) demonstrated that the motifs that Emerson claimed were of African origin were actually common among Anglo, African, and Native cultures. Given the small African population present in the Chesapeake in the early- to mid-seventeenth century, when the majority of locally-made pipes were produced, and the fact that similar motifs and decorative styles are also found on prehistoric Indian pipes, the authors state that most hand-made pipes are likely the product of Native Americans with African and Anglo influences. Mouer believes that common motifs, such as stars, triangles, and quadrupeds, were chosen to adorn the Native made pipes not only as an effort by local Indians to keep their cultures alive in the face of a new, large population influx, but also as unifying themes and modes of communication among the producers and users of the pipes (i.e. among Native Americans, European colonists, and enslaved Africans). Al Luckenbach and Taft Kiser (2006) produced the most comprehensive work on locally-made pipes manufactured by European colonists. The authors identify six distinct workshop groups assumed to represent the work of European colonial pipe makers. For this report, the interpretations made by Henry, Mouer et al., and Luckenbach and Kiser are accepted, meaning that most hand-made pipes are assumed to be of Native American origin, and mold-made pipes are assumed to have been made by European colonials.

Hand-made Native American Pipes

Only 16 of the 139 locally-made pipes have been identified as mold-made, with the remaining 123 identified as hand-made and of Native American manufacture. All but one of the Native produced pipes are assumed to have been made by local Algonquian Indians.

Nine of the bowl fragments analyzed were decorated with the "Running Deer" motif (Figure 41), one of the most common decorative patterns in the Potomac River

Valley (Miller 1991; Mouer 1993: 136); the complete pipe that is now missing was also decorated with this design (Figure 71). These motifs were often produced on the pipe bowl either by small punctated dots with white infilling or through incising; one of the Running Deer pipes found at Hallowes was made by incising the motif on the bowl, while the remaining nine were punctated designs. While only nine fragments were large enough to indentify this particular motif, given the popularity of this design in the area among Algonquian Indians it is likely that several of the pieces with punctated decoration that were too small to identify were Running Deer pipes as well.

White-tailed deer were an important part of the local Native subsistence system prior to and after European contact. As demonstrated in the previous section, the deer trade was central to the Native Indian economy and also served as a conduit for interaction and exchange with European colonists. The earliest known example of a post-contact deer motif represented on a piece of material culture is on Powhatan's Mantle, a deer skin cloak believed to have been given to Christopher Newport by Powhatan in 1608 (Rountree 1990; Mouer 1993:132). The continued popularity of the deer motifs on pipes in the Potomac River drainage into the middle and late seventeenth century, compared to the high percentage of star motifs in the lower Chesapeake in and around Jamestown at the same time (Mouer 1993:136), illustrates the importance of the meat and skin trade to the Algonquian peoples in the area well into the middle of the century. As a shared cultural motif, perhaps these decorated deer pipes played a special role in solidifying and confirming trade partnerships between the local Indians and the occupants of the Hallowes Site.

At least two, if not many more, of the locally-made, hand-built pipes were likely produced at the nearby Nomini Plantation (44WM12), the home of Thomas Speke, one of John Hallowes' co-agitators during Ingle's Rebellion. Like Hallowes, Speke settled in the Nomini Bay area after fleeing Maryland in 1647. The site was excavated by an avocational archaeologist in the 1970s (Mitchell 1975; 1976; 1978; 1983). The seventeenth-century component of Nomini Plantation consists of a large refuse midden located at the edge of a ravine, and based on the preliminary results of a current analysis of the collection by two of the authors of this report, the midden was likely in use between ca. 1647 and 1720 (McMillan and Hatch 2013). Both archaeological and historical evidence indicate that an Indian pipe maker lived on or near the Speke property in the middle of the seventeenth century. In a 1659 deed of land transfer, William Hardidge, who owned the land adjoining Nomini Plantation to the north, described his property boundary as " ... on the south side of my dividant at the head of a small marsh in the branch of a creeke issuing out of Nominy Bay ...near the side of an Indian field commonly known as the Pipemaker's field" (WCR 2:11-12). Further evidence to support the assertion that the pipe maker lived on Speke's property includes the presence of wasters in the bottom layers of the refuse midden.

The Nomini pipe maker was likely working throughout the 1650s, 1660s, and into the 1670s (Luckenbach and Kiser 2006:171-173), and was probably trading with European colonists in the Nomini Bay area, including John Hallowes and later occupants of the site. Taft Kiser has conducted research on the Nomini maker, likely a creolized

Native American, and has described the pipes produced on the Speke property as very finely made and often highly burnished (per. comm. October 2011). Many of the hand-made, elbow pipes from Nomini are decorated with rouletted or punctated double bands. Running Deer pipes were also produced by the Nomini maker, but often appear more boxy and geometric than many other quadruped motifs in the area (Luckenbach and Kiser 2006:171-173). Two pipe fragments (Figure 43 and Figure 99) from the Hallows Site have been identified as originating from Nomini based on being finely potted, made of clay with few visible inclusions, and highly burnished. While only two can be almost definitively traced to Nomini, many more were probably made by the Indian pipe maker living there in the middle of the seventeenth century. Given Hallows' and Speke's close personal relationship and the two properties' close proximity, exchange between the two locations was very likely.

While the majority of the pipes recovered from the Hallows Site point to local exchanges with nearby Algonquian Indians, including those living at the Matchotic village on the eastern side of Nomini Bay, Native Americans moving along the great Indian path that passed by Hallows' property, those engaged in the exchange of deer meat and hides, and the Nomini Indian pipe maker, there is one pipe that points to a more regional interaction with Native peoples of the Chesapeake. One Susquehannock-style ribbed pipe was recovered from the Hallows Site (Figure 44).

The historical records indicate that John Hallows visited Kent Island, the center of the seventeenth-century Susquehannock Indian fur trade, in the northern part of the Chesapeake Bay at least once in 1635, while still an indentured servant to Thomas Cornwallis (AOMOL 4:22). Once his term of indenture was finished, Hallows continued to participate in the fur trade, specifically the beaver trade, throughout the rest of his life, and may have visited Kent Island again (AOMOL 4:164, 175-176, 192, 196). Whether or not this one pipe originated from Kent Island, it most certainly was made by an Iroquoian-speaking Susquehannock Indian in the northern part of the Chesapeake. The exchanges that occurred between Hallows and the Susquehannocks were likely very different than those that took place between the residents of the site and the local Algonquian peoples. The one known time that Hallows visited Kent Island was during a raid on the Susquehannocks, and while he continued to trade with the northern Indian group, he was likely not on as friendly terms with them as with those Native Americans living near his Virginia house.

Mold-made Local Pipes

Although the majority of the locally-produced pipes speak to inter-cultural exchanges that occurred between local Native Americans and the English colonial occupants of the Hallows Site, the local mold-made pipes shed light on a different series of exchanges that took place among European colonists, both locally along the Potomac River and regionally within the Chesapeake. The intercolonial trade networks that can be observed through the travel of tobacco pipes often followed the political and social networks of the occupants of the Hallows Site. All but four of the sixteen mold-made pipes can be traced to specific makers or workshop groups within the Chesapeake region.

Seven of the molded local pipes were produced by the Bookbinder maker or in the Bookbinder workshop fashion (Figure 50). These elaborate pipes follow a rigid grammar of shape and decoration. The Bookbinder pipes were made in elbow-shaped molds using agatized clays of several different colors. The colors vary from pipe to pipe; the pipes from Hallowes were made from white, light brown, dark brown, gray, red, and orange clays and represent at least six different pipes based on the clay colors. The decorative stamps and rouletting are the same on every pipe: there is a line of decorative rouletting along the rim of the bowl consisting of Xs, grids, dots, and five-petaled flowers, below the rim there are a series of eight-petaled flowers stamped in a line around the bowl. On the stem, below the bowl/stem juncture, there are two rows of milled rouletting. Further down on the stem, the same eight-petaled flowers are stamped randomly, broken by three lines of rouletting: the top line consists of dentate milling, followed by the same rouletting seen along the bowl rim in the middle, and lastly, on the bottom, the same dentate milling as the top line. Taft Kiser named this type "Bookbinder" because the agatized clay and the elaborate stamps resembled decoration seen on leather books (Luckenbach and Kiser 2006:165).

Bookbinder pipes are the most widely distributed locally-made material culture from seventeenth-century Virginia and have been found on several sites all over the Chesapeake region, and as far north as Newfoundland, Canada. The center of production for these elaborate pipes was in Virginia Beach, Virginia based upon the large quantity of Bookbinder pipes found at the Chesopean site (44VB48), one of Adam Thoroughgood's properties in the Puritan settlement of Lynnhaven. It is possible that the pipe maker was indentured to Thoroughgood in the 1640s (Luckenbach and Kiser 2006:165-167). Bookbinder pipes may have had such a wide distribution due to strong trade networks fostered by the Puritans on the Southside of Virginia. Historian April Lee Hatfield writes that there was a "strong link between nonconformist religion and intercolonial trade" drawing a connection between the three areas in Virginia that did not grow sweet-scented tobacco and merchant activities: the Eastern Shore, the Southside, and the Northern Neck (2004:114).

Many of the Virginia Puritans emigrated from English enclaves in the Netherlands, the trade capital of the seventeenth-century Atlantic World (Hatfield 2004:115). It is possible that the Puritans who settled in Virginia in the first half of the seventeenth century learned how to be expert merchants and value freedom of trade while in exile in the Netherlands due to religious persecution in England. Additionally, given how elaborately decorated the pipes were, it is conceivable that the pipe maker who produced the Bookbinder pipes was a Dutchman or English Puritan who learned his craft while in exile in Amsterdam. Dutch pipes were more decorative than English pipes from the same time, which will be discussed in further detail below. Beyond the Puritan emphasis on trade, there is a more personal link between Adam Thoroughgood and John Hallowes. Thoroughgood's daughter, Sarah, married Simon Overzee of St. Mary's City, who paid for Hallowes' funeral, suggesting that the two men (Hallowes and Thoroughgood), or at least their families, may have known one another (WCR 1:139; AOMOL 426:928).

There is one other pipe recovered from the Hallowes site that may suggest Dutch influence on the local European pipe industry in the Chesapeake. One light-gray juncture has a six-petaled flower stamped on the heel (Figure 48). This style of flower is often referred to as a stylized Tudor Rose, a motif that was used to decorate pipes from the Netherlands in the seventeenth century. There are several variations of the Tudor Rose motif which was first introduced in the 1620s but was most popular in the middle of the seventeenth century (Atkinson and Oswald 1972:176; Duco 1980:244). McCashion illustrates a Dutch belly-bowl pipe from ca. 1650-1660 with an almost identical heel stamp from a Dutch colonial site in New York (McCashion 1979:104-105). The Tudor Rose motif is most closely associated with the Dutch pipe industry due to the influence of exiled Protestant Englishmen on pipe making in the Netherlands in the first half of the century (Duco 1981:376). Dutch pipe scholar Don Duco (1981:397) states that the Tudor Rose stood as a symbol of freedom and prosperity to English Protestants living in the Netherlands during Catholic rule of their home country and remained a popular motif with which to decorate pipes into the third quarter of the seventeenth century. Dutch pipes were more elaborately decorated, of better quality, and more desirable than English pipes in the seventeenth century (Huey 2008). This decoration on a locally-produced mold-made belly-bowl pipe could be an attempt to imitate a popular Dutch decorative motif. Additionally, unlike most locally-produced pipes which are red to brown in color, all of the pipes from Southern Maryland and the Northern Neck with this particular stamp that have been observed by McMillan are light gray or buff, suggesting that the maker was attempting to imitate imported white clay pipes.

Pipes stamped with the Tudor Rose has been found on several sites in the Potomac River Valley that all date to the 1650s and 1660s, including St. John's and Pope's Fort in St. Mary's City, Patuxent Point and Compton in Calvert County, Maryland, and Nomini Plantation close to Hallowes in Westmoreland County, Virginia. This style of pipe has also reportedly been recovered from mid-seventeenth-century sites along the James River (Taft Kiser, per. comm.). The maker of these pipes has not been identified, and it is unclear where the center of production was located, but given the large number of examples found in Southern Maryland and on the Northern Neck, it is likely that the workshop was based in the Upper Chesapeake in the middle of the seventeenth century, and that the pipes were traded south into the James River area. Given the close association of the Tudor Rose motif to Protestant resistance to Catholic rule, it is not surprising that this pipe type has been found mainly on sites associated with anti-Calvert men in Southern Maryland and on the Northern Neck of Virginia.

The first two mold-made local pipe types discussed, the Bookbinder and the Tudor Rose stamp, illustrate the inter-regional connections that the occupants of the John Hallowes Site had, which extended all the way to the Southside of Virginia. The last two mold-made types point to local trade networks in the Upper Chesapeake and interactions based on political alliances within the Potomac Valley.

Three locally-made belly-bowl pipes with reduced heels and rouletted decoration along the bowl/stem juncture at the back of the bowl were found at the Hallowes Site (Figure 45). Two similar pipes were recovered nearby at Nomini Plantation and four were

found across the river at Pope's Fort in St. Mary's City, Maryland. The rouletting is located low on the juncture, closer to the stem than the bowl, and terminates on the side in the middle of the low elongated heel on all but one of the nine known pipes from the middle Potomac. Rouletting on one pipe from the Hallowes site is higher up on the juncture and terminates at the base of the bowl front. One of the pipes from Nomini and two from Pope's Fort have rouletting along the bowl rim; the remaining six pipes are not complete enough to determine if they had rouletting along the rim, but are assumed to have had the same decoration. There is one additional pipe bowl at Hallowes that is likely from the same workshop as the nine described above based on the bowl shape and the rouletting along the bowl rim (Figure 100).



Figure 100: Rouletted Bowl Recovered from Hallowes, Likely from Same Workshop as Rouletted Juncture Pipes.

This style of pipe has not been found on any other seventeenth-century sites that the authors have examined in St. Mary's County, Maryland, Calvert County, Maryland, or on the Northern Neck, and have not been reported on by archaeologists at the Lost Town's Project in Anne Arundel County, Maryland; there have been pipes found in Jamestown with rouletting along the juncture, but the bowl shapes were very different from those found in the Potomac Valley (Hurry and Keeler 1991; Miller 1991; Riordan 1991; Luckenbach et al. 2002). Based on the contexts of the nine known pipes, these were likely made in the late 1640s or early 1650s. There is no evidence that pipes were manufactured at the Hallowes Site. Based on the recovery of pipe-making waste at the site, these pipes were most likely made at Pope's Fort (Miller 1991:86), which served as

the main garrison for the Protestant agitators during Ingle's Rebellion from 1645 to 1646. The fortified ditch complex was filled in with debris until circa 1655 (Miller 1986:47-48; 1991:73).

These distinctly decorated pipes indicate that the occupants of the Hallowes, Pope's Fort, and Nomini Plantation sites were engaged in similar local trade networks that may have been influenced by their political alliances. The uprising was centered on Pope's Fort, likely where the pipes were made. Both John Hallowes and Thomas Speke participated in Ingle's Rebellion and were key players in the revolt. The nine "Ingle's Rebellion" type pipes were likely manufactured circa 1647 near the time of the fall of Pope's Fort and the migration of John Hallowes and Thomas Speke across the Potomac River to Westmoreland County, Virginia. Hallowes established his new fortified home on Currioman Bay and Speke established his nearby on Nomini Bay. Perhaps the defeated rebels brought the pipes with them to Virginia, or the pipes were traded to Virginia from Pope's Fort shortly after the two men fled Maryland. That one of the pipes provides the TPQ of the construction of the Hallowes house strongly suggests that the pipes were exchanged around 1647. The fact that other locally made pipes, such as Bookbinder and the Tudor Rose pipes, were also found at all three sites suggests Post-Plundering Time commercial connections at the garrison and homes associated with men allied to the rebel faction during Ingle's Rebellion.

In addition to the Bookbinder, there was one other pipe maker in the seventeenth-century Chesapeake that produced agatized mold-made pipes, Emmanuel Drue of the Puritan settlement at Providence, Maryland. The Swan Cove site (18AN934), situated on a tributary of the Severn River, was the location of Drue's tobacco pipe kiln in the 1650s and 1660s where he produced two styles of molded pipes: solid colored belly-bowls and multicolored and elaborately decorated elbow pipes. The only form of decoration applied to the belly-bowl pipes was rouletting around the bowl rim, whereas, the elbow pipes were decorated with stamps and milled rouletting. Unlike the Bookbinder maker, who followed a strict decorative grammar, Drue decorated his elbow pipes with at least eight different tools in different patterns. Not all of the elbow pipes were decorated; some have only simple rim rouletting. The excavators of the Swan Cove site have previously stated that there is little evidence that Drue's pipes were traded outside of the Providence settlement, except for a few sites on the Eastern Shore of Maryland (Luckenbach 2004; Luckenbach and Kiser 2006). However, almost all of the seventeenth-century sites on the Northern Neck of Virginia and many sites in Southern Maryland were excavated prior to the 2002 discovery of Drue's kiln, and any possible Drue pipes would not have been identified as such.

There is one agatized pipe fragment from the Hallowes Site that may be from Drue's kiln in Providence (Figure 101). The clay from this red and buff agate pipe fragment appears to be less purposefully mixed than does the clay of Bookbinder pipes, which look similar to barber-poles. Down the Potomac River from Hallowes, another agatized pipe that looks very similar to those produced by Drue was found at the Coan Hall site (44NB11) in Northumberland County, Virginia (McMillan and Heath 2013). Neither of these examples from Virginia have Drue's stamps, and cannot be definitively

identified as the Swan Cove type, but as previously stated, not all of Drue's agatized elbow pipes were decorated, or perhaps the fragments are from parts of the pipes that were undecorated. There is no documentary evidence that John Hallowes or any of his descendents visited Providence or knew Emmanuel Drue, but based on his political and social leanings and his work as an Indian trader, it is possible that Hallowes traveled to the area.



Figure 101: Agatized Possilbe Drue-type Pipe from Hallowes.

Located directly across the bay from Kent Island, Providence was established in 1649 as a Puritan settlement by immigrants from the Southside of Virginia, and it appears that Drue was producing pipes from the time that he settled in Maryland until his death in 1669. His kiln was in operation during the Battle of the Severn and the resulting independence from proprietary rule between 1655 and 1658. Similar to Ingle's Rebellion, in which Hallowes participated, the Puritans in Providence rebelled against Baltimore and his Catholic rule. As a political agitator himself, a Protestant, and someone who was decidedly anti-Baltimore, Hallowes would have known about the uprising and most likely would have supported the Puritans' refusal to take the oath of fealty, as he was made to do at the end of Ingle's rebellion (Krugler 2004). It is also likely that Hallowes traded in the area around Providence, if not in the settlement itself. Emmanuel Drue's kiln site is located approximately five miles away from Kent Island across the Chesapeake Bay. The Susquehannock-style pipe fragment found at the site suggests that Hallowes visited Kent Island to conduct trade with the Native Americans in the northern part of the Chesapeake Bay. It is not inconceivable that he could sail the five miles across the bay to Providence to exchange goods and information with people of similar social and political leanings; or perhaps, the local Susquehannocks traded with the Puritans for the pipe, which was then traded to Hallowes.

The diversity of non-imported pipes that were found at the John Hallowes Site attests to the variety of local and regional trade networks in which the occupants of the

site were involved. The mold-made European style pipes most aptly speak to the maritime focus of the Chesapeake colonists, whereas the Native American hand-made pipes demonstrate that the land-based trade of the local Indian population continued post-contact and was adopted by the English for their own purposes.

Hand-built pipes demonstrate the strong inter-cultural connections that the occupants of the site maintained throughout the middle and late-seventeenth century. All but one of the Native American pipes have been identified as Algonquian in origin, and were most likely traded to the site via land-based routes. The running deer pipes may represent attempts by local Indians to decorate the trade pipes with motifs that were common among the Anglo, African, and Native populations in the area to strengthen and solidify economic partnerships and social relationships with neighbors. The pipes that were made on Nomini Plantation in the middle of the century best illustrate the creolization processes that were occurring with increased inter-cultural interactions between the three groups living in the Potomac Valley. The one Susquehannock-style pipe found at Hallowes shows that the occupants of the site were trading with the non-local Iroquoian-speaking groups to the north, most likely by boat.

The possible Drue pipe and the Ingle's Rebellion-type pipes illustrate water-based local systems of exchange in the Upper Chesapeake based on political leanings. If the one agate pipe is from Providence, it provides evidence that John Hallowes continued to support the idea of a Protestant-run Maryland after his defeat in the 1640s uprising. The three belly-bowls with rouletted junctures shows that Hallowes maintained a relationship, at least an economic one, with other rebels after he fled Maryland in 1647. The Bookbinder and Tudor Rose pipes not only illustrate Dutch influences on local pipe production, but also regional exchange systems within the Chesapeake as a whole. Bookbinder pipes were made on the Southside of Virginia and then widely distributed north all over the Chesapeake Bay, including on the Northern Neck, in the 1640s. The Tudor Rose pipes were produced in the Upper Chesapeake in the middle of the seventeenth century and then traded as far south as the Peninsula on the James River.

Imported Pipes

While the locally-made pipes found illustrate the variety of regional exchange networks in which the residents of the Hallowes Site were entangled, the imported pipes speak to the trans-national and trans-Atlantic trade that occurred in the seventeenth century. Of the 882 imported pipes examined, only 21 had makers' marks or decorative motifs that could be used to determine in which European country the pipes were manufactured. Twelve of the fragments were made in Bristol, England in the last half of the seventeenth century, and the remaining nine were imported from the Netherlands. Additionally, there were five marked pipe fragments that were unavailable for study, but were illustrated in Buchanan and Heite's 1971 *Historical Archaeology* article that will be discussed in this section; four of the missing pipes were from England and one was made in the Netherlands. The reasons why all of the English pipes are from Bristol and why there are pipes from the Netherlands found on a site that mainly post-dates the passage of the Navigation Acts, which made it illegal to trade with the Dutch, can be explained by

the European pipe industry, European conflicts, and resistance by the occupants of the Hallowes Site to mercantilist policies.

By the late sixteenth century, potters in England had begun to produce "little ladles" to smoke the newly introduced sot weed, or tobacco; however, tobacco use was restricted to the elite and the addictive substance was considered a luxury item until the market became glutted and the price of tobacco fell so low that its use spread to all levels of society in the 1620s (Menard 1980). At around the same time that tobacco became available to everyone, the first royal monopoly to produce pipes was granted to potters in Westminster, outside of London, in 1619. London remained the center of the English pipe industry until the middle of the seventeenth century, when production shifted to Bristol, England (Oswald 1975:7). The Bristol pipe makers' guild was formed in 1652, corresponding to the rise of Bristol as a major shipping port in the country (Walker 1977:257).

All of the marked English pipes recovered from the Hallowes Site were manufactured in Bristol; there were no pipes from London or other parts of England identified in the collection. Two stems and one bowl are marked with Llewellyn Evans maker's marks, and one bowl is stamped with a William Evans mark (Figure 31). Llewellyn Evans was working in Bristol ca. 1661-1688/9 (Walker 1977:1428-1429; Hurry and Keeler 1991:58). It is unclear if the WE pipes were made by Llewellyn's son, William Evans I, or his grandson, William Evans II. The dates for the WE pipes are 1667-1682/1697 (Walker 1977:1434-1435; Hurry and Keeler 1991:58). The remaining eight English fragments analyzed as a part of this project are stems with Bristol-style diamond rouletting. All of these pipestems date to ca. 1660s-1700s (Hurry and Keeler 1991:63-64).

Four additional Bristol pipe fragments were not examined for this project, as they are missing from the collection as outlined above. One of the missing pipe fragments was a stem decorated with Bristol-style diamond rouletting with the initials "WE" incised within the row of diamonds. This pipe was made by William Evans I or II (1667-1682/1697), and given the decoration, was likely produced by William Evans I. The second pipe illustrated in the article, but not examined, was a pipe stem incised with "WIL EVA." It is unclear if this style of pipe was made by the first or second William Evans.

One of the remaining English pipe fragments illustrated in the 1971 *Historical Archaeology* article is a stem piece with Bristol-style diamond rouletting with the initials "RT" incised in the middle of the row of diamonds. This pipe could have been made by Robert Tippet I, II, or III, but based on the diamond decoration, and the dates of all of the other artifacts from the site, it was most likely manufactured by Robert Tippet I who was working in Bristol from 1660 to 1680; Robert Tippet II was working from 1678 to 1713, and Robert Tippet III was working from 1713-1720 (Oswald 1975:158). The last English pipe fragment is a bowl/stem juncture of a heelless trade pipe with the initials "P" and "W" stamped on either side of the heel. Buchanan and Heite (1971:45) identified Bristol maker Priamus Williams (1677) as the producer of this pipe; as the pipe was unavailable for examination and the illustration does not clearly show the mark, this identification

could not be assessed. However, the identification of Priamus Williams does fit, given the dates of manufacture of all of the other pipes and datable artifacts.

At the same time that the center of production and shipping shifted from London to Bristol, the country was embroiled in a civil war against the monarchy which pulled the majority of the political power out of London with the execution of Charles I in 1649 and the rise of Oliver Cromwell and the Commonwealth government. The year before the Bristol guild was formed, the first of the three seventeenth-century Navigation Acts was passed, in 1651, to restrict trade in the American colonies. After the restoration of the monarchy in 1660, two more acts restricting trade were enacted; the first in the year that Charles II retook his father's throne and the final of the seventeenth-century Navigation Acts was passed in 1663. Each of these acts were aimed at strengthening the mercantilist policies of England and her colonies, and essentially made it illegal for English colonies to trade with any other European country, specifically targeting the Dutch. While there were several other factors contributing to the downfall of Dutch trade and industry, including the Anglo-Dutch wars, and to the rise of English shipping, such as the establishment of the Bank of England in 1694, the passage of these three mercantilist laws restricting trade in the New World contributed to the decrease in the amount of Dutch material culture entering the English colonies (McCusker and Menard 1985:35-47).

However, the Navigation Acts were not uniformly enforced or followed in the English colonies in the decades after their passage. Russell Menard (1980) has pointed out that the Dutch were rarely mentioned in the records of Virginia or Maryland after 1660, and interprets their absence from the records as indicative of their absence from the colonies, thus illustrating the effectiveness of the Navigation Acts in the Chesapeake. Other historians, such as Enthoven and Klooster (2011), question Menard's assertion, and push the date of Dutch influence in Virginia forward to the 1680s. Current research by McMillan indicates that while the presence of Dutch ships was rarely recorded in the official records of the two English colonies of Virginia and Maryland after 1651, the Records of New Amsterdam report dozens of Dutch ships sailing to the Chesapeake in the decades following the passage of the Navigation Acts. There is archaeological evidence that supports the assertion that Dutch trade continued in the Chesapeake into the mid- to late-seventeenth century, such as two sites dating from the late 1660s to the early 1690s on the Smith's Townland tract in Historic St. Mary's City, Maryland, in which Dutch pipes make up about 70%-80% of the pipe assemblage (Riordan 1991). Current research by McMillan on tobacco pipes from several other archaeological sites in Southern Maryland and on the Northern Neck of Virginia also provides evidence that the Dutch were illegally trading in the area after the passage of the Navigation Acts.

The Dutch pipe industry was established in the early seventeenth century by exiled English Protestants who fled England and Catholic rule under James I. Duco (1981:390-391) also states that English pipe makers emigrated from England to the Netherlands in order to enjoy the burgeoning economy of the United Provinces and to avoid James I's hatred of tobacco, the tobacco industry, and smoking. Whatever the reason, English pipe makers established the first workshops in Amsterdam in 1607. The English expatriates continued to dominate the Dutch pipe industry into the middle of the

century, and by 1620, there were seventeen registered makers in Amsterdam, ten of whom were English. The center of production remained in Amsterdam until the 1650s, when Gouda began to out-produce its northern neighbor. The first known pipe maker in Gouda was William Baernelts, who started producing pipes in 1617. Gouda remained the most important city for clay tobacco pipe production on the continent into the late eighteenth century (Duco 1981:390-422; Walker 1977:264-265).

Fourteen pipes recovered from the Hallowes Site were likely produced in the Netherlands. One bowl fragment and one heel are stamped with a Tudor Rose (Figure 32 and Figure 33). The Tudor Rose motif is typically found on pipes that were manufactured in Amsterdam prior to the 1660s and in Gouda between ca. 1630 and 1660 (Atkinson and Oswald 1972:182; Duco 1981:257, 397; McCashion 1979:104-105; Oswald 1970:129-130). Given that the other Dutch pipes recovered at the Hallowes Site were manufactured in Gouda, the fragments with the Tudor Rose motifs were likely also manufactured there.

Two stems and two heel fragments (Figure 34 and Figure 35) recovered were stamped with another Dutch motif dating to roughly the first half of the seventeenth century: the fleur-de-lis (Atkinson and Oswald 1972:182; Hurry and Keeler 1991:66). One of the stems was unavailable for study, and the only record of it is from Buchanan and Heite's 1971 article. The missing Dutch stem was decorated with a repeat scroll work of fleur-de-lis within diamonds. Don Duco (1981:249) illustrates several pipes with very similar decoration that were produced in Gouda between ca. 1640 and 1665. The stem that was examined for this project is decorated with a band of small fleur-de-lis within dotted rectangles above a band of horizontal S-scrolls with a dotted band below the S-scrolls. This style of pipe has been found on several mid-seventeenth-century sites in the area (Hurry and Keller 1991).

The two stamped heels have what appear to be a WT underneath the fleur-de-lis. This mark was also recovered from Newman's Neck, another seventeenth-century site just down the Potomac River from Hallowes in Northumberland County, Virginia (Heath et al. 2009:99). Buchanan and Heite (1971:44-45) originally identified this mark as a man on horseback, while others (Heath et al. 2009:99) have suggested that the mark is actually a cross with a ribbon. After extensive research and comparisons to other local sites, this mark has yet to be identified with certainty. If the motif is in fact a fleur-de-lis, then these two pipes were likely manufactured in the Netherlands in the the mid- to late-seventeenth century.

Four highly decorative stems were recovered that are of Dutch origin. One of these stems is molded with what appears to be a vine and flower motif (Figure 36); this motif dates to ca. 1625-1660 (Duco 1981:251; Hurry and Keeler 1991:66). Two of the decorative stems have repeat scrolling with half-circles and dots (Figure 37), and lastly, one stem is rouletted with dotted ovals (Figure 38); Duco (1981:250) illustrates similarly decorated pipes manufactured in Gouda from ca. 1660-1680.

Four junctures were identified as Dutch elbow style pipes (Figure 40). While the traditionally European belly-bowl was being produced in Amsterdam, by the 1640s, makers began to manufacture elbow-style pipes for trade with the Iroquois Indians in

New Amsterdam (New York). These heelless pipes with an almost 90° bend at the juncture were made for trade with Native Americans because of their resemblance to the handmade funnel pipes produced by the local Indians. Edward Bird is credited with creating the first mass-produced elbow pipes in Amsterdam in the 1640s, but many others soon copied him. The elbow pipe continued to be produced even after the pipe industry shifted from Amsterdam to Gouda in the middle of the century (Huey 2008). This style of pipe was manufactured in Gouda for export to the American market into the 1680s (Miller 1991:83)

All of the Dutch pipes recovered from the Hallowes Site date to, or just after, the passage of the Navigation Acts. Given that this site was not occupied before 1647, only four years prior to the enactment of the first law to restrict trade in 1651, some, if not the majority of the pipes from the Netherlands were likely purchased illegally in the third quarter of the seventeenth century. Most of the Dutch pipes were likely purchased during John Hallowes' occupation of the site. The exceptions are two of the decorative stems and the two pipes with the fleur-de-lis and WT mark that date to after John Hallowes' death (Figure 37 and Figure 38). The elbow-style trade pipes could have been imported after his death, but given John Hallowes' known and extensive interaction with Native Americans as an Indian trader, specifically with the Iroquoian speaking Susquahanocks, these pipes were likely purchased during the first decade of the site's occupation.

The historical documents provide evidence of two possible sources of these Dutch pipes. The first is a record of an account with Abraham Jansen, a Dutch sea captain. The account shows that Hallowes purchased shoes, alcohol, silk, and hose from the Dutch merchant. There are two references concerning the account between the two men. Hallowes was taken to court on September 13, 1652 by Jansen for payment and again on October 1, 1655 (WCR 1:41-42). This exchange happened after the passage of the first Navigation Act in 1651, meaning that Hallowes was engaging in illicit trade. An additional source for the illegally purchased pipes could be Simon Overzee, a Dutch merchant who lived across the river in St. Mary's City. The records indicate that the two men were acquainted, and in fact, Overzee paid for Hallowes' funeral (WCR1:103-104).

It is unsurprising that John Hallowes would choose to engage in illicit trade after 1651, given his propensity for resisting government rules and regulations as illustrated by his participation in the uprising in 1645, his subsequent immigration to Virginia, and the fortifying of his house. Hallowes had also previously been reprimanded in 1643 for trading illegally with local Native Americans. He was fined 500 pounds for providing guns to Indians (AOMOL 4:259). John Hallowes' choice to purchase goods illegally from Dutch merchants may have also been influenced by the significant amount of Dutch interactions that occurred during the 1640s in the Chesapeake.

Dutch presence in the Chesapeake significantly increased during the 1640s due to political upheaval in the metropole. Starting in 1642 until the beheading of Charles I in 1649, England was engaged in a civil war, pitting Royalists against Parliamentarians. Because the country was focused on its own internal struggles, English merchants were largely unable to sail to the New World, so the colonists turned to the Dutch for their commercial needs. The Dutch sea-captain, David De Vries, reported that when he sailed

to “the English Virginias” in 1635, all 36 ships he saw there were English; however, eight years later, in 1643, he reported that 4 of the 34 vessels that he encountered were from Holland, which he stated “make a great trade here every year” (De Vries 1853:112, 183). Between 1637 and 1642, the Rotterdam and Amsterdam notarial archives recorded four ships bound to Virginia, whereas, thirty-three were mentioned from 1643 to 1649 (Pagan 1982:491). In 1649, Virginian, and adherent colonial promoter, John Farrer wrote in a letter “last Christmas we had trading here ten ships from *London*, two from *Bristol*, twelve *Hollanders*, and seven from *New-England*” (Ferrar 1649). Half of the ships Farrer reported were of Dutch origin, illustrating the ubiquity of their presence in the mid-seventeenth-century Chesapeake.

By the time that John Hallows fled Maryland and established his new home in Virginia, he would have been used to trading almost exclusively with the Dutch. In fact, the Dutch controlled the Chesapeake trade for most of his time as a freeman since 1639. Hallows, and others like him in the Chesapeake, would have been loath to give up their free trade, and would have rejected the mercantilist policies of the metropole. The presence of fourteen pipes that were manufactured in the Netherlands that were likely imported after the passage the 1651 Navigation Act, and four fragments that post-date all three acts restricting trade in the seventeenth century, indicate that the colonists on the periphery were actively resisting the policies of the core, and instead were renegotiating the law for their own benefit based on their own preferences.

The clay tobacco pipes at the John Hallows site illustrate the multiple interaction spheres that the occupants were engaged in during the middle of the seventeenth century. The locally-made Native American pipes point to inter-cultural exchanges during the initial colonial settlement of the Upper Chesapeake and the early phases of the creolization processes that were occurring at that time. The locally-produced mold-made pipes illustrate the complex networks of exchange that existed during the seventeenth century; exchange networks not based solely on the market economy, but on the formation and reinforcement of communities and alliances within the Potomac Valley. The “Ingle’s Rebellion-type” pipes, specifically, speak to the development and maintenance of a community based on political alliances that can be seen in the archaeological record. Lastly, the imported ball clay pipes show the tangible realities of how the colonists were impacted by, and reacted to, events and policies enacted in Europe. The presence of pipes manufactured in the Netherlands at the Hallows Site during a time when it was illegal to trade with the Dutch support the assertion that colonists negotiated within the system to their own benefit, and were not always dominated by the core.

Conclusions

The reanalysis of the Hallows Site has provided an important opportunity to reassess the archaeology and history of the Potomac Valley in the seventeenth century. It has revealed connections between Maryland and Virginia that have generally been ignored by archaeologists and historians working mostly in the lower tidewater region. These connections, long recognized by many Maryland researchers, had an immeasurable impact on the early colonial history of the Northern Neck and their remnants can still be

seen today. The regional and Atlantic connections that the Hallowes site fostered also serve to offer new insights into the material culture of the early modern Potomac.

While regional and Atlantic trading networks were common throughout the Chesapeake, they differed based upon geography and environment (Walsh 1999; Walsh 2001). For the past decade, many of these differences have been explained as relating to tobacco sub-regions. While tobacco clearly played a large role, it is now becoming evident that riverine systems show important variability within tobacco regions (Rice 2009; Morgan 2011). Historical archaeology at the Hallowes Site is a prime example of this variability, particularly in terms of material culture. Interpretation of the Hallowes assemblage has relied upon an understanding of the society and politics that existed within the Potomac system in order to tease out nuances within the data. Atlantic aspects of the site, particularly Dutch trade, are heavily influenced by riverine systems due to the maritime focus of early modern Chesapeake society (Middleton 1953; Hatfield 2004). The reanalysis and standardized cataloging of this site will help to make it comparable to other sites in the Potomac drainage and allow future research to further reveal the unique aspects of sites along the Potomac River.

The Hallowes reassessment project has clearly demonstrated the importance of taking a fresh look at old collections. Prior to this analysis the site was interpreted as dating to post-1675, which had a significant impact on how the site was viewed by historical archaeologists and historians, particularly in reference to the fortification and its purpose (Buchanan and Heite 1971; Neiman 1980; Carson et al. 1981; Hodges 1993). This reanalysis has benefitted from more than 40 years of research in Chesapeake history and historical archaeology since the excavation of the site, allowing us to refine interpretations and show that the site was occupied from 1647 to 1681. Reanalyses of sites such as Hallowes illustrate how even collections recovered using older methods can contribute to our understanding of the past. While the excavation and recording methods for the site were not ideal by current methodological standards, careful analysis and contextualization of the data have still allowed us gain important new knowledge. The continued opportunity to reanalyze old collections and incorporate them into more current historical narratives has become even more significant in recent years with funding cuts in archaeology. Hopefully, this report has shown that reanalysis is a cost-effective way to do original archaeological research and still make new interpretations about the past.

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APPENDIX 1: LIST OF FEATURES EXCAVATED

| Feature # | Description | Location | Acc# | ER# | Notes |
|------------------|-----------------------------|-----------------|-----------------|------------|--|
| 1 | post mold | VC5 | 25 | | |
| 2 | drain/trench/palisade | VC5 | 26 | | |
| 3 | post mold | VC5 | 24A | | |
| 4 | faint streak | VC5 | 24 | | |
| 5 | post mold | VC5 | no artifacts | | |
| 6 | disturbance in fireplace | VC4/5 | 28A | | |
| 7 | post hole | VC5 | no artifacts | | |
| 8 | post mold | VC5 | 23 | | |
| 9 | post mold | VC5 | 22 | | |
| 10 | fire place base | VC5 | no artifacts | | |
| 10 | fire place base | VC4 | no artifacts | | |
| 10 | fire place base | IVC24 | no artifacts | | |
| 11 | post hole | IVC25 | no artifacts | | |
| 12 | post mold | IVC25 | 27 | | |
| 13 | trash deposit | IVC4 | 31 | | |
| 14 | post mold | IVC25 | 28 | | |
| 15 | post mold | IVC25 | no artifacts | | |
| 16 | post mold | IVC24 | no artifacts | | |
| 17 | unidentified hole | IVC5 | 29, 29A, 29C | | labeled "trash pit" on map |
| 17 | unidentified hole | IVC4 | 29, 29A, 29C | | labeled "trash pit" on map |
| 17 | unidentified hole | IVC9 | 29, 29A, 29C | | labeled "trash pit" on map |
| 17 | unidentified hole | IVC10 | 29, 29A, 29C | | labeled "trash pit" on map |
| 18 | drain/trench/palisade | IVC4 | 29B | | |
| 18 | drain/trench/palisade | IVC9 | 29B | | |
| 19 | drain/trench/palisade | IVC15/6 (?) | 30 | | |
| 20 | post hole/post mold | IVC15 | no artifacts | | |
| 20 | post hole/post mold | IVC20 | no artifacts | | |
| 21 | post hole/post mold | IVC20 | | | |
| 21 | post hole/post mold | IVB116 | | | |
| 22 | series of post molds | IVC20 | no artifacts | | |
| 23 | streak of mottled earth | | | | |
| 24 | post mold | IVC10 | no artifacts | | |
| 25 | post mold | IVC10 | no artifacts | | |
| 26 | post mold | IVC10 | no artifacts | | |
| 27 | post hole-gr of small molds | IVC4 | no artifacts | | |
| 28 | 2 post molds | IVC9 | no artifacts | | |
| 29 | post mold | IVC14 | 30C | | |
| 30 | post mold | IVC14 | no artifacts | | |
| 31 | post hole | IVC14 | no artifacts | | |
| 32 | post mold | IVC14 | no artifacts | | |
| 33 | end of F19 | IVC14 | 30A | | catalogue lists as "post hole with mold" |

| | | | | | |
|----|-----------------------|-------------|--------------|---------------|-----------------|
| 34 | post mold | IVC14 | no artifacts | | |
| 35 | drain/trench/palisade | IVC14 | 30B | | |
| 36 | stump mold | IVC19 | 21E | | |
| 37 | post mold | IVC19 | 21F | | |
| 38 | post mold | VC10 | no artifacts | | |
| 39 | post mold | VC10 | no artifacts | | |
| 40 | post mold | VC10 | no artifacts | | |
| 41 | post mold | VC10 | no artifacts | | |
| 42 | post mold | VC15 | | 101A | |
| 43 | post hole/post mold | VC15 | | 101B | |
| 44 | stump mold | VC15 | | 101C | |
| 45 | post hole | VC15 | no artifacts | | |
| 46 | post mold | VC10 | no artifacts | | |
| 47 | double post molds | VC15 | no artifacts | | |
| 48 | post hole/post mold | VC14 | | 102A | |
| 49 | post mold | VC14 | | 102B | |
| 50 | post mold | VC14 | no artifacts | | |
| 51 | post hole/post mold | VC9 | | 103A/103B | |
| 52 | stump hole | VC9 | no artifacts | | |
| 53 | post mold | VC14 | | | |
| 54 | plant mold | VC14 | | | |
| 55 | plant mold | VC14 | | | |
| 56 | stump mold | VC14 | | | |
| 57 | plant mold | VC14 | | | |
| 58 | root mold | VC13 | | | |
| 59 | irregular root mold | VC13 | | | |
| 60 | irregular root mold | VC12 | | 106B | |
| 60 | irregular root mold | VC13 | | 106B | |
| 61 | drain/trench/palisade | VC12 | | | |
| 62 | trench or plow scar | VC12, 13,14 | | | |
| 63 | pit or privy | VC12 | | 105A, 105B | |
| 64 | drain/trench/palisade | VC12 | | 105C | |
| 65 | junction of f62 and | VC7/12 | | | |
| 66 | "L" shaped mold | VC7 | | | |
| 67 | post hole/post mold | VC7 | | 107B | |
| 68 | post mold | VC7 | | 107A | |
| 69 | irregular mold | VC13 | | 106A | |
| 70 | post mold | VC7 | | 107C | |
| 71 | post hole/post mold | VC12 | | 105D | mold |
| 72 | post mold | VC7 | | | |
| 73 | post mold, burned | VC12 | | | corner of F63 |
| 74 | drain/trench/palisade | VC23 | | 110A | |
| 75 | drain/trench/palisade | VC16 | | 111A | black |
| 76 | post mold | VC16 | | 111B | black |
| 77 | sill mold #1 | VC11 | | 112A | SW section |
| 78 | sill mold #1 | VC11 | | 112B | SE section |
| 79 | post mold | VC11 | | | in F63, NW side |
| 80 | post mold | VC3 | | 113A | |

| | | | | | |
|-----|-------------------------|-------------------|--|------|---------------|
| 81 | post hole/post mold | VC3 | | 113B | |
| 82 | post mold or root | VC3 | | 113C | |
| 83 | pit, shallow | VC2 | | 114A | |
| 84 | pit, shallow | VC2 | | 114B | |
| 85 | post hole/post mold | IVC23 | | 115B | |
| 86 | tree stump | IVC23 | | 115A | |
| 87 | tree stump | IVC23 | | 115C | |
| 88 | post mold | IVC23 | | 115D | |
| 89 | burnt area #1 | IVC18 | | | |
| 90 | burnt area #2 | IVC18 | | | |
| 91 | refuse area | IVC18 | | 117A | shallow |
| 92 | post hole/post mold | IVC18 | | 117B | |
| 93 | tree stumps | IVC17 | | | |
| 94 | disturbance, shallow | IVC13 | | 119A | Indian |
| 95 | post hole | IVC13 | | 119B | |
| 96 | drain/trench/palisade | IVB16 | | 123B | |
| 97 | drain/trench/palisade | IVB16 | | | |
| 98 | root mold | IVB6 | | | |
| 99 | root mold | VC20 | | | |
| 100 | slat mark | VB2 | | | |
| 101 | post mold | VB2 | | | |
| 102 | extension of F18 | IIIC19 | | 127A | |
| 103 | drain/trench/palisade | IIIC13, 14, 15 | | 127B | |
| 104 | deposit of oyster shell | IIB17 | | | |
| 105 | drain/trench/palisade | IIB17, 22 | | | black soil |
| 106 | post mold | IIB22 | | | black soil |
| 107 | post mold | IIIC15 | | | black soil |
| 108 | post hole | 111C15 | | | mottled earth |
| 109 | drain/trench/palisade | IIIC18, 19 | | | |
| 110 | post mold | IIC13 | | | black soil |
| 111 | post mold | IIIC15 | | | black soil |
| 112 | post mold | IIIC20 | | | black soil |
| 113 | post mold | IIIC15 | | | black soil |
| 114 | drain/trench/palisade | IIIC 15 | | | black soil |

APPENDIX 2: STRUCTURE AND FEATURE CHRONOLOGY

| Feature Type | ER | TPQ |
|---|--|--|
| Dwelling | | |
| Post hole/post mold | 105D (post mold), 105E (post hole) | 1660s (105D, Morgan Jones-type), 1634 (105E, Brick fragment, chicken bone) |
| Post hole/post mold | 107B (post mold) | 1650 (7/64 white clay pipe stem) |
| Post hole/post mold | 113B (post mold) | 1634 (wrought nail) |
| Post hole/post mold | 115B (post mold) | 1634 (Rhenish Blue and Gray) |
| Post hole/post mold | 117B (post mold) | 1634 (8/64 white clay pipe stem) |
| Post hole/post mold | no artifacts | |
| Post hole/post mold | 123A (post mold) | 1660s (Morgan Jones-type) |
| Post hole/post mold | 27 (post mold) | 1650 (7/64 white clay pipe stem) |
| Post hole/post mold | 22 (post mold) | 1634 (brick fragment) |
| Post hole/post mold | 103A (post mold), 103B (post hole) | 1634 (103A, wrought nail), ca. 1640 (103B, local red belly bowl pipe) |
| Post hole/post mold | 102A (post mold) | 1675 (North Devon gravel-tempered) |
| Construction | | ca. 1640 (103B, local red belly bowl pipe) |
| Destruction | | 1675 (102A, North Devon gravel-tempered) |
| | | |
| Bastions | | |
| Ditch | 110A | 1634 (Tin Glazed Earthenware) |
| Ditch | 105C | 1660s (Morgan Jones-type) |
| Ditch | 30B | 1634 (Locally-made wheel thrown earthenware) |
| Ditch | 30 | 1660s (Morgan Jones-type) |
| Ditch | 123B | 1660s (Morgan Jones-type) |
| | | Probably contemporary with construction of house, but post molds were not separated |
| | | 1660s (Morgan Jones-type) |
| | | |
| Large Pit | 29 (Fill), 29A (Ash and Shell Layer), 29C (Mortar Layer) | 1660s (29, Morgan Jones-type), ca. 1640 (29A, Bookbinder pipe), 1634 (29C, Martincamp) |
| | | 1660s (Morgan Jones-type). The lower layers may date earlier than the final layers since there is no Morgan Jones present |
| | | |
| | | |
| Shallow Depression in SW Bastion | 105A, 105B | 1660's (Morgan Jones-type) |

APPENDIX 3: DIGITIZED CONTEXT RECORDS

| ER | Feature No. | Area | Strat ID | Soil Desc. | Artifacts | Interpretation | Notes |
|----|-------------|---------|----------------------|------------|-----------|--------------------|--|
| 20 | 38 | IVC10 | FEATURE W/IN FEATURE | | none | POST MOLD | |
| 21 | | ALL | SURFACE | | | SURFACE COLLECTION | |
| 22 | 9 | VC5 | FEATURE W/IN FEATURE | | | POST MOLD | context record says post mold in corner of F7, black soil, 11" diameter"" |
| 23 | 8 | VC5 | FEATURE W/IN FEATURE | | | POST MOLD | |
| 24 | 4 | VC5 | FEATURE | black | | UNIDENTIFIED | Called faint streak"; context record says "sill mold (?), 7 1/2" wide"" |
| 25 | 1 | VC5 | FEATURE W/IN FEATURE | | | POST MOLD | context record says 12" square black earth"" |
| 26 | 2 | VC5 | FEATURE | | | LINEAR FEATURE | drainlike feature; context record says sill mold (?) - drain from front door (?), 8" wide, black earth"" |
| 27 | 12 | IVC25 | FEATURE W/IN FEATURE | brown | | POST MOLD | context record says 12" x 12" "" |
| 28 | 14 | IVC25 | FEATURE W/IN FEATURE | | | POST MOLD | context record says black earth, in feature 11, 12" diameter"" |
| 29 | 17 | IVC4/5/ | LAYER W/IN FEATURE | | | TRASH PIT | trashpit oyster shell layer; feature list says unidentified hole"; sq IVC 4/5/9/10; context record says "cellar hole/pipe kiln/later trash depository, no earlier than 1660 (fragment stoneware purple mag.)"" |

| | | | | | | | |
|-----|----|---------|---------|--|--|--------------------|---|
| 30 | 18 | IVC15/6 | FEATURE | | | LINEAR FEATURE | Possibly IVC15/6. Addition of puncheons.; context record discrepancy - says Acc 30 is associated with F19, trench, IVC 14/15, red brick fragments and 1 pipe stem |
| 31 | 13 | IVC4 | FEATURE | | | TRASH DEPOSIT | catalogue says "underhearth debris"; context record says "trash deposit underhearth S side" |
| 100 | | VC10 | SURFACE | | | SURFACE COLLECTION | surface of VC10 |
| 101 | | VC15 | SURFACE | | | SURFACE COLLECTION | surface sq VC15 (2nd square excavated in 1969) |
| 102 | | VC14 | SURFACE | | | SURFACE COLLECTION | surface sq VC14 |
| 103 | | VC9 | SURFACE | | | SURFACE COLLECTION | surface sq VC9 |
| 104 | | VC8 | SURFACE | | | SURFACE COLLECTION | |
| 105 | | VC12 | SURFACE | | | SURFACE COLLECTION | surface sq VC12 plow zone over F63; another date given on context record: 06/30/1969 |
| 106 | | VC13 | SURFACE | | | SURFACE COLLECTION | surface sq VC13 |
| 107 | | VC7 | SURFACE | | | SURFACE COLLECTION | surface sq VC7 |
| 108 | | VC17 | SURFACE | | | SURFACE COLLECTION | surface sq VC17 |
| 109 | | VC20 | SURFACE | | | SURFACE COLLECTION | surface sq VC20 |
| 110 | | IIC23 | SURFACE | | | SURFACE COLLECTION | surface of sq IIC23 |

| | | | | | | | |
|-----|---|---------|----------------------|-------|------|--------------------|---|
| 111 | | VC16 | SURFACE | | | SURFACE COLLECTION | surface sq VC16 |
| 112 | | VC11 | SURFACE | | | SURFACE COLLECTION | surface sq VC11 |
| 113 | | VC3 | SURFACE | | | SURFACE COLLECTION | surface sq VC3 |
| 114 | | VC2 | SURFACE | | | SURFACE COLLECTION | surface sq VC2 |
| 115 | | IVC23 | SURFACE | | | SURFACE COLLECTION | surface sq IVC23 |
| 116 | | IVC22 | SURFACE | | | SURFACE COLLECTION | surface sq IVC22 |
| 117 | | IVC18 | SURFACE | | | SURFACE COLLECTION | surface sq IVC18 |
| 118 | | IVC17 | PLOW ZONE | | | PLOW ZONE | plow zone sq IVC17 |
| 119 | | IVC13 | PLOW ZONE | | | PLOW ZONE | plow zone sq IVC-13 |
| 120 | | IVB4 | PLOW ZONE | | | PLOW ZONE | plow zone sq IVB4; context record says IVB1"" |
| 121 | | IVB6 | PLOW ZONE | | | PLOW ZONE | plow zone sq IVB6 |
| 122 | | IVB2 | PLOW ZONE | | | PLOW ZONE | plow zone sq IVB6 |
| 123 | | IVB16 S | PLOW ZONE | | | PLOW ZONE | plow zone sq IVB16 S1/2 |
| 124 | | IVB11 N | PLOW ZONE | | | PLOW ZONE | plow zone; sq IVB11 NW1/4 |
| 125 | | VB1 SE1 | PLOW ZONE | | | PLOW ZONE | plow zone sq VB1 SE1/4 |
| 126 | | VB2 SW1 | PLOW ZONE | | | PLOW ZONE | plow zone sq VB2 SW1/2 |
| 127 | | | SURFACE | | | SURFACE COLLECTION | catalogue record says area NW of house MacCord + Bal[?]" |
| 218 | | | | | | | no information, only catalogued artifacts |
| 219 | | | | | | | no information, only catalogued artifacts |
| 300 | 5 | VC5 | FEATURE W/IN FEATURE | brown | none | POST MOLD | context record says 4" diameter"" |

| | | | | | | | |
|-----|----|---------|----------------------|--------------|------|---------------------|--|
| 301 | 7 | VC5 | FEATURE | yellow-black | none | POST HOLE | context record says post hole mottled area - yellow - black. Contains F8, F9, 3' x 2'" |
| 302 | 10 | VC5 | FEATURE | | none | FIRE PLACE BASE | context record says Yorkshire bond" |
| 303 | 10 | VC4 | FEATURE | | none | FIRE PLACE BASE | context record says Yorkshire bond" |
| 304 | 10 | IVC24 | FEATURE | | none | FIRE PLACE BASE | context record says Yorkshire bond" |
| 305 | 11 | IVC25 | FEATURE | | none | POST HOLE | context record says large mottle area, containing F14, size 3 1/2' x 2'" |
| 306 | 15 | IVC25 | FEATURE W/IN FEATURE | brown | none | POST MOLD | context record says circular post mold/small" |
| 307 | 16 | IVC24 | FEATURE W/IN FEATURE | brown | none | POST MOLD | context record says in hearth, 8" square" |
| 308 | 20 | IVC15/2 | FEATURE | brown | none | POST HOLE/POST MOLD | context record says round post mold 4" diameter, 10" post hole" |
| 309 | 22 | IVC20 | FEATURE W/IN FEATURE | brown | none | POST MOLD | Series of post molds; context record says small post molds - part of structure or of aboriginal orig., around 2" each, fairly uniform" |
| 310 | 24 | IVC10 | FEATURE W/IN FEATURE | black | none | POST MOLD | context record says 4" round" |
| 311 | 25 | IVC10 | FEATURE W/IN FEATURE | black | none | POST MOLD | context record says sq C; 4" diameter" |
| 312 | 26 | IVC10 | FEATURE W/IN FEATURE | brown | none | POST MOLD | 4 diameter" |
| 313 | 27 | IVC4 | FEATURE | | none | POST HOLE | context record says disturbance sq. C, post hole with mottled clods and 3 molds+, hedge row or grape arbor???, see drawing" |

| | | | | | | | |
|-----|----|-------|----------------------|-------|-------------------------------|------------|--|
| 314 | 28 | IVC9 | FEATURE W/IN FEATURE | brown | none | POST MOLD | 2 post molds; context record says pre dating F18" |
| 315 | 30 | IVC14 | FEATURE W/IN FEATURE | black | none | POST MOLD | 6 x 18" |
| 316 | 31 | IVC14 | FEATURE | | none | POST HOLE | context record says discolored area, containing F34, 3' x 2" |
| 317 | 32 | IVC14 | FEATURE W/IN FEATURE | | none | POST MOLD | context record says post hole, dug and immediately back filled, mottled clods, 1' x 1" |
| 318 | 34 | IVC14 | FEATURE W/IN FEATURE | black | none | POST MOLD | context record says post mold in F31, 1' x 1" |
| 319 | 38 | VC10 | FEATURE W/IN FEATURE | brown | none; 1 nail (not saved?)" | POST MOLD | context record says 4" diam", "second season" |
| 320 | 39 | VC10 | FEATURE W/IN FEATURE | brown | none; 1 nail | POST MOLD | context record says 4" x 6" |
| 321 | 40 | VC10 | FEATURE W/IN FEATURE | brown | none | POST MOLD | context record says 12" post hole - mottled clods, 6" post mold" |
| 322 | 41 | VC10 | FEATURE W/IN FEATURE | | none | POST MOLD | context record says 8" post hold - mottled clods, 3" post mold - brick chips - brown soil" |
| 323 | 45 | VC15 | FEATURE | brown | none | POST HOLE | context record says oval 6" x 9" " |
| 324 | 46 | VC10 | FEATURE W/IN FEATURE | | none | POST MOLD | context record says root mold" |
| 325 | 47 | VC15 | FEATURE W/IN FEATURE | brown | none | POST MOLD | double post molds; context record says 8" larger, 6" smaller" |
| 326 | 50 | VC14 | FEATURE W/IN FEATURE | | none | POST MOLD | |
| 327 | 52 | VC9 | FEATURE | | none | STUMP MOLD | |
| 328 | 53 | VC14 | FEATURE W/IN FEATURE | brown | none | POST MOLD | context record says plant mold" |
| 329 | 54 | VC14 | FEATURE | brown | none | PLANT MOLD | |
| 330 | 55 | VC14 | FEATURE | | none | PLANT MOLD | context record says |

| | | | | | | | |
|-----|-----|---------|----------------------|-------|------|----------------|---|
| | | | | | | | stump"" |
| 331 | 56 | VC14 | FEATURE | brown | none | STUMP MOLD | |
| 332 | 57 | VC14 | FEATURE | brown | none | PLANT MOLD | |
| 333 | 58 | VC13 | FEATURE | gray | none | PLANT MOLD | ROOT MOLD |
| 334 | 59 | VC13 | FEATURE | gray | none | PLANT MOLD | IRREGULAR ROOT MOLD, shallow |
| 335 | 62 | VC12/13 | FEATURE | | none | LINEAR FEATURE | trench or plow scar; IVC12/13/14 |
| 336 | 65 | VC7/12 | FEATURE | black | none | UNIDENTIFIED | junction of F62 and this |
| 337 | 66 | VC7 | FEATURE | black | none | UNIDENTIFIED | L" shaped mold" |
| 338 | 72 | VC7 | FEATURE W/IN FEATURE | black | none | POST MOLD | |
| 339 | 73 | VC12 | FEATURE | black | none | POST MOLD | burned; corner of F63 |
| 340 | 79 | VC11 | FEATURE W/IN FEATURE | | none | POST MOLD | in F63; NW side |
| 341 | 89 | IVC18 | FEATURE | | none | BURNED SUBSOIL | burnt area #1; context record says burnt area - ashes #1"" |
| 342 | 89 | IVC18 | FEATURE | | none | BURNED SUBSOIL | burnt area #2; context record says burnt ashes square area #2"" |
| 343 | 93 | IVC17 | FEATURE | black | none | STUMP MOLD | tree stumps |
| 344 | 97 | IVB16 | FEATURE | black | none | LINEAR FEATURE | |
| 345 | 98 | IVB6 | FEATURE | black | none | PLANT MOLD | root mold |
| 346 | 99 | VC20 | FEATURE | | none | PLANT MOLD | root mold |
| 347 | 100 | VB2 | FEATURE | black | none | LINEAR FEATURE | slat mark |
| 348 | 101 | VB2 | FEATURE W/IN FEATURE | black | none | POST MOLD | |
| 349 | 104 | IIB17 | FEATURE | | none | UNIDENTIFIED | deposit of oyster shell |
| 350 | 105 | IIB17/2 | FEATURE | black | none | LINEAR FEATURE | IVC17/22 |
| 351 | 106 | IIB22 | FEATURE W/IN FEATURE | black | none | POST MOLD | |
| 352 | 107 | IIIC15 | FEATURE W/IN FEATURE | black | none | POST MOLD | |
| 353 | 108 | IIIC15 | FEATURE | | none | POST HOLE | mottle earth |
| 354 | 109 | IIIC18/ | FEATURE | | none | LINEAR FEATURE | IIIC18/19; context record says drain"" |
| 355 | 110 | IIIC13 | FEATURE W/IN FEATURE | black | none | POST MOLD | |

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|------|-----|---------|----------------------|-------|---|---------------------|--|
| 356 | 111 | IIIC15 | FEATURE W/IN FEATURE | black | none | POST MOLD | |
| 357 | 112 | IIIC20 | FEATURE W/IN FEATURE | black | none | POST MOLD | |
| 358 | 113 | IIIC15 | FEATURE W/IN FEATURE | black | none | POST MOLD | |
| 359 | 114 | IIIC15 | FEATURE | black | none | LINEAR FEATURE | |
| 360 | 10 | VC5/4IV | FEATURE | | bricks, 148 average sizes: 3 1/8 x 6 3/4" x 1 1/2" (6 mortared)" | FIRE PLACE BASE | related to ER 302, 303, 304 |
| 361 | 21 | IVC20 | FEATURE | | | POST HOLE/POST MOLD | IVC20 and IVB116; context record discrepancy for F21, says mottled area, ER103A, post mold"" |
| 362 | | | FEATURE | | | UNIDENTIFIED | streak of mottled earth |
| 101A | 42 | VC15 | FEATURE W/IN FEATURE | brown | | POST MOLD | context record says 6" x 11" "" |
| 101B | 43 | VC15 | FEATURE | | | POST HOLE/POST MOLD | feature list says post hole with post mold"; context record says "mold black - 1'11" x 0-11" "" |
| 101C | 44 | VC15 | FEATURE | brown | | STUMP MOLD | |
| 102A | 48 | VC14 | FEATURE | | | POST HOLE/POST MOLD | catalogue says post mold"; feature list says "post hole with mold"; context record says "post mold within post hole 25' x 25', post hole 10" by 10" - black soil"" |
| 102B | 49 | VC14 | FEATURE W/IN FEATURE | | | POST MOLD | |
| 103A | 51 | VC9 | FEATURE | | | POST HOLE/POST MOLD | catalogue and context record says post mold"" |
| 103B | 51 | VC9 | FEATURE | | | POST HOLE/POST MOLD | catalogue says primary post hole fill"; context record says "post hole, |

| | | | | | | | |
|------|----|---------|----------------------|-------------------------|--|---------------------|---|
| | | | | | | | 1640-1690" |
| 105A | 63 | VC12 | FEATURE | black | | UNIDENTIFIED | privy or pit; catalogue says F63 sq VC12 puncheon holes south wing"; context record says "black soil on top, layer of black soil" |
| 105B | 63 | VC12 | FEATURE | black | | LINEAR FEATURE | catalogue says F63 sq VC12 depression inside fill of puncheoned wing" |
| 105C | 64 | VC12 | FEATURE | black | | LINEAR FEATURE | catalogue says F64 sq VC12 drain to south of house"; context record says "later than F71" |
| 105D | 71 | VC12 | FEATURE | black | | POST HOLE/POST MOLD | catalogue and context record says post mold |
| 105E | 71 | VC12 | FEATURE | mottled-black yellow | | POST HOLE | |
| 106A | 69 | VC13 | FEATURE | black | | UNIDENTIFIED | irregular mold; context record says tree or shrub?" |
| 106B | 60 | VC12/13 | FEATURE | dark | | PLANT MOLD | irregular root mold; catalogue says sq VC13 |
| 107A | 68 | VC7 | FEATURE W/IN FEATURE | black | | POST MOLD | |
| 107B | 67 | VC7 | FEATURE | | | POST HOLE/POST MOLD | catalogue says F67 sq VC7 post mold"; context record says "post mold - corner of house? SW side"; context record says "mottled clods - black mold" |
| 107C | 70 | VC7 | FEATURE W/IN FEATURE | black | | POST MOLD | |
| 107D | 67 | VC7 | FEATURE | | | POST HOLE | on acc list |

| | | | | | | | |
|------|----|-------|----------------------|-------|--|---------------------|--|
| 110A | 74 | IIC23 | FEATURE | black | | LINEAR FEATURE | catalogue says F74, trench sq IIC23"; context record says "contents trench or fence line" |
| 111A | 75 | VC16 | FEATURE | black | | LINEAR FEATURE | trench |
| 111B | 76 | VC16 | FEATURE | black | | LINEAR FEATURE | catalogue says F76 post mold sq VC16"; context record says "post mold" |
| 112A | 77 | VC11 | FEATURE | black | | LINEAR FEATURE | sill mold #1; SW section; catalogue says F77 sill mold SW sq VC11" |
| 112B | 78 | VC11 | FEATURE | black | | LINEAR FEATURE | sill mold #1; SE section |
| 113A | 80 | VC3 | FEATURE W/IN FEATURE | black | | POST MOLD | acc list says post mold (brick fragments) sq VC3 discarded in field" |
| 113B | 81 | VC3 | FEATURE | black | | POST HOLE/POST MOLD | catalogue says F81, post mold sq VC3"; feature list says "post hole with mold" |
| 113C | 82 | VC3 | FEATURE W/IN FEATURE | black | | POST MOLD | post mold or root; catalogue says root mold" |
| 114A | 83 | VC2 | FEATURE | gray | | TRASH PIT | pit, shallow; catalogue says small pit" |
| 114B | 84 | VC2 | FEATURE | black | | TRASH PIT | pit, shallow; catalogue says small pit" |
| 115A | 86 | IVC23 | FEATURE | black | | STUMP MOLD | tree stump |
| 115B | 85 | IVC23 | FEATURE | black | | POST HOLE/POST MOLD | catalogue says F85 post mold sq IVC 23"; feature list says "post hole with mold" and "hole - mottled clay" |
| 115C | 87 | IVC23 | FEATURE | black | | STUMP MOLD | tree stump |
| 115D | 88 | IVC23 | FEATURE W/IN FEATURE | black | | POST MOLD | |

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|------|-----|--------|---------|-------|--|---------------------|--|
| 117A | 91 | IVC18 | FEATURE | black | | TRASH DEPOSIT | shallow refuse area; catalogue says shallow pit" |
| 117B | 92 | IVC18 | FEATURE | | | POST HOLE/POST MOLD | acc list says post hole with mold"; context record says "post mold"; context record says "mold black" |
| 119A | 94 | IVC13 | FEATURE | black | | UNIDENTIFIED | disturbance, shallow; Indian; near F75 |
| 119B | 95 | IVC13 | FEATURE | black | | POST HOLE | |
| 123A | 21 | IVB16S | FEATURE | | | POST HOLE | sq IVB16 S1/2; context record says post mold" |
| 123B | 96 | IVB16S | FEATURE | black | | LINEAR FEATURE | trench sq IVB16 S1/2 |
| 124A | 19 | IVB11N | FEATURE | | | LINEAR FEATURE | F19 trench extended sq IVB11 NW 1/4 |
| 127A | 102 | IIC19 | FEATURE | black | | LINEAR FEATURE | extension of F18; context record says bulldozer trench" |
| 127B | 103 | IIC13/ | FEATURE | black | | LINEAR FEATURE | trench; IIC13/14/15; context record says bulldozer trench" |
| 21A | | ALL | SURFACE | | | SURFACE COLLECTION | Surface materials over 17, 24, 25, 26, 28. |
| 21B | | ALL | SURFACE | | | SURFACE COLLECTION | Old soil over 18, 28, 27. |
| 21C | | ALL | SURFACE | | | SURFACE COLLECTION | Surface materials over 19, 20, 21, 22. |
| 21D | | ALL | SURFACE | | | SURFACE COLLECTION | Surface materials over 29, 30, 31, 32, 33, 34, 35. |
| 21E | 36 | IVC19 | SURFACE | | | UNIDENTIFIED | Bottle fragment F36 - Sq. IVc 19; also says stump mold"; context record says "Bottle fragment located in stump hole under house - dates before 1655. |

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|-----|----|---------|----------------------|-------|---|--------------------------|---|
| | | | | | | | Earliest 1650-1655"" |
| 21F | 37 | IVC19 | FEATURE W/IN FEATURE | brown | | POST MOLD | context record says small post mold near feature #36"" |
| 23C | 8 | | FEATURE W/IN FEATURE | black | gin bottle fragments, nails, window glass (no size yet) | POST MOLD | context record says post mold in corner of F7, 9" x 9" "" |
| 24A | 3 | VC5 | FEATURE W/IN FEATURE | brown | | POST MOLD | context record says 6"x13" "" |
| 28A | 6 | VC4/5 | FEATURE | black | | DISTURBANCE IN FIREPLACE | disturbance in chimney rubble; context record says disturbance in side of fireplace jamb"" |
| 29A | 17 | IVC4/5/ | LAYER W/IN FEATURE | | | TRASH PIT | ash layer; context record says cellar hole/pipe kiln/later trash depository, no earlier than 1660 (fragment stoneware purple mag.)"" |
| 29B | 18 | IVC4/9 | FEATURE | black | | LINEAR FEATURE | pale line (puncheons) |
| 29C | 17 | IVC4/5/ | LAYER W/IN FEATURE | | | TRASH PIT | mortar layer; context record says cellar hole/pipe kiln/later trash depository, no earlier than 1660 (fragment stoneware purple mag.)"" |
| 29D | 17 | | FEATURE | | | TRASH PIT | brick disturbance |
| 30A | 33 | IVC14 | FEATURE | black | | POST HOLE/POST MOLD | post hole with mold; feature list says end of feature 19"; context record says "trench under 21D-ext of 30"; context |

| | | | | | | | |
|-----|----|-------|----------------------|-------|--|----------------|---|
| | | | | | | | record says "extension of feature 19 in Sq B" |
| 30B | 35 | IVC14 | FEATURE | black | | LINEAR FEATURE | catalogue says post of F18; context record says trench extension of F18 in Sq B" |
| 30C | 29 | IVC14 | FEATURE W/IN FEATURE | | | POST MOLD | catalogue says post hole in sq. IVC14"; feature list says "post mold"; "12" x 12", burnt wood fragments post apparently burnt in place - walls of post mold show some signs of fire. also contained black soil plus oyster shell" |

**APPENDIX 4: A LIST OF SOME REFERENCES TO JOHN HALLOWES IN THE
MARYLAND ARCHIVES**

| Volume | Page | Date | Description |
|---------------|-------------|-------------|--|
| 3 | 83 | 1638 | Fenwick and Hollis as privateers |
| 4 | 22 | 1635 | Hallowes on St. Margaret |
| 4 | 52 | 6/2/1639 | Hallowes marries Restitute Tew |
| 4 | 67 | 1642 | John Hallows, Mariner |
| 4 | 149-150 | 1642 | Wife called whore |
| 4 | 154 | 1642 | Carpenter, transports tobacco to VA |
| 4 | 155 | 1642 | Mathias de Sousa |
| 4 | 156 | 1642 | Mathias de Sousa, Lewger, Hollis |
| 4 | 156 | 1642 | Boat hire |
| 4 | 164 | 1642 | Guns, Beaver (Hollis, Lewger) |
| 4 | 169 | 1642 | Carpenter, building house |
| 4 | 173-174 | 1642 | Hollis (Indenture John Hilerd) |
| 4 | 175-176 | 1642 | Hallowes, Hollis - Tobacco, Beaver, Kine, excessive sums |
| 4 | 186 | 1642 | Trading with Indians |
| 4 | 191 | 1642 | Planter |
| 4 | 192 | 1643 | Beaver & Tobacco to Hollis |
| 4 | 196 | 1643 | Beaver & Warrant |
| 4 | 203 | 1643 | Roanoke |
| 4 | 203-204 | 1643 | Hollis of Maryland |
| 4 | 206 | 5/31/1643 | Hollis to Cornwaleys Beaver, Roanoke, & Peake |
| 4 | 209 | 1643 | 30lb Beaver to Leonard Calvert |
| 4 | 209 | 7/10/1643 | Rogers roanoke |
| 4 | 209-210 | 1643 | Rogers death by Indian |
| 4 | 211 | 8/25/1643 | Durford |
| 4 | 214 | 1643 | Beaver, tobacco, cask |
| 4 | 214 | 1643 | Beaver, roanoke |
| 4 | 214 | 1643 | Phapo Dressed skins |
| 4 | 214-215 | 1643 | Tobacco, beaver, salt, corne, powder |
| 4 | 220 | 1643 | Tobacco, beaver, roanoke |
| 4 | 223 | 1643 | Beaver, sterling, tobacco, pewter spoons, brass skillet, pewter porrengers |
| 4 | 224 | 1643 | Beaver |
| 4 | 227 | 1643 | Beaver & roanoke |
| 4 | 227 | 1/15/1643 | Beaver |
| 4 | 228 | 1643 | Roanoke |
| 4 | 229 | 1/16/1643 | Lands, goods, chattels, beaver |
| 4 | 242 | 1643 | Roanoke |
| 4 | 242 | 1643 | of St. Michaels hundred, beaver |

| | | | |
|----|---------|------------|---|
| 4 | 251 | 1643 | VA cow beaver |
| 4 | 254 | 1643 | Beaver |
| 4 | 259 | 1643 | delivering gun to Indian |
| 4 | 260 | 1643 | Jury duty (Indian boy murdered) |
| 4 | 264 | 3/18/1643 | beaver |
| 4 | 280 | 6/17/1644 | Trespass |
| 4 | 282 | 1644 | Beaver |
| 4 | 319 | 7/1646 | Pay to John Kemp of VA, Hawlis of MD |
| 4 | 331 | 9/30/1647 | John Hollis of Apomatakes |
| 4 | 332 | 1647 | Beaver |
| 4 | 338-345 | 1647 | Hallowes in a suit over ownership & payment of a cow |
| 4 | 340-341 | 1647 | Edward Hill of Virginia about Hollowes of Maryland |
| 4 | 340 | 11/3/1647 | Hollis calls in several debts of tobacco |
| 4 | 341 | 1/26/1646 | John Hollis of the province of Maryland |
| 4 | 348 | 1647 | owes beavers |
| 4 | 361 | 1648 | owed beaver |
| 4 | 385 | 4/24/1648 | 3 demands of debt |
| 4 | 406 | 4/25/1648 | Hallowes servant |
| 4 | 408 | 7/14/1649 | Testifying for attorney |
| 4 | 411 | 9/1648 | Attorney for Chicocoan |
| 4 | 414 | 10/1648 | Long entry, possibly in Appamattox |
| 4 | 415 | 1648 | Trading cow to Chicocoan |
| 4 | 419 | 1648 | Demand payment from Calvert estate |
| 4 | 424 | 1648 | Demand tobacco & cask by Bill from Ffrancis VanEaden |
| 4 | 429 | 10/27/1648 | Convey unto john Hallowes all salary |
| 4 | 429 | 10/27/1648 | francis to pay all Hallowes charges |
| 4 | 442 | 1648 | John Hatch Hallowes Appamatucks transporting Wailton out of province |
| 4 | 443 | 1648 | Barnaby Jackson vs Hallowes transport Wailton |
| 4 | 443 | 1648 | judgement for transport of Wailton |
| 4 | 446 | 1648 | Rawlins vs Hallowes transport of Waltham |
| 4 | 446 | 1648 | Hallowes demand of Thimbleby out of estate of Pe: Makarell |
| 4 | 465 | 1/2/1649 | Hallowes of Appamatucks |
| 4 | 474 | 1649 | Hallowes of Appamatucks |
| 4 | 494 | 1649 | Hallowes, Peake |
| 4 | 512 | 9/17/1649 | Hallowes appointed to collect debts in Northumberland & MD |
| 4 | 532 | 1649 | Court at Chicacoan with Hallowes |
| 4 | 534 | 11/20/1649 | Selling cow to Indians Matchatoic |
| 10 | 6 | 1649/50 | Charles Rawlinson, Francis Brookes Claims a cow that Rawlinson sold to Hallowes |
| 10 | 7 | 2/4/1649 | John Hallowes of Appamatocks Trader |
| 10 | 22 | 4/24/1650 | John Palmer Inventory witnessed by Hallowes |
| 10 | 42 | 1650 | Account of Mackaveli estate Hallowes rec & pay said estate |

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| 10 | 93 | 1/14/1649-50 | Henry Hooper owes Hallows 600lbs of Cask't Tob |
| 10 | 94 | 1649-50 | Wm Pinley revileing speeched in the house of Hallows |
| 10 | 94 | 1649-50 | Batholomew Rench owes Hallows 700lb Tob |
| 10 | 95 | 1649-50 | Hallows owes 20lb Beaver to Marks Phelps |
| 10 | 95 | 1649-50 | Notice to Hollis to receive cattle |
| 10 | 95 | 1/29/1649-50 | Warrant to Walter Waterlin to search Rawlins house for Hallows goods |
| 10 | 97 | 1649-50 | G. Rutland demand Hallows |
| 10 | 99 | 1649-50 | Pheipo demand Hallows Tob & Beaver |
| 10 | 99 | 1649-50 | John Hampton deposeth Hallows did owe Pursall beaver |
| 10 | 100 | 2/25/1649-50 | Restituta appeared as his attorney |
| 10 | 101 | 1649-50 | subpan in part Hallows deft |
| 10 | 102 | 1649-50 | Pheipo dismissed the tob & Beaver |
| 10 | 102 | 1649-50 | Edward Packer assumed for Hollis at June Court |
| 10 | 102 | 1649-50 | Pheipo demand Grey admr. of Cauther Tob & Beaver rec'd by Cauther for Pursall from Hallows |
| 10 | 102 | 1649-50 | Rutlans v Hollis tob plt dismiss't |
| 10 | 122 | 1/10/1651 | Hardwich of Nominy (first reference to Nominy?) |
| 10 | 275 | 8/2/1652 | Hallows as Capt. Fleetes attorney |
| 10 | 541 | Aug 1657 | Hallows swears about Dandy going to Broadhurst's |
| 10 | 547 | 10/5/1657 | Hallows given Tob for guarding Dandy |
| 41 | 421 | 10/15/1657 | John Hollis dead |

APPENDIX 5: A LIST OF SOME REFERENCES TO JOHN HALLOWES IN THE VIRGINIA RECORDS

| Volume | Page Vol. 1 Fleet, Republished Virginia Colonial Abstracts, 1988 | Page Originals WCR 1 | Date | Description |
|---------------|---|-----------------------------|-------------|---|
| 1653-57 | 659 | 36 | 4/4/1655 | Hallowes appointed Comissioner for Westmoreland county |
| 1653-57 | 663 | 41-42 | 9/13/1652 | Major Hallowes account of Abraham Johnson |
| 1653-57 | 663 | | 4/5/1650 | rd of Mr. Hallowes recorded 9/20/1655 |
| 1653-57 | | 29 | 2/7/1648 | Hallowes trading tobacco |
| 1653-57 | | 30 | 10/1/1654 | Jno. Wood lease to plant orchard |
| 1653-57 | | 33 | 3/26/1655 | Deposition at Hallowes House |
| 1653-57 | | 43 | 10/1/1655 | Hallowes wife a whore and thief |
| 1653-57 | 663 | | 10/1/1655 | Debt owed to Hallowes |
| 1653-57 | | 50 | 10/31/1655 | Accounts due from Hallowes |
| 1653-57 | 667 | | 11/19/1655 | Major Jo. Hallowes estate of Hugh Jones relinquished administration |
| 1653-57 | 667-68 | 49 | 11/19/1655 | Deposition of Hallowes |
| 1653-57 | 669 | 51 | 1/10/1655 | Declare that Sion the Turk is a Freeman |
| 1653-57 | 669 | | 1/10/1655 | Major Hallowes disclaims all rights to cattle of John Tew (deceased) |
| 1653-57 | | 53 | 3/10/1655 | Ann Clarke at Hallowes house |
| 1653-57 | 674 | 62 | 5/22/1656 | Richard Lord discharges J. Hallowes of Appamaticke of all debts |
| 1653-57 | 674 | | 8/17/1656 | Wm Young "welbeloved friend" Major John Hallowes |
| 1653-57 | 675 | | 9/20/1652 | Walton assigns foregoing patent to Hallowes |
| 1653-57 | 675 | | 10/20/1656 | Major Hallowes signs half of above a patent to Nicholas Lansden |
| 1653-57 | 675 | | 10/20/1656 | Leonard Yeo assigns interest in patent |
| 1653-57 | 675 | | 10/20/1656 | Roger Isham sells cattle of John Tew to Major Hallowes |
| 1653-57 | 675 | | 12/20/1656 | Major Hallowes discharges John Powell of all debts |
| 1653-57 | 683 | | 5/20/1657 | Grace Isham to John Walton to disclaim rights in thirds due to Hallowes |
| 1653-57 | 683 | | 5/20/1657 | Major John Hallowes stray cow |

| | | | | |
|---------------|---|----------------------------|-------------|---|
| 1653-57 | 684 | | 6/20/1657 | Sam Hallows (son) files mark |
| 1653-57 | 684 | | 6/20/1657 | Eliza Hallows (wife) Files her mark |
| 1653-57 | 684 | | 6/20/1657 | Major Hallows sells cow to John Jenkins |
| 1653-57 | 684 | 80 | 6/12/1657 | Hallows appointed Sheriff of Westmorland |
| 1653-57 | | 85 | 10/15/1657 | Thos. Boys accounts due |
| 1653-57 | 685 | | 4/27/1657 | Hallows assigns Robinson & Cammell interest in patent of 650 acres Dower rights relinq Eliz |
| 1653-57 | 685 | | 8/1/1656 | Thomas boys Will - to Hallows gold ring, tobacco, cattle |
| 1653-57 | 686 | | 8/1/1656 | Tho: Boys estate to be divided by Hallows, Hiller, & Wilsford if not to his son or sisters children |
| 1653-57 | 686 | | 8/1/1656 | Deliver accounts to Major Hallows |
| | | | | |
| Volume | Page, Dorman 1970 abstracts | | Date | Description |
| 1658-61 | 9 | | 1/27/1657 | Seth Foster recover debts from Mr. Hallows |
| 1658-61 | 10 | | 2/15/1657 | Eliza Hallows (wife) for consideration |
| 1658-61 | 10 | | 4/12/1658 | Eliza Hallows (wife) would consume as much of estate as she could |
| 1658-61 | 10 | | 4/12/1658 | Nicholas Lansden 8 hogsheads of tobacco |
| 1658-61 | 15 | | 6/21/1658 | Hallows cattle |
| 1658-61 | 20 | | 8/14/1658 | Major John Hallows of Nomini |
| 1658-61 | 20 | | 7/2/1655 | John Hallows of Nomonia |
| 1658-61 | 21 | | 11/27/1657 | In part of pay for the plantation |
| 1658-61 | 32 | | 5/11/1659 | Tho: Cornwallas debts of Willm: Parry out of the estate of Major John Hallows |
| 1658-61 | 43 | | 7/11/1659 | Simon Overzee demand of David Anderson owed for Hallows funeral |
| | | | | |
| Volume | Page Vol. 23 Fleet Virginia Colonial Abstracts, 1961 | Original Page WCR 1 | Date | Description |
| 1653-57 | 5 | 13 | 1650/51 | Hallows Patent (Called Hollis Creek) |

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|---------|-------|----|----|-----------------|--|
| 1653-57 | | 5 | 13 | 7/29/xx | Hallowes Assigns John King |
| 1653-57 | | 8 | 15 | 2/20/1653/ 4 | Indian Buying Gun |
| 1653-57 | | 9 | 15 | 2-3/1653/4 | Hallowes in Deposition |
| 1653-57 | | 9 | 15 | 2/22/1653/ 4 | Hallowes of Nominy, Gent. |
| 1653-57 | | 10 | 16 | 3/30/1654 | Hallowes Acquits Simpson of Debt |
| 1653-57 | | 13 | 22 | 9/3/1651 | Hollis His Creek |
| 1653-57 | | 14 | 22 | 5/14/1653 | Hollis His Creek |
| 1653-57 | | 16 | 25 | 5/10/1654 | John Hallowes, Gent. |
| 1653-57 | | 16 | 25 | 5/6/1654 | Allerton P. of A. to Hallowes |
| 1653-57 | | 18 | 28 | 10/21/1654 | Bill Paid to Hallowes |
| 1653-57 | | 18 | 29 | 2/7/1648 | Hallowes Trading Tobacco |
| 1653-57 | | 21 | 30 | 10/1/1654 | Jno. Wood Lease to Plant Orchard |
| 1653-57 | | 24 | 33 | 3/26/1655 | John Hallowes of Nominie |
| 1653-57 | | 24 | 33 | 3/26/1655 | Hallowes Deposition |
| 1653-57 | | 26 | 36 | 4/4/1655 | Hallowes, Comissioner of County |
| 1653-57 | | 27 | 38 | 7/20/1655 | Elizabeth Hallowes Deposition |
| 1653-57 | | 30 | 39 | 7/7/1655 | Hallowes Due Money in a Bill |
| 1653-57 | | 32 | 41 | 9/13/1652 | Hallowes Account with Jansen, Dutch Captain |
| 1653-57 | 32-33 | | 42 | 10/1/1655 | More on Hallowes Account with Jansen |
| 1653-57 | | 34 | 43 | 10/1/1655 | Hallowes Married a Whore and Thief |
| 1653-57 | 40-41 | | 49 | 11/19/1655 | Deposition of Hallowes, John Tew Taking Things |
| 1653-57 | | 42 | 50 | 10/31/1655 | Accounts Due from Major Hallowes |
| 1653-57 | | 43 | 51 | 1/10/1655 | Hallowes Releases Sion the Turk |
| 1653-57 | | 44 | 51 | 1/10/1655/ 6 | Hallowes Disclaims Cattle Rights from Tew |
| 1653-57 | | 45 | 53 | 2/18/1655/ 6 | Hallowes Discharges Wilsford from Debts |

| | | | | |
|---------|-------|----|-----------------|--|
| 1653-57 | 46 | 53 | 3/10/1655/ 6 | Servant Ann Clarke at Hallows House |
| 1653-57 | 46 | 54 | 3/10/1655 | Hallows Wife's Stockings and Apron Stolen |
| 1653-57 | 51 | 60 | 3/14/1655/ 6 | Hallows Discharges Balfe of Debts |
| 1653-57 | 51 | 60 | 4/14/1656 | Hallows Owed Money in Inventory |
| 1653-57 | 53 | 62 | 5/22/1656 | Mr. John Hallows of Appamaticke |
| 1653-57 | 54 | 63 | 8/17/1656 | Young P of A to Hallows |
| 1653-57 | 54 | 64 | 9/15/1651 | Hallows Creek in Patent |
| 1653-57 | 55 | 64 | 10/20/1656 | Cow Sold to Hallows |
| 1653-57 | 56 | 65 | 10/4/1656 | Ann Youell P of A to Hallows |
| 1653-57 | 73 | 79 | 5/20/1657 | Hallows has a Stray Cow with Mealy Nose |
| 1653-57 | 73 | 79 | 6/20/1657 | Sam and Elizabeth Hallows File Marks for Livestock |
| 1653-57 | 73 | 80 | 6/12/1657 | Hallows Made Sheriff of Westmoreland County |
| 1653-57 | 77-78 | 85 | 10/15/1657 | Thos. Boys Accounts Due, List of Goods |

APPENDIX 6: REFERENCE TO EVICTION OF TENANTS AT HALLOWES

p. 220 Westmoreland County Orders 1675-1689 (WCR 3)

AT A COURT HELD FOR WESTMORELAND 27 JULY 1681

John Manley & Restitute his wife vs.

John Atholl (?) John Nott John Jones & George --- Attorneys for Ptt

Whereas it appears to this court Mathew Steel did make several leases of lands in or near Spring Bottom unto several persons for long times yet to come. The said Steele being by virtue of an intermarriage with Restitute his wife but tennant for her life only of the said lands and ye said Mathew Steele is dead, Restitute his wife yet under the age of 21 years and again intermarried to the plaintiff Manley who praying in right of his wife to be reinstated to the possission of the land and tenaments kept from him by virtue of said leasers. The Court did have their opinions that the said lesases were voydable upon which the defendants desiring the verdict of a jury which was tendered to them. The Court did give judgement that the said leases were voyd and did order ye plaintiffs to be putt legally in possession of the said leases and tennaments and defendants to pay costs of suite....

APPENDIX 7: MINIMUM VESSEL LIST

| Vessel Number | Ceramic Type | Sherd Count | Decoration/Glaze | Rim Diameter | Base Diameter | Vessel Form | Vessel Function | Comments | Crossmends |
|---------------|-------------------|-------------|--|--------------|---------------|-------------|-----------------|--|------------|
| 1 | Morgan Jones-type | 2 | Greenish mottled with hematite specks. Paste: Reddish orange with reduced core | 140mm | | Butter Pot | | One sherd has a large quartz inclusion | |
| 2 | Morgan Jones-type | 1 | Green glaze. Paste: buff | 140mm | | Milk Pan | | | |
| 3 | Morgan Jones-type | 1 | Green glaze. Paste: Orange/red with reduced core | 360mm | | Milk Pan | | | |
| 4 | Morgan Jones-type | 1 | Green glaze. Paste: Orange/red with reduced core | 340mm | | Milk Pan | | | |
| 5 | Morgan Jones-type | 2 | Green glaze. Paste: orange with reduced core | | | Milk Pan? | | Likely large vessel/milk pan, glued together | 21 and 21B |
| 6 | Morgan Jones-type | 2 | Green glaze, pie crust rim. Paste: dark red | 190mm | | Pan | | | |
| 7 | Morgan Jones-type | 1 | Green glaze. Paste: dark red | | | Pot?/b owl | | too small to measure rim diameter | |
| 8 | Morgan Jones-type | 2 | Green glaze. Paste: buff | | | Pot?/b owl | | too small to measure rim diameter | |
| 9 | Morgan Jones-type | 1 | Yellow/green glaze. Paste: orange | 480mm | | Milk Pan | | | |
| 10 | Morgan Jones-type | 1 | Green glaze. Paste: buff to orange | | | Pitcher | | too small to measure diameter | |
| 11 | Morgan | 1 | Clear glaze. Paste: | 120mm | | Baluste | | | |

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| | Jones-type | | orange/red | | | r Jar | | |
| 12 | Morgan Jones-type | 1 | Clear glaze. Paste: dark red with reduced core | | | Pan? | | too small to measure diameter |
| 13 | Morgan Jones-type | 2 | Yellow glaze. Paste: orange/buff with ochre and quartz inclusions | 70mm | | Pitcher | | do not mend, 21 is spout fragment |
| 14 | Morgan Jones-type | 1 | Apple green glaze. Paste: orange | | | | Hollow | Indeterminate form |
| 15 | Morgan Jones-type | 1 | Greenish yellow glaze. Paste: buff | | | Bowl or Pot | | too small to measure diameter |
| 16 | Morgan Jones-type | 1 | Green glaze with hematite. Paste: buff/orange | 120mm | | small Bowl or Pot | | |
| 17 | Morgan Jones-type | 1 | Caramel glaze with hematite inclusions | 260mm | | Milk Pan | | |
| 18 | Morgan Jones-type | 1 | Apple green glaze. Paste: red with ochre and hematite inclusions | 300mm | | Milk Pan | | |
| 19 | Morgan Jones-type | 1 | Green glaze with hematite. Paste: orange | | | | Hollow | Indeterminate form |
| 20 | Morgan Jones-type | 4 | Green glaze. Paste: sandy orange | 160mm | | Butter Pot | | Fragments do not mend |
| 21 | Morgan Jones-type | 1 | Yellowish green glaze. Paste: orange | 260mm | | Milk Pan | | |
| 22 | Morgan Jones-type | 1 | Clear glaze. Paste: orange with reduced core | | | Milk Pan | | |
| 23 | Morgan Jones-type | 1 | No glaze. Paste: reddish, over-fired | 340mm | | Milk Pan | | |
| 24 | Morgan | 1 | Mottled caramel | 80mm | | Pitcher | | |

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| | Jones-type | | glaze with hematite. Paste: orange | | | or Pot | | |
| 25 | Morgan Jones-type | 1 | Caramel/yellow glaze. Paste: orange | | | Pitcher or Pot | | too small to measure diameter |
| 26 | Morgan Jones-type | 1 | Clear glaze. Paste: sandy light orange | 100mm | | Pitcher or bowl | | |
| 27 | Morgan Jones-type | 2 | Light greenish glaze. Paste: light orange/buff | 380mm | | Milk Pan | | both sherds glued together |
| 28 | Morgan Jones-type | 2 | Green glazed, smoothed rim. Paste: red | 360mm | | Milk Pan | | |
| 29 | Morgan Jones-type | 1 | Clear glaze. Paste: orange/red with ochre inclusions | 120mm | | Pot | | |
| 30 | Morgan Jones-type | 1 | Clear glaze. Paste: sandy light orange with ochre | | | Bowl | | too small to measure diameter |
| 31 | Morgan Jones-type | 4 | Clear glaze. Paste: buff/light orange with ochre inclusions | 400mm | | Milk Pan | | four fragments glued together |
| 32 | Morgan Jones-type | 1 | Clear glaze. Paste: sandy dark orange | | | Milk Pan | | too small to measure diameter |
| 33 | Morgan Jones-type | 1 | Mottled green glaze. Paste: orange/red | 260mm | | Pot | | two tooled grooves beneath rim |
| 34 | Morgan Jones-type | 1 | Clear glaze. Paste: sandy orange with mica | 340mm | | Milk Pan | | |
| 35 | Morgan Jones-type | 1 | yellow/orange glaze. Paste: sandy orange with ochre | 90mm | | Bowl or Mug | | |

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| 36 | Morgan Jones-type | 3 | Clear glaze. Paste: orange/ buff with ochre and mica | 140mm | | Pot | | two tooled grooves below rim on exterior | fragments do not mend |
| 37 | Morgan Jones-type | 1 | Clear glaze. Paste: orange | 60mm | | Mug or Bowl | | | |
| 38 | Morgan Jones-type | 2 | Caramel glaze. Paste: orange/buff | 200mm | | Pot | | Groove under rim | two fragments mend |
| 39 | Morgan Jones-type | 1 | Clear glaze, smoothed exterior, pie crust rim. Paste: red/orange with mica | 180mm | | Pan | | | |
| 40 | Morgan Jones-type | 1 | Yellowish glaze. Paste: buff/brown with mica (looks like Indian pottery) | 100mm | | Mug or Pitcher | | | |
| 41 | Morgan Jones-type | 1 | Apple green glaze. Paste: sandy orange with ochre | | | Pitcher or Bowl | | too small to measure diameter | |
| 42 | Morgan Jones-type | 1 | Green mottled glaze. Paste: buff/orange | 300mm | | Milk Pan | | tooled groove on interior | |
| 43 | Morgan Jones-type | 1 | No glaze. Paste: sandy orange with ochre | | | | Hollow | Indeterminate form | |
| 44 | Morgan Jones-type | 1 | Brown glaze. Paste: orange with quartz inclusions | 260mm | | Milk Pan | | | |
| 45 | Morgan Jones-type | 1 | Green glaze. Paste: orange with reduced core and gravel inclusions | | | | Hollow | Indeterminate form | |
| 46 | Morgan Jones-type | 2 | Green glaze. Paste: orange with lots of ochre | 300mm | | Milk Pan | | Fragments do not mend | |
| 47 | Morgan Jones-type | 1 | Clear glaze. Paste: orange with ochre | | | Bowl? | | too small to measure diameter | |

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| | | | inclusions | | | | | |
| 48 | Morgan Jones-type | 1 | Black glaze. Paste: red with quartz | | | | Hollow | Indeterminate form |
| 49 | Morgan Jones-type | 1 | No glaze. Paste: light orange | | | Bowl | | two grooves under rim on exterior |
| 50 | Morgan Jones-type | 1 | Clear glaze with hematite. Paste: sandy orange | | | Bowl? | | one groove on exterior under rim |
| 51 | Morgan Jones-type | 1 | Caramel glaze with hematite. Paste: orange with ochre | | | Bowl? | | one groove on interior below rim |
| 52 | Morgan Jones-type | 1 | Clear glaze. Paste: light orange | | | | Hollow | Indeterminate form. Burned |
| 53 | Morgan Jones-type | 1 | Green mottled glaze. Paste: sandy orange | | | Bowl? | | flared rim |
| 54 | Morgan Jones-type | 1 | Brown glaze. Paste: dense orange | | | Butter Pot | | smoothed exterior, groove under rim on interior |
| 55 | Morgan Jones-type | 1 | No glaze. Paste: sandy orange with mica | | | | Hollow | Indeterminate form |
| 56 | Morgan Jones-type | 1 | Greenish glaze with hematite inclusions. Paste: light orange with hematite inclusions | | | Bowl? | | too small to measure diameter |
| 57 | Morgan Jones-type | 1 | Brownish glaze with pie crust rim. Paste: light orange with ochre inclusions | | | Bowl? | | |
| 58 | Morgan Jones-type | 1 | yellowish green glaze with hematite. Paste: buff with hematite | | | Bowl or Pitcher | | |

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| | | | inclusions | | | | | | |
| 59 | Morgan Jones-type | 1 | Clear glaze. Paste: buff with ochre and hematite inclusions | | | Pot? | | | |
| 60 | Morgan Jones-type | 1 | Clear glaze. Paste: light orange with hematite inclusions | | | Milk Pan | | | |
| 61 | Morgan Jones-type | 1 | Greenish glaze. Paste: light orange with ochre | 340mm | | Milk Pan | | | |
| 62 | Morgan Jones-type | 4 | No glaze. Paste: buff | | | Milk Pan | majority of lip broken off | all four sherds glued together | |
| 63 | Morgan Jones-type | 1 | No glaze, smoothed on both sides. Paste: orange with shell inclusions | | | Bowl or pot | | | |
| 64 | Morgan Jones-type | 1 | Brownish glaze. Paste: light orange, reduced core with hematite and small gravel | | | Milk Pan | | | |
| 65 | Morgan Jones-type | 1 | Yellowish glaze. Paste: buff with reduced core and ochre and gravel | | | | Hollow | Indeterminate form | |
| 66 | Morgan Jones-type | 1 | smoothed. Paste: buff with ochre inclusions | | | Milk Pan | | | |
| 67 | Morgan Jones-type | 1 | clear glaze. Paste: light orange with quartz, mica, and ochre | | | Milk Pan | | | |
| 68 | Morgan Jones-type | 1 | Clear glaze. Paste: buff to light orange with ochre | | | Milk Pan | | | |

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| | | | inclusions | | | | | |
| 69 | Morgan Jones-type | 1 | Paste: buff | | | Milk Pan | | |
| 70 | Morgan Jones-type | 1 | Brownish glaze. Paste: light orange with ochre inclusions | | | Milk Pan? | | |
| 71 | Morgan Jones-type | 1 | Smoothed/Burnish ed. Paste: light orange with ochre | Approx. 400mm | | Milk Pan | | |
| 72 | Morgan Jones-type | 4 | Smoothed/Burnish ed. Paste: buff | 340mm | | Milk Pan | | fragments do not mend |
| 73 | Morgan Jones-type | 1 | Smoothed/Burnish ed. Paste: buff | 320mm | | Milk Pan | | |
| 74 | Morgan Jones-type | 1 | Paste: buff with mica, ochre, and quartz | 320mm | | Milk Pan | | |
| 75 | Morgan Jones-type | 1 | Smoothed/Burnish ed. Paste: buff, reduced core, very soft | | | Milk Pan? | | |
| 76 | Morgan Jones-type | 1 | Brown glaze interior, clear glaze exterior. Paste: light orange, reduced core with quartz | Approx. 400mm | | Milk Pan | | |
| 77 | Morgan Jones-type | 1 | Smoothed/Burnish ed. Paste: buff to light orange with ochre and quartz | | | | Hollow | Indeterminate Form |
| 78 | Morgan Jones-type | 1 | Paste: light orange with ochre | | | Milk Pan? | | |
| 79 | Morgan Jones-type | 1 | Paste: orange with mica and ochre | | | Milk Pan? | | |
| 80 | Morgan | 1 | Smoothed/burnish | | | Milk | | |

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| | Jones-type | | ed, yellowish green glaze. Paste: buff with ochre inclusions, very fine | | | Pan | | | |
| 81 | Morgan Jones-type | 1 | Smoothed/Burnished. Paste: light orange to buff with quartz and ochre | 360mm | | Milk Pan | | | |
| 82 | Morgan Jones-type | 1 | Smoothed/Burnished. Paste: light orange with ochre, reduced core | | | Milk Pan? | | | |
| 83 | Morgan Jones-type | 1 | Smoothed/Burnished. Paste: buff | | | Milk Pan | | | |
| 84 | Morgan Jones-type | 1 | Brown Glazed interior. Paste: light orange with mica and ochre | | | Bowl? | | | |
| 85 | Morgan Jones-type | 1 | Greenish glazed interior. Paste: light orange, appears overfired | 310mm | | Milk Pan | | | |
| 86 | Morgan Jones-type | 1 | Smoothed/Burnished, two tooled grooves on exterior. Paste: buff with ochre | 110mm | | Bowl or Pitcher | | | |
| 87 | Morgan Jones-type | 1 | Brown glazed interior. Paste: orange with ochre | 340mm | | Milk Pan | | | |
| 88 | Morgan Jones-type | 1 | Brownish green glazed interior. Paste: orange with ochre and quartz inclusions | 320mm | | Milk Pan | | | |

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| 89 | Morgan Jones-type | 1 | Smoothed clear glazed interior. Paste: orange with ochre | 320mm | | Milk Pan | | |
| 90 | Morgan Jones-type | 2 | Smoothed/Burnished. Paste: orange with ochre | | | Milk Pan | | two fragments mend |
| 91 | Morgan Jones-type | 1 | Clear glaze, smoothed | | | Milk Pan | | |
| 92 | Morgan Jones-type | 1 | Smoothed. Paste: light orange with ochre | | | Milk Pan | | |
| 93 | Morgan Jones-type | 1 | Smoothed. Paste: light orange with ochre | | | Milk Pan | | |
| 94 | Morgan Jones-type | 1 | Smoothed. Paste: light orange to buff with ochre | | | Milk Pan? | | |
| 95 | Morgan Jones-type | 1 | Smoothed. Clear glazed interior. Paste: buff | 380mm | | Milk Pan | | |
| 96 | Morgan Jones-type | 1 | Smoothed. Paste: orange with mica | | | Milk Pan | | |
| 97 | Morgan Jones-type | 1 | Smoothed. Paste: light orange with ochre | | | | Hollow | Indeterminate Form |
| 98 | Morgan Jones-type | 1 | Clear glazed interior. Paste: orange with ochre, quartz, and mica | | | Bowl? | | |
| 99 | Morgan Jones-type | 1 | Smoothed, clear glazed interior. Paste: buff with quartz | | | Milk Pan | | |
| 100 | Morgan Jones-type | 1 | Paste: orange with mica and ochre | | | Milk Pan | | |

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| 101 | Morgan Jones-type | 1 | Smoothed. Paste: buff | Approx. 300mm | | Milk Pan | | |
| 102 | Morgan Jones-type | 1 | Smoothed exterior, brownish glazed interior. Paste: light orange to buff with ochre | | | Milk Pan | | |
| 103 | Morgan Jones-type | 1 | Paste: light orange with ochre | | | Milk Pan | | |
| 104 | Morgan Jones-type | 1 | tooled groove below rim on exterior. Paste: buff with ochre | | | Pot? | | Appears more well-made than most Morgan Jones type in collection |
| 105 | Morgan Jones-type | 1 | Smoothed. Paste: light orange with ochre | | | | Hollow | Indeterminate Form |
| 106 | Morgan Jones-type | 1 | Clear glazed interior. Paste: buff | | | Milk Pan | | |
| 107 | Morgan Jones-type | 1 | Smoothed. Paste: light orange, appears overfired | | | Milk Pan | | |
| 108 | Morgan Jones-type | 1 | Green glazed interior, smoothed exterior. Paste: buff | | | Milk Pan | | |
| 109 | Morgan Jones-type | 1 | Clear glazed interior. Paste: buff, reduced | | | Milk Pan | | |
| 110 | Morgan Jones-type | 1 | Smoothed. Paste: reduced or overfired | | | | Hollow | Indeterminate form |
| 111 | Mérida | 1 | Burnished. Paste: orange micaceous | 180mm | | Bowl | | |
| 112 | Mérida | 1 | Burnished, incised line on exterior. Paste: orange | 300mm | | Milk Pan | | |

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| | | | micaceous | | | | | |
| 113 | Mérida | 1 | Burnished. Paste: orange micaceous | 280mm | | Pan | | |
| 114 | Mérida | 1 | Burnished interior. Paste: orange micaceous | 170mm | | Bowl | | |
| 115 | Mérida | 1 | Paste: brownish orange micaceous | | | Bowl? | | |
| 116 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: brownish orange micaceous | 290mm | | Pan | | |
| 117 | Mérida | 2 | Smoothed. Paste: brownish orange micaceous | | | Bowl | | Sherds are mended |
| 118 | Mérida | 2 | Overfired exterior/clouding. Paste: orange micaceous | 280mm | | Pan | | sherds do not mend |
| 119 | Mérida | 1 | Burnished interior. Paste: orange micaceous | 190mm | | Bowl | | |
| 120 | Mérida | 1 | Paste: brownish orange micaceous | 200mm | | Bowl | | |
| 121 | Mérida | 1 | Burnished on interior, incised line on exterior. Paste: Orange micaceous | 260mm | | Pan | | |
| 122 | Mérida | 1 | Incised line on exterior. Paste: Orange micaceous | 220mm | | Pan | | |
| 123 | Mérida | 1 | Paste: Orange micaceous | 180mm | | Bowl | | |
| 124 | Mérida | 1 | Incised line on | 180mm | | Bowl | | |

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| | | | exterior, overfired/clouded. Paste: Orange micaceous | | | | | |
| 125 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 150mm | | Bowl | | |
| 126 | Mérida | 2 | Paste: Orange micaceous | 190mm | | Pan | | fragments do not mend |
| 127 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | | | Bowl? | | |
| 128 | Mérida | 4 | Burnished interior, incised line on exterior. Paste: orange micaceous | 170mm | | Bowl/P an | | |
| 129 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 170mm | | Bowl | | |
| 130 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 200mm | | Bowl | | |
| 131 | Mérida | 1 | Paste: brownish orange micaceous | | | Bowl? | | |
| 132 | Mérida | 1 | Paste: Orange micaceous | | | Bowl? | | |
| 133 | Mérida | 1 | Burnished interior. Paste: orange micaceous | | | Bowl? | | |
| 134 | Mérida | 3 | Burnished interior. Paste: orange micaceous | 160mm | | Bowl | | |

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| 135 | Mérida | 2 | Burnished interior, clouded exterior. Paste: orange micaceous | 160mm | | Bowl | | fragments do not mend |
| 136 | Mérida | 1 | Burnished interior. Paste: orange micaceous | 160mm | | Bowl | | |
| 137 | Mérida | 1 | Paste: Orange micaceous | 180mm | | Bowl | | |
| 138 | Mérida | 1 | Burnished interior. Paste: orange micaceous | | | Bowl | | |
| 139 | Mérida | 1 | Burnished interior. Paste: orange micaceous | | | Bowl | | |
| 140 | Mérida | 1 | Paste: brownish orange micaceous | | | Bowl | | |
| 141 | Mérida | 1 | Paste: brownish orange micaceous | | | Bowl | | |
| 142 | Mérida | 1 | Paste: Orange micaceous | | | Bowl | | |
| 143 | Mérida | 5 | Burnished interior, incised line on exterior | 160mm | | Bowl | | |
| 144 | Mérida | 4 | Burnished interior. Paste: orange micaceous | 180mm | | Bowl | | |
| 145 | Mérida | 1 | Incised line on exterior. Paste: Orange micaceous | 160mm | | Bowl | | |
| 146 | Mérida | 2 | Burnished interior, incised line on exterior. Paste: orange micaceous | | | Bowl | | fragments do not mend |
| 147 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: | | | Bowl | | |

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| | | | orange micaceous | | | | | |
| 148 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 160mm | | Bowl | | |
| 149 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 180mm | | Bowl | | |
| 150 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | | | Bowl | | |
| 151 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 160mm | | Bowl | | |
| 152 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 160mm | | Bowl | | |
| 153 | Mérida | 4 | Burnished interior, incised line on exterior. Paste: orange micaceous | 160mm | | Bowl | | fragments do not mend |
| 154 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 160mm | | Bowl | | |
| 155 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 180mm | | Bowl | | |
| 156 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | 140mm | | Bowl | | |

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| | | | orange micaceous | | | | | |
| 157 | Mérida | 1 | Burnished interior, incised line on exterior. Paste: orange micaceous | | | | Bowl | |
| 158 | North Devon gravel-tempered | 1 | Greenish glazed interior. Paste: orange with gravel, reduced core | 400mm | | | Milk Pan | |
| 159 | North Devon gravel-tempered | 1 | Paste: orange with gravel | 310mm | | | Milk Pan | |
| 160 | North Devon gravel-tempered | 1 | Brown glazed interior, green glazed exterior. Paste: orange with gravel, reduced core | 420mm | | | Milk Pan | |
| 161 | North Devon gravel-tempered | 1 | Brownish glazed interior. Paste: orange with gravel, reduced core | | | | Milk Pan | |
| 162 | North Devon gravel-tempered | 1 | Greenish glazed interior | 380mm | | | Milk Pan | |
| 163 | North Devon gravel-tempered | 1 | Paste: orange with gravel, reduced core | | | | Butter Pot/ Milk Pan? | |
| 164 | North Devon gravel-tempered | 1 | Greenish brown glazed interior. Paste: orange with gravel, reduced core | 360mm | | | Milk Pan | |
| 165 | North Devon gravel- | 2 | Paste: orange with gravel, reduced | 400mm | | | Milk Pan | fragments do not mend |

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| | tempered | | core | | | | | | |
| 166 | North Devon gravel-tempered | 1 | Paste: orange with gravel, reduced core | 390mm | | Milk Pan | | | |
| 167 | Delft | 1 | Tin glaze on both surfaces, blue painted possible vine motif on interior. Paste: yellowish buff | | | Charger | | | |
| 168 | Delft | 2 | Tin glazed interior, lead glazed exterior, blue painted interior. Paste: yellowish buff | | 70mm | Bowl | | | |
| 169 | Delft | 1 | Tin glazed interior and exterior, blue painted decoration on exterior. Paste: yellowish | 30mm | | Bottle | | | |
| 170 | Delft | 1 | Tin glazed interior and exterior, most glaze flaked off. Paste: reddish brown | | | Bowl/Ointment pot? | | | |
| 171 | Delft | 1 | Tin glaze on interior and exterior, blue painted exterior | | | Bowl? | | | |
| 172 | Delft | 3 | Tin glaze on interior and exterior. Paste: reddish | | | | | | These are likely the same vessel based upon paste and provenience. Only two frags from 105B mend |

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| 173 | Rhenish brown | 3 | Iron oxide slip, part of a beard on one fragment. Paste: dense and gray | | | Jug | | fragments do not mend |
| 174 | Raeren brown | 2 | Iron oxide slip, portion of a medallion on one fragment | | | Jug? | | |
| 175 | Rhenish brown | 1 | Iron oxide slip, incised line on exterior. Paste: gray and dense | | | Jug? | | |
| 176 | Rhenish brown | 1 | Iron oxide slip. Paste: gray and dense | | | Jug? | | |
| 177 | Rhenish brown | 1 | Iron oxide slip, tan interior. Paste: gray and dense | | | Jug? | | |
| 178 | Rhenish brown | 1 | Iron oxide slip. Paste: gray and dense | | | | | |
| 179 | Rhenish brown | 1 | Iron oxide slip, light gray interior. Paste: gray and dense | | | Jug? | | |
| 180 | Rhenish blue and gray | 11 | Cobalt blue with tulip sprigs. Paste: buff to gray | | | Jug | | fragments do not mend |
| 181 | Rhenish blue and gray | 2 | Cobalt blue with flower sprigs | | | Jug? | | fragments do not mend |
| 182 | Rhenish blue and gray | 3 | Cobalt blue with small flower medallion sprigs. Paste: gray and dense | | | Jug | | fragments do not mend |
| 183 | Rhenish blue and gray | 1 | Cobalt blue with round sprigged | | | Jug | | |

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| | | | medallions. Paste: gray and dense | | | | | |
| 184 | Rhenish blue and gray | 2 | Cobalt blue with oval sprigged design. Paste: gray and dense | | | Jug | | fragments do not mend |
| 185 | Rhenish blue and gray | 3 | Cobalt and manganese with mulberry sprigging. Paste: gray and dense | | | Jug | | fragments do not mend |
| 186 | Rhenish blue and gray | 2 | Cobalt and manganese with triangular tulip sprigging. Paste: gray and dense | | | Jug | | fragments do not mend |
| 187 | Rhenish blue and gray | 2 | Cobalt with round sprigged medallions. Paste: gray and dense | | | Jug | | |
| 188 | Rhenish blue and gray | 1 | Cobalt with round sprigged medallions. Paste: gray to buff | | | Jug | | |
| 189 | Rhenish blue and gray | 1 | Cobalt with round sprigged flower medallion. Paste: gray and dense | | | Jug | | |
| 190 | Martincamp | 11 | Dense red paste with throwing rings on interior | | | Flask | | There are 11 sherds of this on the site in various contexts, but all may be from the same vessel since they are all body sherds |
| 191 | Metropolitan slipware | 5 | White slip under a reddish brown | | | UID | | There are a total of 5 fragments all from |

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| | | | glaze, red paste | | | | | | plow zone, all body sherds |
| 192 | North Devon sgraffito | 2 | Slightly everted rim, white slip on a grayish orange paste | Diameter: 220mm | | | | Charge r | fragments do not mend |
| 193 | North Devon sgraffito | 1 | Slightly inverted rim | too small | | | | UID | |
| 194 | North Italian Marbelized slipware | 8 | Red body with white marbelized slip | | | | | Charge r | fragments do not mend |
| 195 | Saintonge | 2 | Red, purple, and clear glazed decoration on a white body with a molded triangular element, possibly part of a helmet | | | | | UID | |
| 196 | Staffordshire slipware | 2 | Dark brown slip on exterior, white slip on interior, white slipped dots on exterior | 80mm | 60mm | | | Mug | fragments do not mend |
| 197 | Staffordshire slipware | 1 | Combed and trailed | | | | | UID | |
| 198 | Spanish Costrel | 1 | Unglazed, buff to white paste, handle | | | | | Costrel | |
| 199 | Colonoware | 1 | Large colonoware bowl that had been sent to the Westmoreland County Museum in 1976 | | | | | Bowl | Number of fragments unknown |

APPENDIX 8: ABBREVIATED FAUNAL CATALOG

| ER # | species | NISP | element | portion | side | weight |
|-------------|------------------------|-------------|-------------------|----------------|-------------|---------------|
| 21 | Artiodactyla | 33 | | | | 49.3 |
| 21 | Artiodactyla | 1 | | medium sized | | 2.3 |
| 21 | Artiodactyla | 1 | | medium sized | | 0.8 |
| 21 | Bos taurus | 1 | thoracic vertebra | | | 2.3 |
| 21 | Bos taurus | 3 | tooth | molar/premolar | | 5 |
| 21 | Bos taurus | 1 | cervical vertebra | | | 3.2 |
| 21 | Bos taurus | 1 | M2 molar | lower | right | 16.7 |
| 21 | Bos taurus | 1 | M1 molar | upper | right | 5.1 |
| 21 | Odocoileus virginianus | 1 | rib | proximal | | 3.8 |
| 21 | Odocoileus virginianus | 1 | metacarpal | shaft | right | 11.4 |
| 21 | Pogonias cromis | 1 | terygiophore | | | 5.8 |
| 21 | Sus scrofa | 1 | molar | | | 3 |
| 21 | Sus scrofa | 1 | rib | proximal | right | 4.3 |
| 21 | Sus scrofa | 1 | tibia | shaft | right | 19.9 |
| 21 | Sus scrofa | 1 | I2 incisor | upper | right | 0.9 |
| 21 | Sus scrofa | 1 | 1st phlange | | | 3.9 |
| 21 | Sus scrofa | 1 | incisor | | | 0.4 |
| 21 | Unidentified Mammalia | 24 | | | | 18 |
| 21 | Unidentified Mammalia | 6 | | | | 2.5 |
| 21 | Unidentified Mammalia | 3 | | | | 8.4 |
| 21 | Unidentified Mammalia | 9 | | | | 12.1 |
| 21 | Unidentified Mammalia | 1 | | | | 0.2 |
| 21 | Unidentified Mammalia | 3 | | | | 0.3 |
| 22 | Unidentified Mammalia | 1 | | | | <.1 |

| | | | | | | |
|----|---------------------------|----|--------------------|----------|-------|------|
| 22 | Unidentified Osteichthyes | 1 | | | | <.1 |
| 23 | cf. Pogonias cromis | 1 | spine | complete | | <.1 |
| 23 | Odocoileus virginianus | 1 | patella | | right | 1.2 |
| 23 | Unidentified Aves | 2 | | | | 0.9 |
| 23 | Unidentified Mammalia | 1 | | | | 0.5 |
| 23 | Unidentified Mammalia | 5 | | | | 0.9 |
| 23 | Unidentified Osteichthyes | 4 | | | | 0.3 |
| 23 | Unidentified Osteichthyes | 2 | | | | 0.4 |
| 25 | Bos taurus | 1 | fibular tarsal | | | 28.2 |
| 25 | Bos taurus | 1 | 1st phlange | | | 17.2 |
| 25 | Bos taurus | 1 | 2nd and 3rd carpal | | left | 10.1 |
| 25 | Bos taurus | 1 | tibial tarsal | | right | 45.5 |
| 25 | cf. Pogonias cromis | 1 | pectoral spine | complete | right | <.1 |
| 25 | Unidentified Mammalia | 6 | | | | 8.4 |
| 25 | Unidentified Mammalia | 4 | | | | 0.9 |
| 25 | Unidentified Mammalia | 3 | | | | 0.7 |
| 25 | Unidentified Mammalia | 3 | | | | 2.8 |
| 25 | Unidentified Osteichthyes | 1 | | | | <.1 |
| 26 | Unidentified Mammalia | 2 | | | | 2.2 |
| 28 | Anatidae | 1 | tibiotarSus | proximal | left | 0.3 |
| 28 | Odocoileus virginianus | 1 | humerus | distal | left | 6 |
| 28 | Unidentified Mammalia | 1 | | | | 0.1 |
| 28 | Unidentified Osteichthyes | 9 | scale | | | 0.2 |
| 28 | Unidentified Osteichthyes | 1 | spine | | | 0.2 |
| 29 | Artiodactyla | 58 | | | | 42 |
| 29 | Artiodactyla | 37 | | | | 48.9 |

| | | | | | | |
|----|------------------------|----|-------------------|--------------|-------|-------|
| 29 | Artiodactyla | 12 | | | | 34.2 |
| 29 | Artiodactyla | 52 | | | | 155.1 |
| 29 | Artiodactyla | 4 | | medium sized | | 3.4 |
| 29 | Artiodactyla | 28 | | medium sized | | 34 |
| 29 | Artiodactyla | 8 | | medium sized | | 11.1 |
| 29 | Artiodactyla | 1 | | medium sized | | 1 |
| 29 | Artiodactyla | 3 | | medium sized | | 2.3 |
| 29 | Artiodactyla | 1 | | medium sized | | 2.9 |
| 29 | Artiodactyla | 16 | | medium sized | | 6.7 |
| 29 | Artiodactyla | 30 | | medium sized | | 158.3 |
| 29 | Bos taurus | 1 | lumbar vertebra | | | 5 |
| 29 | Bos taurus | 1 | lumbar vertebra | | | 1.4 |
| 29 | Bos taurus | 1 | thoracic vertebra | | | 32.8 |
| 29 | Bos taurus | 1 | rib | proximal | | 1.4 |
| 29 | Bos taurus | 1 | femur | shaft | left | 28.6 |
| 29 | Bos taurus | 1 | rib | shaft | left | 5.4 |
| 29 | Bos taurus | 1 | rib | shaft | right | 17.1 |
| 29 | Bos taurus | 1 | rib | shaft | right | 11.6 |
| 29 | Bos taurus | 1 | tibia | shaft | left | 202.8 |
| 29 | Meleagris gallopavo | 1 | 1st phalanx | | | 0.6 |
| 29 | Meleagris gallopavo | 1 | phalanx | | | 0.4 |
| 29 | Odocoileus virginianus | 1 | ilium | shaft | right | 4.4 |
| 29 | Odocoileus virginianus | 1 | ischium | | right | 2.9 |
| 29 | Odocoileus virginianus | 1 | lumbar vertebra | | | 0.7 |
| 29 | Odocoileus virginianus | 1 | femur | proximal | left | 5.1 |
| 29 | Odocoileus virginianus | 1 | thoracic vertebra | | | 18.7 |

| | | | | | | |
|----|------------------------|---|-------------------|------------------|-------|------|
| 29 | Odocoileus virginianus | 1 | femur | proximal | left | 11.2 |
| 29 | Odocoileus virginianus | 1 | ulna | proximal | left | 4.2 |
| 29 | Odocoileus virginianus | 1 | ulna | shaft | right | 4.3 |
| 29 | Odocoileus virginianus | 1 | ulna | | right | 1.3 |
| 29 | Odocoileus virginianus | 1 | cervical vertebra | dorsal | | 1.8 |
| 29 | Odocoileus virginianus | 1 | cervical vertebra | dorsal | | 1.2 |
| 29 | Odocoileus virginianus | 1 | fibular tarsal | distal | left | 17.5 |
| 29 | Odocoileus virginianus | 1 | humerus | distal | left | 19.2 |
| 29 | Odocoileus virginianus | 1 | humerus | distal | right | 19.2 |
| 29 | Odocoileus virginianus | 1 | radius | distal | left | 2.8 |
| 29 | Odocoileus virginianus | 1 | tibia | distal | left | 4.9 |
| 29 | Odocoileus virginianus | 1 | tibia | distal | right | 14.8 |
| 29 | Odocoileus virginianus | 1 | tibia | distal | right | 9 |
| 29 | Odocoileus virginianus | 1 | tibia | distal | left | 1.7 |
| 29 | Odocoileus virginianus | 1 | tibia | distal | right | 3.6 |
| 29 | Odocoileus virginianus | 1 | tibia | distal and shaft | left | 63.4 |
| 29 | Odocoileus virginianus | 1 | tibia | distal and shaft | right | 14.3 |
| 29 | Odocoileus virginianus | 1 | scapula | | right | 6.2 |
| 29 | Odocoileus virginianus | 1 | cervical vertebra | process | | 11.1 |
| 29 | Odocoileus virginianus | 1 | radius | proximal | left | 3.6 |
| 29 | Odocoileus virginianus | 1 | femur | shaft | left | 12 |
| 29 | Odocoileus virginianus | 1 | humerus | shaft | left | 10.9 |
| 29 | Odocoileus virginianus | 1 | humerus | shaft | left | 13.8 |
| 29 | Odocoileus virginianus | 1 | metatarsal | shaft | left | 5.8 |
| 29 | Odocoileus virginianus | 1 | radius | shaft | left | 17.1 |
| 29 | Odocoileus virginianus | 1 | radius | shaft | left | 12.5 |

| | | | | | | |
|----|-------------------------------|---|----------------|------------------|-------|-------|
| 29 | <i>Odocoileus virginianus</i> | 1 | radius | shaft | right | 10 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | left | 2.2 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | right | 1.8 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | left | 0.9 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | right | 0.5 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | left | 0.4 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | left | 1.1 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | | 0.4 |
| 29 | <i>Odocoileus virginianus</i> | 1 | rib | shaft | | 0.8 |
| 29 | <i>Odocoileus virginianus</i> | 1 | tibia | shaft | right | 13.2 |
| 29 | <i>Odocoileus virginianus</i> | 1 | tibia | shaft | left | 7.8 |
| 29 | <i>Odocoileus virginianus</i> | 1 | scapula | | left | 5.2 |
| 29 | <i>Sus scrofa</i> | 1 | maxilla | upper | left | 5.6 |
| 29 | <i>Sus scrofa</i> | 1 | skull | | | 0.3 |
| 29 | <i>Sus scrofa</i> | 1 | fibular tarsal | proximal | right | 2.9 |
| 29 | <i>Sus scrofa</i> | 1 | mandible | | right | 69.3 |
| 29 | <i>Sus scrofa</i> | 1 | skull | | | 3.1 |
| 29 | <i>Sus scrofa</i> | 1 | ulna | shaft | left | 3.5 |
| 29 | <i>Sus scrofa</i> | 1 | femur | proximal | right | 3.3 |
| 29 | <i>Sus scrofa</i> | 1 | scapula | anterior/lateral | right | 8.6 |
| 29 | <i>Sus scrofa</i> | 1 | 2nd metacarpal | distal and shaft | right | 1.3 |
| 29 | <i>Sus scrofa</i> | 1 | humerus | distal and shaft | left | 118.3 |
| 29 | <i>Sus scrofa</i> | 1 | canine | lower | left | 2.8 |
| 29 | <i>Sus scrofa</i> | 1 | P2 premolar | lower | right | 1.2 |
| 29 | <i>Sus scrofa</i> | 1 | humerus | shaft | right | 15 |
| 29 | <i>Sus scrofa</i> | 1 | incisor | | | 0.6 |

| | | | | | | |
|-----|---------------------------|----|------------|--------------|-------|------|
| 29 | Sus scrofa | 1 | mandible | | right | 2.9 |
| 29 | Sus scrofa | 1 | mandible | | right | 1.3 |
| 29 | Sus scrofa | 1 | skull | | | 3.6 |
| 29 | Sus scrofa | 2 | skull | | | 1.4 |
| 29 | Testudines | 1 | femur | proximal | right | 0.3 |
| 29 | Testudines | 2 | carapace | | | 4.7 |
| 29 | Unidentified Aves | 1 | | | | 0.6 |
| 29 | Unidentified Mammalia | 17 | | | | 50.5 |
| 29 | Unidentified Mammalia | 3 | | | | 5.8 |
| 29 | Unidentified Mammalia | 3 | | | | 2.7 |
| 29 | Unidentified Mammalia | 6 | | | | 24.9 |
| 29 | Unidentified Mammalia | 9 | | | | 14.8 |
| 29 | Unidentified Mammalia | 1 | | | | 0.9 |
| 29 | Unidentified Mammalia | 9 | | | | 20.1 |
| 29 | Unidentified Osteichthyes | 1 | | | | 0.3 |
| 30 | Artiodactyla | 5 | | medium sized | | 9.9 |
| 30 | Artiodactyla | 7 | | medium sized | | 8.6 |
| 30 | Bos taurus | 1 | radius | shaft | left | 11.2 |
| 30 | Sus scrofa | 1 | I3 incisor | upper | left | 0.9 |
| 30 | Unidentified Mammalia | 1 | | | | 22.4 |
| 30 | Unidentified Mammalia | 1 | | | | 3 |
| 31 | Unidentified Mammalia | 12 | | | | 6.1 |
| 31 | Unidentified Mammalia | 2 | | | | 4.6 |
| 31 | Unidentified Mammalia | 1 | | | | 0.4 |
| 100 | Unidentified Mammalia | 1 | | | | 3.2 |
| 100 | Unidentified Mammalia | 1 | | | | 0.2 |

| | | | | | | |
|-----|-----------------------------|---|----------------|--------------|-------|-----|
| 100 | Unidentified Mammalia | 1 | | | | <.1 |
| 100 | Unidentified Mammalia | 3 | | | | 2.7 |
| 101 | Artiodactyla | 1 | | medium sized | | 5.5 |
| 101 | Unidentified Mammalia | 3 | | | | 3.1 |
| 101 | Unidentified Mammalia | 9 | | | | 3 |
| 102 | Unidentified Mammalia | 2 | | | | 2.6 |
| 103 | Bos taurus | 1 | molar/premolar | | | 0.4 |
| 104 | Artiodactyla | 8 | | medium sized | | 7.2 |
| 104 | Artiodactyla | 4 | | medium sized | | 5.4 |
| 104 | Unidentified Mammalia | 1 | tooth | | | 0.2 |
| 105 | Sus scrofa | 2 | molar | | | 1.3 |
| 105 | Unidentified Mammalia | 1 | tooth | | | 0.1 |
| 105 | Unidentified Mammalia | 8 | | | | 6.5 |
| 105 | Unidentified Mammalia | 1 | | | | 0.5 |
| 106 | Unidentified Mammalia | 1 | | | | 0.8 |
| 106 | Unidentified Mammalia | 1 | | | | 0.8 |
| 107 | Artiodactyla | 1 | tooth | | | 1.4 |
| 107 | Ondatra zibethica | 1 | mandible | lower | right | 1.6 |
| 107 | Unidentified Mammalia | 2 | | | | 0.4 |
| 107 | Unidentified Osteichthyes | 1 | operculum | distal | | 1.2 |
| 108 | Archosargus probatocephalus | 1 | dentary | | left | 1.9 |
| 108 | Testudines | 1 | carapace | | | 0.3 |
| 108 | Unidentified Mammalia | 7 | | | | 7.2 |
| 108 | Unidentified Mammalia | 1 | | | | 0.3 |
| 108 | Unidentified Mammalia | 2 | | | | 2.1 |
| 109 | Artiodactyla | 1 | tooth | | | 2.6 |

| | | | | | |
|-----|------------------------|----|----------------|----------------|------|
| 109 | Unidentified Mammalia | 1 | | | 0.6 |
| 111 | Bos taurus | 3 | tooth | molar/premolar | 0.4 |
| 111 | Sus scrofa | 1 | molar | | 1.6 |
| 111 | Sus scrofa | 1 | metacarpal | distal | 1.4 |
| 111 | Unidentified Mammalia | 5 | | | 2.6 |
| 111 | Unidentified Mammalia | 1 | | | 1.7 |
| 111 | Unidentified Mammalia | 2 | | | 0.8 |
| 111 | Unidentified Mammalia | 1 | | | 0.7 |
| 111 | Unidentified Mammalia | 1 | | | 2.1 |
| 111 | Unidentified Mammalia | 1 | | | 2.6 |
| 112 | Artiodactyla | 1 | | medium sized | 4.4 |
| 113 | Artiodactyla | 1 | tooth | | 0.6 |
| 113 | Bos taurus | 1 | molar/premolar | | 2.6 |
| 114 | Lepisosteus osseus | 1 | scale | | 0.1 |
| 114 | Sus scrofa | 1 | molar | | 2.6 |
| 114 | Unidentified Mammalia | 1 | | | 4.7 |
| 115 | Odocoileus virginianus | 1 | rib | shaft | 1.1 |
| 115 | Sus scrofa | 1 | 2nd phlange | | 3.1 |
| 115 | Unidentified Mammalia | 1 | | | 0.9 |
| 115 | Unidentified Mammalia | 3 | | | 2.3 |
| 116 | Testudines | 1 | carapace | | 0.9 |
| 116 | Unidentified Mammalia | 3 | | | 1.3 |
| 116 | Unidentified Mammalia | 3 | | | 1 |
| 117 | Unidentified Mammalia | 3 | | | 2.8 |
| 117 | Unidentified Mammalia | 4 | | | 3.2 |
| 118 | Artiodactyla | 10 | | medium sized | 18.2 |

| | | | | | | |
|-----|------------------------------|----|-------------|--------------|-------|------|
| 118 | cf. <i>Apalone spinifera</i> | 1 | plastron | | | 1.2 |
| 118 | Testudines | 1 | carapace | | | 2 |
| 118 | Unidentified Mammalia | 1 | tooth | | | 2.1 |
| 118 | Unidentified Mammalia | 1 | | | | 0.8 |
| 118 | Unidentified Mammalia | 6 | | | | 3.2 |
| 118 | Unidentified Mammalia | 1 | | | | 0.5 |
| 119 | <i>Sus scrofa</i> | 1 | mandible | lower | right | 20.1 |
| 119 | <i>Sus scrofa</i> | 1 | I3 incisor | lower | left | 0.6 |
| 119 | <i>Sus scrofa</i> | 1 | skull | occipital | left | 12 |
| 119 | Unidentified Aves | 1 | | | | 0.1 |
| 119 | Unidentified Mammalia | 2 | | | | 2.4 |
| 119 | Unidentified Mammalia | 3 | | | | 4.3 |
| 120 | Unidentified Mammalia | 1 | | | | 0.7 |
| 121 | Artiodactyla | 1 | | medium sized | | 0.8 |
| 121 | Unidentified Mammalia | 1 | | | | 0.7 |
| 122 | Unidentified Mammalia | 2 | | | | 2 |
| 123 | Artiodactyla | 30 | | medium sized | | 75 |
| 123 | <i>Bos taurus</i> | 1 | M2 molar | lower | left | 9.2 |
| 123 | <i>Bos taurus</i> | 1 | M3 molar | lower | left | 22.1 |
| 123 | <i>Bos taurus</i> | 1 | P3 premolar | lower | left | 9 |
| 123 | <i>Bos taurus</i> | 1 | rib | shaft | | 4.5 |
| 123 | <i>Bos taurus</i> | 1 | mandible | | left | 17.3 |
| 123 | <i>Bos taurus</i> | 1 | mandible | | right | 3 |
| 123 | <i>Bos taurus</i> | 1 | mandible | | | 2.4 |
| 123 | <i>Bos taurus</i> | 1 | mandible | | | 2.6 |
| 123 | <i>Bos taurus</i> | 1 | tooth | | | 2.3 |

| | | | | | | |
|------|------------------------|---|-------------|--------------|-------|------|
| 123 | Bos taurus | 1 | tooth | | | 1.4 |
| 123 | Sus scrofa | 1 | mandible | lower | right | 10.6 |
| 123 | Sus scrofa | 1 | M1 molar | lower | left | 3.6 |
| 123 | Sus scrofa | 1 | M3 molar | lower | right | 6.2 |
| 123 | Sus scrofa | 1 | P3 premolar | lower | left | 0.5 |
| 125 | Bos taurus | 1 | 1st phlange | | | 10.4 |
| 125 | Unidentified Mammalia | 2 | | | | 0.6 |
| 125 | Unidentified Mammalia | 2 | | | | 0.2 |
| 126 | cf. Trachemys scripta | 1 | plastron | | left | 13.7 |
| 126 | Testudines | 1 | carapace | | | 0.1 |
| 126 | Testudines | 1 | plastron | | | <.1 |
| 126 | Unidentified Mammalia | 6 | | | | 5.7 |
| 218 | Odocoileus virginianus | 1 | humerus | shaft | left | 3.4 |
| #101 | Bos taurus | 1 | M3 molar | upper | right | 31.5 |
| #21 | Bos taurus | 1 | I3 incisor | lower | right | 1.8 |
| #21 | Bos taurus | 1 | M2 molar | upper | left | 10.7 |
| #21 | Bos taurus | 1 | M3 molar | upper | right | 3.6 |
| #21 | Sus scrofa | 1 | M3 molar | lower | right | 12.9 |
| 101A | Testudines | 1 | carapace | | | 0.2 |
| 101A | Unidentified Mammalia | 4 | | | | 0.8 |
| 101B | Artiodactyla | 3 | | medium sized | | 2.9 |
| 101B | Bos taurus | 1 | ilium | lateral | right | 75 |
| 101B | Unidentified Mammalia | 1 | tooth | | | 0.2 |
| 101B | Unidentified Mammalia | 1 | | | | 0.2 |
| 101B | Unidentified Mammalia | 4 | | | | 0.9 |
| 101B | Unidentified Mammalia | 1 | | | | 1.5 |

| | | | | | | |
|------|-----------------------------|---|-------------------|--------------|-------|-----|
| 101B | Unidentified Osteichthyes | 1 | spine | | | 0.4 |
| 102A | Sus scrofa | 1 | P4 molar | lower | right | 2.1 |
| 102A | Unidentified Mammalia | 6 | | | | 3.1 |
| 102A | Unidentified Mammalia | 1 | | | | 0.5 |
| 102A | Unidentified Mammalia | 1 | | | | 5.8 |
| 102A | Unidentified Osteichthyes | 1 | | | | <.1 |
| 102A | Unidentified Osteichthyes | 2 | | | | 0.4 |
| 102B | Unidentified Mammalia | 1 | | | | 0.4 |
| 103A | Archosargus probatocephalus | 1 | spine | complete | | <.1 |
| 103A | Artiodactyla | 1 | | medium sized | | 1.4 |
| 103A | Pogonias cromis | 1 | terygiophore | complete | | 0.1 |
| 103A | Unidentified Mammalia | 1 | | | | 2 |
| 105A | Archosargus probatocephalus | 1 | pterygiophore | ventral | | 1.8 |
| 105A | Archosargus probatocephalus | 1 | pterygiophore | ventral | | 1.8 |
| 105A | Archosargus probatocephalus | 1 | pterygiophore | dorsal | | 0.4 |
| 105A | Archosargus probatocephalus | 1 | pterygiophore | | | 0.3 |
| 105A | Archosargus probatocephalus | 1 | pterygiophore | | | 0.4 |
| 105A | Archosargus probatocephalus | 1 | anal/dorsal spine | | | 0.6 |
| 105A | Archosargus probatocephalus | 1 | pterygiophore | | | 1.1 |
| 105A | Archosargus probatocephalus | 1 | maxilla | anterior | right | 0.7 |
| 105A | Archosargus probatocephalus | 1 | maxilla | anterior | right | 1.5 |
| 105A | Archosargus probatocephalus | 1 | operculum | distal | right | 2 |
| 105A | Archosargus probatocephalus | 9 | spine | distal | | 4.4 |
| 105A | Archosargus probatocephalus | 1 | tooth | incisor | | <.1 |
| 105A | Archosargus probatocephalus | 1 | tooth | molar | | <.1 |
| 105A | Archosargus probatocephalus | 1 | anal spine | proximal | | 1.7 |

| | | | | | | |
|------|-----------------------------|----|-------------------|----------|-------|-----|
| 105A | Archosargus probatocephalus | 1 | articular | proximal | right | 0.6 |
| 105A | Archosargus probatocephalus | 1 | operculum | proximal | left | 1.5 |
| 105A | Archosargus probatocephalus | 1 | pectoral spine | proximal | right | 0.2 |
| 105A | Archosargus probatocephalus | 1 | pectoral spine | proximal | right | 0.3 |
| 105A | Archosargus probatocephalus | 1 | pectoral spine | proximal | right | 0.4 |
| 105A | Archosargus probatocephalus | 1 | pectoral spine | proximal | left | 0.4 |
| 105A | Archosargus probatocephalus | 1 | quadrate | proximal | right | 0.7 |
| 105A | Archosargus probatocephalus | 1 | articular | | right | 2 |
| 105A | Archosargus probatocephalus | 1 | articular | | right | 1.2 |
| 105A | Archosargus probatocephalus | 1 | ceratohyal | | left | 0.5 |
| 105A | Archosargus probatocephalus | 1 | ceratohyal | | left | 0.2 |
| 105A | Archosargus probatocephalus | 1 | ceratohyal | | left | 2 |
| 105A | Archosargus probatocephalus | 1 | cleithrum | | left | 1.6 |
| 105A | Archosargus probatocephalus | 1 | cleithrum | | right | 1.1 |
| 105A | Archosargus probatocephalus | 1 | cleithrum | | right | 0.6 |
| 105A | Archosargus probatocephalus | 1 | cleithrum | | left | 0.3 |
| 105A | Archosargus probatocephalus | 1 | dentary | | right | 4.7 |
| 105A | Archosargus probatocephalus | 1 | dentary | | right | 2.9 |
| 105A | Archosargus probatocephalus | 1 | dentary | | right | 3.3 |
| 105A | Archosargus probatocephalus | 1 | dentary | | left | 3.6 |
| 105A | Archosargus probatocephalus | 1 | dentary | | left | 5.1 |
| 105A | Archosargus probatocephalus | 14 | dorsal/anal spine | | | 9.8 |
| 105A | Archosargus probatocephalus | 1 | frontal | | left | 2.5 |
| 105A | Archosargus probatocephalus | 1 | frontal | | left | 2.4 |
| 105A | Archosargus probatocephalus | 1 | frontal | | left | 2.5 |
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | right | 1.7 |

| | | | | | | |
|------|-----------------------------|---|----------------|--|-------|-----|
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | right | 2.1 |
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | right | 2.8 |
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | right | 0.5 |
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | left | 2.1 |
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | left | 2.3 |
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | right | 1.9 |
| 105A | Archosargus probatocephalus | 1 | hyomandibular | | right | 0.5 |
| 105A | Archosargus probatocephalus | 1 | incisor | | | <.1 |
| 105A | Archosargus probatocephalus | 1 | interoperculum | | left | 0.8 |
| 105A | Archosargus probatocephalus | 1 | interoperculum | | left | 1 |
| 105A | Archosargus probatocephalus | 1 | interoperculum | | right | 1 |
| 105A | Archosargus probatocephalus | 1 | lacrymal | | left | 0.3 |
| 105A | Archosargus probatocephalus | 1 | lacrymal | | right | 0.5 |
| 105A | Archosargus probatocephalus | 1 | lacrymal | | left | 0.2 |
| 105A | Archosargus probatocephalus | 1 | lacrymal | | right | 0.1 |
| 105A | Archosargus probatocephalus | 1 | maxilla | | right | 3 |
| 105A | Archosargus probatocephalus | 1 | maxilla | | right | 3.4 |
| 105A | Archosargus probatocephalus | 1 | maxilla | | right | 2.9 |
| 105A | Archosargus probatocephalus | 1 | maxilla | | right | 2.4 |
| 105A | Archosargus probatocephalus | 1 | operculum | | right | 5.8 |
| 105A | Archosargus probatocephalus | 1 | operculum | | left | 6.9 |
| 105A | Archosargus probatocephalus | 1 | operculum | | right | 3.3 |
| 105A | Archosargus probatocephalus | 1 | operculum | | left | 4.7 |
| 105A | Archosargus probatocephalus | 1 | operculum | | right | 6.6 |
| 105A | Archosargus probatocephalus | 1 | palatine | | right | 1.6 |
| 105A | Archosargus probatocephalus | 1 | parasphanoid | | | 0.6 |

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|------|-----------------------------|---|-----------------|--|-------|-----|
| 105A | Archosargus probatocephalus | 1 | pectoral spine | | left | 1.7 |
| 105A | Archosargus probatocephalus | 1 | post-cleithrum | | right | 1.3 |
| 105A | Archosargus probatocephalus | 1 | post-cleithrum | | right | 1.2 |
| 105A | Archosargus probatocephalus | 1 | post-cleithrum | | left | 1 |
| 105A | Archosargus probatocephalus | 1 | post-temporal | | left | 0.7 |
| 105A | Archosargus probatocephalus | 1 | post-temporal | | right | 0.8 |
| 105A | Archosargus probatocephalus | 1 | premaxilla | | left | 4.8 |
| 105A | Archosargus probatocephalus | 1 | premaxilla | | right | 5.1 |
| 105A | Archosargus probatocephalus | 1 | premaxilla | | left | 3 |
| 105A | Archosargus probatocephalus | 1 | premaxilla | | right | 1.8 |
| 105A | Archosargus probatocephalus | 1 | premaxilla | | right | 2 |
| 105A | Archosargus probatocephalus | 1 | preoperculum | | left | 6.3 |
| 105A | Archosargus probatocephalus | 1 | preoperculum | | right | 6.4 |
| 105A | Archosargus probatocephalus | 1 | preoperculum | | right | 5.3 |
| 105A | Archosargus probatocephalus | 1 | preoperculum | | left | 5.1 |
| 105A | Archosargus probatocephalus | 1 | preoperculum | | right | 1.3 |
| 105A | Archosargus probatocephalus | 1 | preoperculum | | left | 0.7 |
| 105A | Archosargus probatocephalus | 1 | pterotic | | right | 0.8 |
| 105A | Archosargus probatocephalus | 1 | pterotic | | left | 0.7 |
| 105A | Archosargus probatocephalus | 9 | pterygiophore | | | 3.1 |
| 105A | Archosargus probatocephalus | 1 | quadrate | | right | 0.8 |
| 105A | Archosargus probatocephalus | 1 | quadrate | | left | 0.6 |
| 105A | Archosargus probatocephalus | 1 | scapula | | left | 0.1 |
| 105A | Archosargus probatocephalus | 1 | suboperculum | | right | 0.4 |
| 105A | Archosargus probatocephalus | 1 | suboperculum | | right | 0.7 |
| 105A | Archosargus probatocephalus | 1 | supra-cleithrum | | right | 1.2 |

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|------|-----------------------------|-----|-------------------|--------------|-------|-------|
| 105A | Archosargus probatocephalus | 1 | supra-cleithrum | | left | 1.2 |
| 105A | Archosargus probatocephalus | 1 | supra-cleithrum | | right | 1 |
| 105A | Archosargus probatocephalus | 1 | supra-cleithrum | | right | 0.7 |
| 105A | Artiodactyla | 8 | | medium sized | | 11.2 |
| 105A | Artiodactyla | 1 | | medium sized | | 1.3 |
| 105A | Artiodactyla | 6 | | medium sized | | 5 |
| 105A | Artiodactyla | 158 | | medium sized | | 207.3 |
| 105A | Artiodactyla | 3 | | medium sized | | 22.4 |
| 105A | Bos taurus | 4 | tooth | | | 3.4 |
| 105A | Bos taurus | 1 | rib | distal | right | 5.2 |
| 105A | Bos taurus | 1 | cervical vertebra | | | 7.1 |
| 105A | Bos taurus | 1 | I1 Incisor | lower | right | 2.5 |
| 105A | Bos taurus | 1 | M1 molar | lower | right | 8.7 |
| 105A | Bos taurus | 1 | P1 premolar | lower | right | 4.5 |
| 105A | Bos taurus | 1 | 1st rib | proximal | left | 8.2 |
| 105A | Bos taurus | 1 | rib | shaft | right | 18.5 |
| 105A | Bos taurus | 1 | rib | shaft | left | 6.1 |
| 105A | Bos taurus | 1 | rib | shaft | right | 32.3 |
| 105A | Bos taurus | 1 | rib | shaft | right | 7.4 |
| 105A | Bos taurus | 1 | rib | shaft | | 10.5 |
| 105A | Bos taurus | 1 | rib | shaft | right | 8.8 |
| 105A | Bos taurus | 1 | rib | shaft | right | 20.1 |
| 105A | Bos taurus | 1 | rib | shaft | right | 11.3 |
| 105A | Bos taurus | 1 | rib | shaft | right | 19.2 |
| 105A | Bos taurus | 1 | P2 premolar | upper | right | 7.9 |
| 105A | Bos taurus | 1 | 1st phlange | | left | 23 |

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|------|------------------------|---|-------------------|--------------------|-------|------|
| 105A | Bos taurus | 1 | 1st phlange | | right | 33.3 |
| 105A | Bos taurus | 1 | occipital condyle | | right | 19.3 |
| 105A | Bos taurus | 1 | petrous process | | right | 10.1 |
| 105A | Branta canadensis | 1 | radius | shaft | right | 3.4 |
| 105A | Gallus gallus | 1 | femur | shaft | right | 0.6 |
| 105A | Gallus gallus | 1 | femur | distal | left | 0.4 |
| 105A | Odocoileus virginianus | 1 | humerus | distal | right | 5.4 |
| 105A | Odocoileus virginianus | 1 | radius | proximal | right | 10.3 |
| 105A | Odocoileus virginianus | 1 | rib | shaft | left | 1.3 |
| 105A | Odocoileus virginianus | 1 | tibia | shaft | right | 6.5 |
| 105A | Pogonias cromis | 1 | terygiophore | | | 0.2 |
| 105A | Pogonias cromis | 1 | terygiophore | | | 1 |
| 105A | Pogonias cromis | 2 | pterygiophore | | | 5.4 |
| 105A | Pogonias cromis | 5 | pterygiophore | | | 9.8 |
| 105A | Pogonias cromis | 1 | pterygiophore | | | 2.3 |
| 105A | Pogonias cromis | 1 | articular | | left | 1 |
| 105A | Pogonias cromis | 1 | dentary | | left | 0.6 |
| 105A | Pogonias cromis | 1 | premaxilla | | right | 0.5 |
| 105A | Procyon lotor | 1 | canine | lower | right | 0.4 |
| 105A | Sciurus carolinensis | 1 | ulna | proximal | right | 0.1 |
| 105A | Sus scrofa | 2 | skull | | | 3.5 |
| 105A | Sus scrofa | 2 | tooth | | | 3.3 |
| 105A | Sus scrofa | 1 | tibia | distal | right | 2.5 |
| 105A | Sus scrofa | 1 | 5th metacarpal | shaft and proximal | right | 2.9 |
| 105A | Sus scrofa | 1 | fibular tarsal | distal | right | 3.4 |
| 105A | Sus scrofa | 1 | fibular tarsal | distal | left | 14.9 |

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|------|-------------------|---|---------------|----------|-------|------|
| 105A | Sus scrofa | 1 | I3 incisor | lower | left | 0.6 |
| 105A | Sus scrofa | 1 | P1 premolar | lower | right | 0.5 |
| 105A | Sus scrofa | 1 | radius | proximal | left | 12.2 |
| 105A | Sus scrofa | 1 | 3rd tarsal | | right | 4.4 |
| 105A | Sus scrofa | 1 | humerus | shaft | right | 13.9 |
| 105A | Sus scrofa | 1 | rib | shaft | right | 1.8 |
| 105A | Sus scrofa | 1 | rib | shaft | | 2.5 |
| 105A | Sus scrofa | 1 | canine | upper | right | 0.8 |
| 105A | Sus scrofa | 1 | P2 premolar | upper | left | 1.3 |
| 105A | Sus scrofa | 1 | scapula | | right | 14.4 |
| 105A | Sus scrofa | 1 | scapula | | right | 12.6 |
| 105A | Sus scrofa | 1 | 1st phlange | | | 4.9 |
| 105A | Sus scrofa | 1 | incisor | | | 0.2 |
| 105A | Sus scrofa | 1 | mandible | | right | 1.2 |
| 105A | Sus scrofa | 1 | maxilla | | left | 4.8 |
| 105A | Sus scrofa | 2 | molar | | | 0.6 |
| 105A | Sus scrofa | 1 | patella | | right | 2.3 |
| 105A | Sus scrofa | 1 | premolar | | | 0.3 |
| 105A | Sus scrofa | 1 | skull | | | 4.6 |
| 105A | Sus scrofa | 1 | tibial tarsal | | right | 4.4 |
| 105A | Testudines | 1 | femur | proximal | left | 0.7 |
| 105A | Testudines | 1 | carapace | | | 2.3 |
| 105A | Testudines | 1 | carapace | | | 2.2 |
| 105A | Testudines | 8 | carapace | | | 9.5 |
| 105A | Unidentified Aves | 2 | rib | | | 0.6 |
| 105A | Unidentified Aves | 1 | | | | 0.9 |

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|------|-----------------------------|-----|-------------------|--------------|-------|-------|
| 105A | Unidentified Mammalia | 2 | | small sized | | 1.3 |
| 105A | Unidentified Mammalia | 16 | | | | 18.3 |
| 105A | Unidentified Osteichthyes | 34 | vertebra | | | 43.5 |
| 105A | Unidentified Osteichthyes | 337 | | | | 88.1 |
| 105B | Archosargus probatocephalus | 4 | incisors | upper | | 0.8 |
| 105B | Archosargus probatocephalus | 1 | spine | | | 0.6 |
| 105B | Artiodactyla | 1 | | medium sized | | 2.6 |
| 105B | Artiodactyla | 1 | | medium sized | | 2.1 |
| 105B | Artiodactyla | 17 | | medium sized | | 68.7 |
| 105B | Bos taurus | 1 | thoracic vertebra | | | 22.1 |
| 105B | Bos taurus | 1 | mandible | | left | 118 |
| 105B | Bos taurus | 1 | thoracic vertebra | | | 48.8 |
| 105B | Bos taurus | 1 | radius | distal | left | 26.3 |
| 105B | Bos taurus | 1 | radius | distal | left | 142.5 |
| 105B | Bos taurus | 1 | 3rd phlange | | right | 11.3 |
| 105B | Bos taurus | 1 | rib | proximal | left | 9.1 |
| 105B | Bos taurus | 1 | rib | shaft | right | 25.4 |
| 105B | Bos taurus | 1 | rib | shaft | left | 19 |
| 105B | Bos taurus | 1 | rib | shaft | right | 20.3 |
| 105B | Bos taurus | 1 | rib | shaft | right | 18.2 |
| 105B | Bos taurus | 1 | rib | shaft | right | 5.7 |
| 105B | Bos taurus | 1 | rib | shaft | right | 9.3 |
| 105B | Bos taurus | 1 | rib | shaft | | 7.9 |
| 105B | Bos taurus | 1 | 1st phlange | | | 16.9 |
| 105B | Bos taurus | 1 | 1st phlange | | | 44.9 |
| 105B | Bos taurus | 1 | fibular tarsal | | right | 86.7 |

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|------|-----------------------------|----|----------------|------------------------|-------|------|
| 105B | Bos taurus | 1 | M2 molar | | left | 20.3 |
| 105B | Bos taurus | 1 | patella | | left | 44.7 |
| 105B | Odocoileus virginianus | 1 | tibial tarsal | | right | 4.4 |
| 105B | Sus scrofa | 1 | mandible | medial | right | 4.3 |
| 105B | Sus scrofa | 1 | mandible | | left | 30.1 |
| 105B | Sus scrofa | 1 | ulna | proximal | right | 5.6 |
| 105B | Sus scrofa | 1 | mandible | | left | 16.2 |
| 105B | Sus scrofa | 1 | M2 molar | lower | right | 2 |
| 105B | Sus scrofa | 1 | skull | parietal | right | 5.9 |
| 105B | Sus scrofa | 1 | skull | parietal and occipital | | 22.9 |
| 105B | Sus scrofa | 1 | fibular tarsal | proximal | right | 5.7 |
| 105B | Sus scrofa | 1 | ulna | shaft | right | 21.8 |
| 105B | Sus scrofa | 1 | 2nd phlange | | | 3.2 |
| 105B | Sus scrofa | 1 | P4 premolar | | left | 2.3 |
| 105B | Sus scrofa | 1 | premolar | | | 0.7 |
| 105B | Unidentified Mammalia | 17 | | | | 9.2 |
| 105B | Unidentified Osteichthyes | 4 | | | | 0.5 |
| 105C | Archosargus probatocephalus | 1 | spine | distal | | 0.9 |
| 105C | Archosargus probatocephalus | 1 | molar | | | <.1 |
| 105C | Archosargus probatocephalus | 1 | premaxilla | | right | 1.7 |
| 105C | Artiodactyla | 4 | | medium sized | | 4.3 |
| 105C | Artiodactyla | 1 | | medium sized | | 5.2 |
| 105C | Odocoileus virginianus | 1 | femur | shaft | left | 10.8 |
| 105C | Odocoileus virginianus | 1 | humerus | shaft | | 6.3 |
| 105C | Sus scrofa | 1 | molar | | | 1.2 |
| 105C | Unidentified Mammalia | 4 | | | | 7.5 |

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|------|---------------------------|---|-------------|--------------|-------|-----|
| 105C | Unidentified Mammalia | 1 | | | | 0.9 |
| 105D | Unidentified Mammalia | 5 | | | | 1.6 |
| 105D | Unidentified Osteichthyes | 1 | | | | 0.7 |
| 105D | unidentified shell | 1 | | | | <.1 |
| 105E | Galliformes | 1 | tibiotarsus | shaft | left | 1.4 |
| 106A | Testudines | 1 | carapace | | | 0.2 |
| 106A | Unidentified Mammalia | 1 | | | | 0.5 |
| 106A | Unidentified Mammalia | 1 | | | | 0.3 |
| 106B | Artiodactyla | 1 | | medium sized | | 7.4 |
| 106B | Unidentified Mammalia | 2 | | | | 0.9 |
| 106B | Unidentified Osteichthyes | 1 | | | | 0.2 |
| 107A | Artiodactyla | 1 | | medium sized | | 1.2 |
| 110A | Bos taurus | 1 | skull | occipital | | 0.8 |
| 110A | Bos taurus | 1 | skull | occipital | | 1.2 |
| 110A | Odocoileus virginianus | 1 | rib | shaft | left | 2.1 |
| 110A | Odocoileus virginianus | 1 | rib | shaft | | 1.9 |
| 110A | Sus scrofa | 1 | mandible | lower | right | 5.6 |
| 110A | Sus scrofa | 1 | maxilla | upper | right | 4.2 |
| 110A | Sus scrofa | 1 | maxilla | upper | left | 1.3 |
| 110A | Sus scrofa | 1 | skull | parietal | left | 3.7 |
| 110A | Sus scrofa | 1 | I3 incisor | lower | right | 0.2 |
| 110A | Sus scrofa | 1 | M1 molar | lower | left | 0.5 |
| 110A | Sus scrofa | 1 | skull | orbit | | 0.7 |
| 110A | Sus scrofa | 1 | skull | parietal | left | 9 |
| 110A | Sus scrofa | 1 | skull | parietal | right | 3.6 |
| 110A | Sus scrofa | 1 | I3 incisor | upper | right | <.1 |

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|------|-----------------------|----|----------------------|--------------|-------|------|
| 110A | Sus scrofa | 1 | P1 premolar | upper | right | 0.3 |
| 110A | Sus scrofa | 1 | cervical vertebra cf | | | 0.9 |
| 110A | Sus scrofa | 1 | M3 molar | | | 4 |
| 110A | Sus scrofa | 1 | P3 premolar | | | 0.5 |
| 110A | Sus scrofa | 1 | skull | | | 1 |
| 110A | Sus scrofa | 1 | skull | | | 0.8 |
| 110A | Sus scrofa | 1 | skull | | | 0.8 |
| 110A | Sus scrofa | 1 | skull | | | 0.3 |
| 110A | Sus scrofa | 1 | skull | | | 0.8 |
| 110A | Sus scrofa | 1 | skull | | | 0.2 |
| 110A | Unidentified Mammalia | 2 | tooth | | | 0.4 |
| 110A | Unidentified Mammalia | 1 | | | | 0.3 |
| 110A | Unidentified Mammalia | 2 | | | | 1 |
| 110A | Unidentified Mammalia | 3 | | | | 1.3 |
| 111A | Artiodactyla | 7 | | | | 3.3 |
| 111A | Artiodactyla | 10 | | medium sized | | 31.9 |
| 111A | Bos taurus | 1 | P1 premolar | upper | left | 5.6 |
| 111A | Bos taurus | 1 | cervical vertebra | | | 10.3 |
| 111A | Bos taurus | 1 | cervical vertebra | | | 12.5 |
| 111A | Pogonias cromis | 1 | premaxilla | | left | 0.3 |
| 111A | Unidentified Mammalia | 1 | | | | 1.8 |
| 111A | Unidentified Mammalia | 4 | | | | 1.2 |
| 111A | Unidentified Mammalia | 2 | | | | 1.2 |
| 111A | Unidentified Mammalia | 1 | | | | 0.2 |
| 111B | Sus scrofa | 1 | molar | | | 0.5 |
| 111B | Unidentified Mammalia | 1 | | | | 0.5 |

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|------|---------------------------|----|-------------|--------------|-------|------|
| 111B | Unidentified Osteichthyes | 1 | | | | 0.2 |
| 112A | Unidentified Mammalia | 2 | | | | 0.9 |
| 112B | Artiodactyla | 1 | | medium sized | | 2.5 |
| 112B | Odocoileus virginianus | 1 | femur | shaft | left | 13.6 |
| 112B | Unidentified Mammalia | 1 | tooth | | | 0.3 |
| 112B | Unidentified Mammalia | 2 | | | | 2 |
| 112B | Unidentified Mammalia | 1 | | | | 1.2 |
| 113B | Unidentified Osteichthyes | 1 | | | | 0.5 |
| 113C | Unidentified Mammalia | 1 | | | | 0.1 |
| 114B | Unidentified Mammalia | 2 | | | | 0.8 |
| 114B | Unidentified Mammalia | 1 | | | | 1.6 |
| 114B | Unidentified Mammalia | 1 | | | | 0.2 |
| 115A | Unidentified Mammalia | 1 | | | | <.1 |
| 115A | Unidentified Osteichthyes | 1 | | | | 0.1 |
| 115B | Sus scrofa | 1 | P1 premolar | upper | left | 0.4 |
| 115B | Testudines | 1 | carapace | | | 1.6 |
| 115B | Unidentified Mammalia | 2 | | | | <.1 |
| 115D | Artiodactyla | 1 | | medium sized | | 1.3 |
| 115D | Sus scrofa | 1 | scapula | lateral | left | 3.5 |
| 115D | Sus scrofa | 1 | I1 Incisor | lower | right | 2.4 |
| 115D | Unidentified Mammalia | 1 | | | | 3 |
| 117A | Artiodactyla | 2 | | medium sized | | 7.1 |
| 117A | Artiodactyla | 4 | | medium sized | | 6 |
| 117A | Artiodactyla | 2 | | medium sized | | 6.5 |
| 117A | Artiodactyla | 33 | | medium sized | | 55.7 |
| 117A | Bos taurus | 1 | M3 molar | lower | right | 32.7 |

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|------|------------------------|----|------------------|--------------|-------|------|
| 117A | Bos taurus | 1 | mandible | | right | 5.6 |
| 117A | Bos taurus | 1 | molar | | | 0.8 |
| 117A | Bos taurus | 1 | molar | | | 3.1 |
| 117A | Bos taurus | 1 | molar | | | 1.7 |
| 117A | Pogonias cromis | 1 | terygiophore | | | 0.6 |
| 117A | Unidentified Mammalia | 1 | tooth | | | 0.2 |
| 117B | cf. Anas platyrhynchos | 1 | scapula | proximal | left | 0.4 |
| 117B | Unidentified Mammalia | 1 | tooth | | | 0.3 |
| 117B | Unidentified Mammalia | 2 | | | | 1 |
| 117B | Unidentified Mammalia | 1 | | | | 0.3 |
| 119A | Sylvilagus floridanus | 1 | maxilla | | left | 0.7 |
| 119A | Sylvilagus floridanus | 4 | molars/premolars | | | 0.3 |
| 119A | Testudines | 5 | carapace | | | 1.2 |
| 123A | Artiodactyla | 4 | | medium sized | | 11.2 |
| 123A | Sus scrofa | 1 | M3 molar | upper | right | 10.4 |
| 123A | Sus scrofa | 1 | P4 premolar | upper | right | 1.9 |
| 123A | Unidentified Mammalia | 1 | | | | 0.8 |
| 123B | Bos taurus | 1 | 3rd phlange | | left | 8.1 |
| 123B | Sus scrofa | 1 | canine | lower | right | 2.3 |
| 123B | Sus scrofa | 1 | canine | lower | right | 2 |
| 123B | Sus scrofa | 1 | canine | lower | left | 0.7 |
| 123B | Sus scrofa | 1 | canine | lower | left | 1.1 |
| 123B | Testudines | 2 | carapace | | | 4.1 |
| 123B | Unidentified Mammalia | 12 | | | | 8.8 |
| 124A | Artiodactyla | 2 | | medium sized | | 1.5 |
| 124A | Sus scrofa | 1 | rib | shaft | | 10.7 |

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|------|------------------------|---|-----------------|--------------|-------|------|
| 124A | Sus scrofa | 1 | ulna | shaft | left | 37.1 |
| 124A | Sus scrofa | 1 | canine | | | 0.7 |
| 124A | Sus scrofa | 1 | canine | | | 0.6 |
| 124A | Unidentified Mammalia | 2 | | | | 4.1 |
| 124A | Unidentified Mammalia | 1 | | | | 6.9 |
| 127B | Artiodactyla | 2 | | medium sized | | 6.8 |
| 127B | Artiodactyla | 1 | | medium sized | | 2.4 |
| 127B | Sus scrofa | 1 | incisor | | | 0.8 |
| 127B | Unidentified Mammalia | 1 | | | | 1.3 |
| 127B | Unidentified Mammalia | 2 | | | | 6.2 |
| 21A | Artiodactyla | 5 | | medium sized | | 3.9 |
| 21A | Artiodactyla | 1 | | medium sized | | 3.2 |
| 21A | Artiodactyla | 1 | | medium sized | | 7.8 |
| 21A | Odocoileus virginianus | 1 | rib | shaft | right | 1 |
| 21A | Sus scrofa | 1 | canine | lower | left | 0.9 |
| 21A | Sus scrofa | 1 | 4th tarsal | | left | 2.4 |
| 21A | Unidentified Mammalia | 6 | | | | 8.4 |
| 21A | Unidentified Mammalia | 5 | | | | 5 |
| 21A | Unidentified Mammalia | 1 | | | | 1.4 |
| 21B | Artiodactyla | 1 | | medium sized | | 1.3 |
| 21B | Artiodactyla | 1 | | medium sized | | 5.1 |
| 21B | Bos taurus | 1 | humerus | proximal | right | 9.9 |
| 21B | Odocoileus virginianus | 1 | tibia | shaft | right | 1.5 |
| 21B | Sus scrofa | 1 | lumbar vertebra | | | 7.4 |
| 21B | Unidentified Mammalia | 1 | | | | 9.5 |
| 21B | Unidentified Mammalia | 3 | | | | 2.8 |

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|--------------|------------------------|-----|-----------------------|--------------|-------|-------|
| 21B | Unidentified Mammalia | 1 | | | | 0.6 |
| 21B | Artiodactyla | 4 | | medium sized | | 3.9 |
| 21C | Artiodactyla | 3 | | medium sized | | 20.3 |
| 21C | Artiodactyla | 2 | | medium sized | | 6.9 |
| 21C | Sus scrofa | 1 | M4 molar | upper | right | 3 |
| 21C | Sus scrofa | 1 | premolar | | | 0.6 |
| 21C | Unidentified Mammalia | 1 | tooth | | | 0.4 |
| 21C | Unidentified Mammalia | 5 | | | | 8.7 |
| 21C | Unidentified Mammalia | 2 | | | | 1.9 |
| 21D | Artiodactyla | 1 | | medium sized | | 2.6 |
| 21D | Bos taurus | 1 | P3 premolar | upper | left | 1.3 |
| 21D | Sus scrofa | 1 | P1 premolar | lower | left | 1.1 |
| 21D | Sus scrofa | 1 | femur | shaft | right | 11.7 |
| 21D | Unidentified Mammalia | 3 | | | | 4.2 |
| 21D | Unidentified Mammalia | 2 | | | | 0.6 |
| 21D | Unidentified Mammalia | 1 | | | | 0.4 |
| 21D | Unidentified Mammalia | 1 | | | | 1.8 |
| 24A | Bos taurus | 1 | 7th cervical vertebra | | | 20.1 |
| 24A | Odocoileus virginianus | 1 | metatarsal | distal | left | 8.7 |
| 24A | Odocoileus virginianus | 1 | tibia | shaft | right | 1.8 |
| 24A | Unidentified Mammalia | 3 | | | | 1.7 |
| 25(?) | Odocoileus virginianus | 1 | ischium | | left | 4.3 |
| 28A | Unidentified Mammalia | 2 | | | | 0.7 |
| 29A | Artiodactyla | 164 | | | | 120.1 |
| 29A | Artiodactyla | 25 | | | | 44.2 |
| 29A | Artiodactyla | 20 | | | | 22.2 |

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|------------|------------------------|-----|-------------------|--------------|-------|-------|
| 29A | Artiodactyla | 213 | | | | 221.7 |
| 29A | Artiodactyla | 1 | | medium sized | | 2.6 |
| 29A | Artiodactyla | 33 | | medium sized | | 30.9 |
| 29A | Artiodactyla | 58 | | medium sized | | 45.1 |
| 29A | Artiodactyla | 155 | | medium sized | | 218.8 |
| 29A | Artiodactyla | 2 | | medium sized | | 0.8 |
| 29A | Artiodactyla | 23 | | medium sized | | 13.6 |
| 29A | Artiodactyla | 29 | | medium sized | | 37.8 |
| 29A | Artiodactyla | 3 | | medium sized | | 16.4 |
| 29A | Artiodactyla | 8 | | medium sized | | 17.5 |
| 29A | Artiodactyla | 14 | | medium sized | | 13.2 |
| 29A | Artiodactyla | 3 | | medium sized | | 0.8 |
| 29A | Bos taurus | 1 | radial carpal | | right | 15.5 |
| 29A | cf. Gallus gallus | 1 | radius | proximal | right | 0.8 |
| 29A | Meleagris gallopavo | 1 | humerus | distal | left | 2.3 |
| 29A | Odocoileus virginianus | 1 | ilium | medial | left | 2.7 |
| 29A | Odocoileus virginianus | 1 | scapula | | left | 1.7 |
| 29A | Odocoileus virginianus | 1 | humerus | distal | right | 9.6 |
| 29A | Odocoileus virginianus | 1 | pelvis | lateral | right | 3.5 |
| 29A | Odocoileus virginianus | 1 | thoracic vertebra | dorsal | | 4.8 |
| 29A | Odocoileus virginianus | 1 | fibular tarsal | distal | left | 5.2 |
| 29A | Odocoileus virginianus | 1 | humerus | distal | right | 11.1 |
| 29A | Odocoileus virginianus | 1 | humerus | distal | right | 6.2 |
| 29A | Odocoileus virginianus | 1 | radius | distal | left | 3.8 |
| 29A | Odocoileus virginianus | 1 | radius | distal | right | 8.1 |
| 29A | Odocoileus virginianus | 1 | tibia | distal | right | 6 |

| | | | | | | |
|-----|------------------------|---|-------------------|----------|-------|-----|
| 29A | Odocoileus virginianus | 1 | scapula | | left | 1.9 |
| 29A | Odocoileus virginianus | 1 | scapula | | right | 2.1 |
| 29A | Odocoileus virginianus | 1 | scapula | | | 3.4 |
| 29A | Odocoileus virginianus | 1 | lumbar vertebra | | | 8.1 |
| 29A | Odocoileus virginianus | 2 | vertebra | pad | | 6.7 |
| 29A | Odocoileus virginianus | 1 | cervical vertebra | process | | 1.2 |
| 29A | Odocoileus virginianus | 1 | vertebra | process | | 1.8 |
| 29A | Odocoileus virginianus | 1 | fibular tarsal | proximal | left | 5.4 |
| 29A | Odocoileus virginianus | 1 | fibular tarsal | proximal | right | 7 |
| 29A | Odocoileus virginianus | 1 | humerus | proximal | right | 8.8 |
| 29A | Odocoileus virginianus | 1 | humerus | proximal | right | 7 |
| 29A | Odocoileus virginianus | 1 | rib | proximal | right | 0.5 |
| 29A | Odocoileus virginianus | 1 | rib | proximal | left | 1.6 |
| 29A | Odocoileus virginianus | 1 | humerus | shaft | right | 4 |
| 29A | Odocoileus virginianus | 1 | humerus | shaft | left | 7.9 |
| 29A | Odocoileus virginianus | 1 | metacarpal | shaft | | 1.2 |
| 29A | Odocoileus virginianus | 1 | radius | shaft | left | 17 |
| 29A | Odocoileus virginianus | 1 | radius | shaft | left | 4 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | right | 3.8 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | right | 4.3 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | left | 0.8 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | right | 1.1 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | left | 2.5 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | left | 0.7 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | right | 5.7 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | right | 2.8 |

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|-----|------------------------|---|-------------------|--------------------|-------|------|
| 29A | Odocoileus virginianus | 1 | rib | shaft | left | 0.6 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | | 0.7 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | | 0.8 |
| 29A | Odocoileus virginianus | 5 | rib | shaft | | 9.3 |
| 29A | Odocoileus virginianus | 4 | rib | shaft | | 7.6 |
| 29A | Odocoileus virginianus | 1 | rib | shaft | | 0.7 |
| 29A | Odocoileus virginianus | 1 | tibia | shaft | left | 10.8 |
| 29A | Odocoileus virginianus | 1 | cervical vertebra | spinous process | | 2.1 |
| 29A | Odocoileus virginianus | 1 | cervical vertebra | | | 13.5 |
| 29A | Odocoileus virginianus | 1 | radial carpal | | left | 3.4 |
| 29A | Odocoileus virginianus | 1 | tibial tarsal | | right | 5.2 |
| 29A | Scalopus aquaticus | 1 | mandible | | left | <.1 |
| 29A | Scalopus aquaticus | 1 | mandible | | right | <.1 |
| 29A | Scalopus aquaticus | 1 | skull | posterior | right | <.1 |
| 29A | Scalopus aquaticus | 1 | ulna | | right | <.1 |
| 29A | Sus scrofa | 1 | fibular tarsal | proximal and shaft | right | 23.7 |
| 29A | Sus scrofa | 1 | mandible | | right | 1.8 |
| 29A | Sus scrofa | 1 | lumbar vertebra | | | 1.4 |
| 29A | Sus scrofa | 1 | mandible | posterior | right | 28.7 |
| 29A | Sus scrofa | 1 | pelvis | medial | left | 7.6 |
| 29A | Sus scrofa | 3 | tooth | | | 0.4 |
| 29A | Sus scrofa | 1 | cervical vertebra | | | 0.6 |
| 29A | Sus scrofa | 1 | ulna | shaft | right | 16.9 |
| 29A | Sus scrofa | 1 | humerus | distal | left | 54.9 |
| 29A | Sus scrofa | 1 | humerus | distal | left | 25.8 |
| 29A | Sus scrofa | 1 | metacarpal | distal | left | 1 |

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|-----|------------|---|-----------------|-----------|-------|------|
| 29A | Sus scrofa | 1 | tibia | distal | right | 17.1 |
| 29A | Sus scrofa | 1 | atlas | lateral | right | 9.3 |
| 29A | Sus scrofa | 1 | lumbar vertebra | | | 1.5 |
| 29A | Sus scrofa | 1 | canine | lower | left | 0.6 |
| 29A | Sus scrofa | 1 | I3 incisor | lower | left | 0.8 |
| 29A | Sus scrofa | 1 | M3 molar | lower | left | 0.4 |
| 29A | Sus scrofa | 1 | mandible | lower | right | 4.2 |
| 29A | Sus scrofa | 1 | P1 premolar | lower | right | 0.3 |
| 29A | Sus scrofa | 1 | P1 premolar | lower | left | 1 |
| 29A | Sus scrofa | 1 | canine | lower | right | 0.8 |
| 29A | Sus scrofa | 1 | mandible | posterior | right | 7 |
| 29A | Sus scrofa | 1 | rib | proximal | right | 3.1 |
| 29A | Sus scrofa | 1 | 2nd metacarpal | shaft | left | 0.6 |
| 29A | Sus scrofa | 1 | femur | shaft | right | 26.1 |
| 29A | Sus scrofa | 1 | humerus | shaft | right | 6.2 |
| 29A | Sus scrofa | 1 | ilium | shaft | right | 6.2 |
| 29A | Sus scrofa | 1 | rib | shaft | left | 0.8 |
| 29A | Sus scrofa | 1 | rib | shaft | left | 0.7 |
| 29A | Sus scrofa | 1 | rib | shaft | right | 0.3 |
| 29A | Sus scrofa | 1 | rib | shaft | left | 0.3 |
| 29A | Sus scrofa | 2 | rib | shaft | | 4.4 |
| 29A | Sus scrofa | 2 | rib | shaft | | 0.9 |
| 29A | Sus scrofa | 1 | ulna | shaft | right | 6.3 |
| 29A | Sus scrofa | 1 | M2 molar | upper | left | 2.7 |
| 29A | Sus scrofa | 1 | P1 premolar | upper | left | 0.2 |
| 29A | Sus scrofa | 1 | P2 premolar | upper | right | 0.2 |

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|------------|------------------------|----|---------------------|--------------------|-------|------|
| 29A | Sus scrofa | 1 | incisor | | | 0.2 |
| 29A | Sus scrofa | 1 | intermediate carpal | | left | 2.4 |
| 29A | Sus scrofa | 1 | paramastoid process | | right | 2.8 |
| 29A | Sus scrofa | 1 | tibial tarsal | | left | 6.7 |
| 29A | Unidentified Aves | 1 | | | | 0.3 |
| 29A | Unidentified Mammalia | 1 | | | | 0.2 |
| 29A | Unidentified Mammalia | 3 | | | | 0.9 |
| 29A | Unidentified Mammalia | 4 | | | | 14.1 |
| 29A | Unidentified Mammalia | 3 | | | | 0.9 |
| 29A | Unidentified Mammalia | 2 | | | | 1.7 |
| 29A | Unidentified Mammalia | 14 | | | | 6.2 |
| 29A | Unidentified Mammalia | 2 | | | | 2.6 |
| 29A | Unidentified Mammalia | 27 | | | | 10.3 |
| 29B | Bos taurus | 1 | central tarsal | | right | 27.9 |
| 29B | Odocoileus virginianus | 1 | tibia | distal | left | 6.1 |
| 29B | Odocoileus virginianus | 1 | tibia | distal and shaft | left | 26.4 |
| 29B | Odocoileus virginianus | 1 | tibia | shaft | right | 8.1 |
| 29B | Odocoileus virginianus | 1 | ulnar carpal | | right | 1.1 |
| 29B | Sus scrofa | 1 | mandible | lower | right | 10.5 |
| 29B | Sus scrofa | 3 | skull | | | 4 |
| 29B | Sus scrofa | 1 | 3rd metacarpal | distal | right | 0.5 |
| 29B | Sus scrofa | 1 | metacarpal | distal | right | 0.4 |
| 29B | Sus scrofa | 1 | 3rd metacarpal | proximal and shaft | right | 0.5 |
| 29B | Sus scrofa | 1 | 4th metacarpal | proximal and shaft | right | 2.6 |
| 29B | Sus scrofa | 1 | 1st phlange | | right | 1.1 |
| 29B | Sus scrofa | 1 | 2nd phlange | distal | left | 0.4 |

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|------------|------------------------|----|-------------------|------------------|-------|------|
| 29B | Sus scrofa | 1 | metatarsal | distal and shaft | right | 3.1 |
| 29B | Sus scrofa | 1 | I1 Incisor | lower | left | 1.9 |
| 29B | Sus scrofa | 1 | metatarsal | shaft | right | 0.5 |
| 29B | Sus scrofa | 1 | 1st phlange | | left | 1.5 |
| 29B | Sus scrofa | 1 | 2nd phlange | | left | 1 |
| 29B | Sus scrofa | 1 | 4th tarsal | | right | 1.2 |
| 29B | Sus scrofa | 1 | patella | | right | 1.6 |
| 29B | Unidentified Mammalia | 1 | tooth | | | 0.3 |
| 29B | Unidentified Mammalia | 1 | | | | <.1 |
| 29C | Artiodactyla | 1 | | medium sized | | 10.3 |
| 29C | Bos taurus | 1 | cervical vertebra | | | 6.5 |
| 29C | Odocoileus virginianus | 1 | humerus | distal | left | 6.4 |
| 29C | Sus scrofa | 1 | pelvis | pubis | right | 14.8 |
| 29C | Sus scrofa | 1 | mandible | angle | left | 3.7 |
| 29C | Sus scrofa | 1 | humerus | distal | left | 16 |
| 29C | Sus scrofa | 1 | 2nd phlange | proximal | | 0.6 |
| 29C | Sus scrofa | 1 | mandible | | right | 7.6 |
| 29C | Sus scrofa | 1 | mandible | | left | 5.9 |
| 29C | Sus scrofa | 1 | premolar | | | 0.8 |
| 29C | Unidentified Mammalia | 5 | | | | 3.9 |
| 29C | Unidentified Mammalia | 13 | | | | 15.5 |
| 29C | Unidentified Mammalia | 82 | | | | 96.9 |
| 29D | Artiodactyla | 19 | | | | 8.4 |
| 29D | Artiodactyla | 1 | | large-sized | | 1.3 |
| 29D | Artiodactyla | 27 | | medium sized | | 44.3 |
| 29D | Artiodactyla | 1 | | medium sized | | 0.2 |

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|-----|-----------------------------|----|-------------------|-----------------|------|------|
| 29D | Artiodactyla | 2 | | medium sized | | 0.6 |
| 29D | Odocoileus virginianus | 1 | cervical vertebra | | | 1.3 |
| 29D | Odocoileus virginianus | 1 | petrous process | | left | 1.7 |
| 29D | Sus scrofa | 3 | premolar/incisor | | | 0.8 |
| 29D | Sus scrofa | 1 | maxilla | | left | 16.3 |
| 29D | Sus scrofa | 1 | skull | | | 0.6 |
| 29D | Sus scrofa | 1 | skull | | | 0.9 |
| 29D | Sus scrofa | 1 | skull | | | 0.4 |
| 29D | Sus scrofa | 1 | skull | frontal/orbital | left | 49.6 |
| 29D | Sus scrofa | 1 | mandible | lower | | 7.9 |
| 29D | Sus scrofa | 1 | skull | lower orbital | left | 5.6 |
| 29D | Sus scrofa | 1 | molar/premolar | | | 0.5 |
| 29D | Sus scrofa | 1 | premolar/incisor | | | 0.2 |
| 29D | Sus scrofa | 1 | tibial tarsal | | left | 16.5 |
| 29D | Unidentified Mammalia | 2 | | | | 2.6 |
| 29D | Unidentified Mammalia | 3 | | | | 2.7 |
| 29D | Unidentified Mammalia | 5 | | | | 1.4 |
| 29D | Unidentified Mammalia | 22 | | | | 27.4 |
| 29D | Unidentified Mammalia | 1 | | | | 0.3 |
| 29D | Unidentified Mammalia | 1 | | | | 0.1 |
| 29D | Unidentified Mammalia | 3 | | | | 0.9 |
| 29D | Unidentified Mammalia | 4 | | | | 16.3 |
| 30A | Archosargus probatocephalus | 1 | spine | proximal | | 0.3 |
| 30A | Bos taurus | 1 | | | | 21.6 |
| 30A | Unidentified Mammalia | 3 | | | | 7.6 |
| 30A | Unidentified Mammalia | 1 | | | | 1.2 |

| | | | | | | |
|------------|-----------------------------|-----|-------------------|-------------------|-------|-------|
| 30A | Unidentified Mammalia | 1 | | | | 0.3 |
| 30B | Artiodactyla | 6 | | medium sized | | 16.2 |
| 30B | Branta canadensis | 1 | humerus | shaft | right | 2.9 |
| 30B | Sus scrofa | 1 | humerus | shaft | right | 31.9 |
| 30B | Unidentified Aves | 1 | | | | 0.2 |
| | Archosargus probatocephalus | 1 | anal spine | distal | | 2.2 |
| | Archosargus probatocephalus | 1 | dentary | | left | 0.1 |
| | Artiodactyla | 173 | | | | 103.1 |
| | Artiodactyla | 30 | | medium sized | | 26.4 |
| | Artiodactyla | 1 | | medium sized | | 4.2 |
| | Bos taurus | 1 | M3 molar | lower | left | 3.1 |
| | Bos taurus | 1 | tooth | molar or premolar | | 6.3 |
| | Bovidae | 2 | tooth | | | 5.5 |
| | eggshell | 1 | | | | <.1 |
| | Odocoileus virginianus | 1 | cervical vertebra | process | | 0.5 |
| | Odocoileus virginianus | 1 | fibular tarsal | proximal | left | 2 |
| | Odocoileus virginianus | 1 | rib | shaft | | 0.3 |
| | Odocoileus virginianus | 1 | tibial tarsal | | right | 3.4 |
| | Sus scrofa | 1 | M1 molar | lower | right | 1.9 |
| | Sus scrofa | 1 | I2 incisor | upper | left | 0.6 |
| | Sus scrofa | 1 | M3 molar | lower | left | 2.4 |
| | Sus scrofa | 1 | M4 molar | lower | left | 0.3 |
| | Sus scrofa | 1 | mandible | lower | right | 1.6 |
| | Sus scrofa | 1 | mandible | lower | | 2 |
| | Sus scrofa | 1 | canine | upper | left | 0.1 |
| | Sus scrofa | 2 | canine | | | 1.3 |

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|--|---------------------------|-----|------------------|--|------|
| | Sus scrofa | 1 | molar | | 0.6 |
| | Sus scrofa | 1 | premolar | | <.1 |
| | Sus scrofa | 2 | premolar/incisor | | 0.8 |
| | Testudines | 1 | carapace | | 0.3 |
| | Testudines | 1 | carapace | | 0.3 |
| | Testudines | 1 | plastron | | 0.4 |
| | Unidentified Aves | 2 | | | 0.2 |
| | Unidentified Mammalia | 1 | tooth | | 0.6 |
| | Unidentified Mammalia | 3 | tooth | | 1.3 |
| | Unidentified Mammalia | 64 | | | 17.9 |
| | Unidentified Mammalia | 44 | | | 43.7 |
| | Unidentified Mammalia | 51 | | | 81.7 |
| | Unidentified Mammalia | 129 | | | 83.9 |
| | Unidentified Mammalia | 1 | | | 0.2 |
| | Unidentified Mammalia | 3 | | | 3.1 |
| | Unidentified Mammalia | 14 | | | 8.3 |
| | Unidentified Mammalia | 3 | | | 1.5 |
| | Unidentified Osteichthyes | 3 | | | 1.4 |
| | Unidentified Osteichthyes | 1 | | | <.1 |