

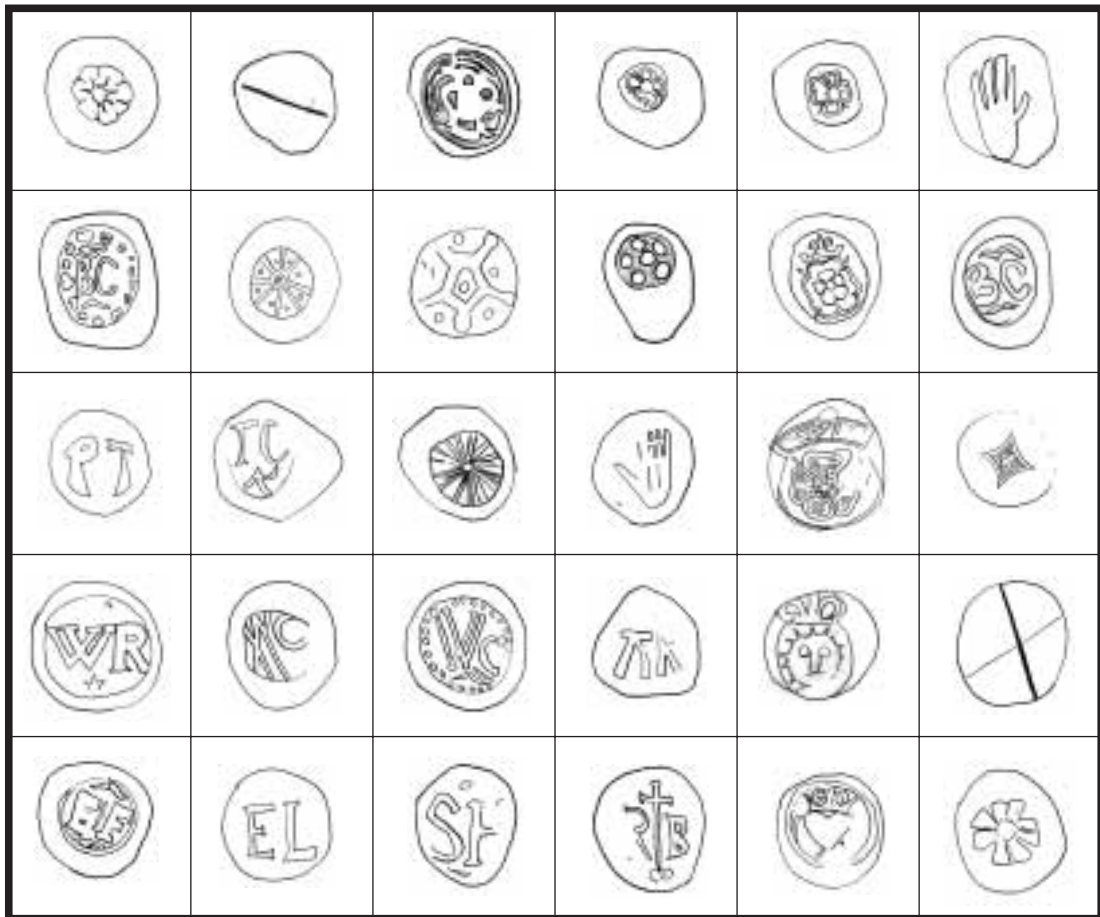
# *At the Edge of the Precipice:*

*Frontier Ventures,*

*Jamestown's Hinterland,*

*and the Archaeology of 44JC802*

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Association for the Preservation  
of Virginia Antiquities  
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# Abstract

From 1996-98, archaeologists under the direction of the Association for the Preservation of Virginia Antiquities' (APVA) *Jamestown Rediscovery* project excavated site 44JC802. In the summer of 1996, APVA staff members instructed and supervised work at the site by 13 field-school students enrolled in a University of Virginia (UVa) archaeological field school. A full-time crew of excavators continued digging from November 1997 to August 1998. Field school students, again affiliated with a UVa summer program, worked at the site during July 1998.

Archaeologists named site 44JC802 after the area's first documented land owner, George Sandys. Jamestown's inaugural resident treasurer, an accomplished writer, and the son of the archbishop of York, George Sandys patented 400 acres in 1624 on the northside of the James River between Lieutenant John Jefferson's land to the west and Grove Creek and Martin's Hundred to the east. The Sandys site, located in James City County, Virginia, on a parcel known as Kingsmill Neck, sat atop a bluff overlooking the James River, five miles east of Jamestown Island. The report presented here summarizes findings from 44JC802.

Archaeological investigations revealed that English colonists occupied the site from ca. 1630-50. Historical records identified individuals who owned or operated the land during this time. Sandys sold

his 400 northside acres in James City to Edward Grendon in the 1620s. When Grendon passed away in 1628, he left the land to his son Thomas, an English merchant. Thomas instructed his attorneys to dispose of the territory, and by 1638 they had arranged a sale with John Browning. Records of the transaction indicated that before Browning acquired the land, a merchant named John Wareham had been in possession of it. John Browning's son, William, repatented his father's land upon inheriting it in 1646. By the 1650s or '60s, the original Sandys tract had passed into the hands of Colonel Thomas Pettus. Occupation at site 44JC802 likely related to a group of resident or non-resident owners and their tenants or indentured servants.

Excavation of 44JC802 revealed 25 features, including three post-in-ground structures, three slot trenches, a well, a daub pit, and a storage pit. The Sandys site yielded more than 40,000 artifacts—primarily pottery, clay tobacco pipes, case-bottle glass, arms and armor, architectural remains, shell, chipped quartzite and flint, and faunal remains. Analysis of the findings suggested that the site served as a farmstead for a single group of occupants. Information gleaned from the artifact collection and archaeological context offered insights into the outfitting and operation of one of Virginia's earliest attempts at settling Jamestown's hinterland.

...Audrey's affection for **George Sandys** was not shared by the rest of us;  
but being a person of sometimes tiresome tenacity,  
she would make us sure  
that we had not heard the last of him...

—Ivor Noel Hume, *Martin's Hundred* (1979: 155)

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The James River Institute for Archaeology, Inc. (JRIA) performed the initial work at the Sandys site. Jamie May, Will Moore, and Brad McDonald first discovered 44JC802 in 1992 while conducting a Phase I survey of the property. Sherrie Beaver, Todd Behrens, Charles Hodges, and Beverly Straube cataloged the Phase I surface collection in the spring of 1993. Dave Givens and Mr. Moore led the Phase II testing of the area in 1994 from August to December, assisted by Theresa Farcas, Garrett Fesler, Elizabeth Grzymala, Paul Johnson, Annette Loomis, Dane Magoon, Tracy Norcutt, and Tara Winters.

Mr. Fesler and Seth Mallios directed the 1996 UVa archaeological field school. Jennifer Arthur, Kristen Braddock, Jason Buroughs, Beth Cackowski, Ned Lawless, Krista Livecchi, Anna Neuzil, Ciara O'Connell, Darby O'Donnell, Susan Otis, Danny Schmidt, Nat Skolochenka, and Amanda Taplett enrolled in the course and comprised the digging crew. Dr. Mallios, Mr. Fesler, and Mr. Givens rotated site supervision from the fall of 1997 through the summer of 1998. They were aided by the following excavators: Edith Backman, Virginia Bowen, Mr. Buroughs, Chip Cunningham, Kelley Deetz, Robert Dunkerly, Jennifer Gates, Don Gaylord, Catherine Hobbs, Cameron Monroe, Margaret Rhett, Joanne Robbins, and William Stoltz. Individuals affiliated with other UVa programs, including Susan Kern's 1994 fall class in Historical Archaeology and Barbara Heath's 1996 Poplar Forest summer archaeological field school, also helped in

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In addition to providing a wealth of information regarding artifact identification and regional parallels, Ms. Straube supervised laboratory work on the Sandys assemblage. Michael Lavin, Ms. Deetz, Bill Connell, Terri Keffert, and UVa field school students processed the artifacts. Mr. Lavin and Elliott Jordan conserved the site's materials. Ms. May and Mr. Jordan mapped 44JC802 with a total station and respectively, did the graphics and layout of this report. Ms. Deetz drew the pipe-maker's marks and performed much of the preliminary work for subsequent quantitative analyses. Mr. Jordan was essential in executing many of the report's spatial, temporal, and formal studies. Taft Kiser catalogued much of the collection. Ms. Lapham conducted analysis on the faunal remains and beads. *Jamestown Rediscovery* staff members commented on draft versions of this report. The help offered by all of the aforementioned individuals and the support given by the local community at *Kingsmill on the James* has been greatly appreciated.

Figure 1. Site dog.



Figure 2. Mapping the site's features with the total station laser transit.





*Figure 3. 1996 UVa summer archaeological field school.*



# Introduction

Archaeologists under the direction of the Association for the Preservation of Virginia Antiquities' (APVA) *Jamestown Rediscovery* project excavated site 44JC802, the George Sandys site, which was occupied by English colonists from ca. 1630-50. Individuals working for the James River Institute for Archaeology, Inc. (JRIA) initially located and tested 44JC802 from 1992-94. APVA staff members instructed and supervised work at the Sandys site by students enrolled in University of Virginia (UVA) archaeological field schools during the summers of 1996 and 1998, and by professional excavators from 1997-98.

Site 44JC802 was named after the area's first documented land owner, George Sandys, who served as Jamestown's inaugural resident treasurer from 1621-25. The property likely passed through the

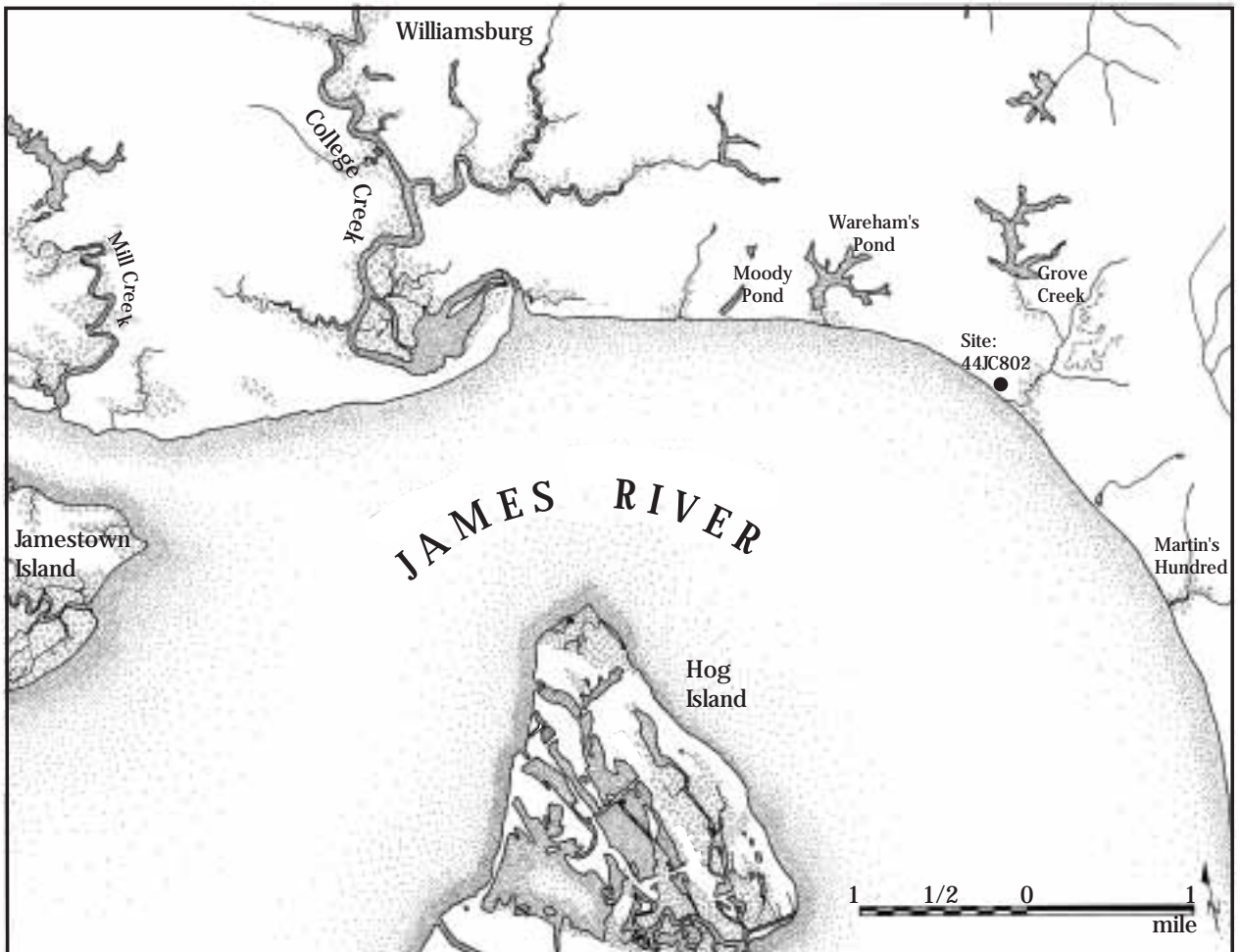
hands of multiple individuals during the 1620s, '30s, and '40s—Sandys, Edward Grendon, Thomas Grendon, John Wareham, John Browning, and William Browning. Archaeological investigations indicated that 44JC802 likely was a single occupation site, inhabited during the second quarter of the 17<sup>th</sup> century.

The Sandys site is located in James City County, Virginia, on a parcel known as Kingsmill Neck. Tucked away in the *Kingsmill on the James* residential subdivision and overlooking the James River, 44JC802 sits atop an 85' bluff on the northern shore. In between modern-day Warehams Pond to the west and Grove Creek to the east, the Sandys site is one mile northeast of the Tribell Shoal Channel, three miles northeast of Hog Island's Hog Point, and five miles east of Jamestown Island's Black Point.

Figure 4. A view to the southeast from the bluff at the northwest limits of the site.



Figure 5. A map of the general area with modern geographic designations.



# Historical Background

Had the James River's channel not been so far off shore at Archer's Hope, the first permanent English settlement in America likely would have been planted there, eight miles to the east of Jamestown Island. Both Archer's Hope and Jamestown Island were easily defended, well inland, and at narrow bends in the river, fulfilling most of the criteria the Virginia Company had established for the colony's "seating place."<sup>1</sup> George Percy's 1607 journal included the initial written reference to Archer's Hope, named after original Jamestown colonist Captain Gabriel Archer. It explained of why the land was passed over for settlement. The day before the colonists agreed on Jamestown Island as the site of their new frontier home, Percy noted that they "discovered a point of land called Archer's Hope which was sufficient with a little labor to defend ourselves against any enemy.... If it had not been disliked, because the ship could not ride near the shore, we had settled there to all the colony's contentment."<sup>2</sup>

The original reference to Archer's Hope placed it "some eight miles" from the ultimate location of James Fort.<sup>3</sup> Site 44JC802 is eight miles from current excavations on the original English fortification at Jamestown Island. Furthermore, an early

17<sup>th</sup>-century Dutch chart placed the label "Archer's Hope" at nearly the exact location of the archaeological site under discussion. George Sandys was the first colonist to patent land in this area, acquiring 400 acres "in the precinct of Archer's Hope" in 1624.<sup>4</sup> By the 1630s, the name "Archer's Hope" had come to describe to a slightly different geographic area along the James River. The 1632 General Assembly Burgess roll included an entry for "Gleabe Land and Archer's Hope," referring to the James City suburb west of College Creek.<sup>5</sup> "Mounts Bay" was the name on the same list given to the land between Martin's Hundred and modern-day College Creek. Whereas Archer's Hope regularly referred to the area between College Creek and Martin's Hundred during the Virginia Company Period (1607-1624), Mount's Bay was a consistent name for the same stretch of land during the second quarter of the 17<sup>th</sup> century.

Contemporary documents of the past included details of seven individuals who likely owned the land or lived in the vicinity of the Sandys site during its ca. 1630-50 occupation. The following section lists and describes these people and their years of interaction at or near 44JC802.

*Figure 6. Johannes Vingboons drew this chart after ca. 1638 from ca. 1617 ships logs. It was included in the Atlas of the Dutch West India Company. Note that unlike "Blockhouse Jamestown" and other settlement markers, the designation "Archer's Hope" is not directly associated with individual houses. This distinction may reveal that during this time the English had not established a settlement in the immediate area.*



## George Sandys (1624-1628?)

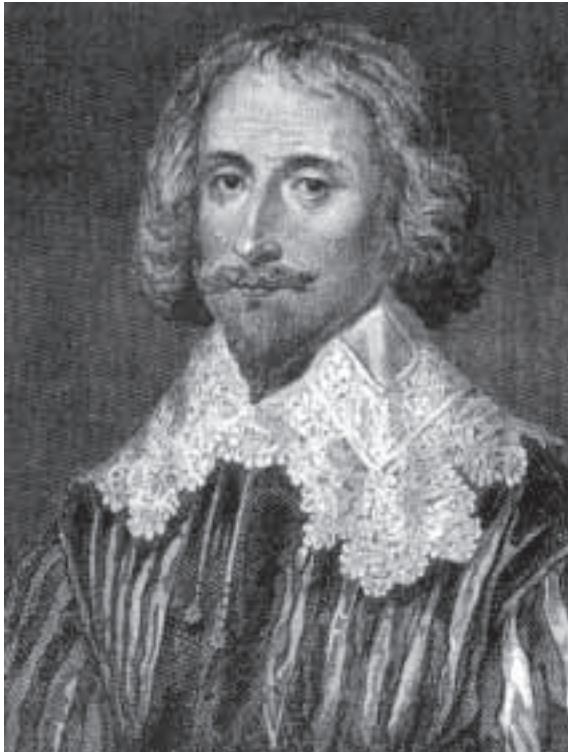
Historical records regarding early Jamestown abound with passages by and descriptions of George Sandys. Born in Yorkshire on March 2, 1577/8, this Renaissance man packed numerous adventures into his 66-year life, detailed in Richard Beale Davis' 1955 biography, *George Sandys Poet-Adventurer*. Like his renowned Elizabethan and Jacobean contemporaries Walter Raleigh and John Smith, he was a soldier of fortune and a controversial politician. Sandys' travels took him to the Mediterranean, the Middle East, and North America. His elected and appointed positions included Colony Treasurer, Council Member, and Agent. A prolific and acclaimed writer as well, his texts varied greatly in topic and style. He authored descriptive reports on the interior of the Great Egyptian Pyramid of Cheops, comments on Italian perceptions of the devil, original poetry on the valiance of the Knights of St. John at Malta, translations of Ovid's *Metamorphoses*, summaries of biblical writings, and much more.<sup>6</sup> Historical archaeologist Ivor Noel Hume suggested in 1998 that, on the basis of Sandys' foray into Egyptology, the "Poet-Adventurer" could justifiably "claim to be America's first archaeologist."<sup>7</sup> In support of this notion was a question Sandys posed when defending the importance of studying the past. Exposing perhaps the very soul of archaeological inquiry, he asked and answered, "But why spend I time about that that is not?"<sup>8</sup>

Sandys, who had eight elder siblings, was not the only distinguished member of his elite family. His father Edwin was the Archbishop of York. George's elder brother, also named Edwin, made himself well-known politically by opposing "extreme royal prerogatives" in the House of Commons as "one of the country's outstanding defenders of freedom."<sup>9</sup> He served as Treasurer of the Virginia Company, its highest elected position in the Company at the time, following Thomas Smith's 1618 resignation.<sup>10</sup> The younger Edwin absorbed much of the royal blame for the failure of the Jamestown Colony and its ill-prepared constituents in the late 16-teens and early 1620s. He was frequently "obnoxious to King James" and an all too successful recruiter that "pressed every English parish to ship off its poor" to the New World.<sup>11</sup> In addition to being a member of the London Council of Virginia, Edwin was also active in the East India Company and the Bermuda Company.<sup>12</sup> Samuel Sandys of



Figure 7. The portrait of George Sandys was painted in 1632 by Cornelius Janssen. The original is in the possession of Lieutenant-Colonel George Sandys of Graywaite Hall, North Lancashire.

Figure 8. The 1823 engraving of George Sandys was based on an earlier Janssen drawing. Lord Sandys of Ombersley, Worcestershire, owns the original portrait.



Ombersley, the brother of Edwin and George, had a daughter, Margaret, who married Virginia Governor Francis Wyatt in 1618.<sup>13</sup> Only ten years separated Wyatt and his “uncle-in-law” George Sandys, and the two maintained a close friendship and strikingly similar political views.<sup>14</sup>

George’s cousin David Sandys, a minister in the colony at Martin’s Hundred, earned notoriety by attempting to kidnap and marry 12-year old Mara Buck in 1624. Buck, characterized in Court testimony as being “very dull in taking her learning,” was one of the orphaned children of the recently deceased Reverend Richard Buck.<sup>15</sup> Mara and her potential mate stood to inherit substantial property and cattle at Neck-of-Land when she attained her majority.<sup>16</sup> Ultimately, Neck-of-Land locals and the Court prevented the materialization David Sandys’ alleged plans of profiting through abduction and matrimony.

George Sandys entered Oxford at the age of 11, endured a failed arranged marriage to Elizabeth Norton during his middle teens, and had traveled the world by his 30<sup>th</sup> birthday in 1607. A stockholder on the Second and Third Charters of the Virginia Company, he had inherited and accumulated many political supporters, “so well reputed of,



Figure 9. Portrait of the George Sandys’ parents: Edwin Sandys, Archbishop of York, and his wife Cicely. This painting is in the National Portrait Gallery in London.

for his approved fidelity, sufficiency, and integrity.”<sup>17</sup> Appointed Treasurer of the Virginia Company in May of 1621, Sandys sailed for Virginia later that year on August 1, aboard the *George* with Wyatt, Dr. John Pott, William Claiborne, new Colony Secretary Christopher Davison, and others.<sup>18</sup> Although the Virginia Company had promised to support him with 1500 acres and 50 tenants upon his arrival, Sandys came to the New World in October and found that the colony had reserved him no plantation. Whereas some of the crew, like Governor Wyatt, succeeded contemporary Jamestown officials and moved into established government residences,

Archbishop of York **Edwin Sandys** m.  
(1) **Cicely Wilford**

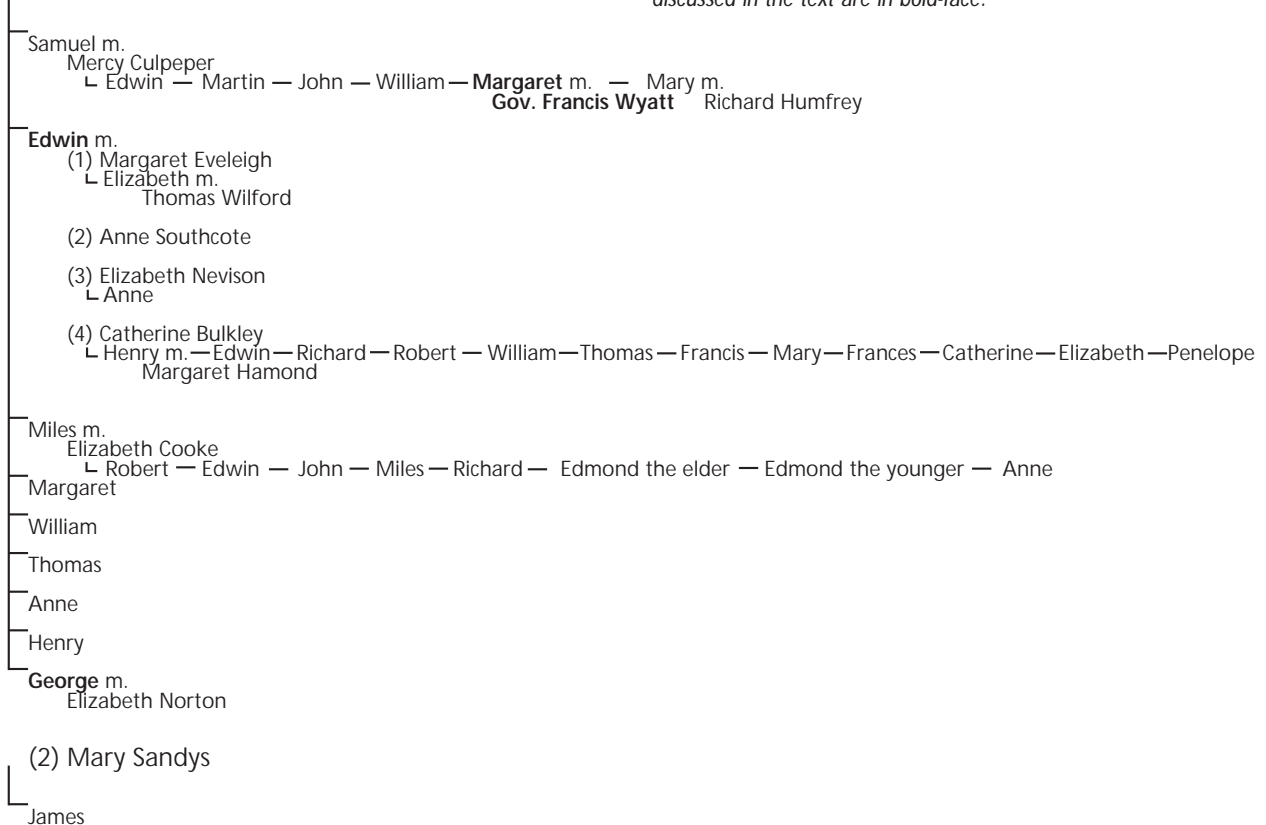


Figure 10. An abbreviated Sandys family tree. Individuals discussed in the text are in bold-face.

Sandys, being the first to serve as “Resident Treasurer,” did not take over for anyone.<sup>19</sup> He promptly purchased 200 acres with his own money to “settle his servants,” and, following brother Edwin’s recommendations, started them on the production of other commodities besides tobacco.<sup>20</sup> Both Edwin and George Sandys repeatedly championed New World policy that moved the colonists away from a one-crop Virginia economy, fearing King James’ distaste for the noxious weed and anticipating commercial strength through diversification. Those in George Sandys’ employ constructed a water mill and set up ironworking and glassmaking industries.<sup>21</sup> Manned by Italian workers with a long tradition of glassmaking and geared toward the production of beads, Sandys hoped to capitalize on continued intercultural trade with local natives, exchanging glass beads for Algonquian food. The devaluation of copper in the Powhatan world during the first decade and a half of English settlement at Jamestown had left glass beads as one of the more desired trade goods in the 1620s.<sup>22</sup> In fact, Edwin Sandys reported in 1621 that New World colonists would rather be sent “beads for trade with the Indians” than food.<sup>23</sup>

Historical records did not specify the location of George Sandys’ initial 1621 200-acre investment

that was home to his indentured servants and industrial developments. One correspondence indicated that the Treasurer spent most of his time away from his primary residence. In a letter written by Sandys on March 28, 1623, in James City, Virginia, to London’s Samuel Wrote, he stated, “I was to be but seldome there [at home] myselfe in regard of my almost dailie attendance at the Councel.”<sup>24</sup> This passage did not include enough information to determine whether or not Sandys’ 200 acres were at Jamestown Island or elsewhere.

The 1622 Powhatan Uprising shattered the confidence and security that English colonists along the James began to feel in the early 1620s with their flourishing tobacco crops and burgeoning industrial enterprises. Sandys’ personal letters reflected his shift in optimism regarding Jamestown’s future. In a letter to his brother Miles dated June 19, 1623, George wrote, “A hopeful beginning . . . in this country [was] seconded with all the Calamities wherewith God useth to scourge a disobedient people as murder, deadly diseases, and scarcity almost to famine.”<sup>25</sup> The coordinated Algonquian attacks devastated the colony and forced the settlers, in the words of Governor Wyatt, “to quitt many of our Plantacons and to vnite more neerely together in fewer places the better for to Strengthen and Defende

Figure 11. Theodore de Bry’s depiction of the 1622 Algonquian Uprising.



ourself.”<sup>26</sup> As a result, the English began to establish clustered settlements with communities that were well supplied with people, dwellings, food, livestock, and defenses.<sup>27</sup>

In the weeks that followed the March 22 Uprising, Sandys composed a letter to the Virginia Company describing the colony’s devastation. He reported on the murders of nearly 350 settlers, prompting London-based John Farrar to compile a list of the deceased. By 1623, the local leaders of colonial Virginia expressed their desire to expand this inventory into a census that included the names of all living in the colony as well. When King James I dissolved the Virginia Company in 1624 and took “into his royal care the plantacion in Virginia,” he took the accreditation a step further, requiring that the colonists compile an itemized list of each plantation’s inhabitants, fortifications, foodstores, accessibility, and chances of survival.<sup>28</sup> The “Musters of the Inhabitants in Virginia 1624/1625” combined the 1622/23 casualty list, the 1623/24 census, and the 1624/25 muster.

Sandys championed the first post-Uprising English retaliation against the indigenous population, leading attacks on Tappahannock villages across the river from Jamestown Island. In 1623 John Trundle printed a ballad praising these assaults, proclaiming,

*Stout Master George Sandys upon a night  
did bravely venture forth  
And mongst the Savage murderers  
did forme a deede of worth  
For finding many by a fire  
to death their lives they pay  
Set fire of a town of theirs and  
bravely came away.<sup>29</sup>*

In the months that followed his attack on the Algonquians living on the southside of the James, Sandys acquired hundreds of acres and established “The Treasurer’s Plantation” in the same area, suggesting that the site where he chose to exact vengeance was far from arbitrary. On December 4, 1624, Sandys patented 300 acres at Pleasant Point, across the river from Jamestown.<sup>30</sup> He paid 12 pounds 10 shillings for 100 of these acres and was given the other 200 (50 per person) for transporting four indentured servants—William Right, William Heynes, Jr., William Smith, and George Gurr—to the Colony on the *Tyger* in 1621. Historical records indicated that his riverfront land was bounded by John Baineheim’s 200-acre property to the west, Edward Grendon’s 150 acres to the east, and the south banks of the James River to the north.

At the same time, Sandys also acquired 400 acres “in the precincts of Archer’s Hope” that abutted Lt. John Jefferson’s land to the west, was separated from Martin’s Hundred by Grove Creek to the east, and bordered the James to the south.<sup>31</sup> This land was given to the Treasurer on the basis of his covering the transportation costs in 1621 of himself and seven indentured servants: Phoebus Hopkins, Edward Eastwood, Martin Turner, and John Stone aboard the *George*, and John Needham, Thomas Knowler, and Henry Wood on the *Tyger*. Site 44JC802 was uncovered on this northside tract of land.

The 1625 Muster listed George Sandys as the owner of three plantations. Scholars have interpreted the records differently, disagreeing as to location of the settlements. Noel Hume asserted that Sandys had three forts, writing,

*One was at Jamestown (and may have referred to Sandys’s official responsibility for the Virginia Company’s old town fortification), and was listed simply as “a Large Forte”; but on property vaguely defined as “his other Plantacon” he had “a Large forte Palled in” apparently containing a “Peece of Ordanace mounted, 1; Dwelling house 1; other houses, 4.” Sandys’s third fort was again described as paled in, and was located on yet another tract, where he housed five men in a single dwelling house and kept their supplies in one storehouse.<sup>32</sup>*

This interpretation maintained that the Treasurer had two large forts, one at his Pleasant Point plantation on the southside of the James River and another at Jamestown Island. Sandys’ third plantation was thus the northside tract between Jefferson’s Wareham’s Pond acreage and Martin’s Hundred, and contained “a forte paled in,” a “Dwelling house,” and a “Store house.”<sup>33</sup> Zachary Cripps, a passenger aboard the *Margaret & John* in 1621, Edward White (*Bona Nueva*, 1620), Mathew Harmon (*Southampton*, 1622), Phillip Kithly (*Furtherance*, 1622), and Anthony West (*James*, 1622) lived there. Since none of them were listed as servants, all were apparently free men. They were supplied with 12 barrels of corn, 1 hogshead each of peas and meal, 600 fish, 6 pounds of powder, 30 pounds of lead, 10 fixed pieces, 3 pistols, 1 steel coat, 2 coats of mail, 3 head pieces, and 6 swords.<sup>34</sup> Ultimately, 44JC802 might have been listed in the 1625 Muster and referred to as Sandys’ third fort.

To the contrary, historians James Kornwolf and Martha McCartney asserted independently that the Sandys plantations the 1625 Muster described were

not three separate settlements scattered across Jamestown and its hinterland, but three contiguous settlements, all on the southside of the James River at Pleasant Point. They emphasized the details in William Claiborne's testimony that appeared as an endnote to the 1624 southside land patent. Claiborne stated,

*"I measured for Mr. Sandys over the water at his Plantation 650 acres, 200 for Bainham, 300 for Sandys, and 150 for Grindon by the water side in a right line it contyneth 320 pole which is 1 mile and so it runneth up into the woods on all sides square one mile."*<sup>35</sup>

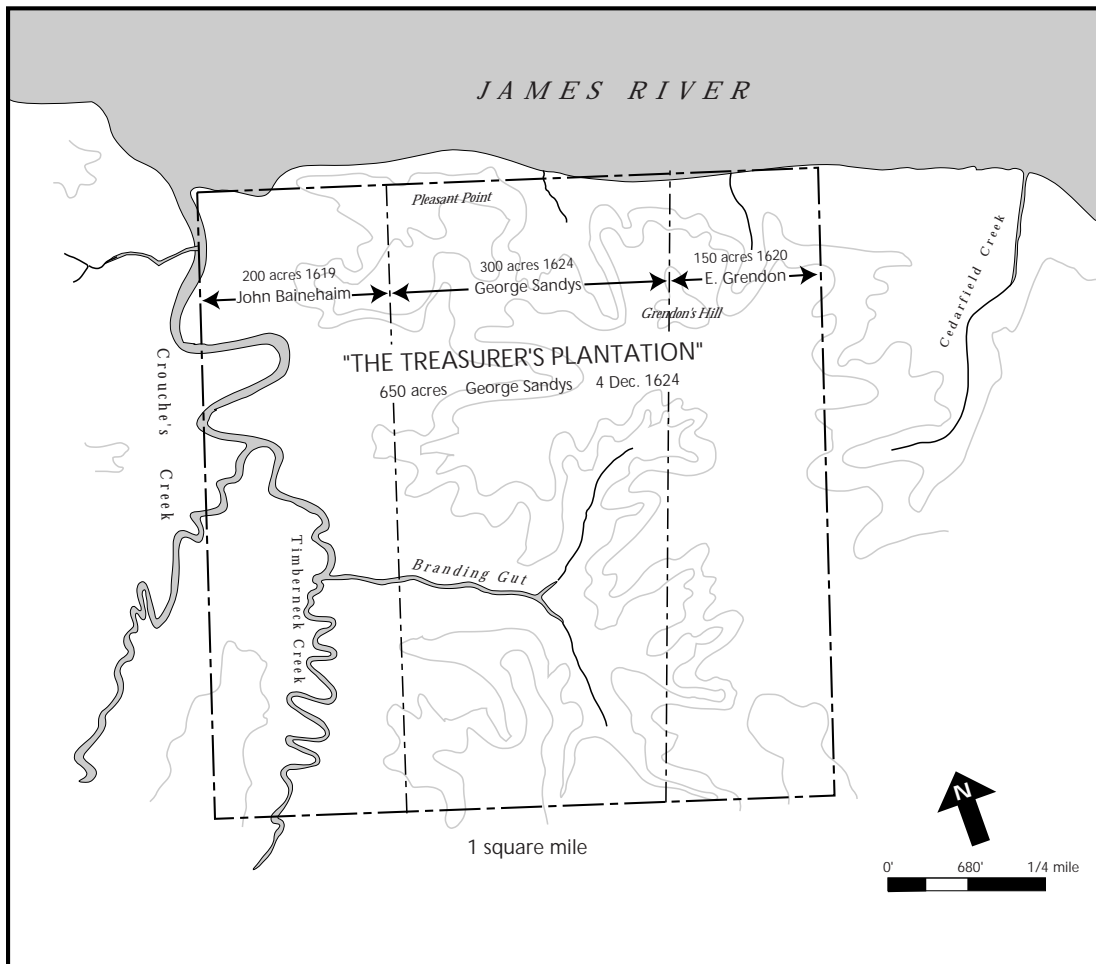
On the basis of this addendum, Kornwolf and McCartney identified each of the three components of the Treasurer's Plantation as:

- 1) Baineihaim's 200 acres to the west, including the single house, storehouse, and palisaded fort listed in the 1625 Muster,
- 2) Sandys' central 300 acres along the south shoreline, containing two houses, two stores, one silk-

- worm house, cabins, and one large fort, and
- 3) Grendon's 150 acres to the east, containing one dwelling, four other houses, and one large palisaded fort.<sup>36</sup>

Additional evidence hinted at a contiguous tripartite southside settlement. Following the inventory of the Treasurer's three plantations, the 1625 Muster referred to a subsequent list as the "Dead at all these Plantations Over the watter 1624."<sup>37</sup> This passage suggested that each of Sandys' three settlements, regardless of their proximity to one another, were across the James River. Since Jamestown was an island, it could be argued that all mainland settlements on either side of the James would be "over" the water. However, the 1625 Muster consistently referred to settlements on the southside of the James as "over ye watter" and to plantations on the northside of the James without specifying the crossing of nearby waterways.<sup>38</sup> Likewise, the 1625 Muster was organized somewhat geographically, with sequential inventories of adjacent settlements.

Figure 12. Kornwolf divides the 650-acre Treasurer's Plantation into three contiguous southside tracts and attributes respective ownership to Baineihaim, Sandys, and Grendon from west to east. Claiborne's assertion that the plantation patent area is one square mile provides the overall property boundary.





The Treasurer's plantations followed a series of predominantly southside entries and preceded three Hog Island settlements.<sup>39</sup>

Court records were helpful in attempting to determine the location of Sandys' properties as well. On January 21, 1627, an indentured servant of Edward Grendon's named William Mills confessed to stealing tobacco from one of Grendon's storehouses.<sup>40</sup> He also admitted to pilfering bunches of currants and giving them to John Tios, his wife Jane, and Thomas Hall at the Tios residence. The 1625 Muster listed John "Tyos," "Jane Long," and "Thomas Hall" as inhabitants of the Treasurer's Plantation, associating them with the second large fort, one dwelling house, and four other houses. Mills was Grendon's servant, and he stashed the fruits of his crime at the home of three individuals who lived at the second fort listed in the muster. This account identified a direct link between Grendon's employee and those residing at Sandys' second fort. Although Kornwolf and McCartney did not include this court record as supporting evidence in their respective interpretations, it nonetheless corresponded with their assertion that Sandys' second fort was, in fact, on Grendon's land and adjacent to Sandys' first fort. In addition, certain areas of Grendon's southside land were historically called "the Old Fort."<sup>41</sup>

If Kornwolf and McCartney were correct in their assertions of Sandys' one contiguous southside property, then the Treasurer's 400-acre northside tract, "in the precincts of Archer's Hope," did not make the 1625 Muster.<sup>42</sup> Although the inventory included a set of records for Archer's Hope, none of them mentioned George Sandys. Sequentially, they followed the inventories of the Neck-of-Land area, which was adjacent to the Archer's Hope suburb of James City and to the west of College Creek. The first record attributed to this area described two sets of residents and servants, each having a single house and minimal supplies. The second and third records detailed more of the same; each settlement maintained a handful of occupants, modest supplies, a lone house, and no storehouses. The inventory of materials listed relatively average amounts of military supplies and food, and a dearth of livestock.<sup>43</sup> None of the individuals living at these three small settlements had patented land in this area. Considering the Treasurer's prominence in the Colony and the wealth of documents surrounding his New World activities, it would be striking for one of his

properties to be inexplicably skipped in the official inventory.

Perhaps it was omitted because no one was there in 1624/25. Perhaps Sandys patented the land, but had not placed any of his indentures or tenants there. There is one line of reasoning that contradicts these suppositions. A requirement for "assuring permanent title to individual patents" involved building on the land, planting it, or raising livestock.<sup>44</sup> Since the records did not mention Sandys losing the property for failing to fulfill these criteria, it could be argued that the land had to have been occupied or worked in some capacity during this time.

Inversely, if Noel Hume's assessments of Sandys' disparate land holdings were accurate, then the 1625 Muster either included the territories and goods of Edward Grendon and John Baineheim in with the Treasurer's single large fort at his Pleasant Point plantation or failed to mention their southside properties and possessions. Although the 1624 General Assembly Burgess list confirmed that Grendon resided across the river from Jamestown at "Plantations over the water" and the aforementioned court records linked his indentures with Sandys' second fort, no such documents—with the exception of the original land patent—tied John Baineheim to the southside.<sup>45</sup> In fact, the 1625 Muster listed a "John Banum" as leading a plantation in Elizabeth City, some 15 miles to the east, at the mouth of the James. Banum and Baineheim were the same individual. He was a "Gentleman of Kiccoughtan in Elizabeth City Corporation" and had acquired 300 acres between "Haxoms Gaole and Blunt Point" on December 1, 1624.<sup>46</sup> He had a son named John as well, who came to Virginia in 1621 aboard the *Charles*, but had died by 1624. Interestingly enough, George Sandys paid for the transportation of four of Baineheim's indentured servants from England to Kecoughtan. John Baineheim (the elder) most likely moved to Elizabeth City in 1624, although the records did not specify what happened to his southside property until Captain William Powell patented it in 1635.<sup>47</sup>

Instead of starting with a premise that the 1625 Muster either 1) failed to include a patented tract of land or 2) combined multiple owners and their possessions under one listing, the analysis presented here offers a third explanation. It builds on the idea that the 1625 Muster was accurate, although not entirely explicit, and incorporated parts of the two previous mutually exclusive interpretations. *Perhaps*

two of the tracts listed at the Treasurer's Plantation were contiguous, on the southside near Pleasant Point, and historically inventoried; but the third was across the river. While allowing for Claiborne's addendum to refer to the measuring of the three southside properties, this hypothesis did not maintain a link between specific fortifications and Baineheim. The same records that circumstantially linked Grendon and Sandys' second fort intimated that Baineheim had relocated to Kecoughtan, preventing him from being the resident owner of the Treasurer's third fort. Baineheim's move to Elizabeth City might have marked the end of his activities on the southside. Accordingly, if the 1625 Muster did not omit or combine any major settlements owned by Sandys, Grendon, and Baineheim, then Sandys' third fort could be located between Jefferson's land and Martin's Hundred on the northside of the James. Although the theory that posited three contiguous southside settlements received the most support from historical records and is the most probable, it is impossible to dismiss the notion of Sandys' third fort at 44JC802 before excavation.

By the time Sandys' four-year tenure as Jamestown's Treasurer came to a close in 1625, he had acquired the third most indentured servants in the Tidewater, trailing only George Yeardley, the Colony's former Deputy Governor and Governor, and Abraham Piersey, Virginia's Cape Merchant from 1616-20.<sup>48</sup> Although he ideologically resisted the tobacco monoculture, Sandys, and his "best equipped plantation in Virginia" benefited greatly from the booming Virginia economy in the 1620s.<sup>49</sup> Regardless, he was upset and dissatisfied with certain matters in the New World, including King James' "assumption of control" of the Virginia Company in 1624.<sup>50</sup> His long family history of resisting extreme royal actions likely added to Sandys' frustration with recent Colony developments and furthered his immediate desire to leave the Tidewater. The letters Sandys wrote to friends and family during his last years in Virginia brimmed with bleak

images and negative commentary. He no longer believed that glassmaking would secure grand financial rewards and intercultural harmony with the indigenous population. In fact, when discussing the "ill successe of ye glass workers [including 'Mr. Vicencio the Italian']," Sandys declared of his workers that "a more damned crew hell never vomited."<sup>51</sup> Sandys' decision to leave the Tidewater—motivated by traditional loyalties, entrepreneurial frustrations, or other factors—nonetheless corresponded with the behavior of many other Virginians of the time, who sought a quick profit and an equally prompt voyage back to the Old World.<sup>52</sup> The Council lamented this trend of what they perceived to be shortsighted selfishness, noting in 1626 that many colonists strove only for a "present cropp [of tobacco] and their hastie retourne" to England.<sup>53</sup>

In his final months in the Chesapeake, Sandys abused his power by failing to honor the freedom earned by some of his indentured servants. He "continued to hold the tenants in bondage" even after they had fulfilled their legal obligation, claiming that these actions were justified because he never was given the full complement of 50 indentured servants promised to him when appointed Treasurer.<sup>54</sup> John Baldwin, one of those listed as living at the Treasurer's largest plantation, was forced to continue his servitude even though deemed a freeman in the 1625 Muster. He declared that Sandys "maketh us serve him whether wee will or noe and how to help yt we doe not knowe for hee beareth all the sway."<sup>55</sup> Even though King James had reappointed him to the Council in 1624, Sandys "refused to execute his office of Treasurer, saying he [Sandys] had nothing to do with it" following the royal dissolution of the Virginia Company.<sup>56</sup> Soon after, Sandys left the Chesapeake for England with George Yeardley in the summer of 1625. Reappointed twice more to the royal commission to the council in 1626 and '28, Sandys never returned to Virginia.<sup>57</sup>

Whereas the Sandyses often disagreed with decisions made by King James I (1603-25), they inter-

Figure 13. Three theories of Sandys' land holdings.

	Noel Hume	Kornwolf/ McCartney	Mallios
Sandys' 1st Fort: "a Large forte"	Sandys: southside	Sandys: southside	Sandys: southside
Sandys' 2nd Fort: "a Large forte Palled in"	Sandys: Jamestown	Grendon: southside	Grendon: southside
Sandys' 3rd Fort: "a forte palled in"	Sandys: original Archer's Hope	Baineheim: southside	Sandys: original Archer's Hope or southside

acted much more amicably with King Charles I (1625-49). George Sandys dedicated his translation of the *Ovid* to King Charles soon after returning to England from Virginia.<sup>58</sup> Sandys remained active politically, helping to orchestrate additional plans for colonization in Virginia and Bermuda during the 1630s.<sup>59</sup> When his nephew-in-law Wyatt served a second term as Virginia Governor in 1639, Sandys was appointed Agent for the colony. He died on March 4, 1643. Historical records indicated that Sandys never remarried nor had any children. He was buried in the Parish Church at Boxley in Kent, where the register proclaims to this day:

*George Sandys, the foremost English poet of his generation.*<sup>60</sup>

### Edward Grendon (1620s-1628)

Edward Grendon was also referred to in the historical records as “Grindall,” “Grundon,” “Grindone,” and “Grindon.” He was considered an “ancient planter” since he had made it to Virginia by 1616, paid his own passage, and lived in the Tidewater for at least three years when he made an official request for land.<sup>61</sup> As a result, he was entitled to 100 acres and additional other benefits. Ancient planters, “a purely artificial status peculiar to Virginia” would, over the years, become exempt from requisite military service and “all public fees except church duties.”<sup>62</sup> Grendon patented 150 acres on the south shore of the James River on December 5, 1620, and owned a tract at Jamestown Island as well.<sup>63</sup> His property on the southside likely formed part of the Treasurer’s Plantation, and in 1626, he was listed as living there.<sup>64</sup> As acting attorney for the Bayly family, he leased Hog Island to George Yeardeley on October 23, 1626.<sup>65</sup> Grendon was named second in command to Captain West on July 4, 1627, for an assault against the Tappahannas, the same native group on which Sandys had led an earlier attack.<sup>66</sup> In 1627 the Court, ironically emulating the coordinated Algonquian attacks of 1622, ordered groups of colonists in each military district to “goe upon the Indians & ... sett upon them all in one day.”<sup>67</sup> By 1628, Edward Grendon was dead. Sometime between December 4, 1624 and December 8, 1628, George Sandys sold his 400-acre tract of land between John Jefferson’s property and Martin’s Hundred to Grendon, his southside neighbor. Grendon left it and an additional 250 acres to his son Thomas, “his heir in England.”<sup>68</sup>

### Thomas Grendon (1628-pre1638)

Living in England before 1628 and after 1638, Thomas Grendon likely spent little time in Virginia. He represented “Smyth’s Mount, the Other Side of the Water and Hogg Island” in the 1633 General Assembly.<sup>69</sup> Thomas authorized his attorneys, Captain William Brocas and Thomas Harwood, to “dispose of” the property he had inherited from his father.<sup>70</sup> By April 12, 1638, the lawyers had sold the original 400-acre Sandys patent—“all the land lying at Mount’s Bay”—to John Browning for 3000 pounds of “good & Merchantable Tobacco in leaf.”<sup>71</sup> The account of the sale included an important side note. The land in question “belonging to said Grindon” had up to this point in 1638 been in the “Possession of John Warham, dec’d.”<sup>72</sup>

### John Wareham (late 1620s?-pre1638)

Wareham, perhaps a factor for one or both of the Grendons, controlled the Sandys’ northside tract in the 1630s. Wareham appeared in court twice in the 1620s. On January 21, 1628, a woman named Mrs. Adams confessed that her husband owed the “merchant John Wareham” 300 pounds of tobacco for “a servant sold unto him.”<sup>73</sup> Sixteen months later “Warham, Merchant” appeared as a witness, testifying that “Anthony Leame did agree with Thomas Mayhew to serve him [Mayhew] for a year.”<sup>74</sup> Wareham served as a Burgess from “Mount’s Bay” in 1632 and from “Harropp and to Martins Hundred”—the same area but given a different name—in 1633.<sup>75</sup> In attempting to determine who lived at 44JC802 during the 1630s, it is important to note that when Thomas Grendon and John Wareham served together on the 1633 Assembly in 1633, Wareham was a northside resident and Grendon lived on the southside. Furthermore, by the time of Wareham’s death, the name “Wareham’s Pond” and “Wareham’s River” was used to describe the body of water adjacent and to the east of Sandys’ northside 400 acres, which divided it from Martin’s Hundred.<sup>76</sup> Today, Wareham’s Pond is the water to the west of Sandys’ land. Grove Creek is now the name of what was called Wareham’s Pond in the 17<sup>th</sup> century.<sup>77</sup> Overall, apart from the others mentioned above who owned the land but likely never lived there, Wareham is the first individual mentioned that was documented as residing in the area where site 44JC802 was uncovered.

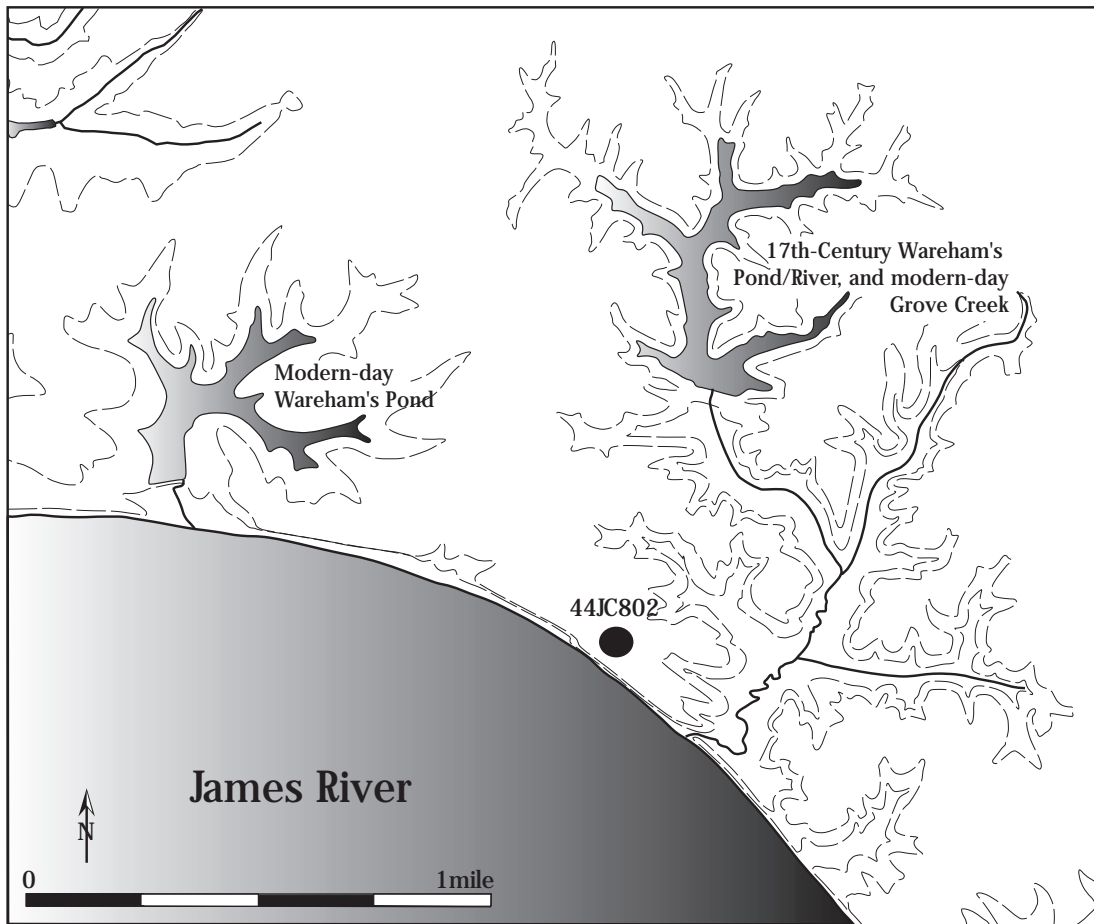


Figure 14. Map showing that the name “Wareham’s Pond” has been used in reference to two separate waterways over time.

## John Browning (1638?-1646)

The 400 acres that Browning acquired from Grendon were adjacent to an additional 250-acre tract that Browning had purchased years earlier.<sup>78</sup> This smaller area to the west was originally allocated to Lieutenant John Jefferson in 1619. Jefferson held a variety of positions during this time, including Burgess for Flowerdew Hundred in the 1619 First Assembly, official taster of tobacco in 1622, and special investigator of post-Uprising colony defenses in 1623.<sup>79</sup> By the mid-1620s, Jefferson had relocated to the West Indies. His departure freed up the land, which was then acquired through a court order by Ensign John Uty in 1628.<sup>80</sup> Uty, the military commander of Archer’s Hope and Martin’s Hundred in 1629, sold his land on the northside of the James and additional property on Hog Island to John Browning on November 27, 1629.<sup>81</sup> The combination of the Jefferson/Uty 250 acres and the Sandys/Grendon/Wareham 400 acres left Browning in ca. 1638 with a contiguous 650-acre tract from Moody Pond to Martin’s Hundred.

Browning, born in 1600, first came to Virginia in 1622 as a passenger on the *Abigail*. He served as the General Assembly Burgess from Elizabeth City in 1629, and from “Harrop and the Plantations between Archer’s Hope and Martin’s Hundred” in 1630.<sup>82</sup> Two years later he served as the Burgess from Mount’s Bay with John Wareham.<sup>83</sup>

## William Browning (1646-1650s or '60s?)

Upon inheriting his father’s land, William Browning repatented the 650-acre tract on April 10, 1646. The patent summarized the land’s 27-year commercial English history.

*MR. WILLIAM BROWNING, 650 acs. James City Co., Apr. 10, 1646, Page 100. Within the limits of Archers Hope, E upon the Ponds dividing this land from Martins Hundred. 400 acs. formerly granted unto George Sandis, Esqr., by patent dated 4 Dec. 1624, and by him sold to Edward Grindall who left it to his heir in England that constituted Capt. Brocas & Mr. Thomas Harwood his Attorneys to dispose of same, and who sold same unto Jno. Browning.*

*father of sd. William. 250 acs. formerly granted unto John Jefferson in 1619, after granted unto Mr. John Uti by order of court, Oct. 16, 1628, & by sd. Uti for a valuable consideration sold unto sd. John Browning Nov. 27, 1629, unto all of which sd. William is now heir apparent by descent from the sd. John.*<sup>84</sup>

The Browning family relinquished ownership of the 650 acres in the 1650s or '60s.

### Thomas Pettus (1650s or '60s?-1669)

The historical records failed to detail the transfer of property from William Browning to Colonel Thomas Pettus. When appointing an attorney in 1660, Pettus was identified as being "of Littletown in Virginia" in the Westmoreland County Records.<sup>85</sup> He acquired 1280 acres in all, including much of the land to the north of the original Jefferson and Sandys tracts.<sup>86</sup> Pettus, a wealthy and active individual in Virginia, perished by 1669 and passed the property to his son Thomas.<sup>87</sup>

### Summary

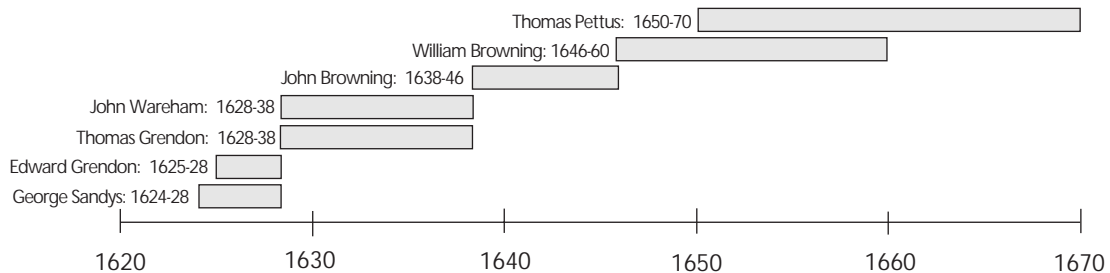
Of the people that can be potentially associated with 44JC802, dated archaeologically to ca. 1630-50, several observations could be made.

1. George Sandys (b. 1577-d. 1643) was the first documented owner of the land on which the site was discovered. He spent the majority of his time in Virginia at Jamestown Island and at his plantation at Pleasant Point, and most likely did not live at 44JC802. He might have placed indentured servants or other individuals in his employ at the site in the 1620s. It is unlikely, although

possible, that the 1625 Muster's description of Sandys' third fort referred to the inhabitants and possessions of those at 44JC802.

2. Edward Grendon (?-1628) acquired Sandys' northside land in the 1620s, and his son Thomas (?-1680) inherited it in the late '20s or early '30s. Edward likely resided on the southside of the James, in the vicinity of his property at Grendon's Hill. Thomas too apparently lived on the southside. Some of Sandys' indentured servants or tenants might have continued to reside at 44JC802 during the Grendon family ownership, or other individuals might have been placed there.
3. John Wareham (1604-1638), a merchant and owner of indentured servants, came into possession of the original Sandys northside tract in the 1630s. Unlike Sandys and the Grendons, Wareham likely made his primary residence in the area. The nearby waterway that contemporaneously bore his name bolstered the theory that he kept a home in the immediate vicinity of 44JC802.
4. John Browning (1600-1646) added Sandys' original northside land to his adjacent western tract in 1638 and passed all 650 acres to his son William in 1646. The Brownings likely lived in the immediate area, although it was difficult to determine whether they spent more time on the Jefferson property John first purchased in 1629 or the Sandys tract acquired in 1638.
5. Thomas Pettus (?-1669) acquired the property in the 1650s, most likely after occupation at 44JC802 had ceased.

Figure 15. The documented land owners of property in and around 44JC802 during the middle 17<sup>th</sup> century.



# Archaeological Methods

In the early 1990s, Busch Properties, Inc. continued their long standing support of archaeology by contracting professionals to survey property scheduled for development in the vicinity of former United States Army Camp Wallace. In full compliance with Section 106 of the National Historic Preservation Act of 1966 and in anticipation of constructing additional residential units in this area of Kingsmill Neck, archaeologists tested 270 acres for cultural remains. Work at the Sandys site began with the establishment of a datum, which served as a basis for grid coordinates across the immediate landscape. The first phase of investigation consisted of a 1992 controlled surface survey and 30 1.0'-square shovel test pits at 75' intervals (STP 1-30). Artifacts were initially noted on the surface, eroding out of a bank caused by middle 20<sup>th</sup>-century Army road construction. Screening the spoil from each shovel test pit through ¼" hardware cloth, archaeologists recovered a variety of artifacts, including brick, chipped stone, coal, daub, delftware, English ball-clay pipestems, flint, iron hand-wrought nails, Spanish olive jars, Jamestown coarseware, North Devon gravel tempered ware, and oyster shells. These finds indicated that the imme-

mediate area had been occupied during the second quarter of the 17<sup>th</sup> century. Sixteen quartzite flakes were collected, suggesting intermittent prehistoric or Contact-Period activity near the site as well. The shovel testing established preliminary site boundaries. A majority of the artifacts were within a rectangular 340' by 365' area.<sup>88</sup> Archaeologists registered the site as 44JC802 and recommended additional evaluation. There were at least three other contemporary sites in the immediate vicinity—44JC4, 44JC804, and 44JC805.<sup>89</sup> They likely related to occupation at the Sandys site.

A second phase of excavation followed in 1994, which continued the systematic digging of test pits through the area's natural strata to undisturbed subsoil. Along grid lines, archaeologists excavated 2.5'-square test units at 10' intervals across the site (GS301-458). Samples were collected from each unit for soil chemical analysis. While screening the dirt in these layers through ¼" hardware cloth, excavators discovered more artifacts similar in form to those from the initial phase of testing. They encountered extensive new ones as well, like brigandine armor, case-bottle glass, Chesapeake tobacco pipestems, Chinese porcelain, copper-alloy furniture tacks, Dutch coarseware, Frechen stoneware, glass beads, jettons, lead scrap and shot, Midlands Purple, prehistoric pottery, and slate. In addition, excavation of the 158 2.5'-square test units exposed 11 archaeological features.

The third and final archaeological phase began in 1996 with the digging, chemical sampling, and screening of the site's top two strata in 235 contiguous 5' squares (GS501-735). The broad, open-area excavation revealed most of the site's remaining features in their entirety. Once uncovered, the features were cleaned, photographed, and mapped individually in plan at a 1"=1' scale. They were later mapped together on a single plan with a laser theodolite. Excavators used trowels to dig each feature stratigraphically, again sifting the fill through ¼" hardware cloth. All artifacts, including brick, rock, and shell, were retained, and a soil chemical sample was taken from each layer of each feature as well.



Figure 16. The Phase II investigation of 44JC802.

Once a feature was sectioned, the profile was photographed and mapped at a 1"=1' scale, and the remaining half was excavated.

Samples for various flotation, phytolith, pollen, and carbon analyses were taken from the site's principle features. In an attempt to ascertain an optimum retrieval ratio for soil flotation analysis, the archaeological crew floated four different sized samples (1, 5, 10, and 20 liter) from each natural layer of the north half of Storage Pit 1. Ultimately, the flotation process produced 143 light fraction and 143 heavy fraction samples. Phytolith, pollen, and oxidized carbon ratio (OCR) columns were taken from the profiles of Storage Pit 1 and Daub Pit 1. In each case, the crew collected soil from a column in the center of the feature's profile. Al-

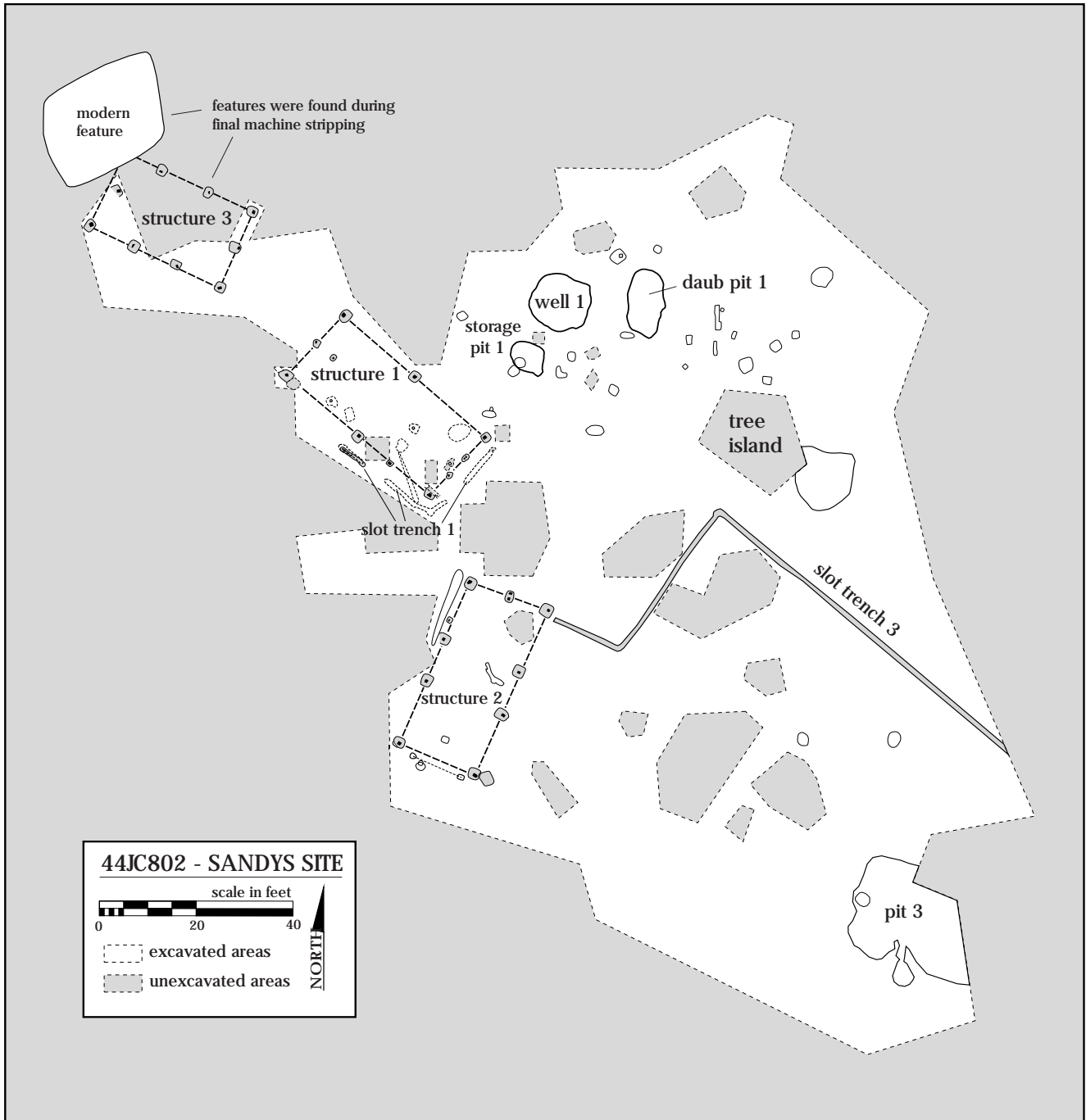
though the natural stratum was noted, these samples were sorted according to absolute depth at one-inch intervals. Pollen samples were also taken from dirt under a few large ceramic sherds in the hopes that these sizeable artifacts blocked soil percolation. Analyses on flotation, phytolith, pollen, and OCR samples have yet to be completed.

During the summer of 1998, a mechanical excavator with a 6.0'-wide smooth-edge bucket was used to strip plowzone adjacent to the site's open areas. In early 2000, Busch Properties, Inc., again had machinery and operators at the site. They helped archaeologists remove additional plowzone, conclusively define site boundaries, and follow remaining feature edges that had previously extended beyond the excavation area.

*Figure 17. View of shoreline stabilization adjacent to Sandys Site.*



Figure 18. Overall site plan.





# Excavation Results

Archaeological excavations indicated historical occupation at 44JC802 from ca. 1630-50. The principle features consisted of three hole-set post-in-ground structures, two slot trenches, a daub pit, a storage pit, and a well. Secondary features included a third slot trench and a variety of amorphous pits. The west half of the site contained the three buildings, two of which had nearby aligned slot trenches. The site's east half consisted of multifarious pits, including a daub pit, a storage pit, and a well to the north, and a large anomalous pit to the south.

Site 44JC802 maintained consistent soil layers across the heavily wooded site area. It contained three natural strata with remains of human activity. Layer A, a dark brown silty loam, ranged in depth from .2-.7' and was made up of sod, topsoil, and rootmat. The crew uncovered modern, historic, and prehistoric artifacts in this stratum. It sealed layer B, which averaged .4' in depth and consisted of mottled gray and tan sandy silt. Layer B had more artifacts than A, but also contained refuse from the 17<sup>th</sup> and 20<sup>th</sup> centuries. B was most likely an old plowzone, a layer disturbed by past soil tilling. In contrast to other uniformly stirred historical Chesapeake plowzone contexts at Flowerdew Hundred, Neck-o-Land, and Jamestown Island, the plowzone at 44JC802 was very lightly tilled.<sup>90</sup> Its artifacts clustered tightly about the tops of features and showed no evidence of lateral disturbance. Layer C consisted of tan silty sand, was .2' deep and, with the exception of brick and charcoal bits, contained virtually no artifacts. The extreme sandiness of the soil at 44JC802 allowed material from the lightly plowed B layer to leech into the top inches of subsoil. This process resulted in the creation of a stratum with cultural material (C) that was cut and post-dated by all features.

The archaeological crew encountered several modern disturbances at the site, most relating to 20<sup>th</sup>-century military activities. Bivouacking soldiers

and their many foxholes altered the normal stratigraphy. The site's material assemblage included 286 fired blank cartridges from .30-06/7.62mm military weapons, half of which dated to 1968. Otherwise, 44JC802 remained relatively intact and well preserved.

## Primary Features

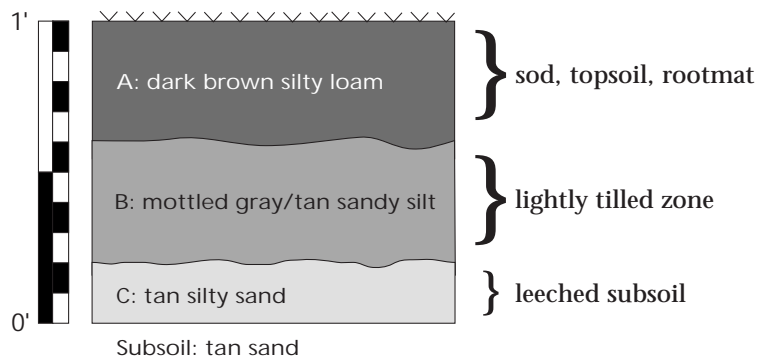
### Structure 1 (GS8): The Storehouse Slot Trench 1 (GS6, 7)

Structure 1, a 40' by 18' rectangular earthfast building, consisted of nine definite postholes and six other possible, yet likely unrelated, postholes. Oriented gable end southwest/northeast, Structure 1 was made up of two oversized 20' bays between three pairs of hole-set posts (GS8A/B, C/D, G/H, J/K, L/M, N/O). It included no evidence of a chimney, hearth, repairs, or additions.

The three pairs of postholes at the building's corners and short central axis were round, 2.0-2.8' in diameter, and contained squarish molds .5-.8' to a side. Both holes and molds ranged in depth from .8-1.2'. In each case the postmold reached the base of the posthole. Four out of the six postmolds had flat bottoms and two were slightly rounded. The absolute elevation of the base each of the postmolds varied nearly a foot, and the depths of the pairs of posts did not correspond with each other. Thus, they were not erected in tie-beam pairs. The postmolds on the northeast side of the structure were consistently .5' deeper than their partners to the southwest. The postholes consisted of mottled orange and tan sandy loam with no inclusions, and the postmolds were filled with light brown sandy loam mixed with small (<.5") charcoal bits.

Three additional smaller postholes appeared asymmetrically along the building's edges, one each on the northwest (GS8T/U), southwest (GS8E/F),

Figure 19. General non-feature profile of 44JC802.



and southeast (GS8V/W) sides. Six dubious soil stains slightly resembled postholes in plan, but their profiles suggested otherwise. Two were located along the perimeter of the structure (GS8I, X/Y/Z), three were along the long central axis (GS8AA/AB, AC/AD, R/S), and one was in the interior of the building (GS8P/Q) and associated with three other unrelated features (GS3, 4, 9).

Slot Trench 1 consisted of three sections and formed an "L" around the southeastern corner of Structure 1. Only the northwest segment (GS6) had evidence of postmolds in the trench. The molds only became evident once the brown loam fill of this 6.6' by .5-1.0' feature was partially excavated. The section next to Structure 1's corner post turned a right angle, measured 17.7' in total length, and was separated from the other two segments of Slot Trench 1 by 5-6' gaps. The easternmost section

was 10.3' in length and reached a terminus in line with the northeast wall of Structure 1. Gaps between those sections corresponded with the intervals between adjacent pairs of postholes. The 7.0' space between one of the substantial center postholes (GS8G/H) and a smaller posthole in line to the southeast (GS8E/F) coincided with the nearby 5.8' gap between the westernmost segments of Slot Trench 1 (GS6, 7). Likewise the 5.3' break in the center and eastern parts of Slot Trench 1 (GS7) aligned with the 3.9' space between the southeast corner posthole and a smaller posthole in line to the northeast (GS8V/W). The overlapping gaps between the slot trench segments and the posthole pairs, along with the specific size and placement of the secondary postholes and postmolds, suggested that these two intervals marked separate doorways in Structure 1.

Figure 20. Plan of Structure 1 and Slot Trench 1 with posthole profiles

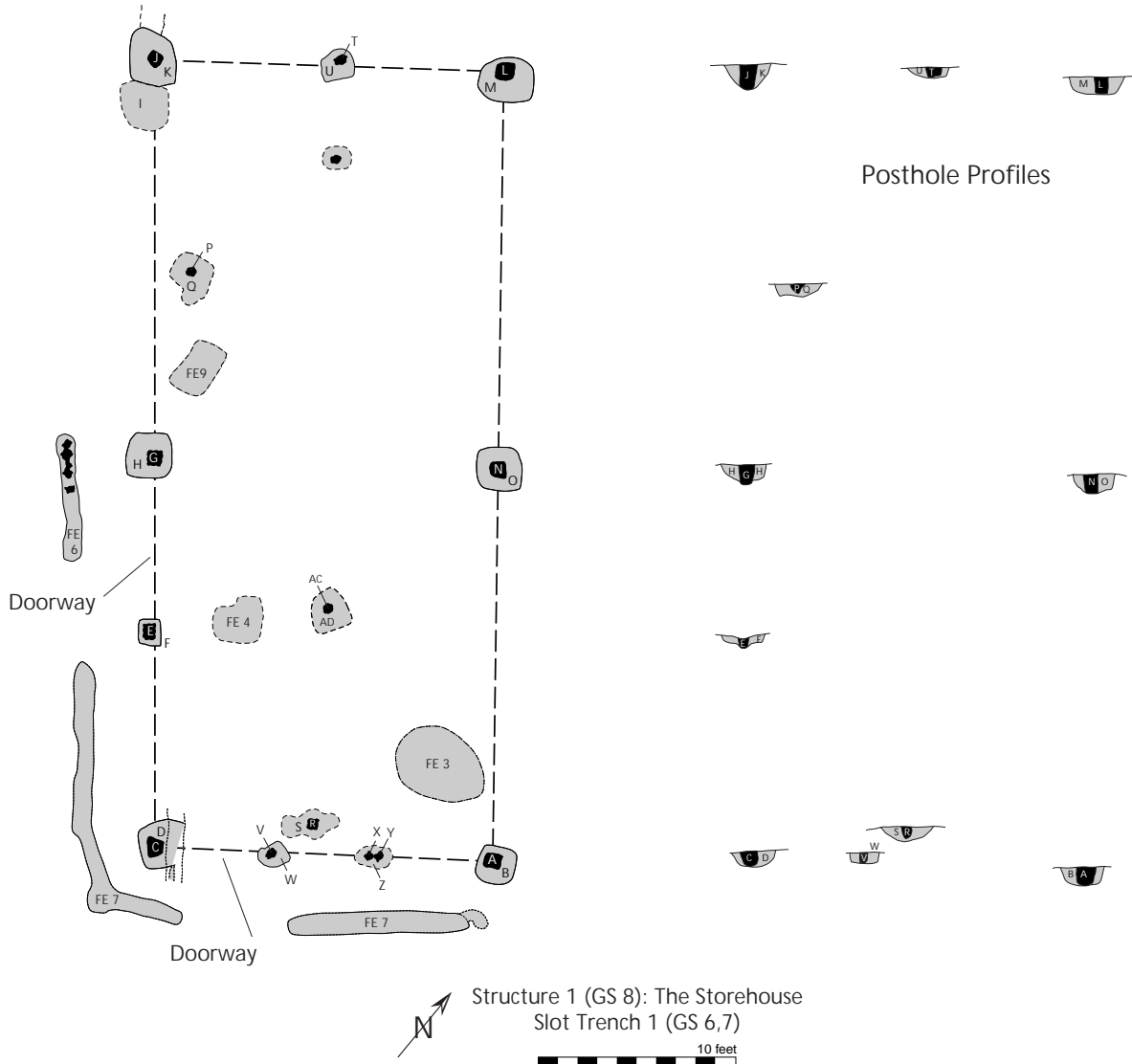




Figure 21. Photograph of Structure 1.

The postholes and postmolds that remained from the construction, use, and destruction of Structure 1 contained a variety of artifacts, including Frechen stoneware, case-bottle glass, lead shot, quartzite flakes, iron hand-wrought nails, Jamestown coarseware, English tobacco pipes, copper scraps, daub, brick, and mortar. Excavators only tested the top few inches of Slot Trench 1 and unearthed iron hand wrought-nails, English, Dutch, and local tobacco pipes, Spanish olive jar coarseware, Jamestown coarseware, case-bottle glass, quartzite flakes, an iron bar, and limonite. The pipe assemblage from this context included two types of maker's marks: a W/C (style 1) and a Crowned Tudor Rose. Both were commonly produced and used from ca. 1630-60 (see Appendix B).

Architectural and archaeological factors indicated that Structure 1 was not a typical dwelling. The small quantity of posts and oversized bays distinguished this building from most other early 17<sup>th</sup>-century structures in the Chesapeake. Twenty-foot bays were the maximum bay width in the Tidewater during this time, with the average being half that distance. Structure 1's extreme bay width suggested that it would not be able to support a second story. The building contained no evidence of a chimney or hearth, revealing that it likely had no structural heat source. In addition, there were no evident in-

terior divisions. The off-center middle post on the southeast wall (GS8V/W) could have been a support for a smoke hood. However, the lack of scorched soil or any burned material in the nearby area—as seen in Structure 2—undermined this theory. Furthermore, the corresponding gap in the nearby slot trench hinted at the post's primary doorway-related function.

One of Structure 1's purported entrances was atypical. It was exceptionally wide, measuring 7.0' across, and could accommodate the loading and unloading of large barrels. Door frame postholes suggested that there were no sills between the posts (ground-to-plate construction). The lack of sills to support floor boards indicated that Structure 1 likely had a dirt floor. Constructing a building with no sills maintained an economic advantage as there were "fewer timbers to dress and fewer joints to cut."<sup>91</sup> Positive factors, like the oversized bays and an extra wide doorway, hinted that this structure was not a dwelling. Negative evidence—the collective lack of a heat source, internal divisions, and a second story—also intimated that this building was not a domestic structure, but instead, a storage facility like a storehouse, barn, etc.

Only one fully excavated and reported 17<sup>th</sup>-century earthfast structure in the Tidewater consisted of hole-set posts, two oversized bays, no evidence of

a chimney, and plan dimensions approximately 40' x 18'. A team of excavators at Flowerdew Hundred's Enclosed Compound (44PG65) uncovered a 42' x 16' building (Structure 2), with two oversized 20' bays, hole-set principal posts, and no chimney or hearth. They concluded that it was a warehouse.<sup>92</sup>

The structure dated to 1619-30 and was most likely listed in the 1625 Muster as one of three storehouses or four tobacco houses owned by Cape Merchant Abraham Peirse. Other archaeologists have offered a different interpretation for this building, labeling it a magazine and claiming that it formed part of an

Figure 22. Table of 40' by 20' earthfast structures with hole-set posts constructed in the 17th-century Chesapeake.

Site #	Site Name, Feat./Struc.	Plan Dim.	Bays	Chimney	Date	Function	Oversize Bays
44JC802	Sandys, Structure 1	40' x 18'	2	no	1620-50	Storehouse	yes
44PG64/65	Flowerdew Hundred; Warehouse	42' x 16'	2	no	1619-30	Warehouse	yes
44JC115	Wolstenholme Towne; Site C	25' x 15'	no	no	1620-22	Storehouse	no
44PG64/65	Flowerdew Hundred; Dwelling 1	41' x 24'	4	yes	1619-30	Dwelling	no
44JC802	Sandys, Structure 2	38' x 18'	3	yes	1620-50	Dwelling	?
44HT55	Hampton, Structure C	40' x 20'	3	no	1620-60	Dwelling?	?
44JC39	Kingsmill; Kingsmill Tenement 2	40' x 18'	4	no	1625	Dwelling	no
44JC116	Martin's Hundred; Site A, Build. B	40' x 18'	4	yes	1625-45	Dwelling	no
44JC	Jamestown Island, Struc. 71-77	40' x 18'	5	no	1625-50	Dwelling	no
44JC39	Kingsmill; Littleton Quarter 2	41' x 18'	4	no	1625-50	Dwelling	no
44PG40	Maycock Plantation	35' x 18'	4	yes	1630-50	Dwelling	no
44YO68	Bennett Farm	34' x 20'	4	no	1640-50	Dwelling	no
44JC43	Drummond House	36' x 18'	3	yes	1648	Dwelling	no
44NN44	Mathews Manor	46' x 18'	5	yes	1650	Dwelling	no
44NN44	Mathews Manor	41' x 19'	5	yes	1650	Dwelling?	no
44PG72	Flowerdew Hundred; Dwelling 3	47' x 17'	4	no	1650-75	Dwelling	no
44WM204	John Washington	40' x 21'	4	no	1656	Dwelling	no
18CV271	Patuxent Point	40' x 20.5'	4	yes	1658-80	Dwelling	no
44YO67	River Creek	36' x 21'	4	yes	1670	Dwelling	no
44YO67	River Creek	34.5' x 20'	3.5	yes	1670	Dwelling	no
44WM33	Clifts Plantation	41' x 18.5'	5	no	1670	Dwelling	no
44PG66	Flowerdew Hundred; Dwelling 2	35' x 20'	4	yes	1680-1740	Dwelling	no
44JC115	Wolstenholme Towne; Site C	39' x 15'	?	no	1620-22	?	no
44JC113	Martin's Hundred; Site B	44' x 22'	4	yes	1625-50	?	no

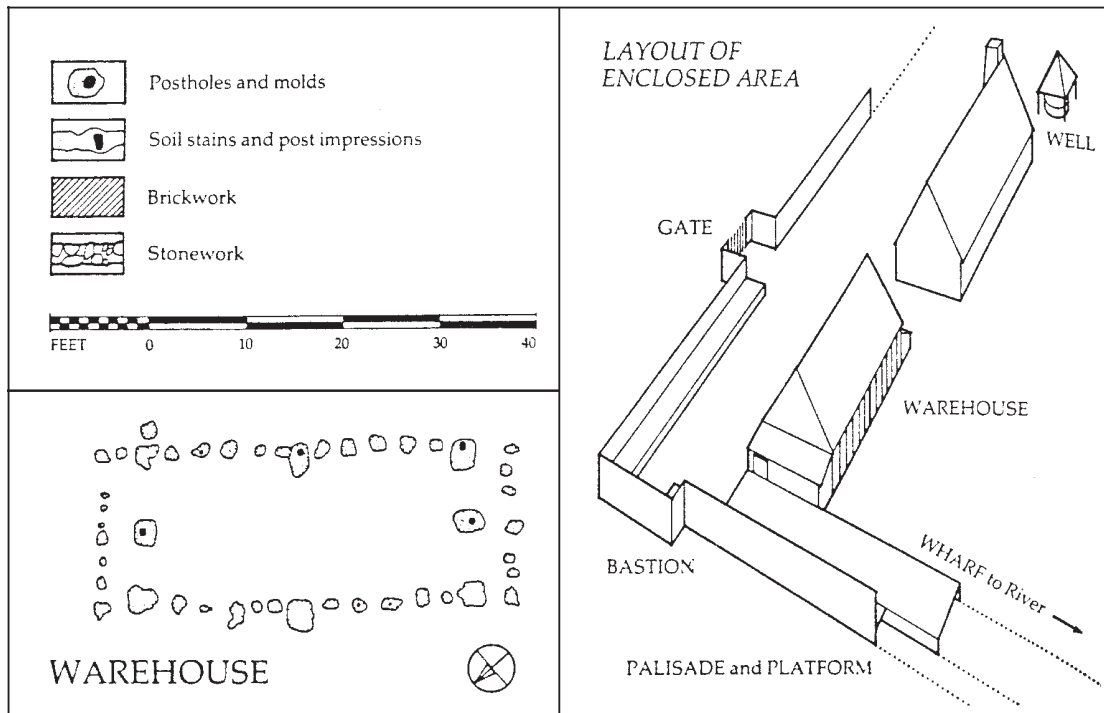


Figure 23. The Warehouse at Flowerdew Hundred's Enclosed Compound (44PG65).

elaborate bawn used by George Yeardley or Peirse.<sup>93</sup> Regardless of interpretive differences on a grander scale, both explanations linked the building's form with non-domestic use and storage. Like 44JC802's Structure 1, the Flowerdew warehouse had a doorway on its gable end between a 3' gap in the postholes. However, these buildings included important formal differences. The Flowerdew warehouse alone had 1) numerous puncheons between the major posts and 2) sheds or hips at each end.

Archaeology at Martin's Hundred revealed evidence of a building with a gable doorway, like 44JC802's Structure 1.<sup>94</sup> It too was a non-domestic structure used for storing goods. At Wolstenholme Towne (44JC115), excavators uncovered a 25' by 15' earthfast structure with 6' doorways at each end. It had slots adjacent to the doors and along the short sides, which were the remains of partial sills. Furthermore, the many postholes that formed the perimeter of the structure indicated that it was unbayed. This storehouse differed from Structure 1 at the Sandys site in size, evidence of bays, and presence of sills; but both buildings lacked a hearth or chimney and had an end doorway.

All three storage-related buildings discussed above—Structure 1 at 44JC802, Flowerdew Hundred's Warehouse in the Enclosed Compound, and the Compound Store at Martin's Hundred—were at least partially enclosed. Site 44JC802's Structure 1 had the remains of a palisaded fence on

at least one of its corners. The 17<sup>th</sup>-century Chesapeake contained many examples of slot trench palisades, with recurrent archaeological examples of 1.0'-wide trenches containing a row of post molds. These barricades took a variety of forms, including the substantial fortifications at Jamestown Island (1607) and Nansemond (ca. 1625-50), the perimeter of an isolated dwelling at the Clifts (ca. 1670), and the lengthy Middle Plantation wall between College and Queen's Creek (ca. 1630).<sup>95</sup>

### Structure 2 (GS39): The Dwelling Slot Trench 3 (GS41)

The second rectangular earthfast structure uncovered measured 38' by 18' and consisted of 11 postholes. There were four pairs of posts (GS39A/B and J/K, C/D and L/M, E/F and N/P, and G/H and Q/R), a set of exterior chimney posts (GS39AA and Y), and two posts along the north/south central axis (GS39S/T/X and W). Like Structure 1, Structure 2 contained no evidence of repair posts, additions, or other building phases. Slot Trench 3 (GS41), a 100+' long feature that zig-zagged parallel to the two axes of Structure 2, had one of its termini 1' to the east of the building's northeast corner post. Additional but most likely unrelated features in the immediate vicinity included a dubious posthole (GS39U/V/Z) and a curvilinear ditch/rodent burrow (GS25/28). Structure 2 was oriented

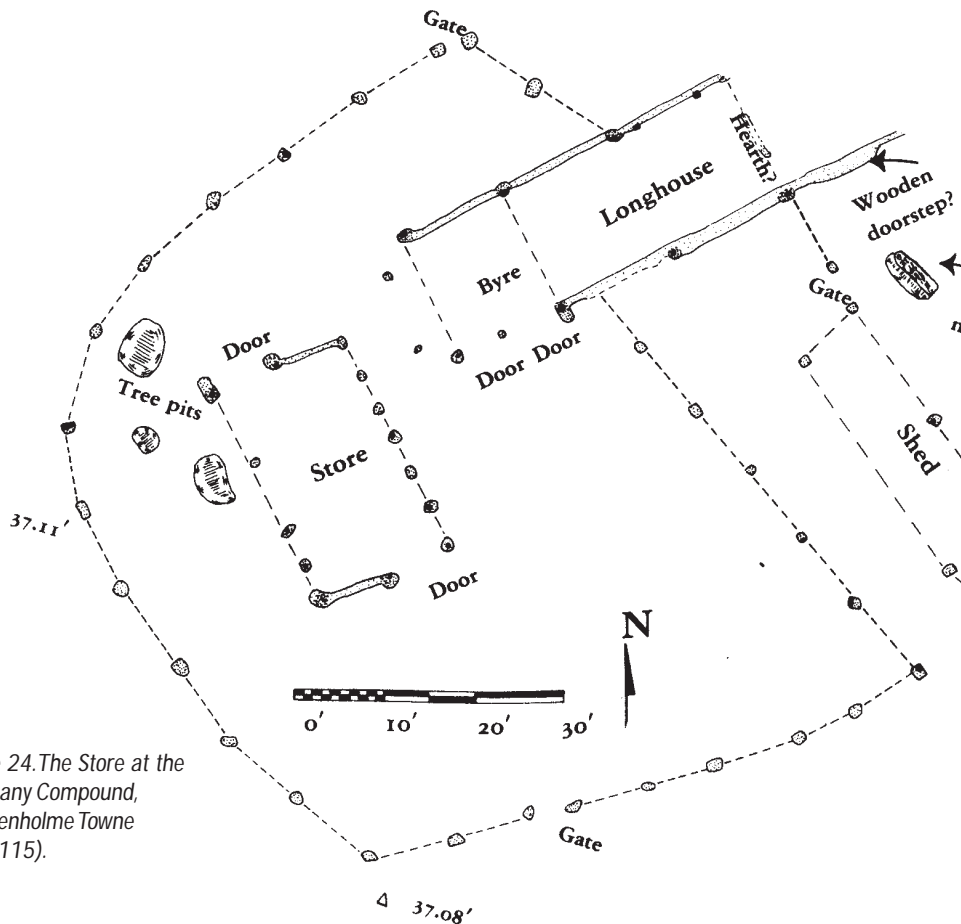


Figure 24. The Store at the Company Compound, Wolstenholme Towne (44JC115).

nearly perpendicular to Structure 1, its gable end running west/northwest by east/southeast. It contained three bays and was relatively symmetrical about the center bay. The northern and southern bays were 14'-14.5', and the center bay measured 9.5' in length.

The four pairs of postholes along the structure's perimeter were rounded squares 2.0-2.5' to a side, and each had a .7-.8' square or rectangular postmold in its center. Both holes and molds varied in depth from .7-1.4' with the mold reaching the base of the hole in each case. All of the postmolds had flat bases. The bottom elevations between posthole pairs were nearly identical and always within .11' of each other, indicating that the supporting frames were raised in tie-beam pairs (bent framing). The postholes consisted of mottled gray orange, and brown sandy loam with no inclusions, and the postmolds were filled with a brown sandy loam with small (<.5") charcoal bits.

Two exterior chimney posts were uncovered a foot south of and centered on the south end of Structure 2. The holes contained no molds and consisted of tan sandy loam. One (GS39Y) had charcoal inclusions in its fill. They were of uniform

depth, although the post to the east (GS39AA) had more of a rounded base than the other (GS39Y). Adjacent to the western chimney post, excavation revealed a round soil stain, 2.5' in diameter, made up of charcoal, brick chunks, and baked clay. These charred remains confirmed the presence of a chimney on the southside of Structure 2.

An additional stain that further delineated the building's perimeter was a center gable posthole (GS39X/T/S), likely serving as a prick post. It was a 1.5-2' oval stain (T), consisting of mottled sandy loam and two dark interior anomalies. One was the real mold (X), a .7' by .8' rectangle in plan full of brown loam with brick and charcoal inclusion and the other was a small treehole (S) that bottomed out quickly once excavated. The base of the prick post's real mold was .6' shallower than the tie-beam corner posts on either side. As was common with center gable posts, it was less substantial and secondary to the other gable posts.<sup>96</sup>

An interior rectangular 1.5' by 1.7' posthole (39W) was uncovered 4.5' north/northwest of the building's south wall. It consisted of mottled sandy loam with brick and charcoal inclusions, contained no mold, and reached a foot below subsoil. The

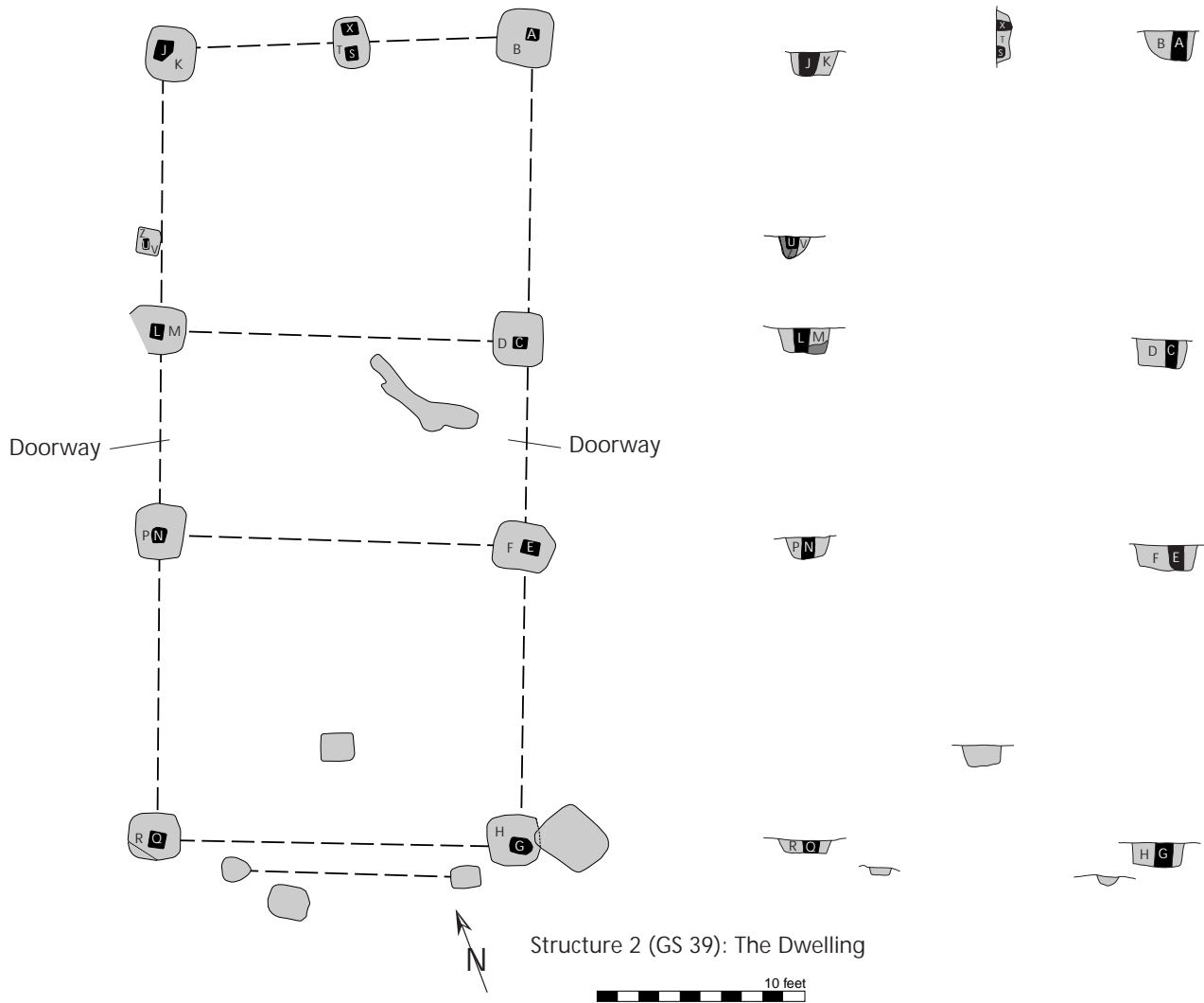


Figure 25. Plan of Structure 2 with posthole profiles.

orientation and placement of this post suggested that it related to Structure 2. Its four sides aligned with the rectangular building perimeter and it overlapped with the building's central long axis.

Structure 2's exterior chimney, centered on the building's south wall, likely consisted of timber and mud daub. Minimal brick was found in that area of the building and only moderate amounts were encountered at the site in general. The scorched dirt in between and just south of the chimney posts indicated that this hearth was external and likely supported by posts that could be knocked away if the chimney caught fire. Structure 2's postholes and postmolds contained few artifacts. The small assemblage consisted of English tobacco pipes, iron hand-wrought nails, daub, and quartzite flakes.

Slot Trench 3 began just east of Structure 2, extended east/southeast for 17' before turning over 90 degrees and heading north/northeast for 37'.

This feature made another near right turn and then extended at least 85' to the southeast. When trowel-cleaning the surface, archaeologists uncovered quartzite flakes in its fill. Slot Trench 3 was left unexcavated.

For the most part, Structure 2 resembled a standard 17<sup>th</sup>-century English colonial dwelling in the Chesapeake, approximately 40' by 20' in size, consisting of pairs of hole-set posts, and including a hearth or chimney. The previous table of early Tidewater houses that identified the distinctiveness of Structure 1 showcased the regularity of Structure 2 (See Figure 22). For example, Sites A (44JC116) and B (44JC113) at Martin's Hundred both contained domestic structures of similar dimensions with single end chimneys.

The archaeology provided few clues as to the interior layout. If this were a typical hall and parlor house, the bottom floor would likely be divided into



Figure 26. Photograph of Structure 2, note the close proximity of the cliff edge.

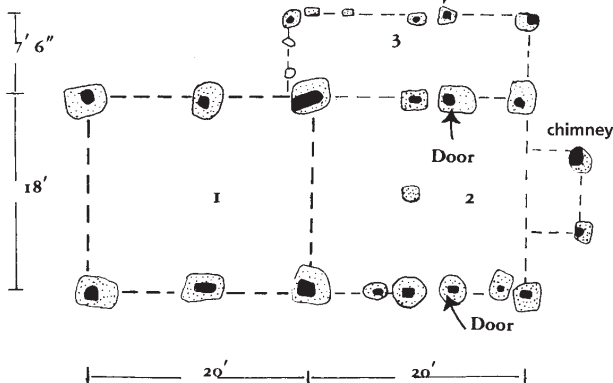
a 24' by 18' hall that included the hearth and the two southern bays, and a smaller 14' by 18' parlor section. However, Structure 2 might have had a different floor plan. The differential bay spacing hinted at the presence of a central cross passage with similarly sized hall and parlor rooms to each side (see Figure 25). Yet traditional cross passage houses of the time typically had three rooms, two on one side of the passage and one on the other, and two chimneys.<sup>97</sup> Nevertheless, a structure at Cushnoc, a ca. 1630-50 site in Maine, contained a strikingly similar plan to the dwelling at 44JC802. Cushnoc's 20' by 44' structure was raised in tie-beam pairs, included an earthfast hearth at one end, and contained opposite doorways on its central bay.<sup>98</sup> A

potential walkway stain just to the west of the dwelling linked it with the storehouse and further suggested that Structure 2 contained a doorway on the western side of its central bay. Parallels in the eastern United States and Ireland intimated a complementary door on the central bay's eastern side as well.<sup>99</sup> The soil chemical tests, discussed in the following section on spatial analysis, offered additional evidence supporting the notion that Structure 2 had a door centered on each of its long ends.

### Structure 3 (GS40)

During the final mechanical plowzone stripping of 44JC802's periphery, archaeologists uncovered the full extent of a third post-in-ground building. Structure 3 measured 30' by 18', consisted of three bays, and was located in the northwest corner of the site. Oriented similarly to Structure 1, with north/northeast by south/southwest gable sides, it contained nine postholes and was cut at its northwest corner by a 24' by 18' modern Camp Wallace era feature. The depth and flatness of the building's postmolds varied, indicating that the supporting frames were not raised in tie-beam pairs. All of the postholes contained mottled gray orange and brown sandy loam with no inclusions. The postmolds consisted of brown sandy loam with small (<.5") charcoal bits. Structure 3 contained three evenly spaced bays, no evidence of a hearth, repairs, or additions, and no adjacent slot trenches. Its postholes and

Figure 27. Plan of the principal dwelling at Site A, Martin's Hundred (44JC116).





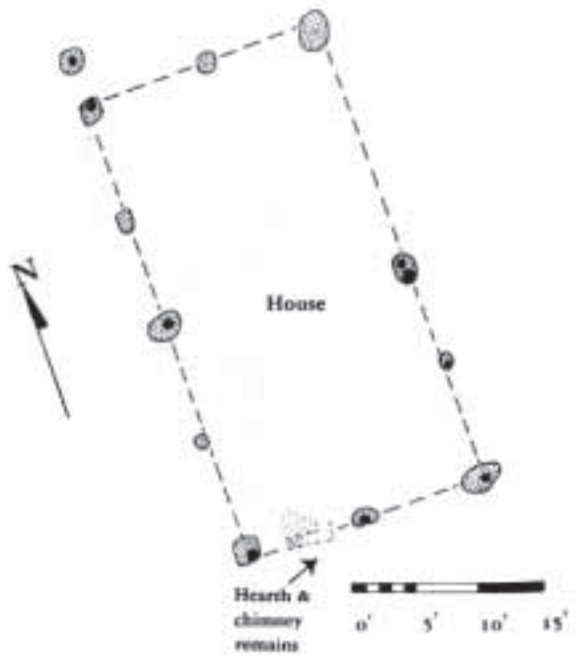
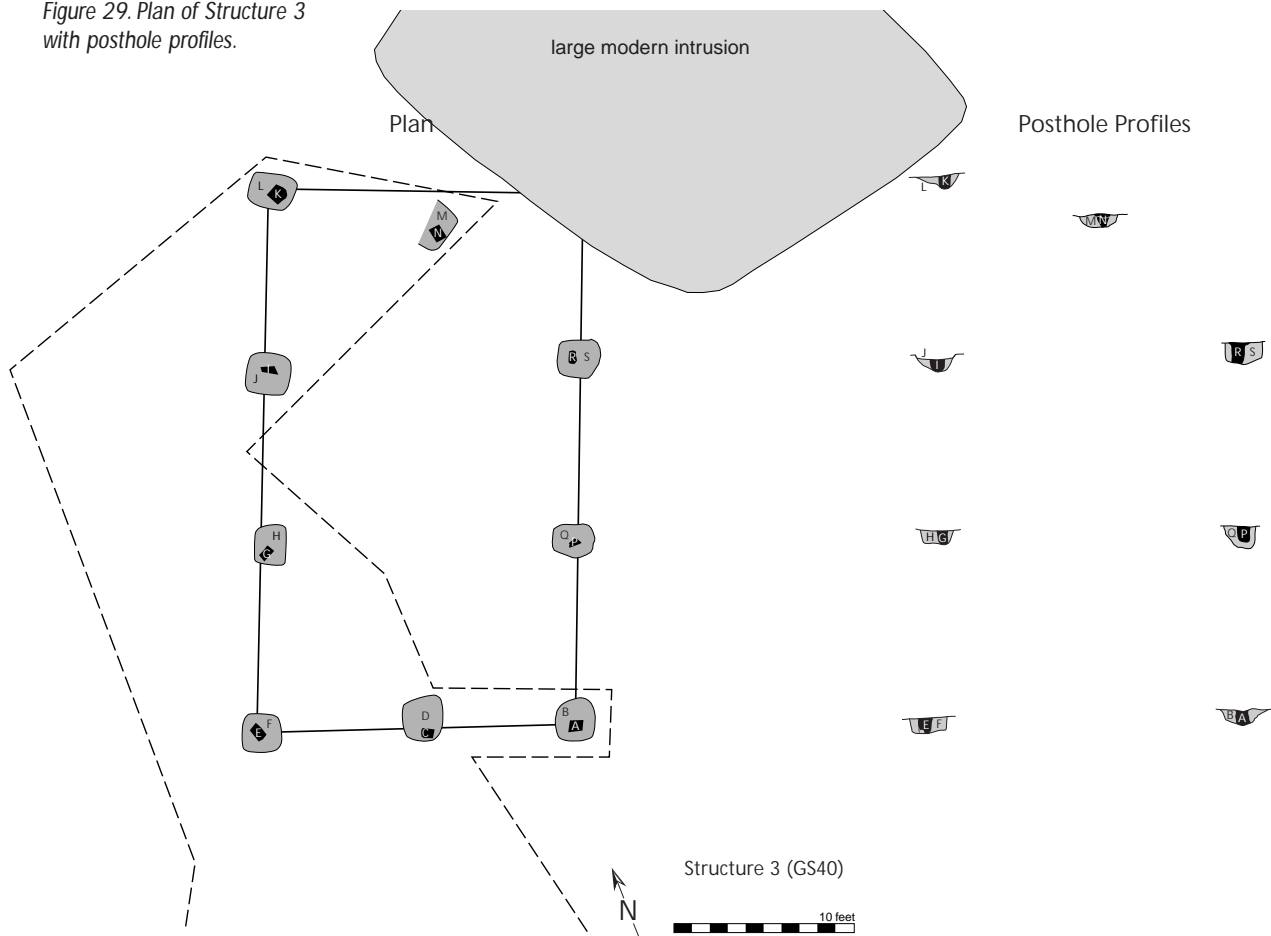


Figure 28. Plan of house at Site B, Martin's Hundred (44JC113).

molds contained no artifacts. The eastern corner posts (GS40A/B and E/F) and west central posts (GS40I/J and R/S) had much more convincing postmolds than the east central posts (GS40G/H and P/Q). This evidence prompted the hypothesis that the west central posts were, in fact, corner posts for a third structure, oriented 90° differently. However, this theory was undermined, and ultimately debunked, by the presence of the southwestern corner post (GS40L/K) and the absence of posts to the north and south of the west central bay. The central posthole on the east wall likely served as the building's prick post. Although excavation uncovered an additional stain along the east/west central axis (GS40M/N), it was not in line with the west wall and its mold was dubious. Since Structure 3 extended beyond the perceived site boundaries established by survey and initial excavation, little data was collected from plowzone units that sealed it. Consequent spatial analyses offered little insight into the use of this building.

Figure 29. Plan of Structure 3 with posthole profiles.



## Daub Pit 1 (GS26, 32)

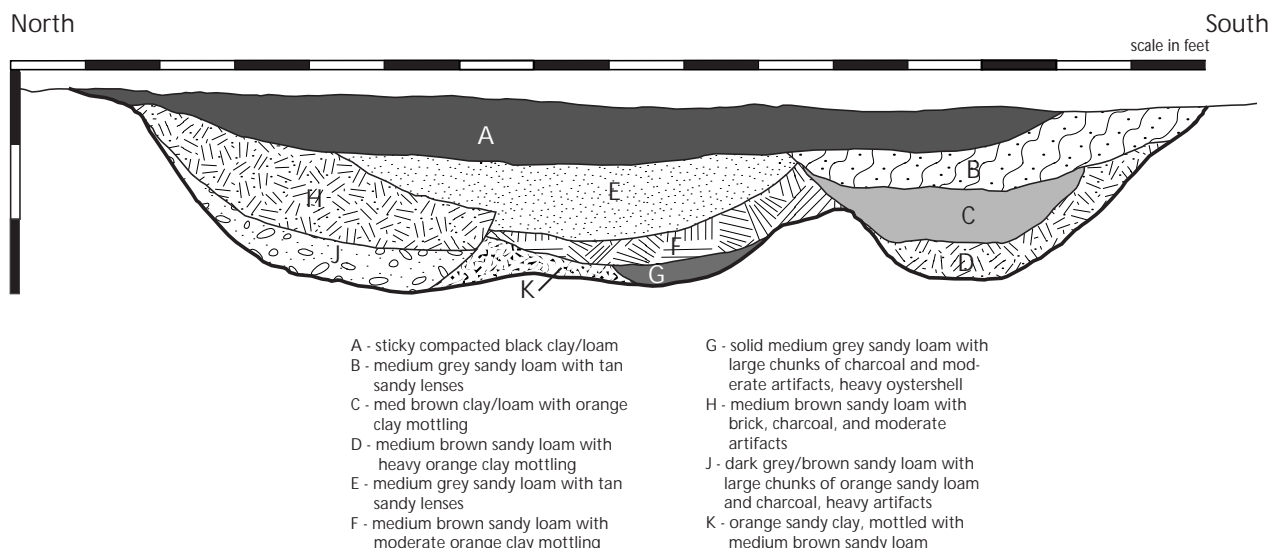
Working in the site's northern area, excavation uncovered a large soil stain at the base of the lightly tilled strata that consisted of sticky compacted black clay-loam. Less than 80' from each of the structures, the feature resembled a rounded parallelogram in plan, 15.1' north/south by 7.5' east/west. It contained ten different fill layers, bunched into four overlapping internal subpits. The floor of the feature undulated and contained numerous amorphous pockets. The size, shape, and location of GS26/32 suggested it was likely dug originally as a borrow pit for clay to make daub. This feature, labeled Daub Pit 1, shared many similarities with Pit 1 at the original James Fort site. Both were broad, deep, amorphous, consisting of numerous subpits, and within 20' of a nearby post-in-ground structure. The fill in James Fort's Pit 1 contained fine clay with impressions of marsh reeds, directly linking the feature and its contents with the manufacture of daub.<sup>100</sup>

The west half of Daub Pit 1 contained over six times as many artifacts as its eastern counterpart. The north/south profile did not reveal from which side debris was dumped into the feature. The strata were relatively symmetrical and did not tip up distinctly toward a single direction. However, the overwhelming artifact dominance of the west half—1858 to 296—indicated that site inhabitants likely filled the empty daub pit from the west. Since all three of the site's structures were located to the west

of Daub Pit 1, this pattern was not surprising. Had the archaeologists not known the location of these buildings, the spatial artifact pattern within the feature would have pointed them to further their investigations to the west.<sup>101</sup> An east/west profile likely would have indicated similar results and encouraged an identical digging strategy.

Daub Pit 1 at 44JC802 contained a wide variety of artifacts, including pottery, architectural material, armor, faunal remains, glass, lithics, shell, and iron tools. Sherds from many of the over 20 different vessels in Daub Pit 1 crossmended to debris from nearby features. Fragments of a Midlands Purple butter pot, a Portuguese faience dish, a North Devon Whiteware drug jar, a refractory clay crucible, an unusually large delftware drug jar, and a Martin's Hundred chafing dish and colander were found in such quantity that each was nearly fully reconstructed. The Portuguese faience plate resembled a similarly decorated tin-glazed vessel from Site A (ca. 1625-45) at Martin's Hundred. The North Devon Whiteware drug jar had parallels at Causey's Care (ca. 1630-50) and in a museum in Exeter, England. Excavations at James Fort have produced similar refractory clay crucibles, likely made in Hesse, Germany, in 1607-10 contexts. The over-sized drug jar, 8" across diameter and 6" tall, was painted in a Chinoserie style imitated by Italian delftware potters. As was the case with a locally made lead-glazed vessel at Wolstenholme Towne, one of the Martin's Hundred mug sherds uncovered in Daub Pit 1 con-

Figure 30. Profile map of Daub Pit 1.



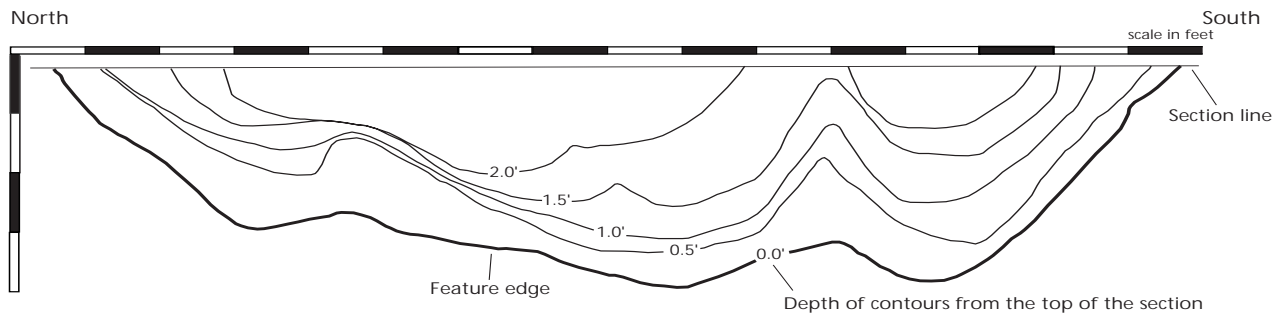


Figure 31. Contour plan of west half of Daub Pit 1.

tained half-melted lead shot “trapped in the piled-up glaze at the bottom.”<sup>102</sup> Thus, material evidence from the Sandys site further supported the contention of archaeologists at Martin’s Hundred that local potters melted available lead supplies in their production of glazed ceramics.

The rich fill of Daub Pit 1 contained much weaponry as well. The firing mechanisms uncovered in this feature included a matchlock and a snaphaunce. The matchlock included the lockplate and an intact serpentine and eye screw. The snaphaunce, although missing the top jaw screw, contained a large circular rondel and a bridle between the screws holding the steel and steel spring. Both of these types of firearm locks have been found on multiple 17<sup>th</sup>-century Chesapeake sites. Other musket accoutrements from Daub Pit 1 included a scourer and a

worm. The scourer removed powder scale build-up from the barrel’s bore and the worm was used to extract wet powder and the paper that kept the shot initially in place. Parallels of these firearm accessories have been uncovered in ca. 1610 contexts at James Fort as well as Site H at Martin’s Hundred (ca. 1620-22).

### Storage Pit 1 (GS15, 21)

Sixteen feet to the northeast of Structure 1 and 3.0’ southwest of Well 1, excavation uncovered and excavated Storage Pit 1, a 3.5’ deep elliptical pit, 9.0’ southwest/northeast by 12.0’ northwest/southeast. A tree grew just to the northeast of this feature and its roots extended into the pit’s fill. Two later features cut Storage Pit 1, a Camp Wallace foxhole (Foxhole 1-GS22) and a modern hole (Mod-

Figure 32. Photograph of Daub Pit 1.





Figure 33. A sample of the ceramic vessels from Daub Pit 1.

ern Pit 1-GS18). The later intrusions, be they of natural or military origin, transformed what was once an 8' circle in plan into a subsequent 12.0' elliptical exaggeration. Storage Pit 1 contained seven fill layers, some of which included brightly colored red, yellow, and orange clay. Many of the pit's strata contained dense ashy fill with numerous artifacts. The base of the feature was slightly rounded, and its edges sloped in from the side at a 105° angle. Overall, the pit appeared to be dug with much care and attention to detail as it was perfectly round with smooth walls below the intrusions, and in close proximity to Structure 1 and Well 1. The profile of Storage Pit 1 revealed that it had been filled from the

west. Five of the seven strata distinctively tipped up the west, all except 15A and G, indicating that individuals dumping debris into the feature approached most often from the river side. As was the case with Daub Pit 1, site inhabitants likely walked directly from one of the three structures and placed the refuse in the empty pit.

Associating the labor-intensive shape of the feature with an important function and noting that the three structures at 44JC802 lacked any internal subsurface storage areas, suggested that GS15/21 was likely a storage pit. Other archaeologists have called similar features at nearby sites from the same time period "storage pits." Two miles away at the

Figure 34. Firearm related finds from Daub Pit 1 included a snaphaunce, 3 snaphaunce top jaws, a matchlock, a worm, a scourer, and 3 lead bandolier caps.



contemporaneous Kingsmill Tenement site, excavations uncovered a series of these pits which were described in the following manner:

*They were distinctly round in shape, 4-8' in diameter, and averaged 4' deep with relatively flat bottoms. The pits, first appearing as backfilled wells, were filled with organic soil containing considerable amounts of ash, artifacts, and faunal remains- obviously domestic refuse coming from the nearby house.*

*The uniformity of the original digging of the circular holes suggests that they were made for a specific purpose when they stood open. Since none of the seventeenth-century structures on the site had even the smallest root cellar, it is possible that the pits were originally used for root storage, protected perhaps by wooden covers or straw.*

*This method of preservation, over the winter, is still used by many gardeners in Virginia today.*

*Once the circular pits were empty... they became a logical place to dispose of garbage and trash.<sup>103</sup>*

The artifacts in the fill of 44JC802's Storage Pit 1 mirrored the finds in Daub Pit 1. Weaponry and ceramics dominated the assemblage. Storage Pit 1 and Daub Pit 1 also shared a quick fill sequence with crossmends from top to bottom and no evidence of silty washed-in layers. Storage Pit 1 contained a tinned-copper English Harington Type 1 farthing token, which was produced for only three months during 1613. The farthing had the image of a crown on one side and a harp on other. In the early 17<sup>th</sup> century, the English were in a coin quandary, lacking currency that could hold its value (made of gold or silver) and of a small enough denomination—one farthing—to meet the needs of the poor. However, during this time “a silver coin

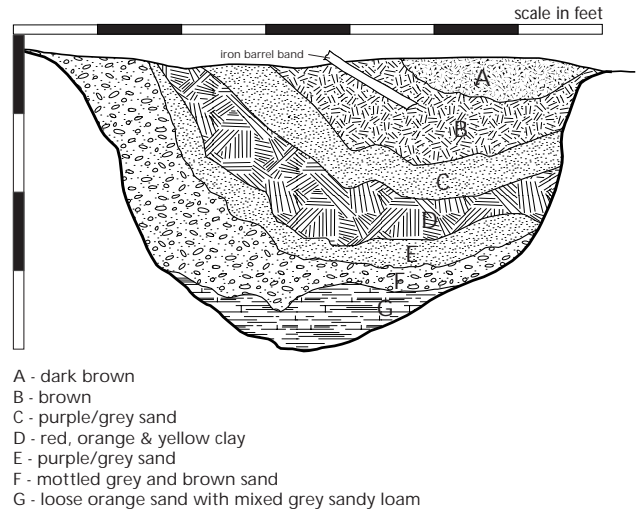


Figure 35. Profile map of Storage Pit 1

worth” a farthing “would be so small that it would have [to be] handled with tweezers.”<sup>104</sup> In an attempt to solve the currency dilemma, King James sold the small-change coin-making patent to Lord Harington of Exton, who minted coins of copper instead of traditional gold or silver. He then coated them with tin, producing a silver verisimilitude.<sup>105</sup> English hoi polloi did not embrace the new coin, whose production was briefly altered but then ended altogether. These coin might have undergone a resurgence in 1636 when Sir John Harvey petitioned that “some farthing tokens may be sent over [to Virginia] and made current.”<sup>106</sup> Archaeologists at the fort at Martin's Hundred (Site C: ca. 1619) uncovered a Harington Type 1 farthing as well.

Other material parallels with Martin's Hundred included a two-handled cooking pot uncovered in Storage Pit 1 that was likely produced by the Martin's Hundred potter in the second quarter of the 17<sup>th</sup>

Figure 36. Photograph of Storage Pit 1.

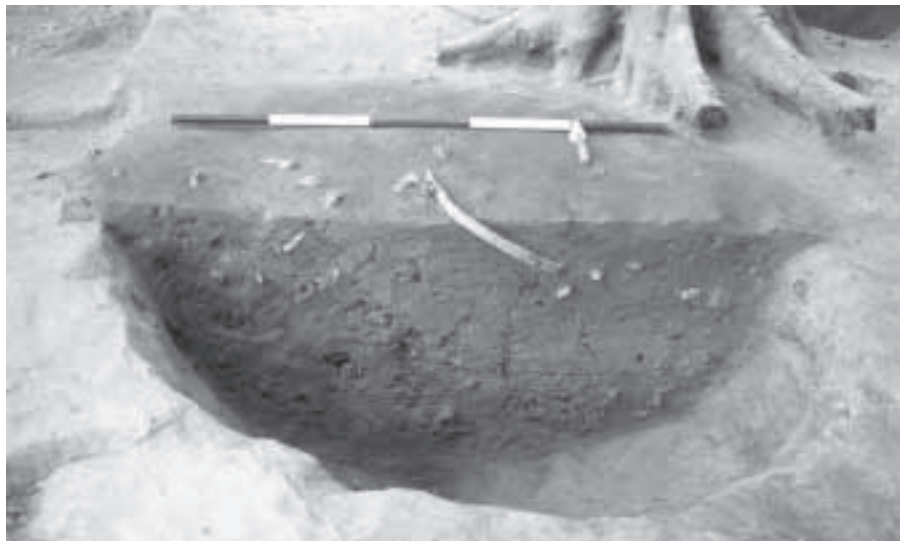




Figure 37. Photograph of Kingsmill Tenement storage pit

century. In fact, Storage Pit 1 contained over 30 sherds of the vessel, which, once mended, was 8.5" tall and 10" in diameter. The fabric of the pot was a light red clay and its interior surface was covered with a dark brown lead glaze. One side of the vessel had been burned, and as a result, the body sherds on that particular side ranged in color from gray/brown to red.

Archaeologists found fossils from the late Pliocene in the pit's 17<sup>th</sup>-century fill. Internal molds of *Chama congregata* were identified in Storage Pit 1 and on the outcrop adjacent to the site.<sup>107</sup> The nearby cliff-face deposits dated to ca. 3.8 million years ago. The brightly colored clay in the fill of Storage Pit 1, also originally part of a much earlier geologic strata, could be seen in the eroding side of the precipice as well.

George Sandys noted in the 1632 edition of his *Ovid* translation that he had "seen the residue of ancient seas on mountain tops in America."<sup>108</sup> The



Figure 38. Harington Type 1 farthing token from Storage Pit 1.

James River had substantial bluffs on both shores, with two of its highest points on or near property once owned by the Treasurer. Mount Pleasant (90+') was on the edge of his southside tract, and Kingsmill/Camp Wallace (85+') sat in the heart of his original northside acreage. Contemporary historical records suggested that Sandys never traveled far enough west to reach the Ridge and Valley areas of Virginia. Kingsmill and Pleasant Point abounded with fossils and contained steep precipices. Thus, these James River bluffs were likely the American "mountains" lined with prehistoric shells to which the Poet-Adventurer alluded.



Figure 39. Martin's Hundred Potter two-handled cooking pot from Storage Pit 1.

Figure 40. Examples of Pliocene fossilized *Chama congregata* internal molds in the hand of the archaeologist and in the profile of Storage Pit 1.



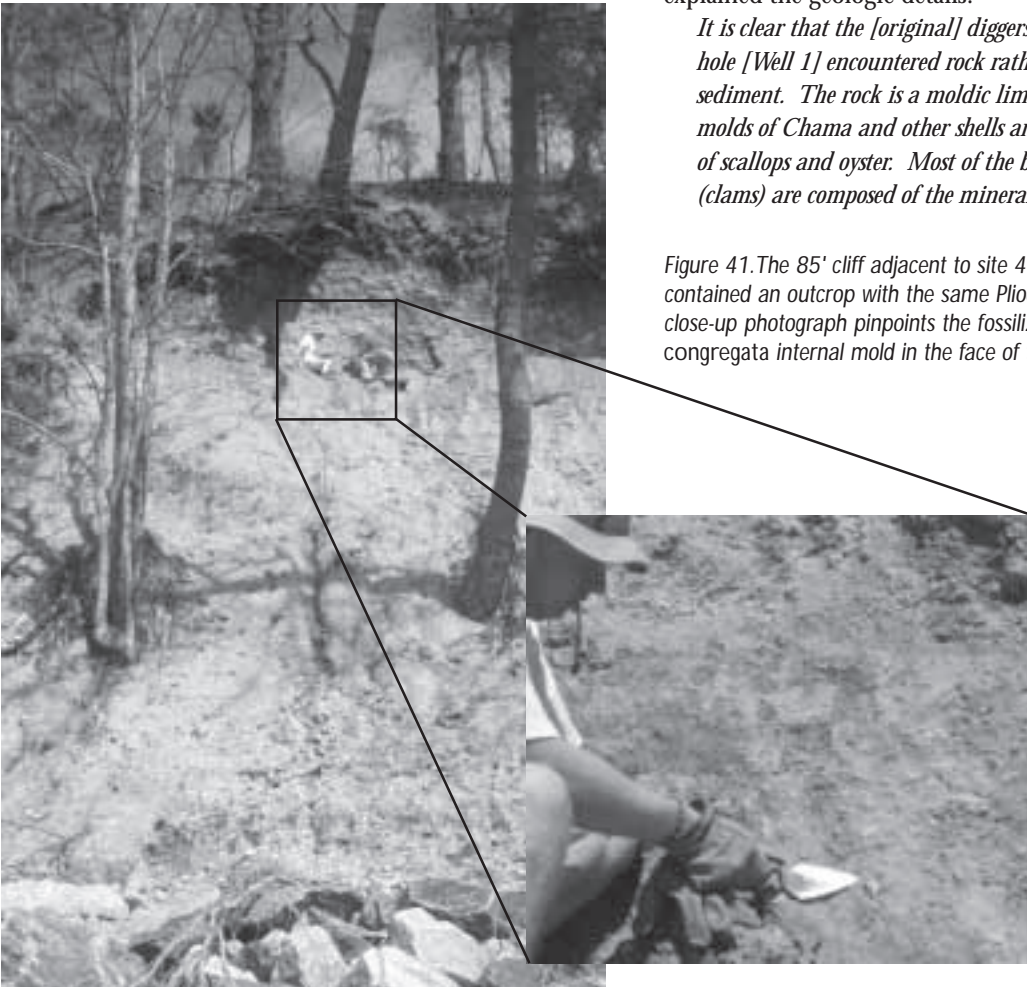
## Well 1 (GS17, 19, 20)

Excavation uncovered the remains of a well in between Daub Pit 1 and Storage Pit 1, and less than 30' northeast of Structure 1. At the base of the lightly tilled strata, Well 1 was a nearly perfect circle, 13' in diameter. The shaft gradually narrowed to 6.0' in diameter after 5.0' of fill had been removed. At 6.5' below subsoil, the shaft measured 5.5' across, a diameter it would maintain throughout the extent of the feature's partial excavation. The top 10' of Well 1's fill was dug by hand. Since the top of the feature was 85' above sea level on a bluff overlooking the river, it was then augered to determine absolute depth. At 13' below subsoil the auger encountered a whole European pipe bowl surrounded by brown sandy loam fill. Near 16', the soil changed

to an orange sandy clay that contained charcoal bits. From 18-20' the well fill was a brown loam with orange clay mottling. At 28', the auger hit an impenetrable 1-2' layer of limestone that had been formed by shell leeching. Geologist Gerald Johnson explained the geologic details:

*It is clear that the [original] diggers of the deep hole [Well 1] encountered rock rather than sediment. The rock is a moldic limestone with molds of Chama and other shells and fragments of scallops and oyster. Most of the bivalves (clams) are composed of the mineral, aragonite.*

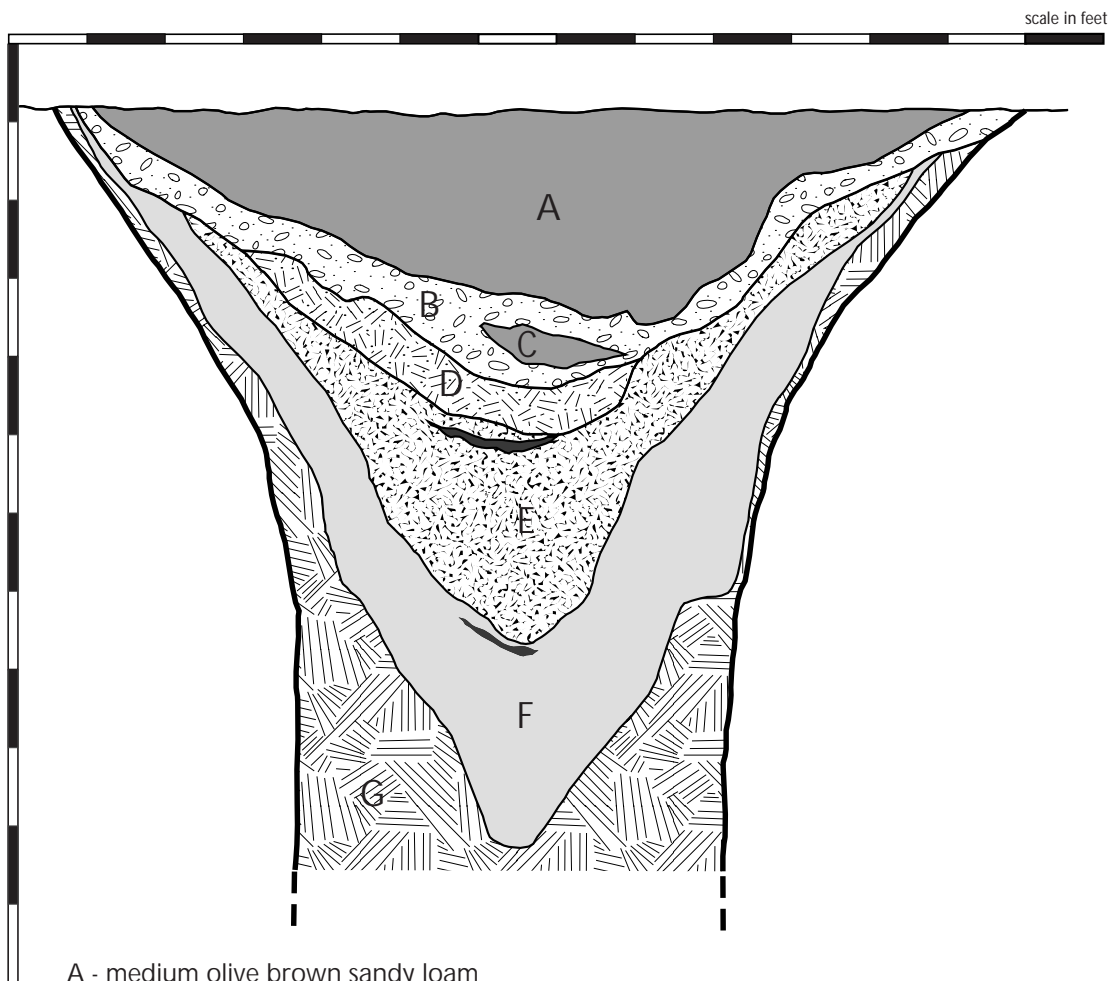
Figure 41. The 85' cliff adjacent to site 44JC802 contained an outcrop with the same Pliocene fossils. The close-up photograph pinpoints the fossilized *Chama congregata* internal mold in the face of the cliff.



a variety of  $\text{CaCO}_3$ , and the scallops, oysters, bryozoans, echinoids, and barnacles are calcite, also a variety of  $\text{CaCO}_3$ . Aragonite is much more soluble than calcite; therefore, the aragonitic forms are preferentially leached, that is, as acidic groundwater percolates downward through the shelly beds it dissolves the aragonitic bivalves before the calcitic forms. The solution containing  $\text{Ca}^{++}$  and  $\text{HCO}_3^-$  moves downward and is precipitated as a calcitic cement, forming the limestone. This process continues, with preferential dissolution removing the aragonitic shell material from the newly formed limestone.

*This process creates a moldic limestone with a dense calcitic cement.*<sup>109</sup>

The excavation of Well 1 included two archaeological surprises. First, those who originally dug the deep hole never reached groundwater. The site's residents likely abandoned the task of digging the well once they hit the limestone. A parallel example was uncovered at Site C at Martin's Hundred (44JC115), which bottomed out far above groundwater and only 7' 4" below subsoil. Noel Hume explained that the well was "just deep enough to draw rainwater percolating through the clay into the first marl stratum."<sup>110</sup> Both 44JC802 and



- A - medium olive brown sandy loam
- B - fully mottled: tan sandy loam, orange sandy subsoil & med. brown sandy loam
- C - medium brown sandy loam
- D - medium brown sandy loam, lightly mottled with orange sandy loam (sub and tan sandy loam)
- E - dark olive brown sandy loam with heavy charcoal lenses and moderate to heavy charcoal mottling
- F - light olive brown sandy loam
- G - orange compact sandy clay with medium brown sandy loam mottling

Figure 42. Profile map of Well 1.





Figure 43. Photograph of Well 1.

44JC115 contained a deep, narrow, and cylindrical feature that abruptly terminated at a thick and dense fossilized geologic layer. Wells that did not reach groundwater could nevertheless serve as a water source for the immediate area by acting as large sump holes. The possibility that GS17/19/20 was something other than a well was remote. Historical archaeology in the Chesapeake has yet to substantiate established parallels for deep cylindrical storage areas or ice houses during the second quarter of the 17<sup>th</sup> century.

The second puzzling aspect of the well concerned when it was filled. Whereas almost all of the sealed contexts at 44JC802 dated ca. 1630-50, Well 1 contained artifacts that reflected two distinct time periods. The artifact assemblage from the feature's top seven fill layers consisted of many of the same early 17<sup>th</sup>-century markers from other areas of the site. These included Jamestown coarseware, Portuguese faience, Spanish coarseware olive jars, Midlands Purple, a Dutch tobacco pipe with a Tudor Rose maker's mark, brigandine armor, and European pipestems with bores 9/64" in diameter. However, mixed in with this early fill were 18<sup>th</sup>-century European pipe bowls, and many fragments of a late 18<sup>th</sup>-century wine bottle. Most of the European pipestems were 8/64" in diameter and likely used during the 1620-50 time period. Yet Well 1's fill also included a handful of stems with bores 7/64", 6/64", and 5/64" in diameter suggesting activity in the 1700s. Nearby Utopia, likely the source of later

debris, was heavily occupied during the 18<sup>th</sup> century. Because of the mixed fill and no immediate stratigraphic relationships, it was impossible to determine when Well 1 was dug. Individuals filled the top 10' of Well 1 sometime around or after the American Revolution.

Unlike Daub Pit 1 and Storage Pit 1, Well 1 was not filled from one definitive direction. The profile reflected an overall symmetry in the feature's fill layers. They did not tilt toward any of the three structures. In fact, they tipped up evenly on both eastern and western sides. In conjunction with the 18<sup>th</sup>-century artifacts in these top strata, the non-directional fill tilting suggested that individuals who deposited debris into the top ten feet of Well 1 did not travel directly from the buildings at 44JC802 to the feature. Since Structures 1, 2, and 3 had long since vanished by the time the top of Well 1 was filled, its layers did not reveal the location of the buildings.

The lack of well bricks and the dearth of brick fragments at the site suggested that Well 1 was not lined with compass bricks. In fact, the shaft contained no evidence of lining of any form—wood, brick, or stone. Historical archaeologists in the Tidewater usually uncover wells within 50' of domestic structures, and rarely more than 80' from a dwelling.<sup>111</sup> The close proximity of Well 1 to Structure's 1, 2, and 3 hinted that the deep well shaft was dug by the site's 17<sup>th</sup>-century inhabitants and then filled over a long (150+ years) period of time.

## Secondary Features

Other soil stains at the site did not contain material and stratigraphic evidence that specified or even suggested function. These features included a variety of pits and linear anomalies. Three are detailed in the following text; others are summarized in the consequent table. Since 44JC802 had been covered with trees for many years, the subsoil was also full of features resulting from root holes and previous tree removal and backfill sequences. Sheet refuse from prehistoric and historic occupation often slumped into these later holes.

### Walkway 1 (GS23)

An 11.5' by 2.0-3.0' linear stain, oriented south southwest/north northeast at the west side of Structure 2, might have been the slight remains of an earthen or shell-lined walkway between Structures 1 and 2. Its projected path would stretch between the potential location of a door on the western central section of Structure 2 and the doorway and slot trench gap at the gable end of Structure 1. It might have also been a drip line from the roof of Structure 2. While cleaning the top of this dark stain, archaeologists noted that it contained sherds of delftware, case-bottle glass, lead shot, shell, and chipped stone. This feature was not excavated.

### Slot Trench 2 (GS35)

The only linear feature at the site that aligned with the cardinal directions, Slot Trench 2 consisted of two segments that ran due north/south. The northernmost section was 7' long and had a width of 1' for 5' and a width of 1.7' for the remaining 2'. A .8' gap separated it from an additional 3.0' by .6' slot trench segment. The fill consisted of mottled sandy loam with brick and charcoal inclusions. It had very faint impressions of possible postmolds and contained no artifacts.

### Pit 3 (GS 27, 42-48)

Amorphous yet somewhat rectangular and oriented approximately 20° off of the cardinal directions, Pit 3 was at least 20' by 25' and extended beyond the limits of excavation. It was 45' east of Structure 2 and 17' south/southwest of Slot Trench 3. With the exception of a small ashy subpit that contained no artifacts (27B), Pit 3 was only .3' deep. Archaeologists divided it into 20 5' x 5' units and excavated each individually.

Although few artifacts were found, the items recovered were noteworthy, including a multi-bowled Dutch pipe and a silver English sixpence. The pipestem and bowl contained two parallel bore holes, indicating that the complete pipe likely had multiple bowls. Produced during the second quarter of the 17<sup>th</sup> century, other examples of Dutch multi-bowl pipe fragments recovered in the Chesapeake have been unearthed at Flowerdew Hundred (44PG82), Governor's Land (GL113A), and Site B at Martin's Hundred (44JC113).

The silver English sixpence was minted between 1583 and 1603. It had been folded like a bead around some sort of cloth or hair-like material. A burial at the Reverend Richard Buck site (44JC568) included a burial with two similarly folded silver sixpence halves (ca. 1582-84) above and below the skeleton's left elbow.<sup>112</sup> The burial was originally dug and filled ca. 1630-50. Plowzone above the 1607 James Fort (JR12Z) contained a silver Halfgroat of Elizabeth I, produced ca. 1583-1603, which had been rolled into a bead.<sup>113</sup> It too had likely been fashioned into an ornament. A disturbed context in the same general South Churchyard area (JR188A) contained a folded and pierced silver English Charles I penny.

### Pit 5 (GS 33)

Of all the pits with unknown functions, Pit 5 contained the most artifacts in its fill. A 3.5' by 2.8' oval that bottomed out 1.2' below subsoil, this feature contained two layers and had sloping side walls. Artifacts that resulted from the complete excavation of Pit 5 included 89 iron hand-wrought nails, European tobacco pipes, Frechen stoneware,

Figure 44. Dutch multi-bowl smoking pipe fragment from Pit 3.



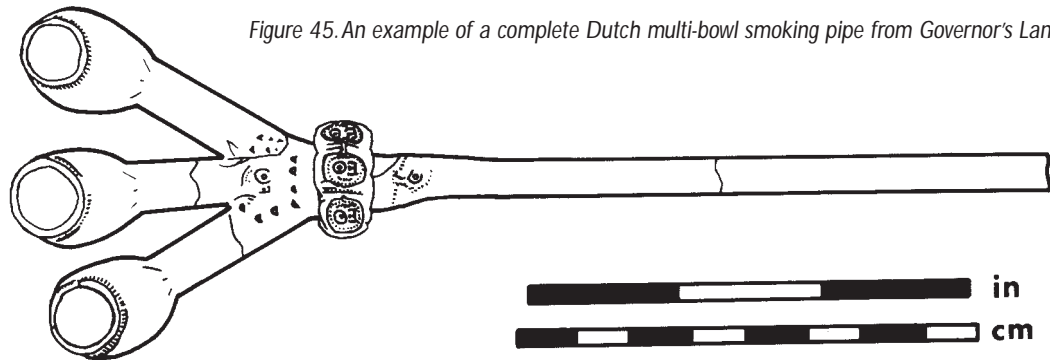


Figure 45. An example of a complete Dutch multi-bowl smoking pipe from Governor's Land.

brick, daub, a blue bead, and nearly half of an all-white delftware drug jar.

### Non-sealed contexts

Over 87% of the 40,577 total artifacts found through excavations at 44JC802 were located in non-sealed contexts. Materials recovered in the sod, topsoil, and rootmat (A), lightly tilled zone (B), and leached subsoil (C) anticipated, coincided, and at times dwarfed historical finds from the site's many features. For example, archaeologists recovered 206 individual brigandines from non-sealed strata long before they encountered 59 in the site's sealed pits (Storage Pit 1: 39, Daub Pit 1: 15, Well 1: 5). Brigandine plates, when riveted to fabric and worn in overlapping rows, formed relatively sturdy yet light and flexible armor. Many of these iron scales were found at Site B (44JC113: ca. 1625-50) at Martin's Hundred as well.

Selected small finds in the plowzone included two lead dice, five lead cloth seals, and two bullion

weights. The lead dice were small cubes, ¼" to a side, and the decorations were incised. They were found in the plowzone directly over Structure 2 (GS614B, 615B) and likely related to gaming activities in the dwelling. Lead cloth seals were crimped onto finished cloth and used by "manufacturers, merchants, and tax officials... to verify [the] origin, quality, quantity, or legality" of textile merchandise.<sup>114</sup> Two of the seals from 44JC802 had marks. One (GS524C) had a crowned *fleur de lis* between the letters "SI," likely an Elizabethan mark, and the other (GS319C) had an "R" followed by another undecipherable letter. The five seals were spread across the site. The plowzone produced two coin weights, used by colonists to verify the value of coins. In producing a standardized measure of coin weight, government officials attempted to curb the illegal yet common practice of clipping coin edges for gold, silver, or copper.<sup>115</sup> A technique called graining or milling, which involved the "crenelation" or notching of coin edges, was developed during the 17<sup>th</sup> century to prevent clipping.<sup>116</sup> Each of the two bullion weights at 44JC802 had a distinctive mark. One contained five dots on its front

Figure 46. Half of a folded silver English sixpence, minted ca. 1583-1603.

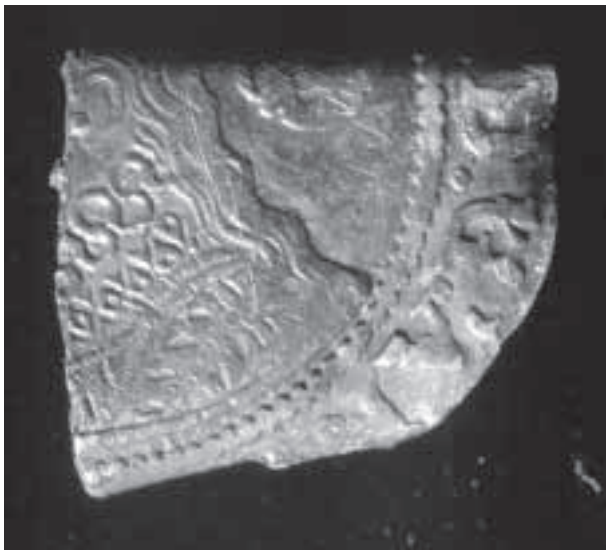


Figure 47. An English sixpence with a similar design, made in 1578.



Master Context	Pit 1	Pit 2	Pit 4	Pit 6	Pit 7	Pit 8
Site Context	GS2	GS16	GS25, 28	GS34	GS36	GS37
Shape	Oval	Square	Arc	Oval	Circle	Oval
Size	4.0' x 2.5'	4.2' x 4.4'	6.0' x 1.0'	2.1' x 1.5'	2.0' x 2.0'	4.0' x 4.5'
Number of Layers	3	?	?	2	1	1
Maximum Depth	1.1'	?	?	1.3'	.5'	.7'
Ave. Slope of Sides	30 deg.	?	?	90 deg.	30 deg.	80 deg.
Percent Excavated	100%	0%	< 5%	100%	100%	100%
Number of Artifacts	13	16	54	24	6	4
Nearest Feature	Struc. 1	Well 1	Struc. 2	Daub Pit 1	Pit 5	Daub Pit 1
Inclusions	Brick, Daub, Charcoal	Brick, Charcoal	Brick, Charcoal	Brick, Charcoal	Brick, Charcoal	Clay

Figure 48. Table of secondary features

(GS657B). The other had an English lion on one side and single annulets on both sides (GS431A). Whereas coin weights were designed to weigh the accuracy of a single specific type of coin, bullion weights were used to weigh objects or pieces of gold, silver, and coins in bulk.<sup>117</sup>

When digging the plowzone archaeologists also unearthed an undecorated silver bodkin headpin. One of the few artifacts that archaeologists frequently attributed to one gender, it has been called

a “clearly feminine artifact” and “directly related to women.”<sup>118</sup> In the late 17<sup>th</sup> century Randle Holme detailed the function of bodkins and the materials of which they were made. He wrote,

*“The Bodkin is a thing usefull for women to bind vp their haire with and aboute, they are usually made of siluer and gold the inferiour haue them of Brasse, but the meanest content them selues with a scewer or sharp pointed stick.”*<sup>119</sup>

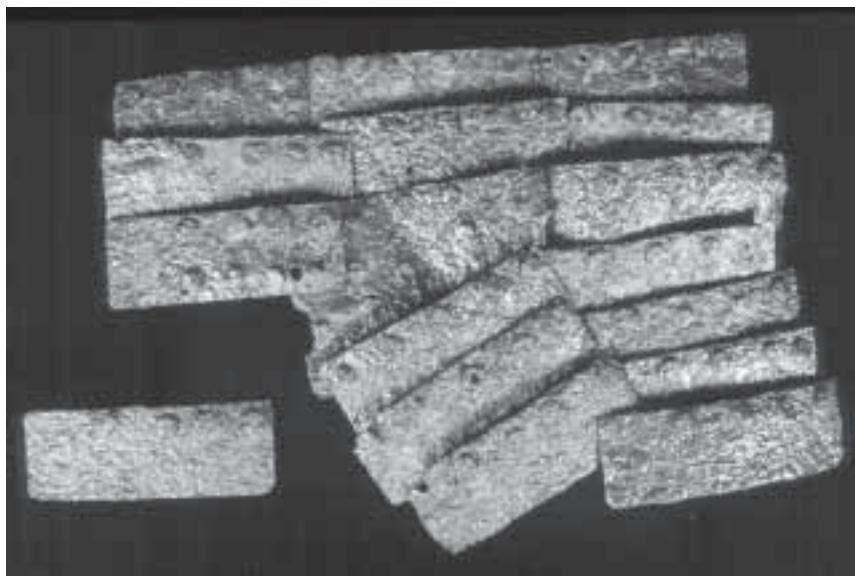


Figure 49. A small sample of the site's many brigandine plates.



Figure 50. The exterior of a complete velvet-covered brigandine vest with rows of rivets securing the plates to the fabric.

Excavators uncovered the undecorated bodkin headpin at 44JC802 in the disturbed context over Structure 2, linking it with domestic activity in the dwelling. It measured .38' (4.6") in length, but was broken off at the slot and missing its top. Parallels have been found at Jamestown in three plowzone contexts over James Fort and at Jordan's Point.

## Artifact quantities

The materials modified by human activity at the Sandys site were classified into five categories: clay, glass, metal, organics, and organic lithics. The following preliminary artifact summary precedes a more detailed discussion of the material assemblage in the "Analyses and Interpretations" section. The clay artifacts consisted of pottery—earthenware, porcelain, refractory clay, and stoneware—, and

tobacco pipes of English, Dutch, and local production. The pottery assemblage included wares of diverse origins. Products from various European ceramic centers, like England, France, Germany, Holland, Italy, Portugal, and Spain, were deposited in the ground at 44JC802. Locally made vessels, thrown by potters at Jamestown and Martin's Hundred, constituted a third of the total ceramics. Archaeologists found only eight sherds of Native American pottery at the site. Overall, fragments of 67 different vessels were uncovered, with 40 of those coming from sealed contexts. Of the 49 vessels with identified countries of origin, 37 were European and 12 locally produced.

Ninety-six percent (3460 out of 3602) of the site's total pipe stems, bowls, and fragments were of European origin and made of ball clay. Sealed contexts reflected the same pattern, with European pipes making up 94% of the pipe assemblage (646 out of 689). Using bowl base as a diagnostic feature, the site contained at least 210 total pipes. The European pipe assemblage included 129 complete or nearly complete bowls and 28 different maker's marks. Two of the site's Dutch pipes were ornately decorated with floral relief patterns along the stem and bowl. These pipes were made and used ca. 1634-45.

Case bottles dominated the glass assemblage at the Sandys site. Other types included beads, tableware, and wine bottles. All of the wine-bottle fragments came from Well 1. On the basis of diagnostic neck fragments, it was determined that sealed

Figure 51. Silver bodkin headpin from the disturbed contexts sealing the dwelling.



### Materials from Site

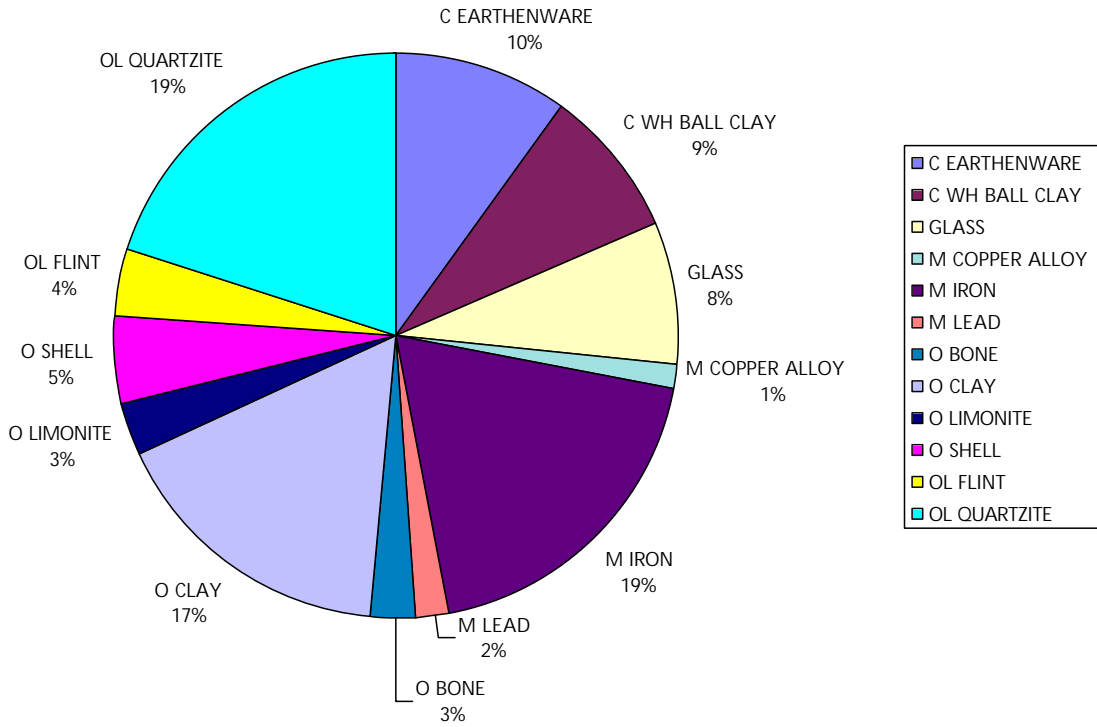
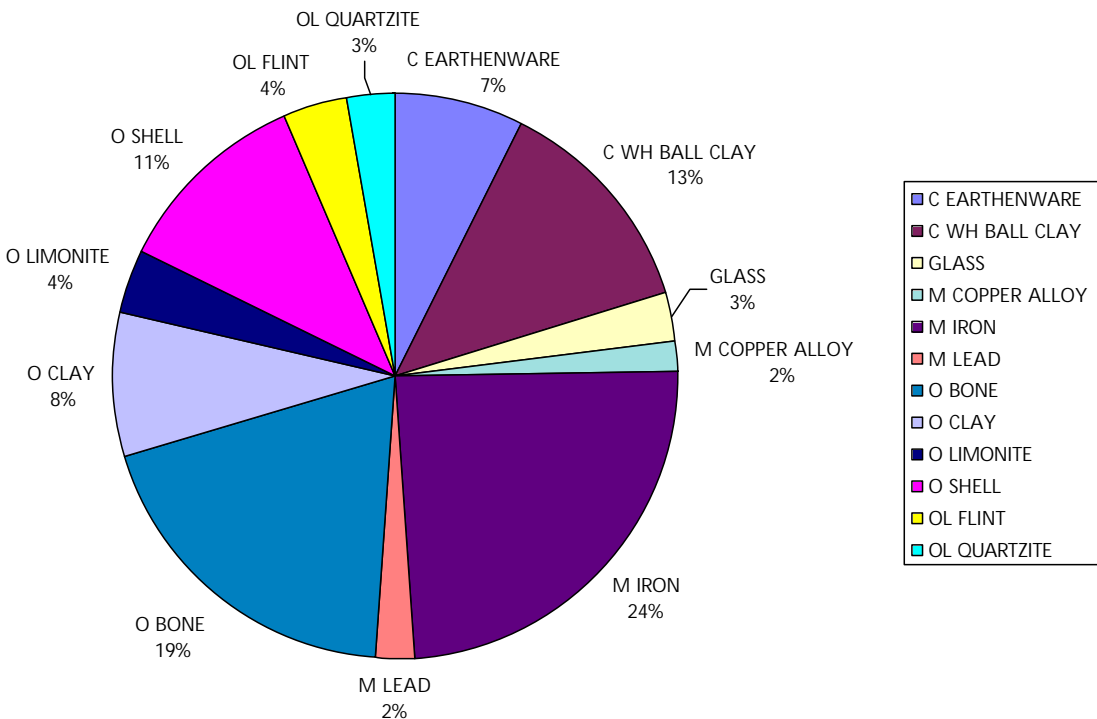


Figure 52. Pie charts of artifact quantities. Only materials that constitute at least 1% of the total assemblage are included. Artifact type percentages for the entire site and for sealed contexts are similar, except for bone and quartzite totals.

### Material from Sealed Contexts



contexts contained 11 case bottles, two tableware vessels, and one wine bottle.

Metal artifacts from 44JC802 consisted mostly of iron, lead, and copper. These finds included hand-wrought nails and other architectural remains, armor and weaponry, tools, utensils, and furniture hardware. The arms, protective coverings, and related materials of combat were multifarious, including firearm matchlocks, snaphaunces, scourers, worms, bandolier caps, shot and sprue, brigandine plate armor, chain mail, armor with rolled edges, dagger hilts, and sword blades, buckles, hangers, and strap guides. In quantity and diversity, these items dwarfed the tools and utensils—the axes, hoes, mattocks, files, harpoons, spear points, knives, ladles, and spoons—in the assemblage.

Organic materials at the site included bone, shell, brick, limonite, marl, daub, mortar, and plaster. Most of the faunal remains came from sealed contexts, and a majority of these specimens were severely fragmented. The recovered shell and marl were also prevalent in various geologic strata across the site. Their presence in the features and disturbed

contexts likely reflected past activity at the site in which the omnipresent fossil outcrops were impacted as opposed to consumption practices by 44JC802's residents. Limonite, commonly known as bog iron, was found in great quantity across the site and along the adjacent precipice. It occurs naturally in two places, between the Yorktown formation and the overlying sediments, and in the weathered upper Yorktown formation.<sup>120</sup> Johnson explained this geologic process,

*The groundwater from the surficial aquifer is acidic and as such dissolves iron from minerals in the soil and from plants. As it passes into the underlying fossiliferous Yorktown formation, the pH rises and the iron is precipitated as limonite, a hydrated iron oxide, and hematite,  $Fe_2O_3$ .*<sup>121</sup>

The term “bog iron” was thus a misnomer for the results of the weathering sequence.

Limonite clustered at the bases of trees at 44JC802 as well as in deep sealed contexts. Nevertheless, Johnson asserted that it was “transported material, undoubtedly by humans.”<sup>122</sup> Limonite ranged in quality from sandy and loosely compacted

Figure 53. Ornately decorated Dutch pipe bowls from Daub Pit 1. The top pipe bowl has multiple tobacco leaves at the bowl base with individual fleur de lis designs between the leaves and under the bowl's milled lip. The bottom pipe has multiple five-petal flowers around the bowl and alternating fleur de lis around the lip. The illustrations below are of nearly identical parallels from the Netherlands.



Figure 54. Table of glass quantities

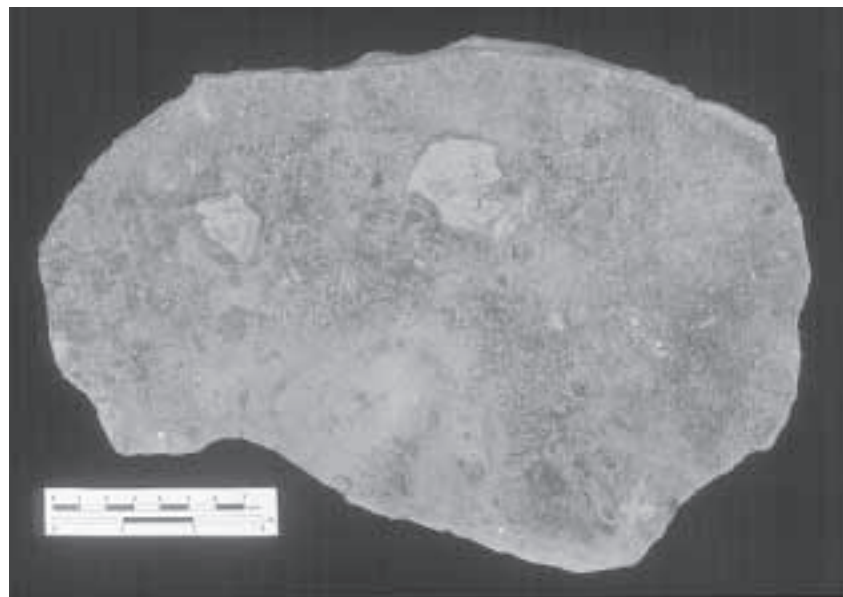
form	entire site		sealed contexts	
	count	%	count	%
BEAD	24	0.76%	10	7.14%
BOTTLE	16	0.51%		
BUTTON	1	0.03%		
CASE BOTTLE	2851	90.14%	87	62.14%
DRINKING GLASS	36	1.14%		
FLASK	1	0.03%		
LINEN SMOOTHER	1	0.03%		
MIRROR	63	1.99%		
TABLEWARE	105	3.32%	9	6.43%
UNKNOWN	21	0.66%	1	0.71%
WINDOW	6	0.19%		
WINDOW GLASS	5	0.16%		
WINE BOTTLE	33	1.04%	33	23.57%
total	3163		140	

material to dense iron ore. Although found on both shores of the James River, limonite was much more prevalent and of significantly higher quality on the northside.<sup>123</sup>

The organic lithics consisted predominantly of flint and quartzite. The flint was of European ori-

gin, and some of it had been formed into gunflints and strike-a-lights. The quartzite was indigenous to the area, and likely reflected earlier native occupation. Site 44JC802 overlapped with part of a large Middle Woodland Basecamp (44JC30), which continued 1000-1500' to the southeast.<sup>124</sup>

Figure 55. One of the larger samples of limonite uncovered at the Sandys site.





# Analyses and Interpretations

The report presented here organized the analyses and interpretations into three categories: time, space, and form. Mirroring archaeological dimensions established decades ago by Albert Spaulding, the following studies were temporal, spatial, and formal and concerned both artifacts and features.<sup>125</sup> Discussion moved back and forth between material and stratigraphic analyses. In most cases, multiple lines of evidence underscored consistent site patterns.

## Time

Archaeological investigations at 44JC802 indicated that English settlers occupied the site from ca. 1630-50. Although an overwhelming majority of the artifacts were produced and used in the early to middle 1600s, excavators uncovered a few 18<sup>th</sup>-century materials as well, suggesting isolated secondary activities in the area near the time of the American Revolution. The later of the site's two coins, the Type 1 Harington farthing, gave the collective sealed contexts a *terminus post quem* (TPQ) of 1613. The lack of wine bottle glass at the site, except for a lone 18<sup>th</sup>-century vessel in Well 1, suggested a *terminus ante quem* (TAQ) of 1650.

Harrington histograms based on the bore diameters of Europeans ball clay pipestems indicated site occupation from ca. 1620-50. Nearly every context had an overwhelming number of pipes with bores 8/64" in diameter. Daub Pit 1, Storage Pit 1, and Well 1 each had sufficiently large samples of measurable stems and substantial histogram peaks at 8/64", confirming intense occupation during the second quarter of the 17<sup>th</sup> century. (See Appendix A) Disturbed contexts and the fill of Well 1 contained a few pipestems with smaller bores suggesting a second, distinct, and later occupation during the 18<sup>th</sup> century. Binford mean dates for the European pipestems were relatively consistent between features and across the site. The site's overall pipestem mean date was 1632. The standard deviation of the mean date data was 19, suggesting that occupation ranged from 1613-51.

Archaeologists uncovered pipes with 28 different English and Dutch maker marks. (See Appendix B) The established date ranges for these designs further validated the dual site occupation, with most of the designs produced and used from 1620-50 and one made during the 18<sup>th</sup> century. Numerous identically marked pipes from nearby contempora-

neous sites confirmed the second-quarter 17<sup>th</sup>-century date range for 44JC802.

On the basis of 129 full or nearly complete European ball-clay pipe bowls, established bowl shape chronologies provided data for determining a reliable date range for the Sandys site. Atkinson and Oswald typologies indicated that an overwhelming majority of the bowls were produced and used from 1610-60. The large sample of pipe bowls enabled a new type of dating calculation to be performed. Mean dates determined from the Atkinson information pinpointed 1637 as the middle of English

Figure 56. Histogram of European pipe stem bore diameters for entire site.

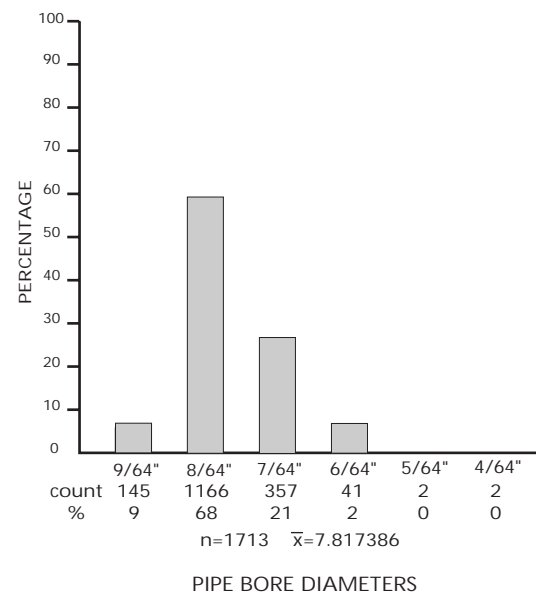
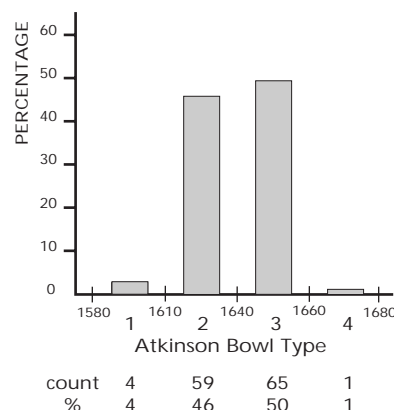


Figure 57. Histogram of Atkinson European pipe bowl shapes for entire site.



settlement at 44JC802. One standard deviation on both sides of the mean date suggested at a 30-year occupation from 1622-1652.<sup>126</sup>

Recent temporal analysis of the copper uncovered through excavations at James Fort indicated a high correlation between the amount of copper items in a sealed context and the feature's mean date.<sup>127</sup> The results formed the basis of a predictive model. Mean dates could be estimated on the basis of copper quotients (CQ), the number of copper items divided by the total number of artifacts. Although created for use at the Fort site, this model successfully extended to Jamestown's hinterland.<sup>128</sup> Of all the materials recovered from 44JC802, 1.71% were copper. This percentage corresponded with an overall mean date of 1636.7.<sup>129</sup>

The intersection of production and use date ranges for pottery from 44JC802 suggested that

colonists lived at the site from 1630-40. Separate chronologies for ceramics from sealed contexts and plowzone both emphasized a second quarter 17<sup>th</sup> - century occupation.

Most of the site's features either corresponded entirely with the ca. 1630-50 occupation and fill date or contained too few datable artifacts on which to base a significant temporal difference. However, seriate analytic techniques suggested that the three large pits ultimately filled with refuse followed an explicit disposal dumping sequence. Presence/absence seriate studies of pottery types indicated that site occupants placed debris in Storage Pit 1 first, then Daub Pit 1, and finally, Well 1. A similar analysis of European pipe bowl types verified the fill sequence offered by the ceramics. Both copper quotients and Binford mean dates echoed this pattern, suggesting the filling of Storage Pit 1 in the 1620s

Figure 58. Ceramic type date range intersection.

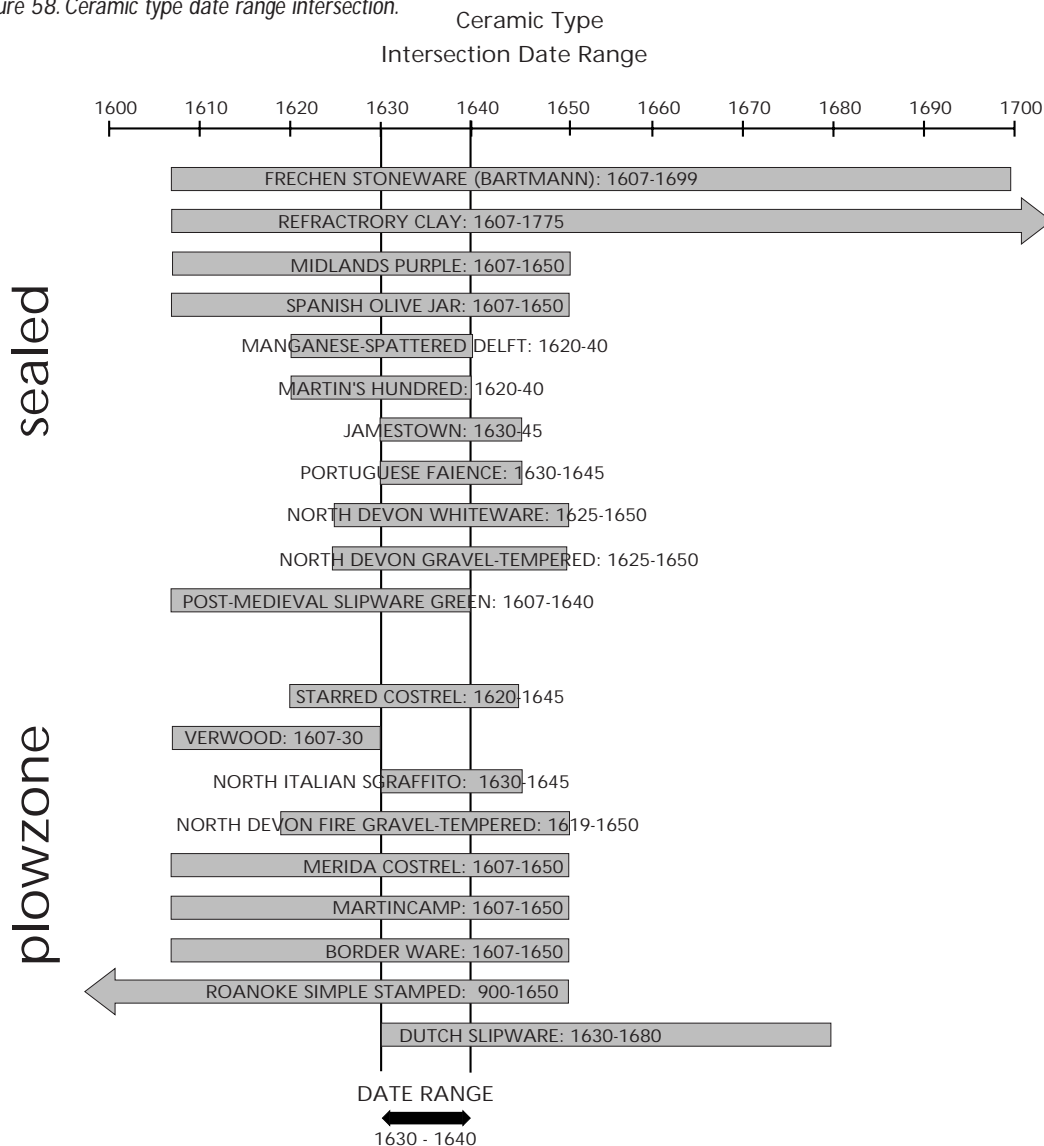


Figure 59. Seriate analyses of ceramic types and Atkinson European pipe bowl shapes.

Master Context	Manganese Spattered Delftware	Majolica	Giant Delftware	Portuguese Faience	Blue and White Delftware	North Devon Gravel	Jamestown Potter Coarseware	Martin's hundred Potter Coarseware	Coarseware	Spanish Coarseware, Olive Jar	Post-Medieval Slipware, Green	Midland's Purple	Frechen Stoneware	Master Context	1580-1610 Bowl Type	1610-40 Bowl Type	164-60 Bowl Type	1660-80 Bowl Type
Storage Pit 1	X	X	X	X	X	X	X	X	X	X				Storage Pit 1	X	X	X	
Daub Pit 1			X	X	X	X	X	X	X	X	X	X		Daub Pit 1		X	X	
Well 1							X	X	X	X	X	X	X	Well 1		X	X	X

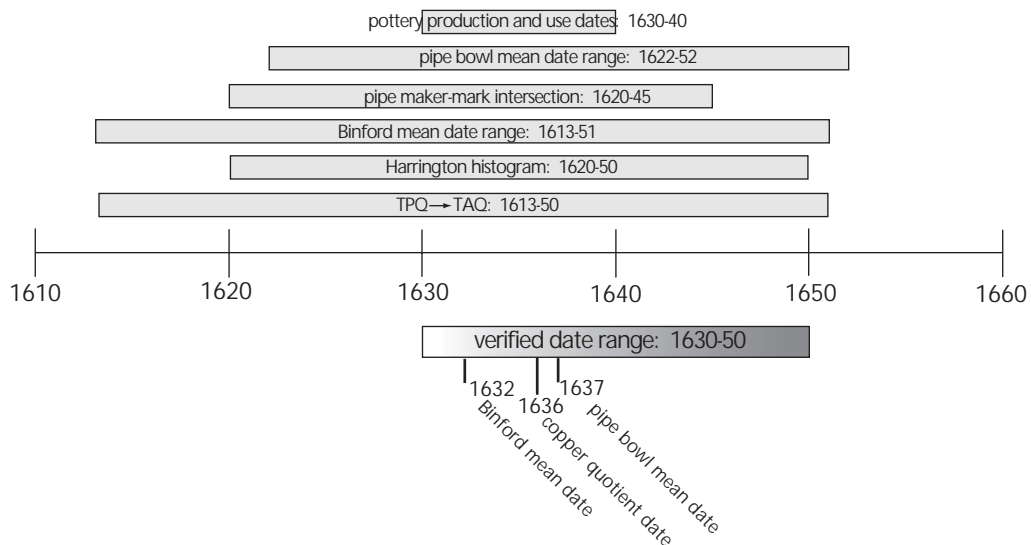
and the filling of Daub Pit 1 and Well 1 in 1630s and '40s.<sup>130</sup> Although multiple lines of evidence pointed to site inhabitants filling Well 1 after Storage Pit 1 and Daub Pit 1, it must be remembered that archaeologists did not fully excavate the well's lower layers. Well 1 might have contained a temporal gradient from bottom to top, with the earliest materials at the base. In addition, the 18th-century wine bottle fragments pushed the TPQ for Well 1 far beyond the site's primary occupation date.

Many factors suggested that the site consisted of only one phase within the 17<sup>th</sup>-century occupa-

tion. The building postholes had no repairs. The pits contained no wash or silt layers. Thus, they were likely filled quickly with refuse as opposed to staying open for extended periods. Similar types of materials and crossmendable fragments were found throughout the different strata of the dense features, also suggesting a lone occupation and collective quick feature fill.

Overall, temporal analyses of the artifacts and features at 44JC802 produced many chronologies. All verified a ca. 1630-50 date range, a middle date in the 1630s, and single primary occupation phase.

Figure 60. Overall site chronology.



# Space

The spatial distribution of fragments from three distinct vessels, each with dozens of crossmends, revealed a clear pattern of use and disposal areas at 44JC802. Nearly all of the crossmended sherds from a two-handed Martin's Hundred cooking pot, a Midland's Purple butterpot, and a Portuguese Faience foliate dish were found in two areas: 1) inside of Structure 2 and just outside of its eastern doorway, and 2) in and around Storage Pit 1, Well 1, and Daub Pit 1. Archaeologists uncovered virtually none of these ceramics in the vicinity of Structure 1, the storehouse. The location of these objects highlighted domestic activity in Structure 2 and disposal in the large pits to the north.

Cumulative artifact densities suggested four general refuse patterns that resulted from activity at 44JC802. First, artifact clusters on the east, north,

and west sides of Structure 2 encircled much of the dwelling. Broadcast refuse practices frequently caused in this type of disposal pattern. Archaeologist James Deetz, when writing specifically of early colonization in New England noted the general trend. He suggested that,

*"all waste materials were simply thrown out, and often at what to us would be alarmingly short distances from the door. Such a practice probably had its practical value: pigs and chickens foraging around the house could eat what was edible, leaving the rest to become covered slowly with soil."<sup>31</sup>*

The arc of refuse disposal was usually centered on the doorway from which the waste was most frequently tossed. In the case of 44JC802, Structure 2's east doorway was the likely pitching point. Second, in addition to sheet refuse around the dwelling, the domestic structure's narrow center bay contained much debris, suggesting increased activity in

Figure 61a. Spatial crossmend pattern for individual Midland's Purple Butter Pot.

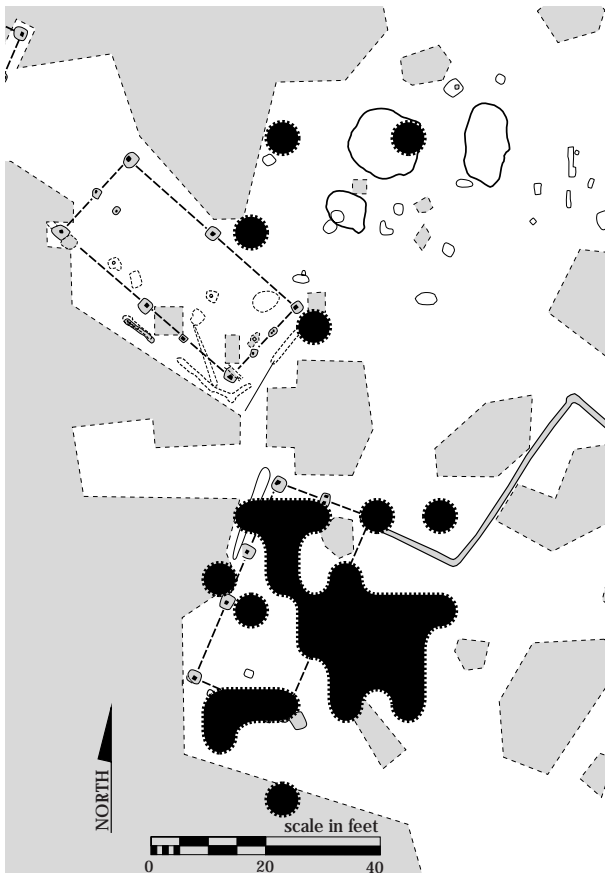
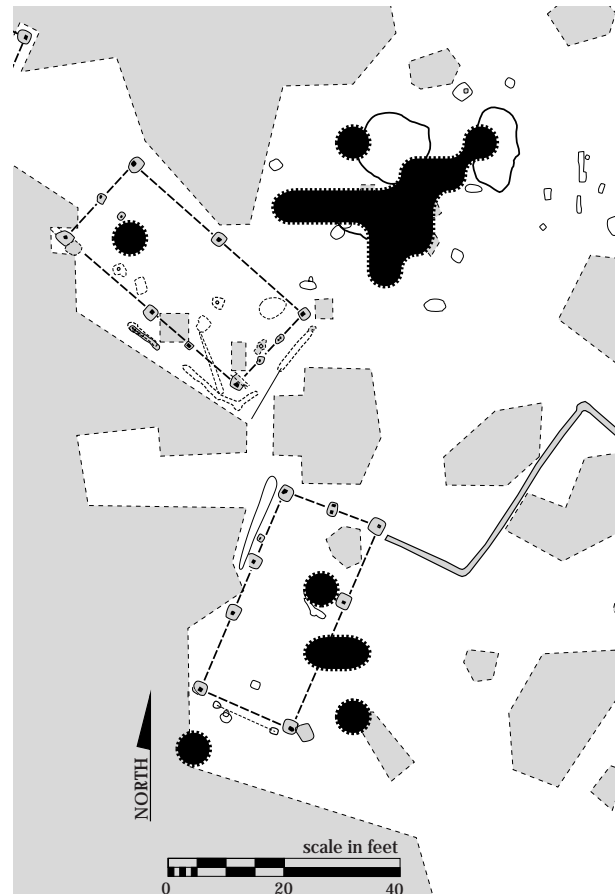


Figure 61b. Spatial crossmend pattern for individual two-handed Martin's Hundred cooking pot.



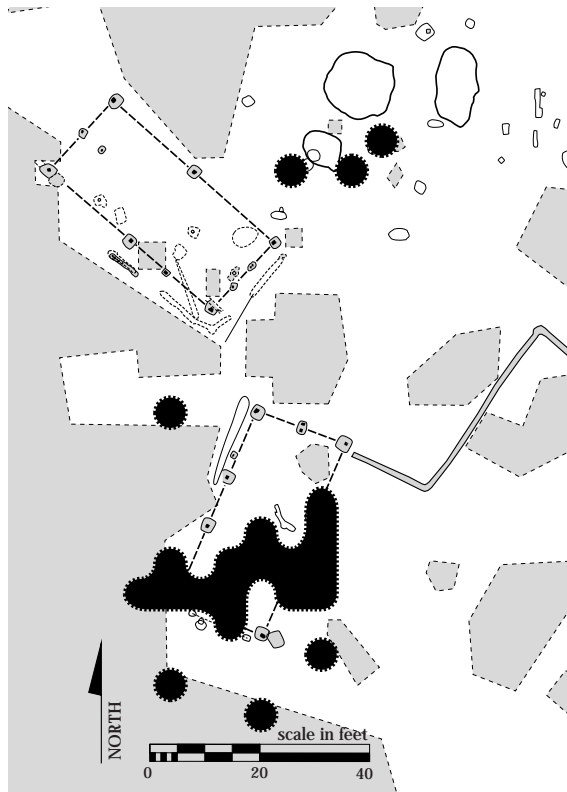
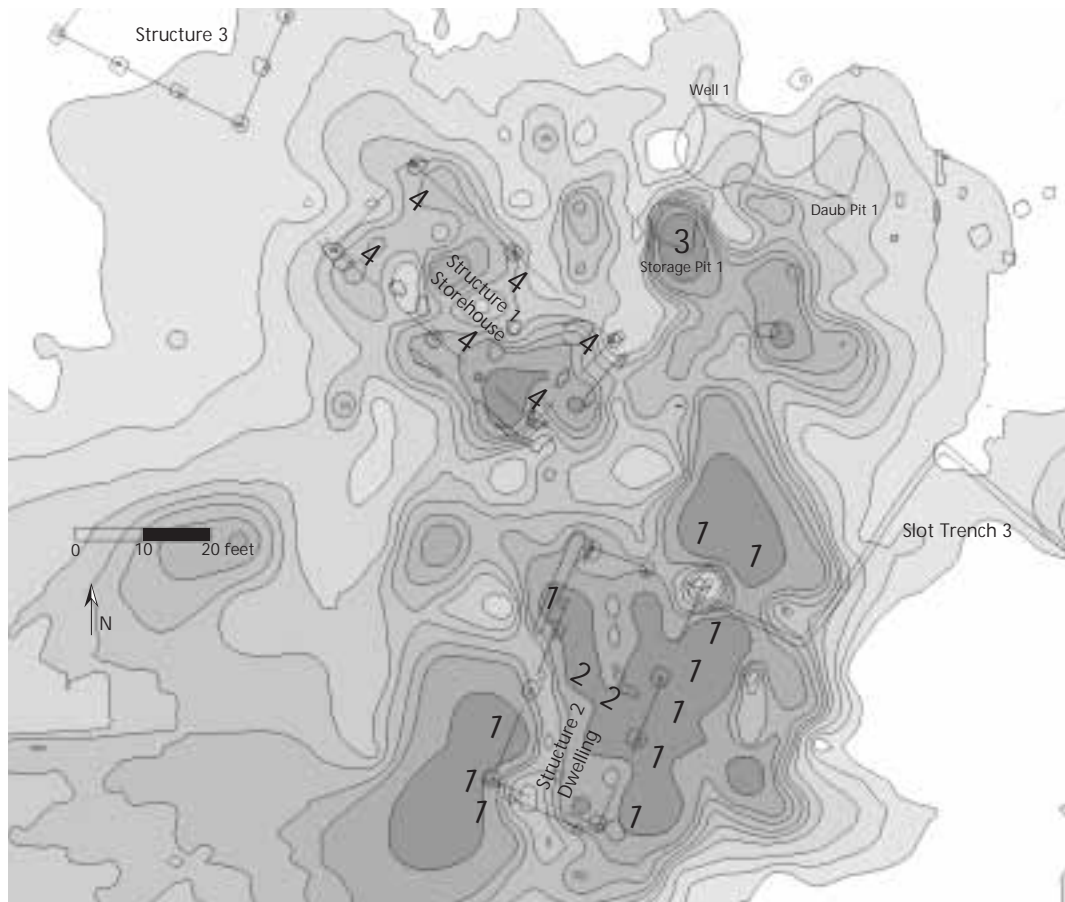


Figure 61c. Spatial crossmend pattern for individual Portuguese Faience foliate dish.

an area where a central passage might be located. Results from the soil chemical analyses supported this notion. The third area of high artifact density centered over the three large pits. To no surprise, rich plowzone sealed rich features. The fourth and final high-artifact density zone was inside of Structure 1. The dwelling and the storehouse had opposite disposal patterns. Whereas most of the refuse in the vicinity of the dwelling was either deposited outside of the building or in the central bay, storehouse debris clustered inside the structure's walls and diminished once outside of the building. The interior storehouse refuse pattern was subtle, with slightly more waste located near the doorways on the southeastern and southwestern walls. Virtually no material debris was deposited in the southeast corner of the site. Overall, the occupants of 44JC802 from ca. 1630-50 dumped their garbage in a variety of ways and locations. They broadly casted their refuse outside of the dwelling, tracked some of it inside the central bay of their domestic building, dumped their garbage in nearby trashpits, and left additional debris in the storehouse.

Figure 62. The spatial artifact density pattern reveals four tendencies marked by the clusters of dark (high-value) contours. Refuse was deposited: 1) in a ring around the dwelling, 2) in the dwelling's central bay, 3) in open pits, and 4) in the storehouse.



Two spatial analyses of pipestems provided additional insight. First, a study of the distribution of European pipe stem diameters across the site revealed no significant temporal gradient. The percentage of earlier pipestems per square was calculated and plotted against the proportion of later pipestems per square, but no meaningful pattern emerged. Thus, in terms of horizontal provenience, there were no significantly early or later areas of the site. Second, the distribution of European and local pipes were identical, even though the former outnumbered the latter 24 to 1. These items were deposited in like manners, intimating that they were used in similar ways. In fact, the spatial distribution of most of the artifact types were similar. Smoking pipes, case bottles, faunal remains, flint, lead, and ceramics clustered in a ring around the dwelling, in the east half of the storehouse, and over the pits. Brigandine plates strayed from the norm and were located, for the most part, only in the vicinity of the pits.

## Soil Chemical Analysis

Studying the soil chemistry of 44JC802 revealed meaningful spatial patterns. Since most of the samples were taken from 2.5' by 2.5' test pits dug during Phase II excavation, these results anticipated later Phase III archaeological finds. Differential phosphorous, potassium, calcium, and magnesium levels suggested distinct living and disposal areas at the site. The following results, presented as quintile contour maps based on elemental parts per million, added to the growing number of analyses affirming the utility of soil chemical studies in archaeological research.<sup>132</sup>

Since phosphorous occurred naturally in animal tissue and feces, archaeological concentrations often indicated primary and secondary deposition of these matters. Such deposits frequently resulted from repeatedly used privies, animal pens, and trash pits. For example, at the Compton Site (18CV279) in Calvert County, Maryland, phosphorous concentrates were an indication of an animal barn and pen.<sup>133</sup> Likewise, high phosphorous levels at other Maryland archaeological excavations in St. Mary's City at the St. John's Site (18ST1-23: ca. 1638-1720), and in Calvert County at King's Reach (18CV83: ca. 1690-1715) were found near dwellings.<sup>134</sup> Archaeologists Robert Keeler and Dennis Pogue respectively explained the chemical patterns as resulting from chamber pot "night soils" and pri-

mary waste deposition as well. Their work established an interpretive model for archaeological phosphorous. Traditional broadcast refuse formed a ring of phosphorous-rich debris around dwellings, and the dumping of night soils clustered about domestic doorways.

Phosphorous levels at the Sandys site followed their model, identifying and verifying the location of dwellings, doorways, trashpits, and sheet refuse. Concentration differences between the interior and exterior of Structure 2 were stunning. Whereas the area inside of the dwelling contained the lowest readings at the site, a dark ring encircled the space just outside of Structure 2. High-intensity clusters were also located on at least one doorway. In addition, high phosphorous concentrations corresponded with the three densest features—Daub Pit 1, Storage Pit 1, and Well 1—indicating that these holes were filled with much animal waste and tissue. The area to the south and west of Slot Trench 3 had a much higher phosphorous reading, suggesting that this palisaded feature served as a barrier, likely restricting the movements of domestic animals. Additional archaeological evidence bolstered the theory that the area just south of Slot Trench 3 was an animal pen. These clues included the lack of artifacts in the southeast quadrant of the site, the presence of a large but shallow amorphous pit that could have resulted from pig-related activities, and the boundary Slot Trench 3 formed around this area.

Wood ash was a major source of potassium. Consequently, high potassium levels frequently corresponded with the dumping of hearth ash. Chemical readings at St. John's, King's Reach, and Compton established a spatial correspondence between potassium concentrations and doorways nearest to hearths. Archaeologists at King's Reach also found potassium to be a reliable marker of the perimeter of day-to-day activities at the site.<sup>135</sup> Potassium levels at the Sandys site were generally low and less variable than the other chemicals tested. Two major concentrations were pinpointed 15' off of probable doorways on the long sides of the dwelling. The analyses identified no potassium perimeter, suggesting that it either did not exist at the site, or that the entire site area uncovered was inside the true border of everyday activities.

The presence of calcium, a major component of shell, bone, and hard tissue in animals, often reflected two different types of past activities at archaeological sites. Like phosphorous, calcium con-

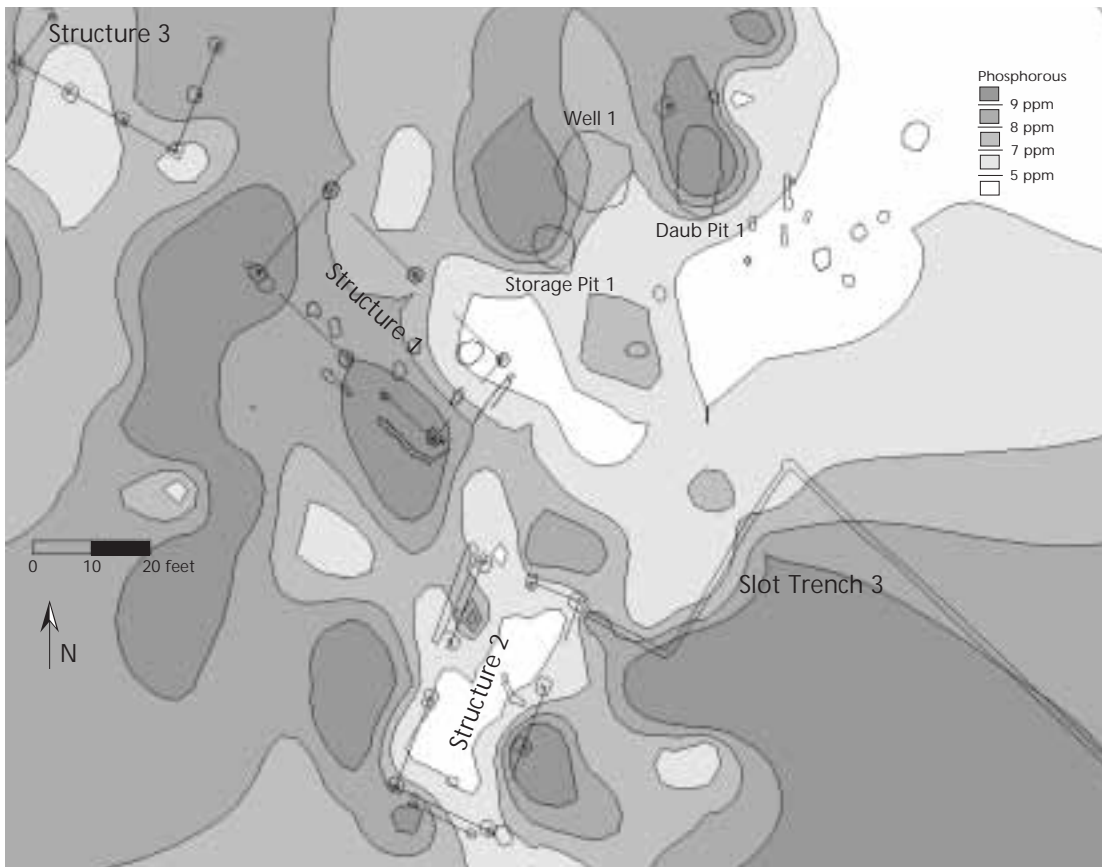
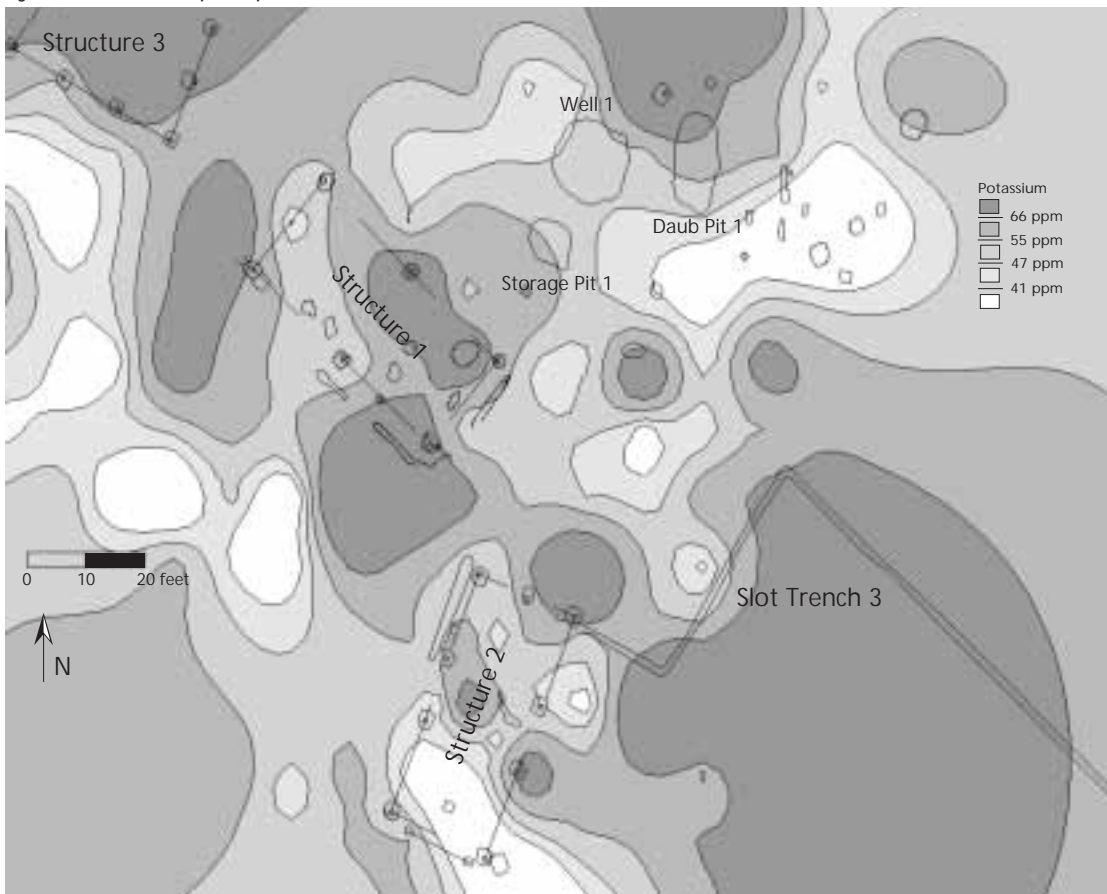


Figure 63. Phosphorous spatial patterns.

Figure 64. Potassium spatial patterns.



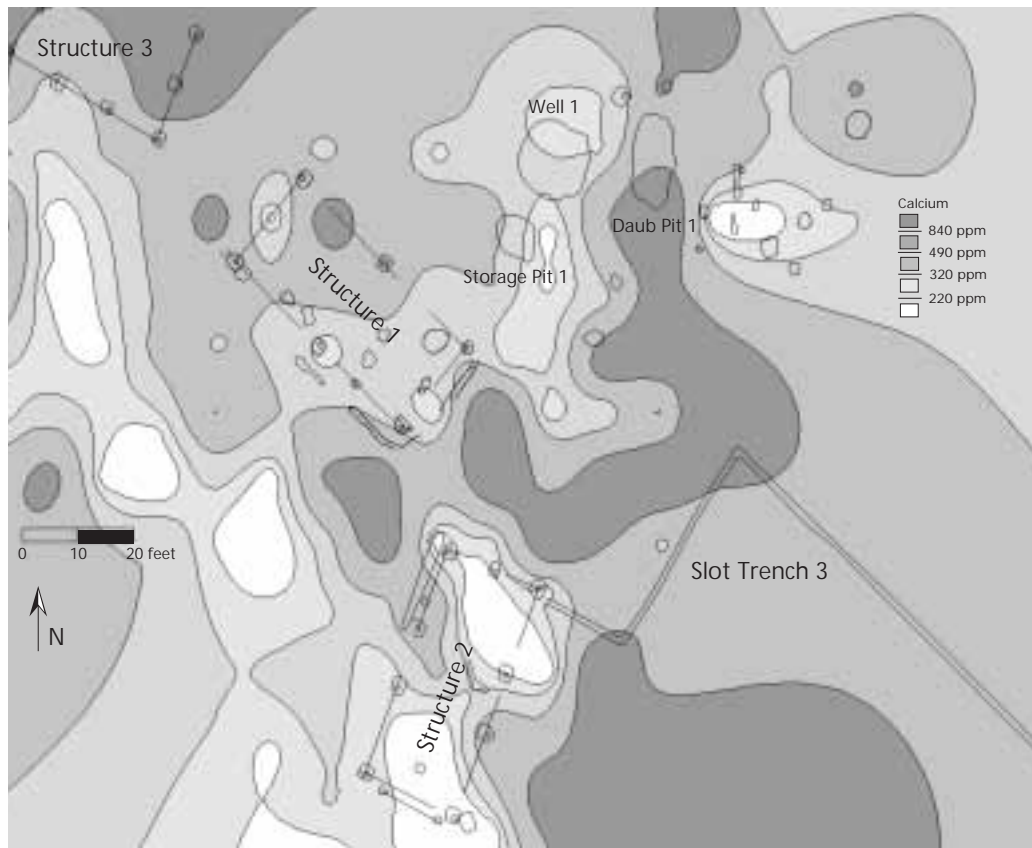
centrations frequently signified the presence of dietary refuse that was broadcast outside of dwellings and into trashpits and middens. Archaeologists at St. John's discovered chemical indications of site inhabitants using shells to mark and line pathways between structures.<sup>136</sup> Calcium concentrates at 44JC802 encircled the north half of the dwelling, likely reflecting traditional 17<sup>th</sup>-century broadcast refuse practices. Two of these clusters were centered on doorways, again pinpointing the probable pitching point of the refuse. The long linear calcium concentration between the western doorway of the dwelling and the south doorway of the storehouse might reflect a marked pathway between the two buildings or between Structure 2 and Daub Pit 1. Walkway 1, a nearby long linear feature following a similar general orientation, possibly substantiated the presence of this path.

Although a product of intensive burning, magnesium concentrates did not provide archaeological insight into the spatial layout of St. John's or King's Reach. However, magnesium levels mirrored potassium levels at the Sandys site, offering parallel clues as to hearth-dumping locations. Magnesium concentrates clustered at the doorways of the dwell-

ing and about its north side, likely reflecting sheet refuse and ash tipping. Magnesium, calcium, and potassium concentrates each separated the internal areas of the dwelling along the bays while providing no such distinctions in the storehouse. Structure 2's narrow central bay contained high levels for each of these elements (Mg, Ca, and K), suggesting differential activity and implying that the building had central doors on each of its long sides. The spatial chemical pattern also intimated that the area in between the dwelling's opposite side doorways served as a corridor. This cross passage might have merely been the north side of the hall or a distinct area dividing the hall and parlor. Soil pH levels further verified Structure 2's internal gradient.

Overall, soil chemistry tests detailed differential site areas. They pinpointed the dwelling and suggested that it was used and kept differently than the storehouse. The analyses also identified the location of Structure 2's doorways, the site's multiple trashpits, and a potential pathway between two buildings. Chemical concentrations offered insights into refuse strategies as well, showcasing disposal practices such as broadcast refuse, ash tipping, and night soil deposition. Additionally, pH testing in-

Figure 65. Calcium spatial patterns.





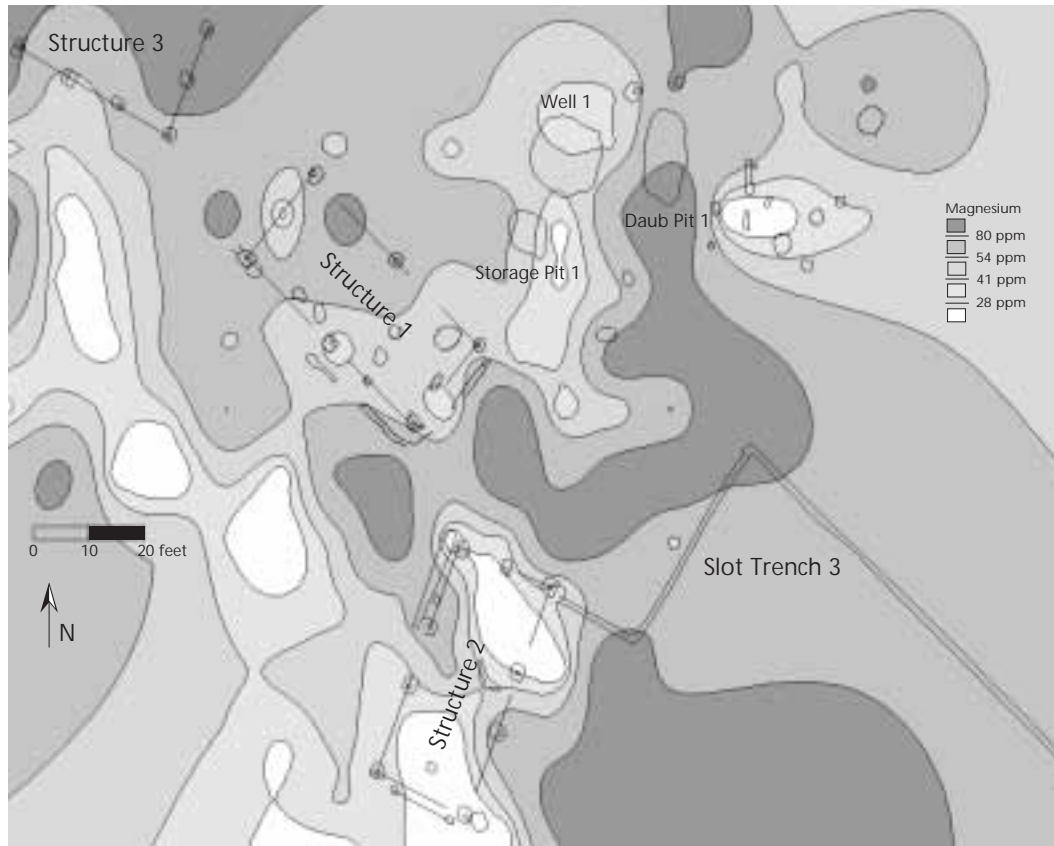
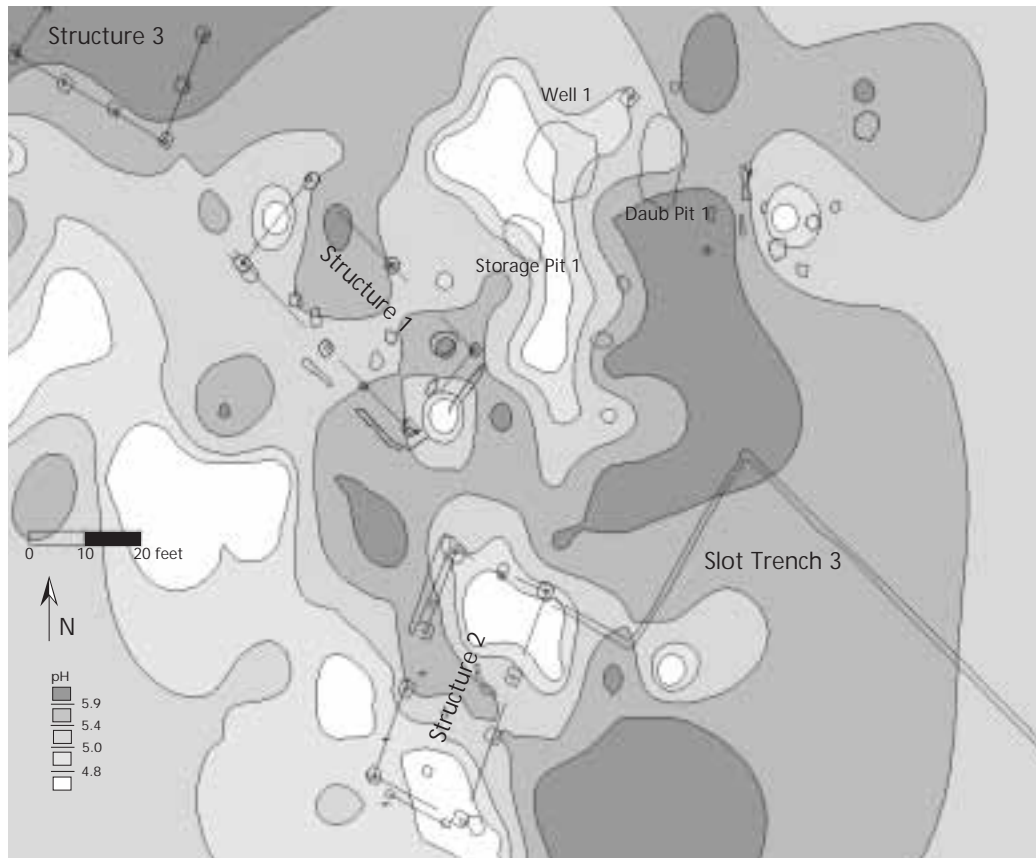


Figure 66. Magnesium spatial patterns.

Figure 67. Soil pH spatial patterns.



licated that the site's soil was very acidic and poor for growing.

Proton magnetometer tests at 44JC802 failed to produce significant spatial patterns or anomalies. The signals were extremely small. Furthermore, they were likely skewed by surface trash or the nails and pin flags used by the archaeological crew to lay out the grid.<sup>137</sup>

## Overall Spatial and Regional Layout

Archaeological investigations located living, storage, and yard areas at the site as well as walled boundaries. However, certain omnipresent aspects of daily life frequently found at historical sites failed to turn up at 44JC802. No human skeletons were found, suggesting that either none of the site's inhabitants died while in residence or that they were interred elsewhere. In fact, relatively few faunal remains were uncovered.

The artifacts from 44JC802 resembled material remains from other nearby contemporaneous sites. In 1956, amateur archaeologist Sergeant Floyd Painter found and excavated a second quarter 17<sup>th</sup>-century trash pit along the north shore of the James River. Painter's site was only 2000' west/northwest of 44JC802. It contained many similar artifacts and was known as the "Helmet Site" because its assemblage included an English siege helmet. Painter had the site registered as 44JC4 and attributed the material remains to "Jefferson, Sandys, Uty,

Grindell, or one of their retainers."<sup>138</sup> Similar artifacts to 44JC802 from the Helmet Site included English and Dutch ball clay pipes, case-bottle glass, Jamestown Potter vessels (including a chafing dish), Chinese porcelain, Manganese spattered delftware, lead shot and sprue, a crowned *fleur de lis* cloth seal, and arms and armor. There were quantitative and qualitative material differences as well. Painter's digging produced extensive faunal material, suggesting that the dearth of bones at 44JC802 was not due to local taphonomic processes. The assemblage from 44JC4 also contained hundreds of small native pottery sherds and rolled copper beads, indicating a prominent Contact-Period native presence at the site.

Only a mile down river from 44JC802, Martin's Hundred contained multiple sites dating ca. 1620-50 with similar artifacts and features. Many of these, including sites A, B, and C, have been discussed in the text of this report. Archaeology of the region indicated that 44JC802 was part of cluster of settlements along the north shore of the James River that, after the Algonquian Uprising, were moderately stocked and well-armed.

## Form

The artifact assemblage from 44JC802 reflected everyday frontier life in the early to middle 17<sup>th</sup> century. Materials used in military and defense, hunting, domestic activities, farming and building, and trade were found in abundance. These loosely de-

Figure 68. Separate contexts included a dagger hilt, iron and brass sword buckles, a strap guide, sword hangers, and a sword blade.



fined and non-exclusive categories contained many items that likely served a variety of functions. Material substantiation of industrial enterprises was somewhat ambiguous as excavations revealed the presence of certain glass- and metal-working materials but only scant evidence of their use.

Arms, armor, gunflints, strike-a-lights, chipped flint, lead bandolier caps, shot, sprue, and related items made up 5.5% of the site's artifacts. This figure was nearly identical in both sealed (5.6%) and disturbed (5.4%) stratigraphic contexts. Past excavations of Jamestown's hinterland have suggested that a total of 3-6% military and defense-related items was relatively normal for farmsteads and other colonial settlements during the 1620-50 time span.<sup>139</sup> However, 44JC802 was distinct from other middling sites in terms of the quality of these items. In addition to the gunlocks and related materials shown earlier, the site's assemblage contained a variety of blade-related items, including a sword blade, iron and brass sword buckles, a left-hand dagger hilt, sword hangers, and a strap guide. The side ring of the dagger hilt was pierced with a diamond-shaped hole, and the hilt had down-turned quillons with fishtail terminals. The dagger "was customarily used in conjunction with a rapier to protect the side of the body not covered by the rapier."<sup>140</sup> Although standard military issue during the 17th century, the dagger became fashionable in civilian dress from ca. 1530-1640. Archaeologists found a parallel at James Fort in the transition layer above Pit 1.<sup>141</sup>

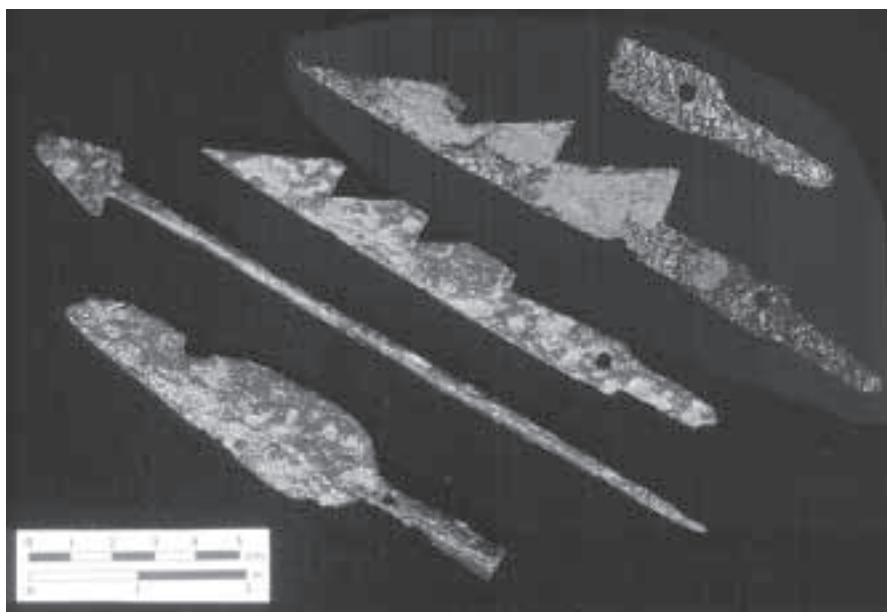
Though many of the aforementioned military and defense-related weapons likely doubled as hunt-

ing implements, some of the materials uncovered at 44JC802 could be more directly linked with the harvesting of local wildlife. Sealed and disturbed contexts together produced three harpoons, an otter spear, and an iron point. However, the Sandys site contained neither fishing hooks nor weights.

Instead of presenting a summary of the site's faunal remains with discussions of hunting or trade (acquisition), or domestic activities (animal husbandry, preparation, consumption, and deposition), it is listed here separately. The animal bones from 44JC802 consisted of a wide variety of species, including various mammals, birds, fish, and others.<sup>142</sup> The fauna reflected a diet far more reliant on wildlife procured through hunting, fishing, or trade as opposed to domestic animal husbandry. The body-part distribution suggested that the animals were being butchered and consumed on site. In fact, the white-tailed deer assemblage showed multiple signs of aggressive butchery with repeated hack marks cut into the bones. Wild animals dominated the identifiable faunal remains, making up 78% of the assemblage. Whereas other collections from Jamestown and its hinterland during the 1630-50 period maintained an overwhelming majority of domestic fauna, the Sandys site assemblage included few domestic faunal remains.<sup>143</sup> The Sandys' fauna was more similar to Fort-Period contexts at Jamestown (1607-1623) than Post-Fort features (1624-1660).

The site contained many other groups of artifacts associated with domestic life as well, including pottery, glass, household utensils, clothing fac-

Figure 69. The site's hunting-related finds included an iron point, an otter spear, and three harpoons.



Taxon	NISP	% NISP	Weight (grams)	% Weight	MNI
Cow ( <i>Bos taurus</i> )	4	0.4	107.5	5.5	1
Deer ( <i>Odocoileus virginianus</i> )	107	10.9	732.8	37.4	2
Opossum ( <i>Didelphis marsupialis</i> )	2	0.2	4.3	0.2	1
Pig ( <i>Sus scrofa</i> )	30	3	130.2	6.6	2
Raccoon ( <i>Procyon lotor</i> )	6	0.6	10.3	0.5	1
Squirrel ( <i>Sciurus</i> ssp.)	1	0.1	0.3	*	1
Unidentified very large mammal	3	0.3	39.3	2	--
Unidentified large mammal	341	34.6	523.4	26.7	--
Unidentified medium mammal	3	0.3	1.3	0.1	--
Unidentified small mammal	1	0.1	0.5	*	--
Canada Goose ( <i>Branta canadensis</i> )	1	0.1	1.5	0.1	1
Phasianidae family (grouse, turkey, quail)	1	0.1	1.7	0.1	--
Unidentified medium/large bird	51	5.2	12.4	0.6	--
Black Drum ( <i>Pogonias cromis</i> )	4	0.4	9.5	0.5	1
Gar ( <i>lepisosteus</i> ssp.)	6	0.6	1.4	0.1	1
Gafftopsail Catfish ( <i>Bagre marinus</i> )	1	0.1	0.7	*	1
Sheepshead ( <i>Archosargus probatocephalus</i> )	38	3.9	122.1	6.2	1
Sheepshead/Black Drum	9	0.9	0.6	*	--
Unidentified fish	157	15.9	56.3	2.9	--
Eastern Box Turtle ( <i>Terrapene carolina</i> )	37	3.8	145.5	7.4	3
Common Snapping Turtle ( <i>Chelydra serpentina</i> )	2	0.2	6.1	0.3	1
Unidentified turtle	16	1.6	4.1	0.2	--
Unidentified snake	2	0.2	1.3	0.1	--
Portunidae family (swimming crabs)	14	1.4	12.7	0.6	--
Unidentified to class	148	15	33.6	1.7	--
Totals	985	99.9%	1,959.4	99.8%	17

Figure 70. Bone inventory.

ets, and furniture hardware. The 71 ceramic vessels recovered through excavation collectively and individually served a variety of functions. Of the 44 with tentatively identifiable uses, the site's inhabitants had 18 serving vessels, 16 for storage, 10 for food preparation, 1 for industry, and 1 for waste. Archaeologists also uncovered fragments of 14 glass vessels, including 11 case bottles, two tableware forms, and an 18th-century mallet wine bottle. The household utensils consisted of 15 knives, one pewter and one brass seal-top spoon, five other spoons, and an iron ladle. Wardrobe-related artifacts included 26 clothing hooks, 22 aglets, eight buckles, and two spurs. Furniture accessories from the site

consisted of various hinges and handles, some of which were ornate, and 40 upholstery tacks. The domestic assemblage also contained 24 straight pins.

Excavations at the Sandys site produced a handful of tools. Farming and building implements were represented by three hoes, three files, an axe, and a mattock. The material assemblage also included 6,251 iron hand-wrought nails. In addition, archaeologists uncovered a tool known as a trepan. Historical research and surveys of modern use isolated two distinct functions associated with this tool. When cutting out disks from an object in order to sink a shaft, individuals frequently drilled with a trepan and successfully removed an inner core.

Figure 71. Table of ceramic vessel form and function.

Function	Quantity (#)	Type	Form	Date	Sealed Context
Serving	1 (34)	Borderware	Dish	1607-1650	N
	1 (35)	Borderware	Bottle	1607-1650	N
	2 (23-24)	North Devon Plain	Bowl	1619-1650	Y
	1 (33)	Verwood	Bowl	1607-1630	N
	1 (49)	Dutch Coarseware	Bowl		N
	2 (11-12)	Mang. & White Spattered Delft	Mug	1620-1640	Y
	1 (71)	Delftware White	Porringer		Y
	2 (1-2)	Frechen Stoneware	Bartmann Jug	1607-1699	Y
	1 (28)	North Italian Sgraffito	Bowl	1630-1645	N
	1 (19)	Majolica	Dish	1600-1800	Y
	4 (15-18)	Portuguese Faience	Dish	1630-1645	Y
	1 (30)	Chinese Porcelain	Cup	1630-1650	N
	1 (47)	Martin's Hundred	Mug	1620-1640	Y
	1 (48)	Martin's Hundred	Pipkin	1620-1640	Y
Storage	3 (4-6)	Midland's Purple	Butter Pot	1607-1650	Y
	1 (37)	Post-Medieval Slipware, Green	Pan		Y
	1 (27)	North Devon Whiteware	Drug Jar/Galley Pot	1625-1650	Y
	1 (25)	North Devon Fine Gravel-Tempered	Pot	1619-1650	N
	1 (13)	All White Delftware	Drug Jar/Galley Pot	1615-1645	Y
	1 (20)	Delftware Blue and White	Drug Jar/Galley Pot		Y
	1 (14)	Giant Delftware	Drug Jar/Galley Pot		Y
	1 (31)	Martincamp	Flask	1607-1650	N
	1 (32)	Unglazed Merida	Jug or Costrel	1607-1650	N
	2 (7-8)	Spanish Coarseware	Olive Jar	1607-1650	Y
	2 (9-10)	Spanish Coarseware	Costrel	1620-1645	N
	1 (36)	Algonquian: Roanoke Simple Stamped	Pot	900-1650	N
	Preparation	1 (29)	Dutch Slipware	Pipkin	1630-1680
1 (38)		Jamestown Potter	Chafing Dish	1630-1645	Y
2 (39-40)		Jamestown Potter	Pipkin	1630-1645	Y
2 (41-42)		Jamestown Potter	Porringer	1630-1645	Y
1 (43)		Jamestown Potter	Bowl	1630-1645	Y
1 (44)		Martin's Hundred	Chafing Dish	1620-40	Y
1 (45)		Martin's Hundred	Handled Cooking Pot	1620-40	Y
1 (46)		Martin's Hundred	Colander	1620-40	Y
Waste	1 (26)	North Devon Gravel-Tempered	Chamber Pot	1607-1775	Y
Industry	1 (3)	Refractory Clay	Crucible	1607-1775	Y
?	2 (21-22)	Delftware Blue and White	Hollow Form	1600-1800	Y
	21 (50-70)	Coarseware	Hollow Form		Y

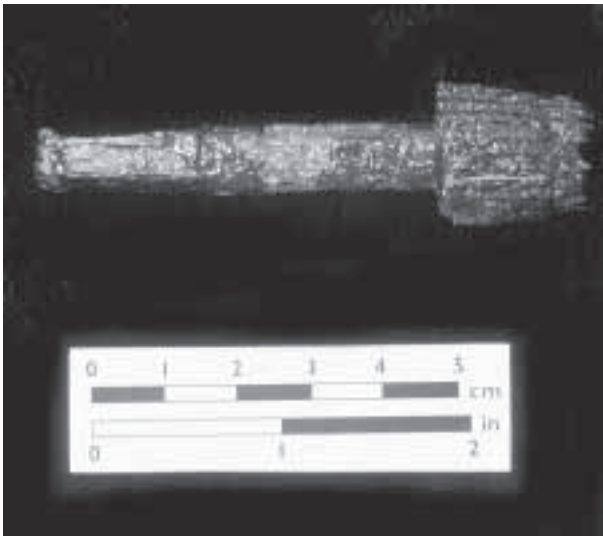


Figure 72. Daub Pit 1 contained a trepan, a tool used for a variety of drilling purposes.

Figure 73. The Surgeon (below right), by Jan Saunders van Hemessen showcases the process of trephination, while an 18th-century drawing (below) portrays a surgeon using a trephine nearly identical to the tool uncovered at 44JC802.



Trepans, historically used on wooden objects like barrels, continue to be used today in multifarious drilling capacities.<sup>144</sup>

The trepan was also an early form of the trephine, a type of small crown saw used in surgery to remove a circular section of bone from the skull. Isolated modern proponents have been scorned and marginalized for associating corporeal and spiritual benefits with drilling a hole in one's head. Yet advocates of trephination (or trepanation) have not always been relegated to society's fringe. A well-established and respected 18th-century Western practitioner explained that it was legitimate surgery, "intended to release what has forced its way out of the blood vessels [and into the brain]."<sup>145</sup> Archaeological finds across the globe included material substantiation of the tools and results of this procedure. Skeletal remains with evidence of trephination in Europe, Asia, Africa, Australia, and North and South America from contexts as old as 5000 years ago suggested that this practice was cross-cultural and of great antiquity. Historical texts traced trephine use as far back as Hippocrates (ca. 460-ca. 360 B.C.). The drilling tool itself underwent a significant evolution. In order to prevent the trephine from sinking into the patient's brain once the skull had been bored, a surgeon named Farbicus Aquapendente (1537-1619) gave the tool shoulders.<sup>146</sup> Twenty years after Aquapendente's death,



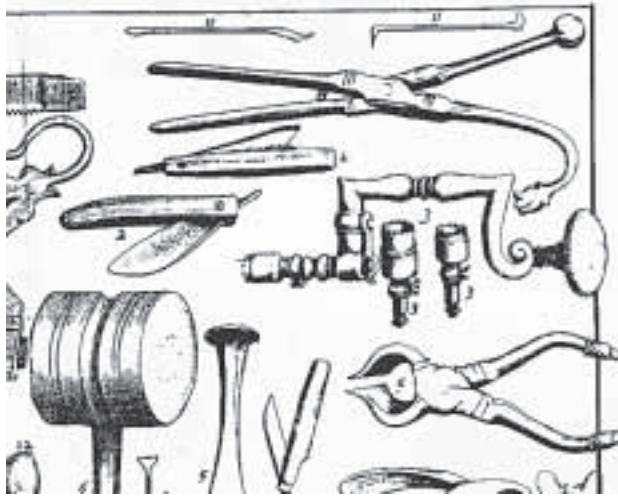


Figure 74. John Woodall's chest of surgical tools included a trephine, labeled number 3 in this illustration.

English surgeon John Woodall developed a strikingly similar design and labeled it "an implement of my owne composing." Woodall's 1617 *Surgions Mate* contained an illustration of tools for a surgeon's chest, including a sketch of a trephine. As surgeon-general to the East Indian Company in 1613, Woodall frequently equipped surgeon's chests for sea voyages. In fact, a list of instructions to Sir Thomas Gates from the Virginia Council in May 1609 referred explicitly to one of Woodall's servants bringing "a Chest of Cheurgery sufficiently furnished" to Jamestown.<sup>147</sup> Although it was difficult to discern the specific function the trepan served at

44JC802, the narrow diameter on the shaft suggested a more delicate use than drilling holes in barrels.

Copper items and glass beads formed a significant part of the collection, suggesting that the settlers at 44JC802 intended to engage the indigenous population in trade. Access to large amounts of imported English copper, the paramount spiritual good in the Algonquian world, led Chief Powhatan to permit colonial settlements along the James. The natives prized copper in any form until the colonists repeatedly flooded the indigenous world with these goods.<sup>148</sup> Although intercultural copper trade was significantly diminished by the 1620s, the exchange of glass beads continued into the second quarter of the 17<sup>th</sup> century.<sup>149</sup>

Twenty-four beads, 17 glass and 7 stone, surfaced during excavations at 44JC802. Most of them (80%) were found in Storage Pit 1 and in the plowzone over the Storehouse (Structure 2). The glass beads consisted of eight different varieties, all of drawn manufacture.<sup>150</sup> Several are common on sites from 1590-1640 in eastern North America. Gooseberry beads date from the 1590s to 1630 and are found from southern Ontario to northeastern Alabama. They have been uncovered locally at Jamestown in Fort-Period contexts and at Jordan's Journey in Prince George County. Flush eye beads maintain a similar temporal and spatial range as

Figure 75. Table of beads with Kidd variety, description, and quantification.

Bead Variety	Description	Count	%
Ila13	Medium, round, opaque white glass bead.	4	16.7
Ila40	Medium, round, opaque robin's egg blue glass bead.	2	8.3
Ilb18	Medium, round, colorless glass bead with 11 white stripes. Commonly called "gooseberry" beads.	1	4.2
IIIbb7	Large, tubular, navy blue glass bead with three stripes consisting of one wide redwood stripe with a thin white stripe on either side. Bead composed of three glass layers: translucent navy blue/ opaque white/ translucent navy blue.	5	20.8
IVa11	Small, circular, white glass bead composed of three glass layers: transparent colorless/ opaque white/ transparent colorless	1	4.2
IVb10	Large, round, redwood glass bead with three white stripes. Bead composed of three glass layers: colorless/ opaque redwood/ translucent green.	2	8.3
IVb10	Large, oval, redwood glass bead with three white stripes. Bead composed of three glass layers: colorless/ opaque redwood/ translucent green.	1	4.2
IVg1	Large, round, bright blue glass bead with two redwood stars on white dots. Bead composed of three glass layers: translucent bright blue/ opaque white/ translucent bright blue. Commonly called "flush eye" beads.	1	4.2
stone	Opaque white agate.	1	4.2
stone	Transparent milky white to cloudy grey agate.	6	25
Total Beads		24	100%



Figure 76. Glass and stone bead assemblage from the Sandys site.

Gooseberry beads. White-striped redwood beads have been found predominantly in western New York although some undecorated varieties have surfaced in the Middle Atlantic. Based on similar finds from comparative sites, the bead assemblage from 44JC802 dates from 1620-40.

Excavation produced inconclusive evidence of industry at 44JC802. The site assemblage included a refractory clay crucible, but the vessel contained no use-related residue. Settlers commonly used crucibles for a variety of purposes including the manufacture of glass and pottery glaze, the working of gold and silver, and the testing of metal purity.<sup>151</sup> Virginia's sand was of notoriously poor quality, and ultimately, colonists imported sand from Europe for their glassmaking endeavors.<sup>152</sup> The crucible uncovered at the Sandys site was triangular with rounded corners, 2.3" tall, 2.3" to a side, and a .9" circle at its untarnished and unstained interior base. Triangular crucibles were preferred by individuals working with precious metals for better pouring.<sup>153</sup> Historical glass- and metal-working activities produced distinctive waste. Small amounts of material

resembling slag were uncovered in both disturbed and sealed contexts. However, it was unknown whether these items were indeed fused industrial refuse, like sandiver (glass gall) or dross (smelting debris). Furthermore, although the site contained numerous limonite samples, it was unknown if the site's inhabitants actively harvested these materials from various geologic strata. Historical records, including accounts by George Percy and John Smith, referred to local "iron mines" and collection of "good iron ore."<sup>154</sup> However, perhaps the limonite surfaced secondarily at 44JC802 through other activities, like the original digging of the site's various pits. Some of the limonite was charred, but again this could result from direct or indirect firing. Overall, the crucible, slag, and limonite suggested the presence of industrial activities at the Sandys site; but the crucible's lack of use-related residue, the minimal quantity and suspect nature of the slag, and the omnipresence of limonite in lower geologic layers prevented conclusive determinations regarding 44JC802's active industries.

## Status and Ethnicity

The refuse from the Sandys site included remains from both high and low-status individuals. Status could be inferred from specific artifacts as well as through proportions of certain goods. The silver bodkin pin, porcelain fragments, seal-top spoons, knife with silver in-lay, spurs, and ornate furniture hardware reflected an elite lifestyle, as did the Portuguese faience dishes, the two manganese spattered delftware drug jars, and glass tableware vessels. Furthermore, storage and serving vessels each outnumbered preparation forms, suggesting that inhabitants at 44JC802 maintained a surplus and conspicuously displayed consumption. Although scholars continue to debate archaeological manifestations of status, large proportions of storage and serving vessels have been equated at historical sites (e.g., Pettus Plantation) with higher living.<sup>155</sup>

Archaeologists disagree as to the ethnic identity (African, Algonquian, Caribbean Indian, European, or mixed) of those who manufactured and used local pipes.<sup>156</sup> At 44JC802, European ball clay pipes outnumbered locally made terra cotta pipes in sealed contexts 15 to 1 and in disturbed contexts 28 to 1. Contemporary historical records concerning Sandys, the Grendons, Wareham, and the Brownings failed to mention Africans or Caribbean Indians in association with the properties in question. Further-



more, none of the artifacts showcased a clear African or Caribbean influence. Although the documents included references of both Sandys and Grendon leading assaults on southside native groups, the material culture at 44JC802, namely the beads and copper items, suggested amicable English/Algonquian interaction at the site. Perhaps the few pipes with distinctive red fabric resulted from these intercultural activities. Research has pointed to differences in status as opposed to ethnicity for spatial differences in local pipe frequencies, identifying a high correlation between the use of terra cotta pipes at 17<sup>th</sup>-century sites and the presence of indentured servants.<sup>157</sup> Thus, the absence of local pipes at the Sandys site could be attributed to a dearth of indentured servants.

## Historical and Archaeological Correspondance

Preliminary historical research for the area in and around 44JC802 provided descriptions of many items which archaeologists could locate in the ground and link to specific people of the past. However, merely equating material remains with contemporary texts cows historical archaeology into a flat and static realm dominated by cynical cliches regarding History's maiden hands and the price of the already known.<sup>158</sup> This approach frequently poses and dwells upon questions so specific that Ar-

chaeology has little chance of answering. The historical texts contained inherent biases in favor of elite English males, especially those holding political power. As a result, criteria on which to evaluate whether or not Jamestown's Treasurer George Sandys owned the land on which the residents of 44JC802 lived were far more numerous than markers of any of other potential owners or inhabitants. In fact, the records only provided material analogs for Sandys' term of ownership. Edward and Thomas Grendon, and John and William Browning were only linked materially to the site through the intersection of land-patent dates and artifact-based production and use chronologies (ca. 1630-50).

Items attributed to Sandys' third fort in the 1624/25 Muster matched up nearly perfectly with materials in the site's artifact collection. In fact, the combined finds from 44JC802 and nearby 44JC4—the Helmet site—contained nearly every listed item that would be expected to survive in the ground for nearly four centuries. This inventory included barrel straps, lead, firearms, brigandine plates, chain mail, helmets, and swords. Furthermore, much of the documented architectural remains corresponded with the site's soil stains. Attempting to link the material and stratigraphic finds with any other settlements in the immediate vicinity listed in the Muster proved awkward. The three documented settlements in 1625 Archer's Hope contained only one house each and did not include brigandines, coats of mail, or

Figure 77. Table of archaeological and historical correspondance.

Complete 1624/25 Muster listing	Archaeological parallels from 44JC802
"Corne, 12 barrells; Pease, I hogshead; Meale, I hogshead"	Iron barrel straps
"Fish, 6 hundred"	215 fishbones
"Powder, 6 lb; Lead, 30 lb"	7 bandolier caps, 17.1 lbs. of lead shot, sprue, and scrap
"Peeces fixt, 10; Pistolls 3"	3 snaphaunces, matchlock, worm, scourer, gunflints
"Steele Coat, I"	206 brigandine plates
"Coats of Male, 2"	34 links of chain mail
"3 headpeeces"	Siege helmet (44JC4)
"Swords, 6"	Sword blades, buckles, hangers; dagger hilt
"a forte palled in"	Slot Trenches 1 and 3
"Dwelling house, I"	Structure 2
"Store house, I"	Structure 1

helmets. Of course, individuals could have acquired these goods and built additional structures after the visit by the census taker.

Multiple secondary historical analogs superficially linked the site with the Poet-Adventurer as well. The records mentioned Sandys' attempts at diversifying the Virginia economy with alternative industrial enterprises, including glassmaking and ironworking. Likewise, the site's assemblage contained materials—crucibles, slag, and limonite—that could have been used in both endeavors. In addition, the many beads at the site corresponded with Edward and George Sandys' documented declarations regarding the importance of intercultural bead trade. Furthermore, 44JC802 contained a wealth of Pliocene fossils that might have been described by the Jamestown Treasurer as “the residue of ancient seas on mountain tops in America.” Also, the 1625 Muster indicated that the individuals living at Sandys' third fort were free men, and the site's assemblage included virtually no local pipes, attributed by some archaeologists to have been produced and used exclusively by indentured servants. Overall, circumstantial evidence and individual artifacts repeatedly intimated a link between George Sandys and 44JC802.

One of the over 40,000 artifacts unearthed at the site even offered a direct, although highly conjectural, link to personal identity in the documentary records. While excavating the north half of Storage Pit 1, excavators uncovered the rim to base section of a small pewter porringer. Its exterior base had a double-lined concentric circle. Within the circle, the initials “IP” had been rouletted into the body of the vessel, likely by the porringer's owner. With capital “I”s and “J”s both designated by the symbol “I” during this time, the letters referred to someone with initials “IP” or “JP.” None of the five individuals listed as residents of Sandys' third fort had a last name that started with “P.” Sandys' second fort, likely on Grendon's southside tract, was home to John Parsons, who came to the New World aboard the *Marigold* in 1619. In ad-

dition, John Philmott was the first individual listed as deceased on the Treasurer's properties by 1624. None of the people listed living at Archer's Hope in the 1624/25 Muster had the initials “IP” or “JP.”

Whereas individual finds might hint that George Sandys was the original owner of 44JC802, the overall material assemblage *strongly suggested otherwise*. The artifact collection in its entirety provided an initial site occupation date a few years after the Resident Treasurer had left Virginia. The intersection of pottery production and use date ranges emphasized activity at the site from 1630-40. The ornate Dutch pipes also indicated a 1630s occupation. These factors narrowed the list of documented land owners to the Grendons and residents to John Wareham (1628-38). Although written records provided few descriptions of these individuals, the historical details corresponded with the archaeological context. Furthermore, the documents linked Wareham with daily activities in the area that contained the site. His political service and the nearby water that bore his name revealed an undeniable connection between Wareham and 44JC802. The site's storehouse would have served this merchant well, providing temporary storage for non-domestic goods in a frontier environment. The passing of Wareham in 1638 and the sale of the tract to John Browning likely marked the end of occupation at 44JC802.

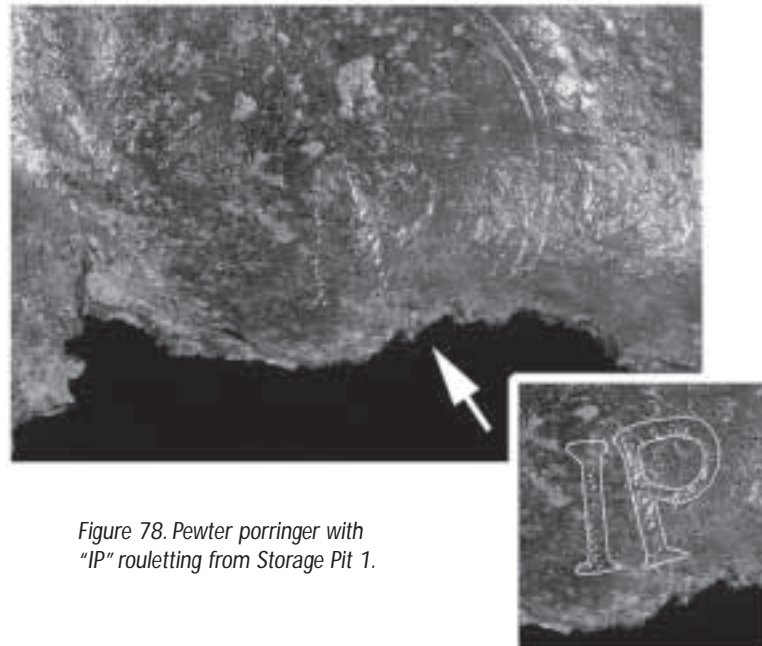


Figure 78. Pewter porringer with “IP” rouletting from Storage Pit 1.

# Conclusions

Today's Sandys' Fort residential subdivision at *Kingsmill on the James* in James City County, Virginia, was the locus of extensive archaeological excavations during the 1990s. These investigations revealed significant insights into everyday 17th-century life in Jamestown's hinterland. Spatial, temporal, and formal analyses of 44JC802's artifacts and features revealed that English colonists occupied the site in one phase from ca. 1630-50. They made their home in an earthfast dwelling with a wattle and daub end chimney and kept many of their goods in a nearby storehouse. Each of these structures was at least partly palisaded. Site residents quarried and mixed clay in a nearby daub pit that was used in the construction of three earthfast buildings. A sump to the north of the storehouse served as their water source. These colonists also dug an underground storage pit near the storehouse. Economically, site inhabitants were fairly well off with a handful of luxury items and extensive arms and armament. They deposited their refuse in pits and outside of their dwelling in broadcast fashion. Primarily they hunted and fished, but the site also contained evidence of farming, raising livestock, and possible industrial activities.

John Wareham figured prominently in the activities at 44JC802 during the 1630s. He represented the area as a Burgess in the General Assembly in 1632 and 1633. The adjacent waterways to

the east, Wareham's Pond and Wareham's River, bore his name. Today these are known as Grove Creek. Even though the land was legally owned by Edward and Thomas Grendon, it was Wareham whom the Court recognized as being in possession of it in the 30s. Wareham was a merchant, who had at least a few indentured servants in his employ. He might have been a factor, or commissioned merchant, for the Grendons.

Overall, archaeological work at 44JC802 contributed to a better understanding of the expansion of America's first permanent English settlement. Virginia's frontier, literally the border between settled areas and unexplored and undeveloped regions, became less foreign as adjacent territories were more completely investigated and infiltrated by the colonists. The Sandys site provided undeniable material clues of everyday life during the colony's post-Algonquian Uprising times. Evidence of substantial self-armament, isolated luxuries, hunting, farming, trade with the indigenous population, and possible industrial enterprises coalesced to form a complex portrait of diverse and burgeoning activities by the site's inhabitants, all the while under the ominous threat of lethal intercultural conflict. The colonists experienced times of awkward growth and gradual change as Jamestown and its hinterland transformed from a frontier settlement into the beginnings of Colonial America.

Figure 79. A sign welcoming visitors to 21st-century Sandys' Fort in Kingsmill on the James














# Appendix A




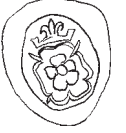
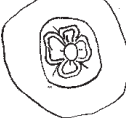


Chart of European ball clay pipestems.

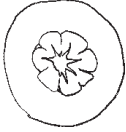

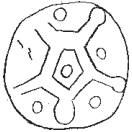
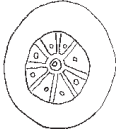
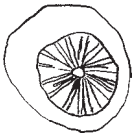





Master Context	Total	Frag	3	4	5	6	7	8	9	Measu- reable	Avg	Mean Date
No master	18	9					2	6	1	9		
DAUB PIT 1	232	102					43	81	6	130	7.72	1636.66
FOXHOLE 1	8	3						5		5	8	1625.77
MODERNPIT1	12	8					1	3		4	7.75	1635.34
PIT 1	2	1						1		1	8	1625.77
PIT 2	6	2						2	2	4	8.5	1606.64
PIT 4	7	4					1	2		3	7.67	1638.52
PIT 5	20	14						3	3	6	8.5	1606.64
SLOTRENCH1	8	1						6	1	7	8.14	1620.30
STOREPIT 1	261	122				1	16	110	12	139	7.96	1627.42
STRUC. 1	1	0						1		1	8	1625.77
TRHOLEPIT1	9	8						1		1	8	1625.77
WELL 1	83	31			2	3	7	36	4	52	7.71	1636.81
ROOT MAT	1599	863	1	2		16	160	500	57	736	7.80	1633.46
TOPSOIL	917	413				17	112	328	47	504	7.80	1633.29
LEACH	247	135				4	15	81	12	112	7.90	1629.53
Plowzone	2763	1411	1	2	0	37	287	909	116	1352	7.81	1633.071
Features	649	296	0	0	2	4	68	251	28	353	7.85	1631.62
Entire Site	3430	1716	1	2	2	41	357	1166	145	1714	7.82	1632.76
	Total	Frag	3	4	5	6	7	8	9			

# Appendix B

Chart of European ball clay pipe maker's marks.

	Description	44JC802 context and quantity	Local parallels and date range	Other information
	Incised initials "TG" with tripartite frond above and below letters	Plowzone (1)	Martin's Hundred, Site B (1620-40)	---
	Raised initials "BC" with stylized frond above and below	Daub Pit 1 (1)	Hampton Site, Slot Fence, Trash Pits B, F, H (1620-60); Kingsmill Tenement (1625-50); Littletown Quarter (1625-50); Martin's Hundred, Site A, Pit 2 (1620-45); Mathew's Manor (1625-50)	---
	Raised initials "BC" surrounded by a ring of hearts	Plowzone (1)	---	Anonymous Dutch source: 1620-25
	Incuse rounded initials "PT"	Daub Pit 1 (1); Well 1 (1); Plowzone (3)	---	---
	Raised initials "WR" with a star above and below the letters	Daub Pit 1 (1)	Martin's Hundred, Site B (1620-40)	Ornate Dutch floral pipe (1634-45); anonymous Dutch source: 1630
	Raised initials "EF" with stylized frond above and below	Plowzone (2)	---	---
	Incuse initials "EL"	Plowzone (5)	Buck, Narrow Ditch 3 (1630-50); Kingsmill Tenement (1625-50); Mathews Manor (1625-50); Martin's Hundred, Site A, Pit 9 (1620-45); Pettus (1620-60)	Edward Lewis (1631-41)
	Raised initials "SH" with a dot above and below the letters	Plowzone (1)	Martin's Hundred, Site B, Pit A (1631-50)	---
	Incuse mark comprising the initials "RB" divided by the blade of a down-pointing dagger touching the top of a heart	Plowzone (1)	Martin's Hundred, Site A, Pit 2 (1620-45); Martin's Hundred, Site B (1620-40); Martin's Hundred, Site C (1619-22); Plymouth Museum (1620-30)	Richard Berryman (1619-52), Bristol's first recorded pipemaker

	Description	44JC802 context and quantity	Local parallels and date range	Other information
	Incuse mark with two letters, a backwards "K" (?) and a regular K	Pit 3 (1)	Kingsmill Tenement (1625-50)	---
	Raised initials "Wc" with the first letter formed by interlocking Vs with a dot on each of the six extremities; it has a stylized frond below the letters; the entire mark is encircled by a ring of dots	Storage Pit 1 (5); Slot Trench 1 (1); Plowzone (9)	Buck, Narrow Ditch 3 (1630-50); Hampton, Structure A (1620-60); Kingsmill Tenement (1625-50); Littletown Quarter (1625-50); Mathews Manor (1625-50); Martin's Hundred, Site A (1620-45); Martin's hundred, Site B (1631-50); Pasbehegh (1630-); Pettus (1620-60)	---
	Raised initials "Wc" with the first letter formed by lines extending to the base of the mark	Slot Trench 1 (1); Plowzone (2)	Buck, Narrow Ditch 3, Burial 8 (1630-50); Hampton (1640-60); Kingsmill Tenement (1630-50); Pettus (1645-65)	---
	Raised crowned Tudor Rose with initials "WP" in the crown; the W is formed by interlocking Vs	Well 1 (1)	HamptonSite, Trash Pit B (1620-60)	Dutch
	Raised crowned Tudor Rose	Slot Trench 1 (1)	---	Anonymous Dutch source: 1610-40; 1630; 1630-35; 1620-40
	Raised Tudor Rose with four petals and interior circle	Plowzone (1)	---	Dutch
	Raised Tudor Rose with five petals and interior circle	Structure 2 (1)	---	Dutch 1615-40
	Raised large elaborate Tudor Rose	Storage Pit 1 (1); Plowzone (1)	---	Anonymous Dutch source: 1620-40; 1625-30; 1620-25; 1625
	Incised flower with eight petals grouped into sets of two around a circular interior	Storage Pit 1 (1); Plowzone (1)	---	Dutch 1630

	Description	44JC802 context and quantity	Local parallels and date range	Other information
	Incised flower with seven sunken petals encircling a raised interior asterick	Plowzone (2)	---	---
	Raised set of six dots with five encircling a central dot	Plowzone (3)	---	Anonymous Dutch source: 1620
	Raised hollow pentagon with rays emanating from the figure's corners; each of the five rays ends in a dot; there is a dot between each ray and in the center of the pentagon as well	Plowzone (1)	---	---
	Raised spoked wheel with dots between each of the eight spokes and the wheel's center	Plowzone (2)	Martin's Hundred, Site C, Grave Fill (1622)	---
	Raised wheels with 20+ spokes	Storage Pit 1	---	Anonymous Dutch source: 1610
	Raised crowned sun	Storage Pit 1 (1)	---	---
	Raised crowned heart	Storage Pit 1 (1)	---	Anonymous Dutch source: 1620-25
	Four incised fleur-de-lis inside of a diamond cartouche	Daub Pit 1 (1)	Kingsmill Tenement (1625-50)	Anonymous Dutch source: 1620; 1620-30
	Incuse right hand gauntlet	Plowzone (1)	Martin's Hundred, Site A (1620-45); Martin's Hundred, Site B, Pit A (1631-50); Mathew's Manor (1625-50)	Variations of gauntlet marks have been found at Jordan's Journey (44PG302) 1620-35
	Incuse left hand gauntlet	Plowzone (1)	Martin's Hundred, Site B (1620-40)	Somerset (Oswald)



# Endnotes

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- 99 There is a contemporary Tidewater example at Martin's Hundred's Site A. The Irish examples were brought to my attention during a lecture by Henry Glassie on November 22, 1999. Glassie's book *Pattern in the Material Folk Culture of the Eastern United States* also contained multiple examples of hall-and-parlor houses with opposite long-side doorways.
- 100 William M. Kelso, *Jamestown Rediscovery II* (Jamestown, VA, Association for the Preservation of Virginia Antiquities, 1996) 31.
- 101 Archaeologists at 44JC568, the Reverend Richard Buck site, used fill direction from the profiles of three wells to determine the location of a building whose archaeological footprint had been long since erased by years of field plowing. Furthermore, when the plowzone was mechanically stripped during the an initial stage of excavation, the archaeological crew lost an avenue of study (spatial analysis of plowzone artifacts) that might have helped locate a dwelling.
- 102 Noel Hume 1979: 200.
- 103 William M. Kelso, *Kingsmill Plantations, 1619-1800* (New York, NY, Academic Press, 1984) 167.
- 104 Noel Hume 1979: 225.
- 105 Noel Hume 1979: 225.
- 106 Beverly Straube, 2000: personal communication.
- 107 Johnson, 1999: personal communication.
- 108 George Sandys, translator, *Ovid's Metamorphosis*, Book XV: 497, in Davis 1955: 62.
- 109 Johnson, 1999: personal communication.
- 110 Noel Hume 1979: 168.
- 111 Mallios, 1999: 51; Kelso, 1984: 153; Hazzard, 1999: personal communication; Outlaw, 1999: personal communication; Kelso, 1999: personal communication.
- 112 Mallios, 1999: 35-36.
- 113 William M. Kelso and Beverly Straube, "1996 Interim Report on the APVA Excavations at Jamestown, Virginia" (Richmond, VA, Association for the Preservation of Virginia Antiquities, 1997) 22.
- 114 William M. Kelso, *Jamestown Rediscovery I* (Jamestown, VA, Association for the Preservation of Virginia Antiquities, 1995) 16.
- 115 Kelso and Straube, 23-24.
- 116 Ivor Noel Hume, *Historical Archaeology* (New York, NY, Alfred A. Knopf, 1969) 154.
- 117 Straube, 2000: personal communication.
- 118 Kelso 1995: 22; Beverly Straube and Nicholas Lucchetti, "1995 Interim Report on the APVA Excavations at Jamestown, Virginia" (Richmond, VA, Association for the Preservation of Virginia Antiquities, 1996) 42.
- 119 Randle Holme, *An Academie or Store House of Armory & Blazon* (London, Roxburghe Club, 1905 [1682]) 13.
- 120 Johnson, 1999: personal communication.
- 121 Johnson, 1999: personal communication.
- 122 Johnson, 1999: personal communication.
- 123 Johnson, 1999: personal communication.
- 124 May, 34.
- 125 A. C. Spaulding, "The Dimensions of Archaeology," in *Essays in the Science of Culture in Honor of Leslie A. White*, ed. G. E. Dole and R. L. Carneiro (New York: Thomas Crowell and Co., 1960); see James Deetz, *Invitation to Archaeology* (Garden City, NY, The

- Natural History Press, 1967) 9; see Seth Mallios, "Copper Quotients: A New Dating Technique for Pre-1650 Colonial Sites in Jamestown's Hinterland" (In prep).
- 126 The mean date for pipe-bowl shape was calculated by multiplying the number of bowls in each date range by the mean date of the date range, adding their totals, and dividing by the total number of bowls in the sample. The occupation length was a 68% confidence interval, one standard deviation above and below the mean. For the site's overall mean bowl date and range, the calculations were as follows:  

$$\frac{[(4)((1580+1610)/2)] + [(59)((1610+1640)/2)] + [(65)((1640+1660)/2)] + [(1)((1660+1680)/2)]}{129} = 1637.0$$

$$SD = 14.7; \text{ range} = \text{mean} \pm 1SD; \text{ range} = 1622-1652.$$
- 127 Mallios, in prep.
- 128 Mallios, in prep.
- 129 The CQ formula is  $y = 1.023x^2 - 13.625x + 1657$ , with x being the number of copper items divided by the total number of artifacts, and y being the feature's mean date.
- 130 There is a strong correspondence between copper quotient fill dates and Binford pipestem mean dates. For the overall site, Storage Pit 1, Well 1 and Daub Pit 1, the copper dates are 1632, 1627, 1636, and 1636, while the Binford dates are 1632, 1626, 1634, and 1636.
- 131 Deetz, 1996: 172.
- 132 Robert W. Keeler, *The Homelot on the Seventeenth-Century Chesapeake Tidewater Frontier* (University of Oregon, Ph.D. dissertation, 1978); Dennis J. Pogue, "Anthrosols and the Analysis of Archaeological Sites in a Plowed Context: The King's Reach Site" in *North-east Historical Archaeology*. (Vol. 17, 1988).
- 133 Alain C. Outlaw, Amy Friedlander, Marie-Lorraine Pipes, Meta Janowitz, Sharla Azizi, and Mallory Gordon, *The Compton Site, Circa 1651-1884, Calvert County, Maryland (18 Cv 279)* (East Orange, NJ, Louis Berger and Associates). 53-58.
- 134 Pogue, 11.
- 135 Pogue, 9.
- 136 Keeler, 1978.
- 137 Mittelman, 1998: personal communication.
- 138 Floyd Painter, "The Helmet Site" in *Quarterly Bulletin*, (Richmond, VA, Archeological Society of Virginia, Vol. 10, No. 3, 1956) 1.
- 139 The artifact assemblage from the Reverend Richard Buck site (44JC568), a 1630-50 farmstead in Neck of Land, contained 3.4% gun-related artifacts in its sealed contexts (12310 total artifacts: 420 gun-related artifacts). No absolute plowzone measure could be calculated as the site was stripped mechanically. However, the 9% plowzone sample reflected a similar percentage of gun-related items to total artifacts.
- 140 Kelso 1996: 43.
- 141 JR1W, object number 202. See Kelso 1996: 41.
- 142 The faunal discussion presented here is based on Heather Lapham's "Vertebrate Fauna from the George Sandys Site (44JC802), James City County" 2000 report.
- 143 The Reverend Richard Buck site (44PG568) and Post-Fort Period features from the Jamestown Rediscovery project contained faunal assemblages dominated by domestics. See Mallios, 1999, and Joanne Bowen and Susan Trevarthen Andrews, "The Starving Time at Jamestown" (Richmond, APVA, 1999).
- 144 See <http://www.trepantools.com>.
- 145 The 1761 quotation is attributed to Swedish surgeon Olaf af Acrel and can be found in C. J. S. Thompson's *The Evolution and Development of Surgical Instruments*.
- 146 Thompson; [www.trepan.com/historical/articles/trepan.html](http://www.trepan.com/historical/articles/trepan.html)
- 147 Kingsbury III:23
- 148 Mallios, 1998: Chapter 5.
- 149 Mallios, 2000.
- 150 The bead discussion presented here is based on Heather Lapham's "Glass Beads from the George Sandys Site (44JC802), James City County" 2000 report.
- 151 Kelso, 1996: 42.
- 152 Beverly Straube, "When all their aime was nothing but present profit," Paper presented to the 2000 Society for Historical Archaeology meetings in Quebec, 2000.
- 153 Straube, 2000.
- 154 George Percy, "A True Relation of the proceedings and occurrents of moment which have hap'ned in Virginia from the time Sir Thomas Gates was shipwrack'd upon the Bermudes, anno 1609, until my departure out of the country, which was in anno Domini 1612" in Haile, 1998, 511; John Smith, "The General History" [1608] in Haile, 1998, 290.
- 155 Merry Outlaw, Beverly Bogley, and Alain Outlaw, "Rich Man, Poor Man: Status Definition in Two Seventeenth-Century Ceramic Assemblages from Kingsmill" (Unpublished, 1977) 6.
- 156 J. C. Harrington, "Tobacco Pipes From Jamestown" in *Quarterly Bulletin of the Archeological Society of Virginia* (5(4), 1951); Stephen R. Potter, *Commoners, Tribute, and Chiefs: the Development of Algonquian Culture in the Potomac Valley* (Charlottesville, VA, University Press of Virginia, 1993); Daniel L. Mauer, "Chesapeake Creoles: The Creation of Folk Culture in Colonial Virginia" in Theodore R. Reinhart and Dennis J. Pogue, ed., *The Archaeology of 17th-Century Virginia*, Special Publication No. 30 (Richmond, VA: Archeological Society of Virginia, 1993); Fraser D. Neiman and Julia A. King, "Who Smoked Chesapeake Pipes?" Paper presented at the Society for Historical Archaeology Meetings, Salt Lake City, Utah, 1999; Mallios 1999.
- 157 Neiman and King, 1999.
- 158 Noel Hume called archaeology "a hand maiden to history" in his book, *Historical Archaeology* (New York, Alfred A. Knopf, 1969:3). Deetz quoted an anonymous source as saying that "historical archaeology is an expensive way of finding out what we already know" (1993: 152).

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