



FIELD
REPORT
1994

Nicholas M. Lucchetti
William M. Kelso
Beverly A. Straube

May 1994

Jamestown, Virginia

ABSTRACT

In 1994, the Association for the Preservation of Virginia Antiquities launched *Jamestown Rediscovery*, a plan of extended archaeological research. The first phase of *Jamestown Rediscovery* seeks to locate and investigate the site of the first settlement and fort at Jamestown. The 1994 field season consisted of the excavation of a forty-foot square southeast of the Confederate Fort between Jamestown Memorial Church and the seawall along the James River.

The excavation discovered that beneath the plowzone were intact features, including a slot trench for a palisade, a roundish pit approximately 12' in diameter and 5.5' deep, part of a rectangular pit at least 13' long on one side, and a deep, wide ditch. The artifact assemblage indicates that the slot trench and round pit date to the first years of settlement at Jamestown, possibly as early as c. 1610. The wide ditch backfill dates to the mid-seventeenth century, while the date of the rectangular pit has yet to be determined.

Over 30,000 artifacts have been recovered during the first year of excavation, including an intact cabasset. The assemblage also contains evidence of glassmaking and copper bead manufacturing.

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INTRODUCTION

The Association for the Preservation of Virginia Antiquities' (APVA) *Jamestown Rediscovery* is a comprehensive archaeological project designed to find and interpret the lost remains of the 1607-1622 James Fort and village at Jamestown, Virginia, the first permanent English settlement in America (Figure 1). As the 400th anniversary celebration of the founding of Jamestown approaches in 2007, the discovery of this international landmark will rank among the major American archaeological finds of the century.

In 1607, a determined group of English gentlemen, craftsmen, and peasants arrived at Jamestown Island and set about building a triangular-shaped, palisaded fort to protect their hastily built new houses. The swampy, mosquito-infested island, brackish drinking water, clashes with local Indians, and the destruction of the fort by fire in 1608 devastated the struggling colony. But with periodic fresh supplies and people from England and more vigorous leadership among the survivors, especially the resolute Captain John Smith, the original "Old Towne" grew inside and around a rebuilt fort. Thereafter, Jamestown expanded eastward, the so-called "New Towne," into the open village that stood as the capital of Virginia for almost a century.

The APVA, established in 1889, is the oldest statewide historic preservation organization in America. Much of the nation's birthplace likely would have been lost to river erosion or development had the APVA not acquired the land in 1893, built a protective seawall, and maintained the property as a historic shrine. Today, an original church tower (1639), a reconstructed church (1907), the foundations of the Ludwell statehouse complex (1662), a Confederate fort (1861), the Yeardley House (1907), the Dale House (1907), and the Godspeed Cottage (1933) stand on the 23-acre APVA property at Jamestown Island (Figure 2). The National Park Service acquired the remainder of Jamestown Island in 1934 and maintains it as a historic and natural site.

Almost a century of advanced archaeological knowledge and methods can now support the APVA's quest to learn and share a more complete story of the early years of the first Anglo-American fortified city. Also, the APVA is equally intent upon examining the Jamestown story in terms of the conflict and contributions made by other cultures; the native Algonquians, the non-English Europeans, and eventually Africans. Perhaps of equal importance, major advances in educational methods and the phenomenal development of technological teaching devices of the past two decades present an exciting and innovative opportunity for sharing a new understanding of the Jamestown experience.

This report covers the 1994 field season which began in April of 1994 when APVA Director of Archaeology William Kelso dug the first square. Later in May and June, Nicholas Lucchetti and Elliott Jordan joined the excavation. The Monticello/ University of Virginia archaeological field

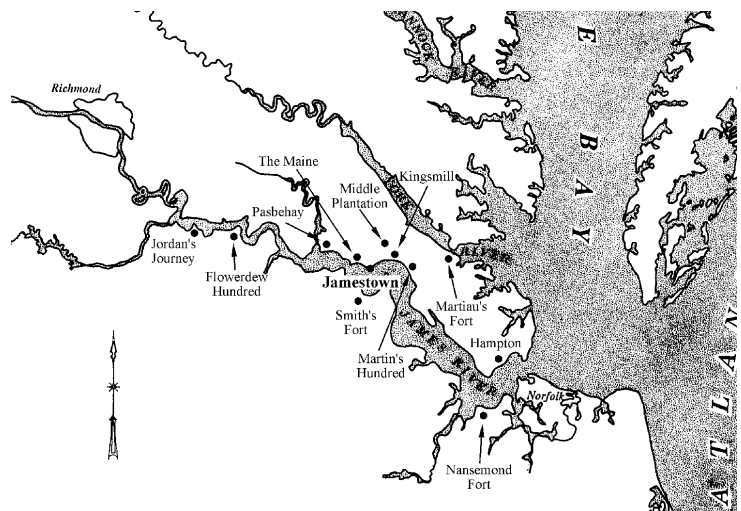


Figure 1: Regional map of Jamestown

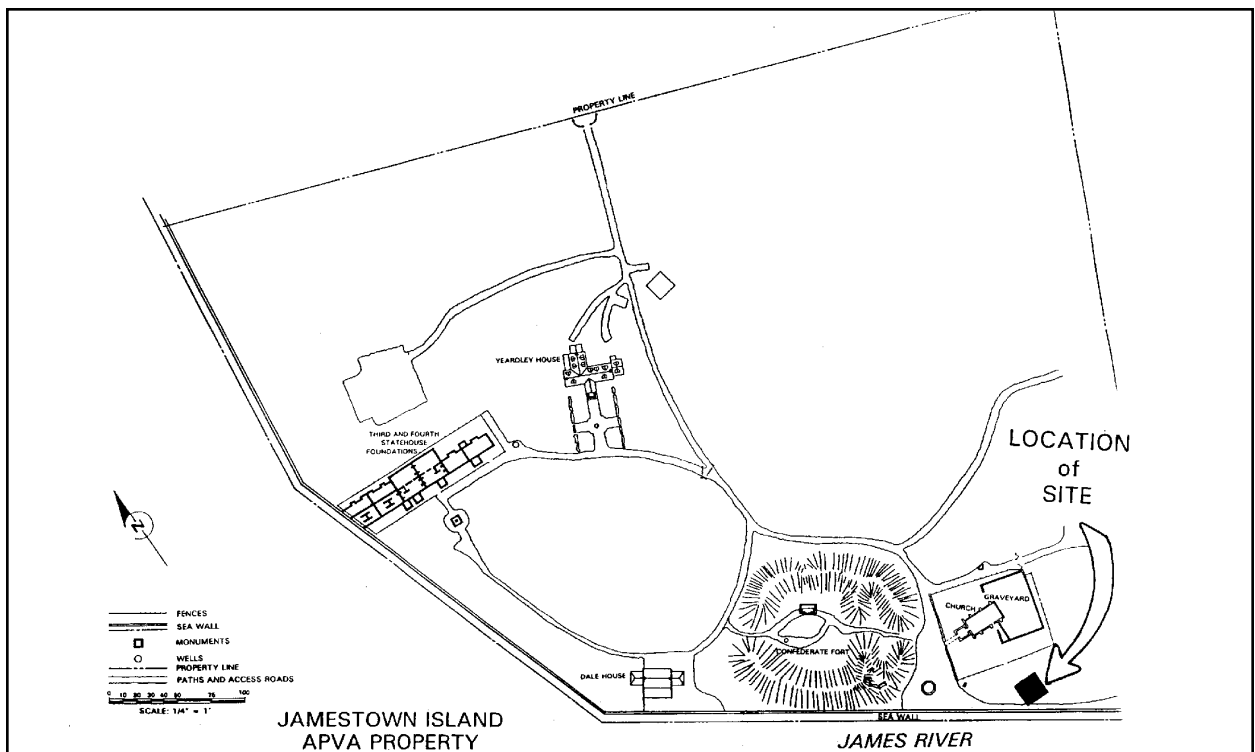


Figure 2: Detail map of Jamestown Island

school worked on the site from June 26 to July 25.

Additional supervision for the field school was provided by visiting Senior Archaeologists Eric Klingelhofer, David K. Hazzard, Carter L Hudgins, and Alain C. Outlaw, who each worked for two weeks during the field school. All artifact processing and identification was done under the supervision of Curator Beverly Straube, and artifact conservation was done by Conservator Elliott Jordan. Master field plans and profiles and report drawings were composed by Jamie May. Field archaeologists Eric Deetz, William L. Leigh III, and Jamie May joined the excavation team from August through November, while Dane Magoon, William Moore, and David Givens were temporary field assistants.

Chairman of the *Jamestown Rediscovery* Advisory Committee Ivor Noël Hume provided invaluable assistance during the first season of *Jamestown Rediscovery*, freely contributing his knowledge of the history of Jamestown and early seventeenth-century settlement, archaeological experience, and extensive artifact knowledge, including the particular specialty of extracting of helmets from the ground. Dr. Harry Hager from the Radiology Department of Williamsburg Community Hospital generously conducted CAT scans of the excavated helmet prior to its conservation. Bob Berry of NASA arranged for the radiography of iron artifacts from the site, while Dr. Edward Wilhelm generously provided artifact field conservation materials.

Finally, the ideas in this report, at least the good ones, did not emanate from the author, who is acting more of a reporter documenting thoughts that evolved through the field season from a host of team members and colleagues; namely, Bill Kelso, Ivor Noël Hume, Bly Straube, Elliott Jordan, Jamie May, Eric Klingelhofer, and Dave Hazzard.

Funding for the 1994 field season was provided by the APVA and a grant from the Virginia General Assembly.

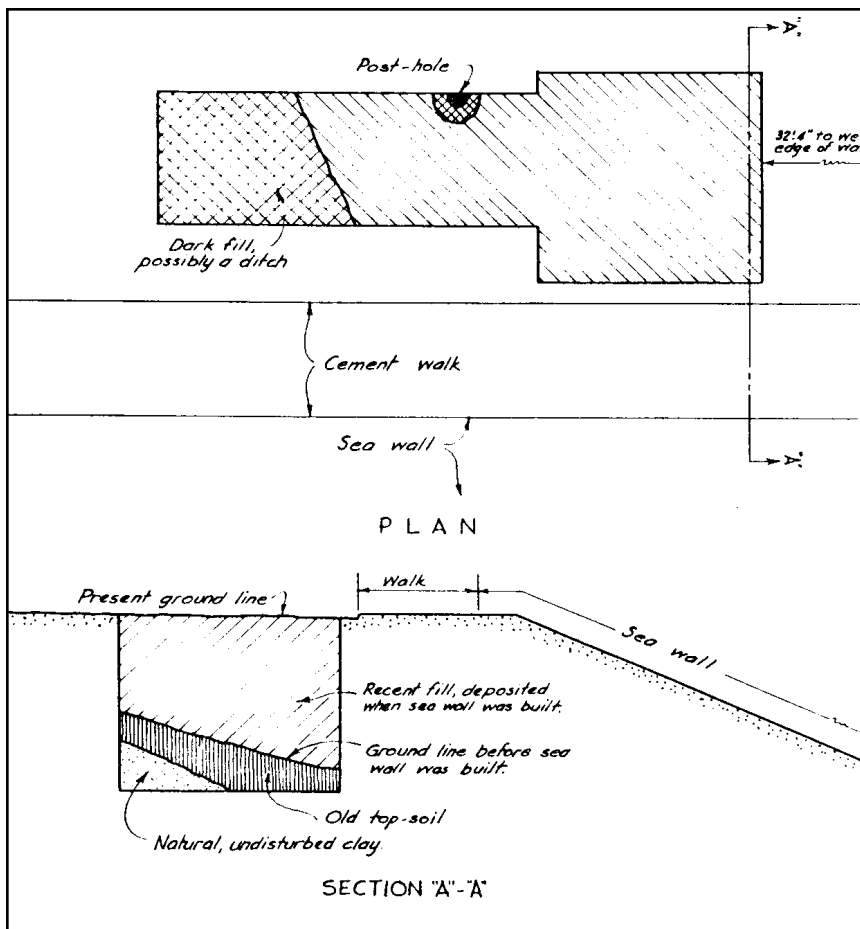


Figure 4: Plan of 1939 Harrington testing

of original topsoil and subsoil (Harrington 1939) (Figure 4).

Harrington conducted an archaeological survey of the construction right-of-way prior to the installation of a septic tank and disposal field in 1949. A trench 170 feet long and 5 feet wide was excavated 10-15 feet from the seawall beginning near the old entrance gates to the APVA gatehouse. The archaeological test trench intersected a one-foot wide ditch and three postholes at nine-foot centers (Figure 5). No artifacts were found in the original topsoil layer, however, profiles showed that the existing level grade was modern and that the original grade sloped toward the river (Harrington 1949).

In 1955, the NPS began archaeological testing at Jamestown Island in the area traditionally believed to be the site of James Fort in an attempt to locate remains of the 1607 settlement. The excavations were conducted by Dr. Joel L. Shiner under the direction of Dr. John Cotter. A series of test trenches (Shiner referred to them as test pits) and test squares were excavated in and around the Confederate fort (Figure 6). The placement of test units was dictated by avoidance of trees and monuments. Many seventeenth-century artifacts and features were unearthed, but the archaeologists concluded that the project was unsuccessful since no trace of James Fort was found (Cotter 1994:11-17).

Two 4'-by-5' test trenches were excavated by William M. Kelso and David K. Hazzard

posals systems were installed on the APVA property at Jamestown in 1939. The water/sewer line system consisted of 2,000 feet of trenches that ran from the pump just off the southeast corner of the project area along the seawall to the Confederate Fort, past the Dale House toward the Yeardley House. The trenches, approximately one-foot wide and one-and-one-half feet deep, were dug by laborers and later inspected by the famed archaeologist J. C. Harrington. Also, a 17.5-by-6 foot pit was dug five feet deep for a pump and water tank, which still exists today just off the southeast corner of the project area. The pump/tank pit contained only a single piece of bone, but it did reveal significant information about the grade

against the north and south church tower walls in 1973 as part of an effort to determine preservation needs to stabilize the church tower. This work disclosed the presence of a substantial builders trench for the church tower as well as probable scaffold holes (Kelso 1973).

In 1975, a Historic Sites Archaeology class taught by Paul Hudson at the College of William and Mary excavated a 2-foot square test pit against the north wall of the Jamestown Memorial Church to examine the 1639 brick church foundations. The testing indicated that nine courses of the 1639 church survive beneath the 1907 reconstructed church. The only artifacts from the pit were one piece of window glass and five fragments of earthenware roofing tile (Hudson 1975).

Archaeologists from the Virginia Research Center for Archaeology excavated test holes on the APVA property in 1982 prior to the installation of

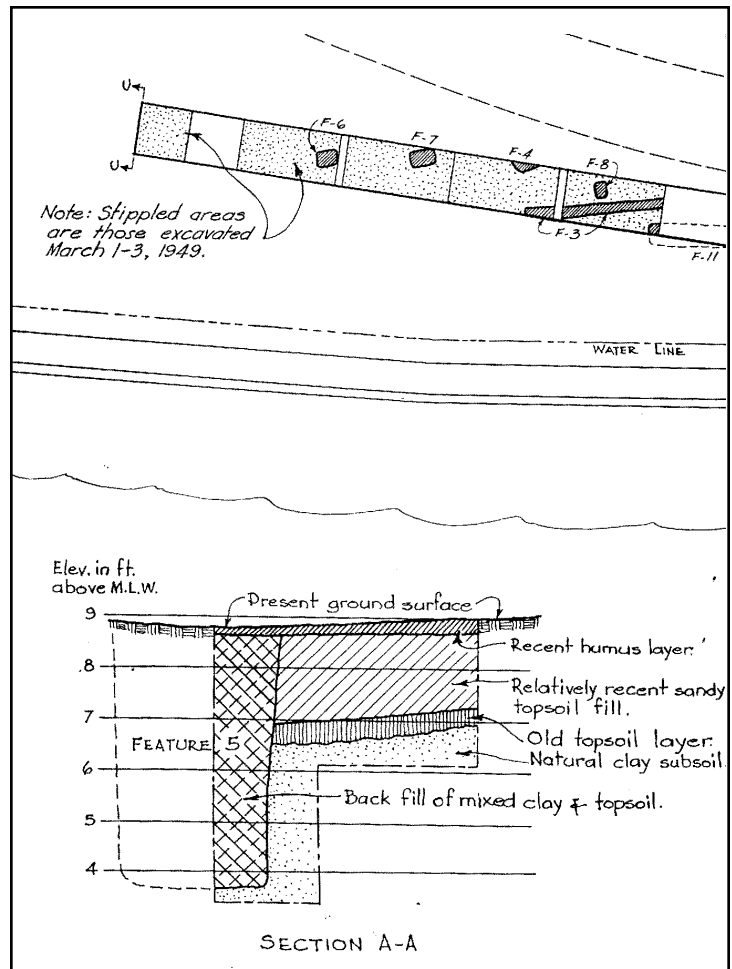


Figure 5: Plan 1949 Harrington testing

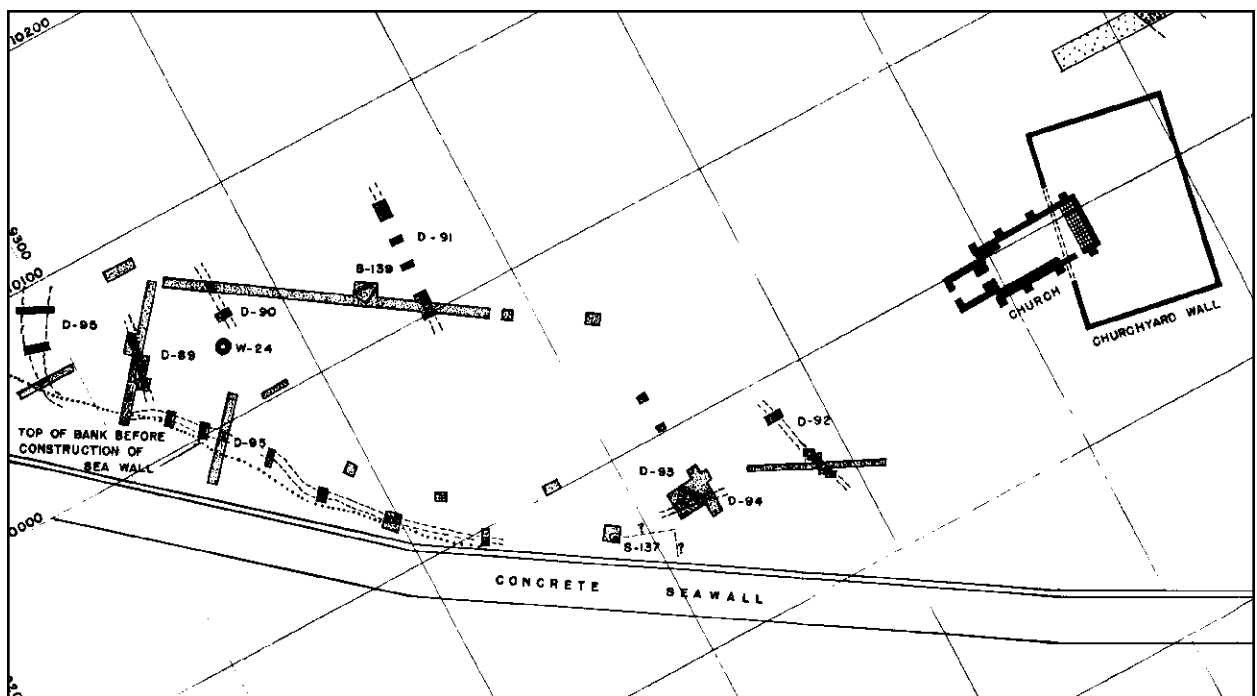


Figure 6: Plan of Project 100 testing

new interpretive signs. Holes were excavated at the APVA entrance, graveyard, Confederate fort, Hunt shrine, Dale House, trail north of Confederate fort, trail south of the Yeardeley House, in and outside the statehouse, and along the trail near the seawall (VRCA 1982).

In 1985, David K. Hazzard and Nicholas M. Lucchetti excavated 10 test pits for the APVA prior to the construction of an addition to a potters building just east of the present day APVA workshop. One of the test holes uncovered an apparent human burial (Hazzard and Lucchetti 1985).

RESEARCH DESIGN

Jamestown Rediscovery is a ten-year comprehensive archaeological research and public education program designed to ascertain and interpret to the public, through archaeological remains, the nature and extent of:

- 1) the first years of settlement at Jamestown, especially of the earliest fortified town;
- 2) the subsequent growth and development of the town on the 22.5 acres owned by the APVA;
- 3) and investigation of the Ludwell statehouse complex.

There are several reasons for implementing *Jamestown Rediscovery* in 1994. A major factor was a 1990 study by the Virginia Company Foundation which re-evaluated information collected during Project 100. Drs. Cotter and Shiner had little information from previous excavations of early seventeenth-century sites to guide their methods and to interpret their results. No seventeenth-century fortifications in Virginia had been uncovered and seventeenth-century material culture was little studied. These shortcomings were acknowledged by Shiner in his final report on Project 100 when he stated that "the dating of Colonial artifacts has not yet reached the refinement that will permit many objects or features to be dated closer than to the nearest 25 years" (Shiner 1955:19).

The lack of seventeenth-century archaeological and artifactual research that plagued Cotter and Shiner continued until the 1970s when the situation changed dramatically. Over the past 25 years, archaeological projects have uncovered several different types of fortifications dating to the first half of the seventeenth century. Significantly, none were large sharpened logs set side-by-side in a ditch in the manner of earlier interpretations of James Fort.

Another contributing factor was independent research on Jamestown conducted by Ivor Noël Hume. His re-evaluation of documentary accounts of the first settlement indicate that the triangular-shaped fortified town was actually 75% larger than previously thought, thus allowing for a substantially larger archaeological footprint. Earlier reconstructions of the fort based on William Strachey's description of the fort as having a river side curtain 420 feet long with the two remaining fort curtains each 300 feet long incorporated within these dimensions the bulwarks and watchtowers that were part of the fort. Noël Hume's research identified an error in the previous interpreta-

tions involving the definition of the word “curtain.” Earlier reconstructions of James Fort used the dimensions of the fort curtains given in historical accounts for the entire length of the sides of the fort. Strachey specifically used the word “curtain” in his description of James Fort, which is the wall connecting, but not including, towers, bulwarks, or flankers (Noel Hume 1994:274-275), thus greatly expanding the true size of James Fort (Figure 7).

A . Background

During the past two decades, the excavation of several archaeological sites dating to the first three decades of the seventeenth century have greatly advanced the knowledge of early seventeenth-century material culture. Of particular relevance are the excavations at Martin’s Hundred (Noël Hume 1991), Kingsmill (Kelso 1984), The Maine at the Governor’s Land (Outlaw 1990), Flowerdew Hundred (Deetz 1993), Pasbehay at Governor’s Land at Two Rivers (Fesler, Lucchetti, and Straube 1993), Jordan’s Journey (Mouer 1994), and Hampton University (Brown et al 1989).

An invaluable advantage to the *Jamestown Rediscovery* project that was not available to Harrington, Cotter, and Shiner is the discovery of several 17th-century fortifications by archaeolo-

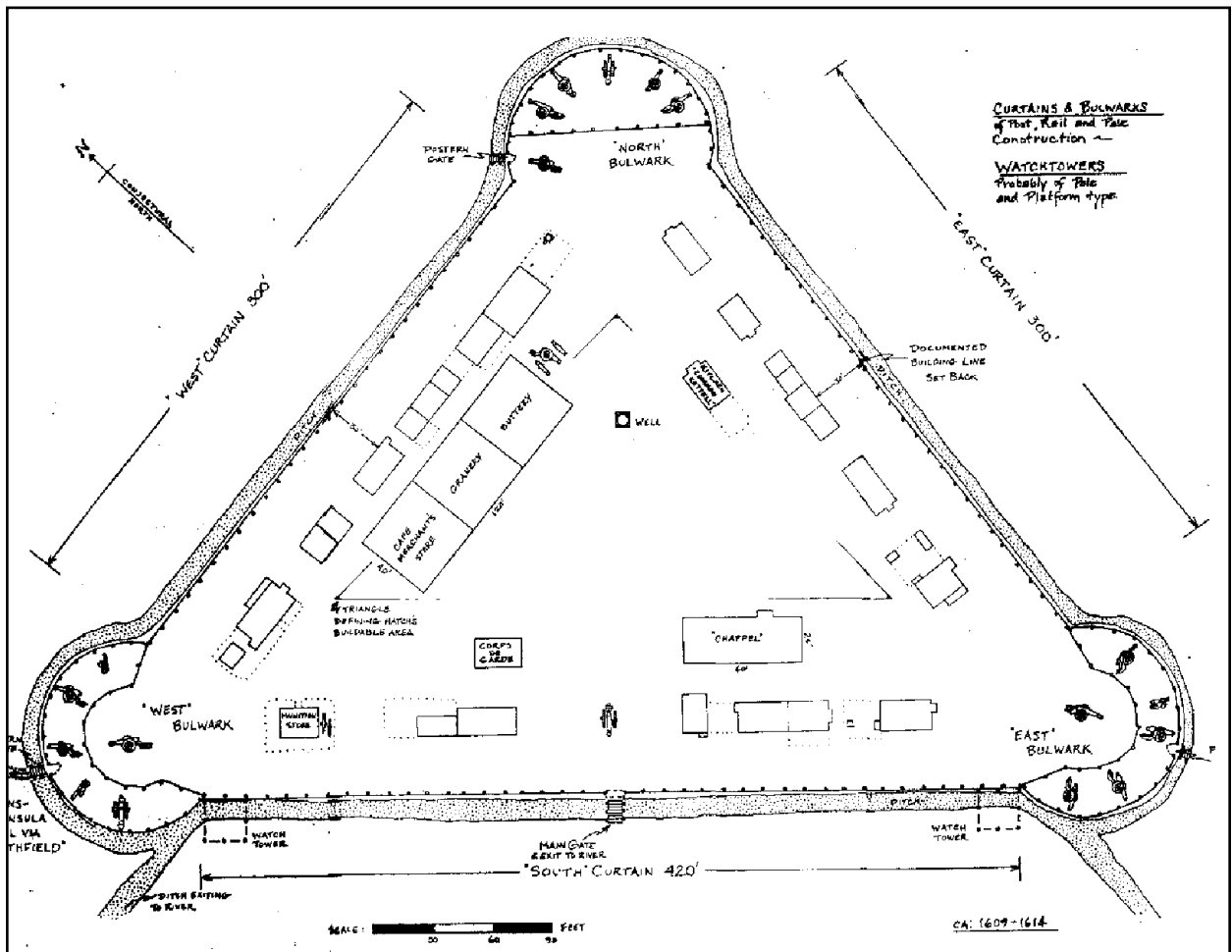


Figure 7: Conjectural plan of James Fort by Ivor Noël Hume

gists during the past 25 years in Virginia and Maryland (see Figure 1). These fortifications manifest different construction techniques including post-rail-and-plank, slot trench-and-palisade, earthwork, and a combination of types.

The earliest fortification with surviving archaeological features in Virginia is “the New Forte” in Surry County that was begun in 1609 (but never finished) at the order of John Smith. In June 1981, the Virginia Research Center for Archaeology conducted a survey of the fort site. (Luccketti 1982). A remnant of an earthwork — approximately 120' long and 2' high — marked the site and cut off a triangular bluff. The survey uncovered a large ditch on the landward site of the earthwork, but no evidence that posts had been set or driven into the bottom or side of the ditch (Figure 8).

At Martin’s Hundred, Ivor Noël Hume excavated a fort built in c.1619 (Noel Hume 1982). Measuring 93' by 130' at its maximum width and length, the trapezoidal fort consisted of walls that were constructed by setting posts into specially prepared holes at 9' intervals. Rails spanned the posts and planks were then attached to the rails (Figure 9). A ditch that supported a firing platform extended along the inside of the fort walls and there were at least two flankers.

The Virginia Company Foundation excavated a fort in Yorktown during the fall of 1989 to the spring of 1990. The fort was likely constructed c. 1630 by Nicolas Martiau, a trained French military engineer and owner of the land where the fort was situated. Unlike any other yet found in Virginia, the fort consisted of an outer palisade and inner embankment that were separated by a ditch (Figure 10). The river side of the star-like fort was destroyed by land grading in the early twentieth century. Excavation of the palisade line revealed that split rails and small posts, had been set on and not driven into the bottom of a trench (Fesler 1990).

A section of the Middle Plantation Palisade, a six-mile stockade ordered built in 1636 by the General Assembly to connect the James and York rivers, was uncovered at the north end of Capitol Landing Road in Williamsburg by archaeologists from Espey Huston and Associates. The palisade line consisted of a slot trench slightly more than one foot wide and nearly two feet deep below subsoil with small posts set side-by-side in the trench (Muraca and Brudvig 1993) (Figure 11).

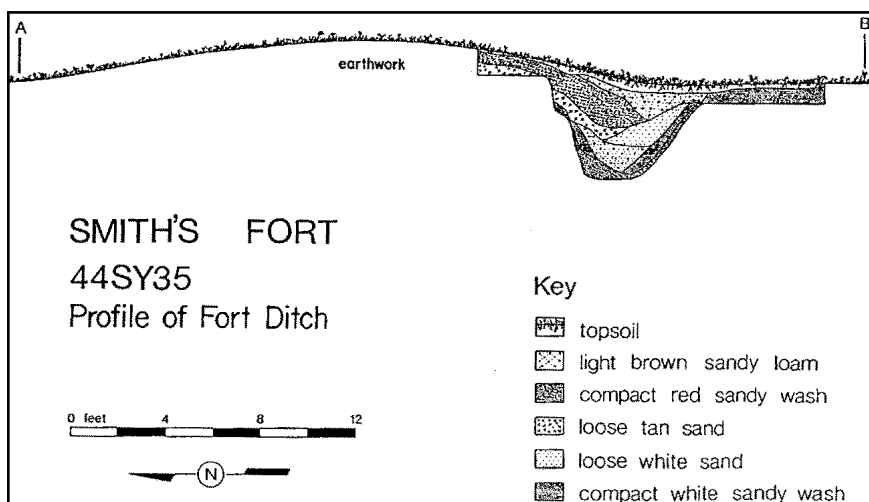


Figure 8: Profile ditch of Smith's Fort

The Virginia Company Foundation excavated a fort discovered on the east side of the Nansemond River in the City of Suffolk (the area of the site is located on land that was Nansemond County during the colonial period). Documentary and artifactual evidence indicate that the fort, which has been named the Nansemond Fort, was built c.1645. Nearly 200' long and 100' wide, the fort had two

Figure 9: Plan of fort at Wosltenhome Town

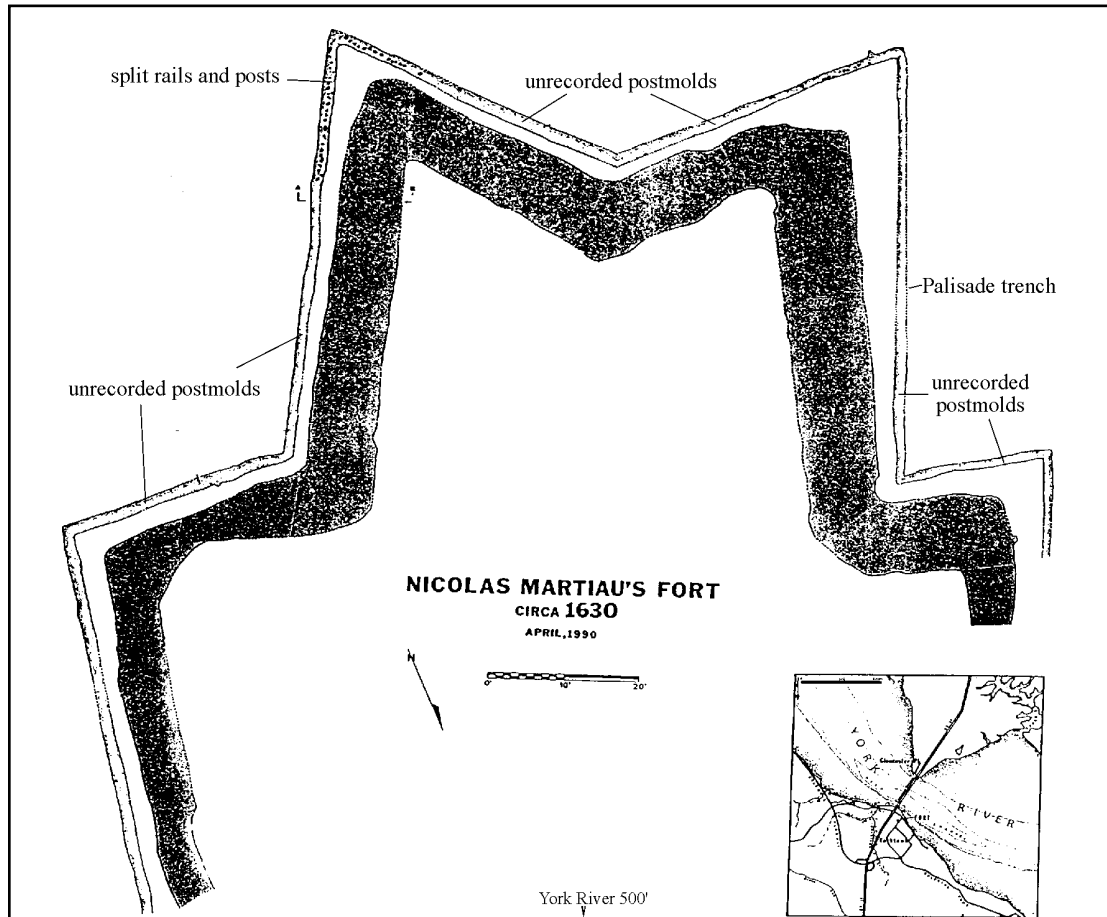
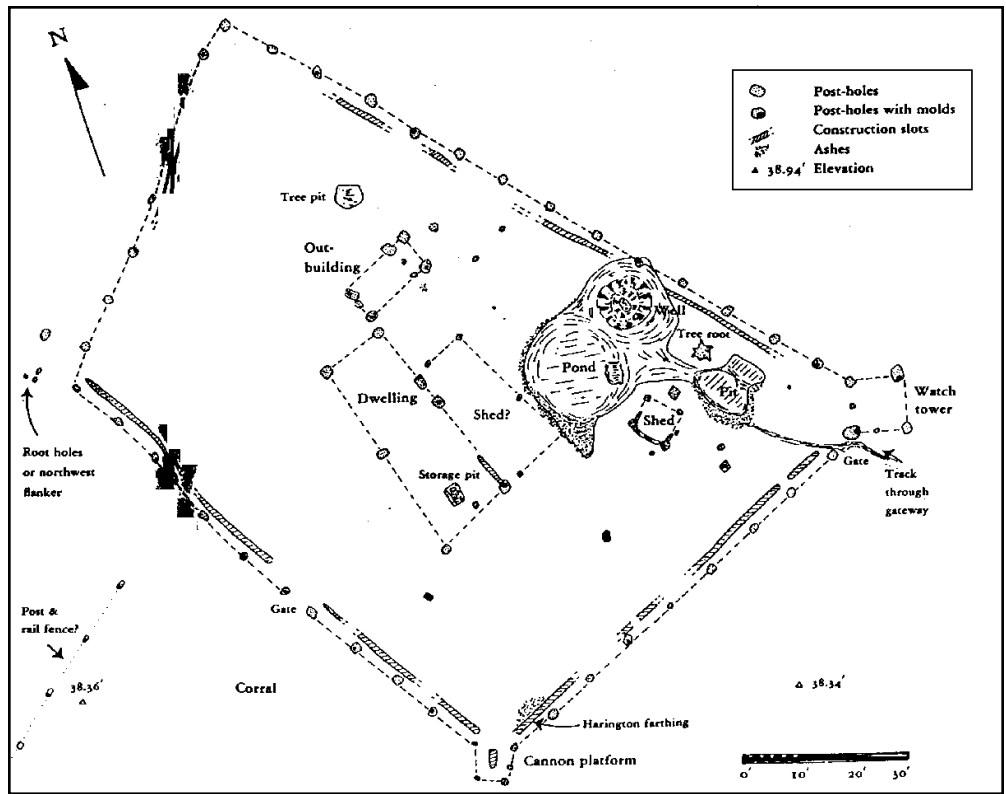


Figure 10: Plan of Martiau's Fort

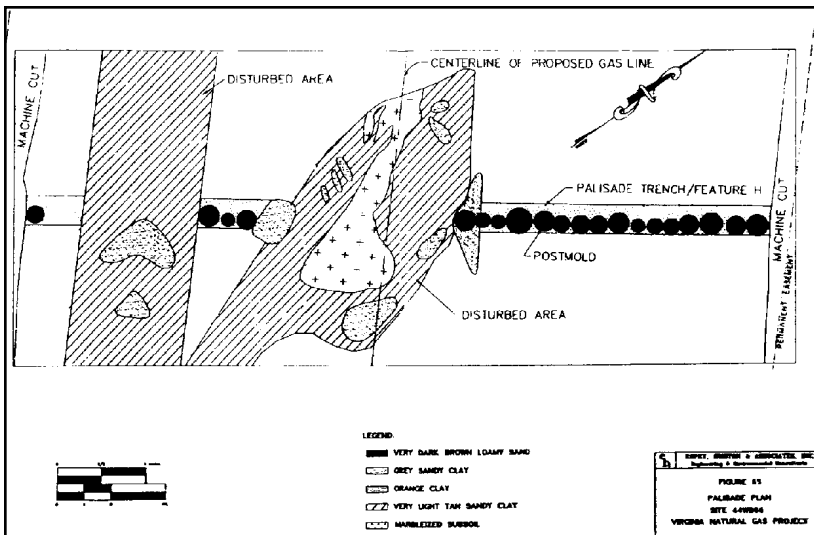


Figure 11: Plan and profile of Middle Plantation palisade

while the wooden wall or palisade was represented in the ground by a 10-foot wide trench containing postmolds (Miller 1986:47-57).

B. Objectives

Although Jamestown became the first permanent English settlement in the United States, the first fortified village has never been found. Thus, armed with new information on the material culture and architecture of early seventeenth-century sites in the Middle Atlantic states, the primary goal of *Jamestown Rediscovery* is to locate archaeological remains from the 1607-1622 “lost” settlement at Jamestown. Specifically, the project seeks to discover the extent of the survival, size,

rounded bastions (Figure 12). The palisades were made of split rails set, not driven, into a slot trench (Fesler, Lucchetti, and Straube 1992).

At St. Mary’s City, the seventeenth-century capital of Maryland, archaeologists have located features that they attribute to a fort constructed in 1645 by Nathaniel Pope. The three-bastioned fort consisted of a wooden wall surrounded by a ditch or dry moat (Figure 13). The ditch measured 6' in width,

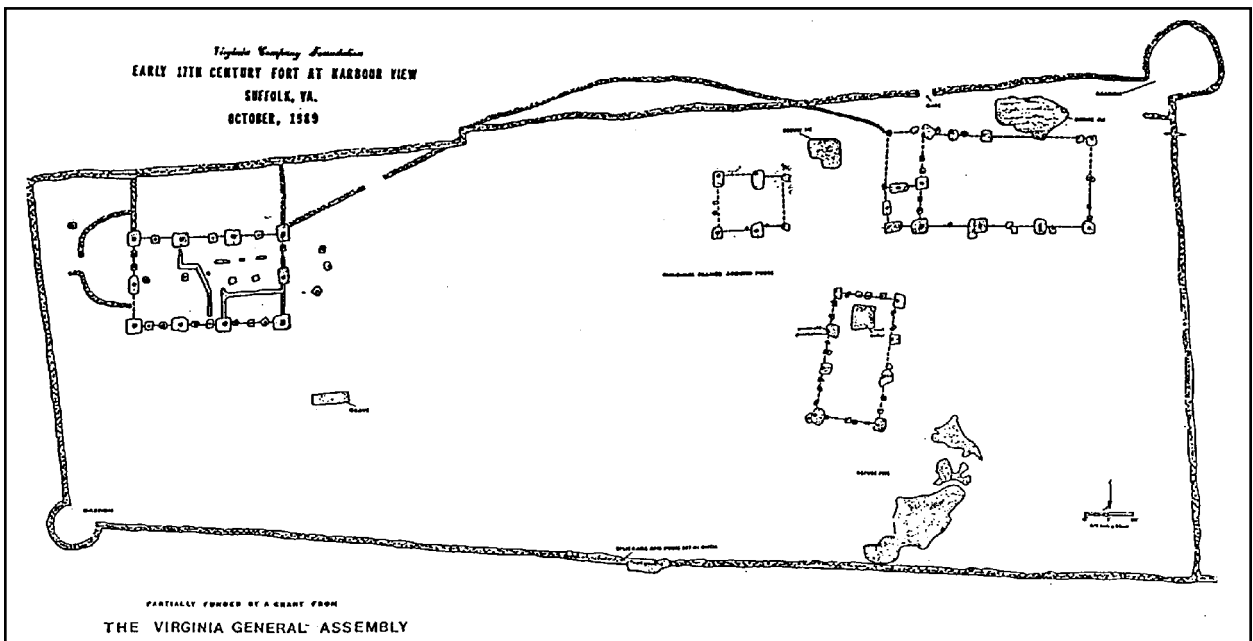


Figure 12: Plan of Nansemond Fort

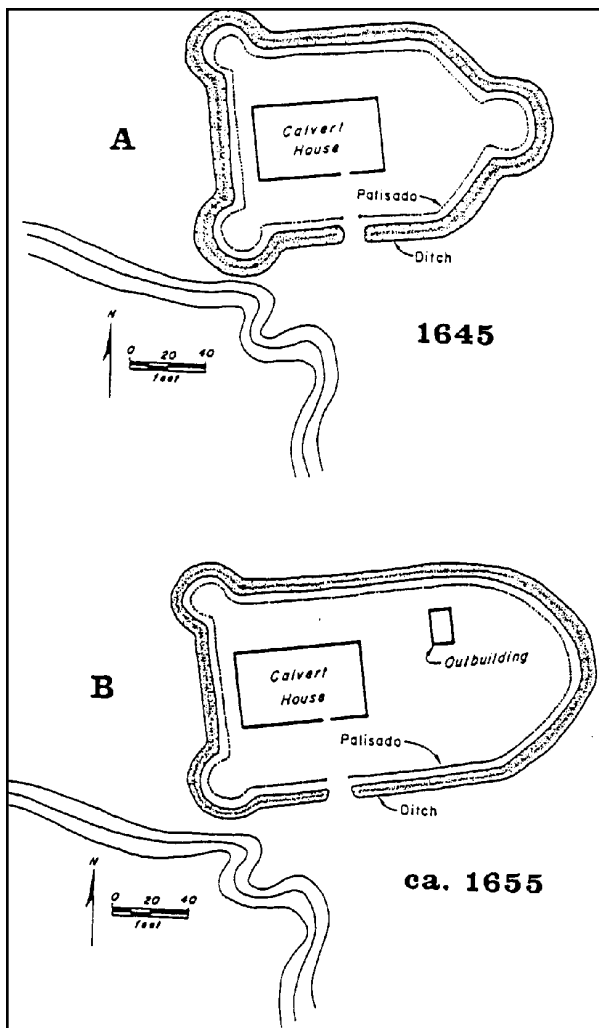


Figure 13: Plan of Pope's Fort

uncovered postholes and a ditch or slot trench in this area, while several nearby test pits excavated as part of Project 100 contained numerous pieces of early seventeenth-century weapons and pottery. Also, contemporary accounts locate the first church in the center of the fort and there is no reason to believe that the location of the church has moved significantly. Virginia Harrington perhaps has best summarized the problem of the location of James Fort when she wrote "On the whole, it would seem fair to say that while James Fort, 1607, cannot today be located with certainty, the burden of proof is on those who would favor a location other than Tyler-Yonge" (Harrington 1985:53). Additionally, after exhaustive research for his book *The Virginia Adventure*, Ivor Noel Hume also supports this location as part of the site of James Fort (Noël Hume 1994:395-431).

This area is also relatively open and, apart from the testing associated with utility installation, had not been archaeologically investigated.

construction, and details of the first fortification including gates, bulwarks, curtain walls, moat, and watchtowers; and the first church(es), storehouse, and settlers' cabins as well as the expansion of the original town and development of public space at James Town. Additionally, this project endeavors to learn about the craftsmen's activities during the early years of settlement, and influence of the native Algonquians on the colonists subsistence, buildings, and material culture. Understanding the life styles of different status groups such as the affluent and poor, free and non-free, English and African, is also a major goal of *Jamestown Rediscovery*.

The area between the church and the James River, labeled the "Tyler-Yonge Site" by Virginia S. Harrington in her analysis of the evidence for the location of James Fort (Harrington 1985: 39), was selected for the first year's excavation. Several factors suggested that early settlement remains are present in the vicinity of the Confederate fort and the churchyard. Artifacts recovered from a utility trench dug through the project area in 1939 suggested that the trench had cut through a feature that dated to the first two decades of the seventeenth century. Archaeological testing conducted in conjunction with utility installation un-

C. Methodology

The grid employed by Dr. John Cotter during the National Park Service excavations at Jamestown from 1954-1957 was reestablished across the project area by a professional surveying firm from surviving NPS control points. The project area is located in Block 9700/9700. The 100 ten foot squares within the 100' square block were given a square number beginning with 1 starting at the northwest corner across each row so that the southeast square was number 100. The 1994 project area consisted of a 40' square divided into 16 ten-foot squares. Initially, a two-foot balk was left on the north and west sides of each square, leaving an eight-foot square to be excavated. As the excavation proceeded, balks that provided little or redundant stratigraphic information were removed; however, continuous north-south and east-west balks through the center of the site were retained. Also, parts of two additional squares were opened .

Each ten-foot square was given a *Jamestown Rediscovery* excavation register number and each square was documented on a *Jamestown Rediscovery* excavation register form. These numbers were assigned to squares in the order that they were opened. All features were mapped at a scale of 1/4"=1' on the ER forms and at 1/2"=1' on a master site plan. A plan and profile for each excavation unit was drawn at a scale of 1/2"=1'. All features were mapped. Black-and-white photographs and color slides, video, and digital camera images were taken to record features and profiles. Elevations of strata and features were recorded in reference to an arbitrary benchmark — a chiseled "x" in the southeast corner of the base of the John Smith statue that was established in the 1940s.

All excavation units were excavated following natural stratigraphy with the exception of the deep 17th-century landfill which was excavated in arbitrary levels. At a minimum, all soil from each excavation unit was screened through 1/4" mesh. Feature fill was tested by water screening at least two buckets of soil through window mesh; and any layers or features that proved to contain small bones, scales, or beads were screened entirely through window mesh. The overflow from the water screening was captured in a flotation receptacle.

A soil sample was taken for chemical analysis from each layer in every square and from each layer within features. A minimum of 10 liters of soil per layer were retained for paleoethnobotanical analysis employing standard flotation techniques. Spot and column pollen samples were taken.

Dr. Bruce Bevan conducted a ground penetrating radar (GPR) survey of the project area and an electrical resistivity (ER) survey to the immediate west of the project area. The GPR survey detected a large deep pit in the project area, while the ER survey produced no targets due to unfavorable soil conditions.

Artifacts and excavation data are catalogued in Re:discovery, a museum software developed by Advanced Computer Consulting Services from Charlottesville, Virginia.

RESULTS

Fifteen 8' squares were excavated to the level of subsoil, exposing a slot trench, a deep roundish pit, a wide deep ditch, a shallow rectangular pit, a brick footing, and several small holes (Figure 14). Two principal north-south and east-west balks were left unexcavated through the site.

A. General Stratigraphy across the Project Area

Sod and two gravel-paved dirt roads covered the project area. Below this was a 6 inch layer of sand and loam dating to the 20th century and associated with the establishment of Jamestown as a historical park since the layer contained tourist related artifacts such as costume jewelry, flash bulb sockets, and modern coins.

Beneath the modern layers was a plowzone approximately 7-8 inches thick. The plowzone

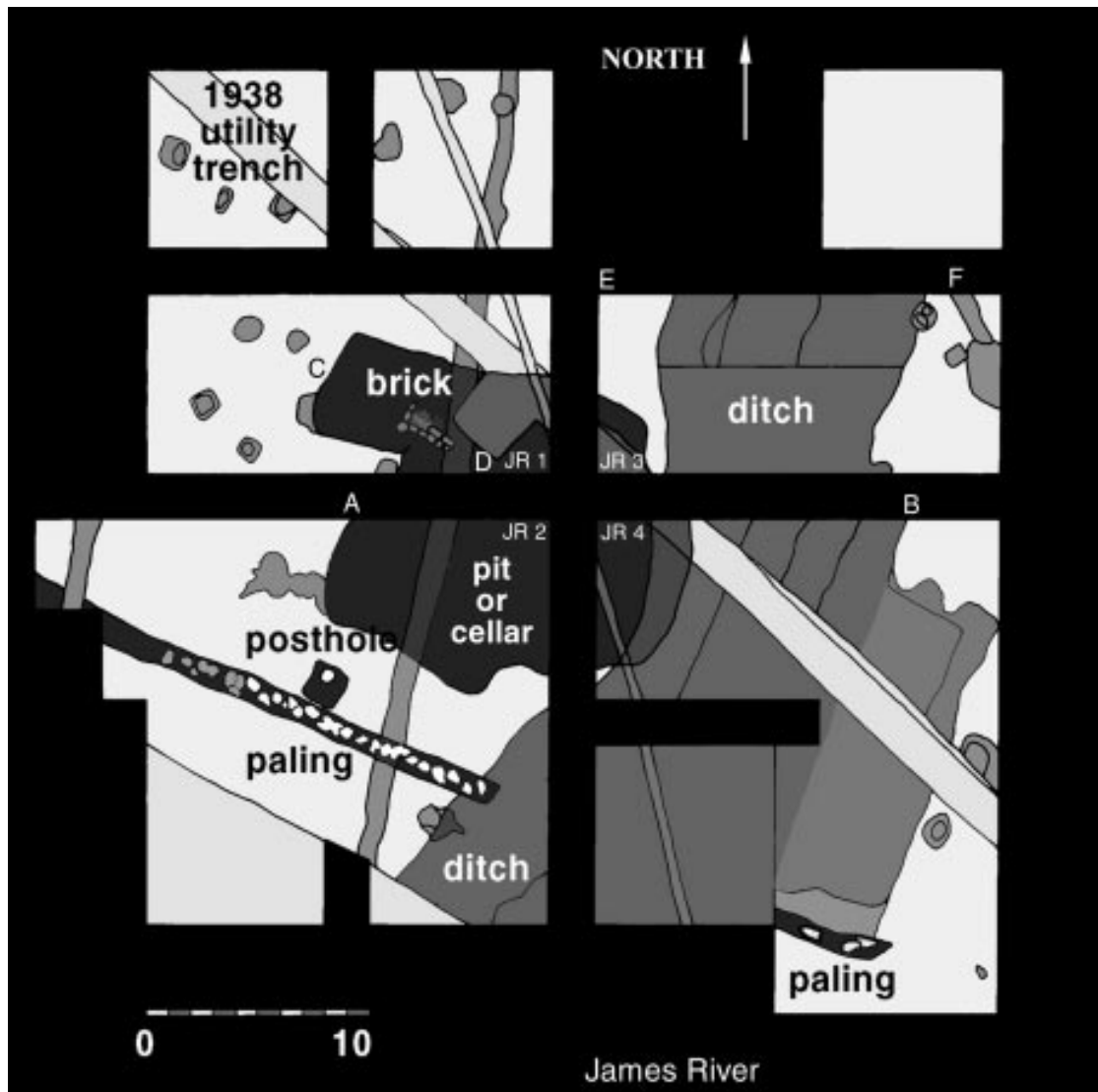


Figure 14: 1994 site plan

consisted of a homogeneous brown sandy loam containing a moderate scatter of brick bits and was rich in 17th-century artifacts. It sealed an orange sandy clay subsoil that was cut by many obvious plow scars. Cultivation of the church grounds ceased when the APVA acquired the property in 1893, thus the project area was plowed only with horse-drawn equipment.

In addition to plowing, there were other disturbances that impacted the archaeological remains within the project area. Running diagonally through the site from northwest-to-southeast is a two foot wide utility trench that has two 3” composite pipes, one containing an electrical line and the other a telephone cable. These utilities served a ferry landing and a post office that stood just southeast of the project area prior to 1957. There is a six inch wide trench with an active electrical line that runs through the site from northwest-to-southeast. Also, a portion of Harrington’s 1939 backfilled test trench extends through the southern edge of the excavation.

The center and southeast quarter of the project area are covered by a deep accumulation of plowzone, or a landfill of homogeneous brown sandy loam that is visually indistinguishable from the overlying plowzone. The landfill covered the backfilled large seventeenth-century ditch and major pits.

It is important to note that the plowzone across the project area contained few second half of the seventeenth-century, eighteenth-century, or nineteenth-century artifacts, indicating that the site was never developed after the first quarter of the seventeenth century.

B. Pit I - Early Seventeenth-Century

A pit approximately 12 feet in diameter was uncovered in the center of the project area and it was partially excavated during the 1994 field season. A large quantity of artifacts recovered from the pit indicate that it was filled possibly as early as c.1610, though it has a formal terminus post quem of 1603 based on the presence of lead cloth seal bearing the initials “I.R.” representing James I who reigned from 1603-1625.

The pit is contained in squares JR1,2,3, and 4, with the greatest portion in JR2. The pit has been extensively, but not entirely, excavated in JR1 and JR2, not at all in JR3, and completely



Figure 15: West profile of JR4

excavated to subsoil in JR4, thereby providing the only complete profile of part of the pit at this time. It lies immediately below the plowzone in JR1,2, and 3; while in JR4, approximately the top half of the pit fill in this square was removed by the construction of Ditch 1. Other actions that have impacted Pit 1 are a 1939 utility trench, a modern “ditchwitch” cut trench for an electrical line, and a deep plow scar or a shallow drainage ditch.

The completely excavated section in JR4 reveals that the pit bottoms out at 5'4" below modern grade. The surviving lower half of Pit 1 has smooth tapering side walls and a basically flat floor. An equivalent depth was reached in JR1, although no side walls or bottom has been reached in this square yet. Much of Pit I in JR2 has been excavated to subsoil, revealing that a large part of the southwest section of the pit is a shallow shelf leading to an apparent sharp drop-off near the center that will eventually connect with JR1 and JR4 to form a deep central shaft.

The principal stratigraphy of Pit 1 as manifested in JR4 consisted of a bottom 2'2" of alternating layers (JR4T-AB) of clay wash separated by layers of dark grey clayey loam (Figure 15). These layers appear to have been deposited into Pit I from the south and possibly the west. Both the clay and loam layers are essentially horizontal, very clean without any charcoal or brick flecks, and are nearly devoid of artifacts. The only objects collected in JR4 from these layers includes a few sherds of aboriginal ceramics. Above this is an 8" thick layer (JR4Q,S) of dark grey ashy loam that thins toward the east edge of the pit but does not seem to have been tipped in from this direction. This organic stratum yielded numerous artifacts dating to the first years of the seventeenth century including: the upper half of a Bartmann jug, Martincamp flask sherds, sherds of a polychrome delftware drug jar, and one 8/64" English clay tobacco pipe stem fragment. A deposit of orange clay (JR4R), 1'4"-1'6" thick and devoid of artifacts, sealed JR4Q-JR4S. Ditch 1 subsequently cut through the orange clay and both ultimately were covered by plowzone.

The stratigraphy of Pit 1 in JR2 is similar to, but with some important differences from the layering in JR4 (Figure 16). The bottom layers in JR2 are clay wash and organic deposits with few artifacts: those being redeposited sherds of Indian pottery and flakes. The same thick orange clay layer found in JR4 is also present in JR2 (JR2K), although it is limited to the eastern side of JR2. The orange clay in JR2 lies immediately below the ashy, artifact-rich layers (JR2G-JR2H), unlike JR4 where the clay seals the corresponding layer (JR4Q,S); yet there are crossmends that link the separate strata. JR2H, a black ashy loam with charcoal and some whole oyster shells, lies directly on top of the clay and yielded a large proportion of the artifacts, excluding glass, that have been recovered from Pit 1. Significant artifacts from JR2H include much of the upper half of a Bartmann jug, a complete triangular crucible, predominately local pipe stems and bowls, Nueva Cadiz beads, a Hans Krauwinkel jetton (1586-1635), 3 book clasps, a matchlock plate with sear trigger, a jack plate, 3 sword hangers, many sturgeon plates, and 39 sherds of prehistoric pottery. Immediately above JR2H was a layer (JR2G) that consisted almost exclusively of fragments of glass, including over 100 edge pieces and three bull's-eyes. A nearly complete delftware drug jar was recovered from the glass layer along with a clay tobacco pipe stems and an iron pike head. On top of the glass stratum were two layers of loam (JR2M,N) with yellow clay and orange brick pieces, which, in turn, was covered by plowzone (JR2D).

Of special interest is a complete helmet, the first ever discovered at Jamestown, that was recovered from JR2. The helmet, a cabasset, was found sitting upright on the subsoil shelf and was surrounded by a wash layer (JR2W)

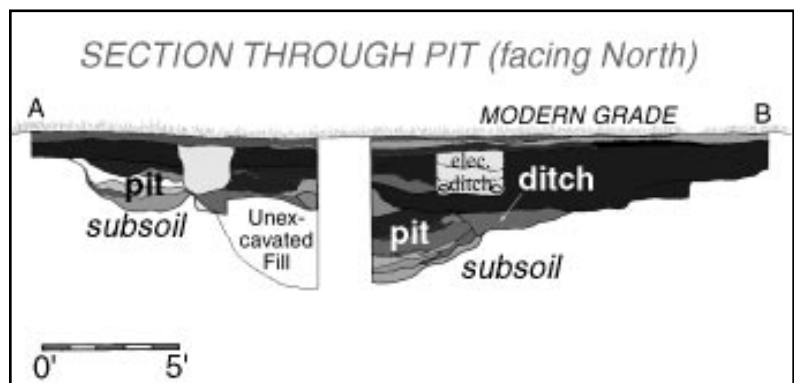


Figure 16: Profile through Pit 1



Figure 17: *Helmet in situ*

(Figure 17). The helmet was pedestaled, reinforced with quick-set cast bandages, covered with wet paper towels, and then encased in a plaster shell. After the plaster set, the pedestal was undercut and removed to the laboratory. Prior to conservation, the encased helmet was examined by the Radiology Department at Williamsburg Community Hospital, where 94 CAT scan slices were taken and a 3-D reconstruction of the helmet was created. Next, the inside of the helmet was slowly excavated and reinforced with fiberglass. Then the plaster shell was removed and the exterior cleaned and treated (Figure 18).

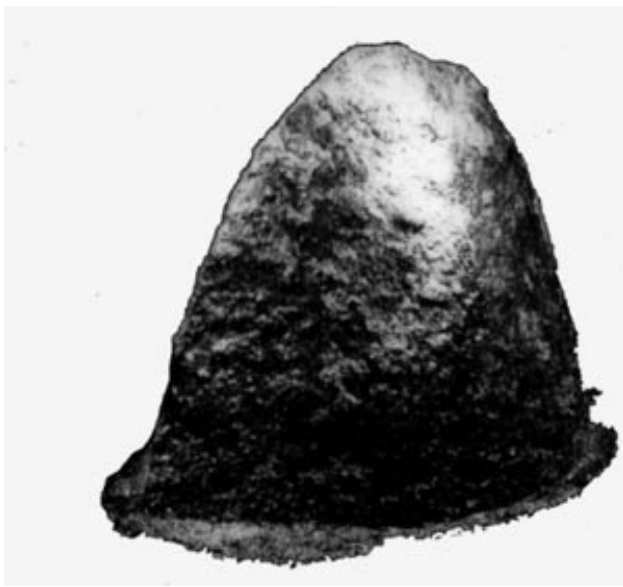


Figure 18: *Conserved helmet*

The northwest quadrant of Pit I in JR1 also contained the glass (JR1G) and artifact rich organic (JR1P) layers. Numerous crucible fragments, several with molten glass slag, were found in JR1P as well as 13 glass beads of various types, a couter, a musket rest, and braided brass wire, to mention but a few of the artifacts from this layer. There is a nearly five-foot square projection off the northwest corner of Pit I that first was believed to be an entrance into Pit I. A section through the projection revealed that it is 1'3" deep below the subsoil surface with smooth vertical sides and a flat bottom (Figure 19). The fill, mostly clay wash (JR1Z) with a lens of grey loam (JR1V) had only large sherds of Indian pottery in it. The

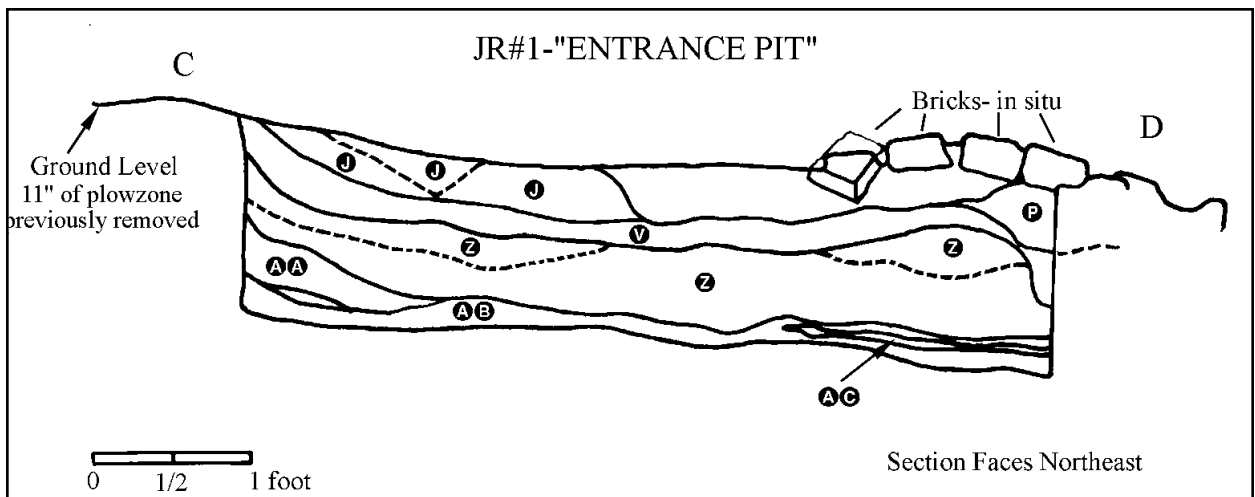


Figure 19: *Profile through Pit I projection*

bottom of the feature had no slope or step(s) typical of cellar entrances.

On the surface of the projection is part of a dry-laid brick foundation that was probably constructed soon after Pit 1 was backfilled, since there is no builder's trench and the bricks were pressed into the soft fill. The foundation, possibly for a hearth or chimney base (Figure 20), was disturbed by a deep plowscar or shallow drainage ditch and perhaps by the 1938 utility trench and test pit.



Figure 20: Photo of bricks on Pit 1 projection

C. Palisade I - Early Seventeenth-Century

A slot trench (JR13E, 15C) was found at the south end of the site running nearly parallel to the shoreline. The slot trench averaged between 1' and 1'2" in width and was filled with redeposited yellow clay subsoil that contained variably shaped organic stains of brown loam. The top 2-3 inches of the trench was excavated to better define the organic stains and to accent it for photography. A 3-1/2-foot section was excavated further in three 2-inch steps, where it became clear that the organic stains were postmolds (Figure 21).

The trench was cut through by a later wide ditch, and the excavation of the ditch provided a cross section of the slot trench. The trench has smooth vertical sides and a level bottom at a depth of 10" below subsoil. It is clear that the modern ground level, as well as the subsoil, at the south end of the project area has been substantially lowered by grading for the old road that ran to the ferry landing, and therefore the trench originally was dug deeper than 10" into subsoil. The postmolds were shaped like split small trees (half-round), narrow rectangles (planks), and small posts (round); and it does not appear that the timbers were driven. The slot trench terminates in the southeast corner of excavation -- a point that corresponds with the side of another feature of unknown function, suggesting that they are contemporary. The true depth of the trench below subsoil had to be interpolated from an area that was not diminished by road grading. Using the northwest corner of the project area as a refer-



Figure 21: Photo of partially excavated slot trench showing postmolds

ence point where the land was disturbed only by plowing, the bottom of the slot trench is 2'10" below subsoil.

A composite site plan shows that the trench found by Harrington in 1939 west of the project area is an extension of the 1994 slot trench and seems to show the trench ending at a point where three postholes at nine foot intervals begin. There is also an eastern terminus to the slot trench in the southeast corner of the excavation where the end of the trench corresponds with the sides of a rectilinear feature, Pit II, to the north. The distance between the eastern terminus of the slot trench and the end uncovered by Harrington is approximately 80'.

A posthole with a postmold (JR15F,G) was found along the north side of the slot trench. The posthole, measuring 1'8"-by-1'10" with its long axis perpendicular to the slot trench, seems purposively placed to the slot trench as the hole is aligned with the trench and was dug just off the edge of the trench. There are no comparable postholes within the project area, making it unlikely that this posthole is part of an earthfast structure. A possible explanation is that the posthole functioned as a buttress providing additional support to the palisade. A posthole of similar size, placement to the slot trench, and orientation was found by Harrington in 1949 (see Figure 5). The posthole has not been excavated at this time.

Only a very few artifacts, redeposited aboriginal pottery and some nails, have been found in the slot trench. This indicates that it dates to the earliest period of settlement in this area before the creation of a midden whose artifacts would have been redeposited into the slot trench during its construction.

D. Ditch I - Mid-Seventeenth Century; Ditch II

A wide, deep ditch was found that ran northeast-southwest across the site. The ditch was completely excavated in JR4 -- a three foot-wide section was excavated in JR3 -- and partially excavated in JR8, JR12, and JR13 (Figure 22).

The ditch section in JR3 consisted of a 3'8" wide main channel with a gradually rising broad eastern shelf. The bottom of the ditch is 3'3" below modern grade.

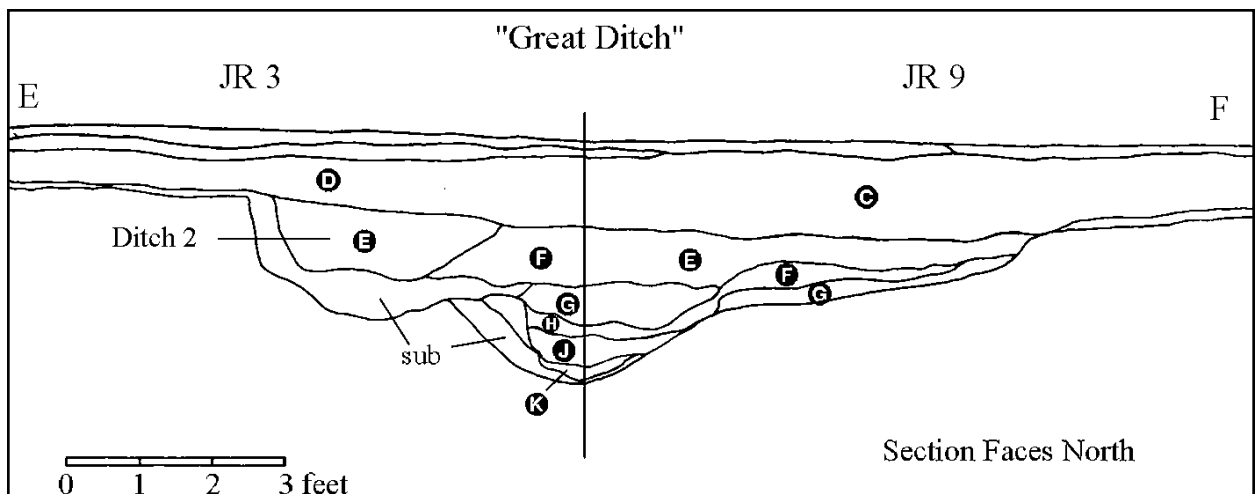


Figure 22: Profile through Ditch I

The west side of the ditch was cut through by a later 3'2" wide ditch, Ditch II, that was filled principally with redeposited orange clay subsoil (JR 3E). Ditch II was not present in the northern or southern extensions of Ditch I in JR8 and JR4, respectively.

In JR4 a thick layer of seventeenth-century landfill covered Ditch I, which, in turn, had sliced through Pit I. It is possible that artifacts found in the fill of Ditch I originally were deposited in Pit I and were washed out of exposed layers into the ditch.

E. Pit II - Apparent Early Seventeenth Century

Part of a large rectangular pit was uncovered in the southeast quarter of the project area. The east side of the pit is approximately 13' long, oriented slightly to the northeast, and has a clear corner in JR10 (Figure 23). The pit extends west in JR10 nearly 2'6" before it is obscured by the intrusive fill in Ditch I.



Figure 23: Photo showing Pit II

The southeast corner of Pit II, in JR11, corresponds with a break or termination of the palisade slot trench, suggesting that the two are contemporary. Both the palisade slot trench and the southeast corner of Pit II are cut by a rectangular feature filled with orange clay. The fill in Pit II is a brown sandy loam with a moderate scatter of brick or daub bits. The 1938 utility trench cut through the pit and the profile along the utility trench reveals that Pit II extends only 6" below the level of subsoil.

F. Other Features

There is a layer of seventeenth-century landfill that runs through the site. Indistinguishable from the overlying plowzone, the thick landfill generally follows the line of Ditch I, suggesting that the fill was deposited to level a depression caused by the compaction of fill in Pit I and Ditch I.

There are several unexcavated small holes, some with apparent postmolds, in the northwest quarter of the project area.

ARTIFACTS

The analysis of artifacts collected during the 1994 field season is still underway as of the time of this report with the priority of first identifying the finds from Pit 1. Accordingly, the following discussion is meant to provide a general overview of the character of the artifact assemblage until more detailed information is available.

A list of ceramic types from the site includes Blackware, Border ware, Refractory clay crucible, Spanish coarseware, Anglo/Netherlandish delftware, Jamestown coarseware, Spanish majolica, Martin's Hundred coarseware, Martincamp costrel, Merida coarseware, Midlands Purpleware butter pot, North Devon Plain coarseware, Frechen brown stoneware, Rhenish stoneware (Raeren/Westerwald), and Chinese porcelain. (Figure 24).

The finds include 7 jettons or casting counters, coin-like objects which originated during the Middle Ages as mathematical aids in the casting of accounts. By the 17th century, increased usage of Arabic numerals and written methods of calculations rendered the traditional role of jettons obsolete; however, jettons continued to be used as gaming tokens. Casting-counters commonly appear on early 17th-century sites in Virginia, usually types made by Hans Krauwinckel II of Nuremberg during the period 1580-1620 or Wolf Laufer from 1618-1660. Two found in the pit are



Figure 24: Bartmann jug (left) with three armorial medallions; polychrome drug jar (right), probably Dutch.

distinctly unusual. One bears the name of Hans Krauwinkel I who died in 1586, thereby dating the manufacture of that jetton no later than that year. The other, a tin-coated copper piece with a square hole driven precisely at the top of the type shows, on the obverse, the Belgic lion tethered to a column holding a statue representing the Inquisition (Figure 25). A mouse is attempting to chew through the lion's bonds. On the reverse, Philip II of Spain is offering an olive branch to Pope Gregory XIII while holding the collar of the Inquisition behind his back. This medallic jetton, which was first struck in the Low Countries, commemorates Pope Gregory's unsuccessful attempt to block Spain's annexation of Portugal in 1580. These historical jettons achieved popularity with the Dutch who were striving for independence from the Spanish Netherlands.



Figure 25: Jettons: (Left) Produced in the Low Countries or Germany commemorating the breakdown of the 1580 Cologne peace negotiations; (Right) Nuremberg token of Hans Krauwinkel I who died in 1586.

Two Elizabethan coins and an Elizabethan token were found in Pit 1. One coin is a silver half groat (two pence) which had been cut in half. It is not unusual to find bits of coins halved or quartered for change; and, fortunately, the recovered half bore a "palm" mint mark that dates it 1590-1592. The English Royal Arms appears on the reverse. The other coin is a copper Irish penny of 1601.

The English government issued lead tokens to commemorate historical events, to pay homage to a reigning monarch, or as tickets to official ceremonies. Apparently the token from the Jamestown pit is from a series of official issues dating to the 1570s. The obverse displays a crowned Tudor rose, flanked by "E. R.," the initials of the Queen, and the legend "Beaty Regina." This apparently proclaims her the "beautiful queen" A crowned phoenix rising out of the flames on the reverse suggests death and perhaps rebirth. Elizabeth was often represented by the phoenix, the fabled Arabian bird which rose to life from a fiery death. The analogy appears to represent the hope of eternal life for the monarch (Smith 1854:159-160).



Figure 26: James I cloth seal which once marked a cloth (probably serge) produced in Taunton ("T" + "tun"), England.

The excavation of Pit 1 also recovered cloth seals. Between the 13th and 19th centuries, manufacturers, merchants, and tax officials crimped these lead labels onto finished cloth to verify origin, quality, quantity, or legality. One bears the initials "I.R.," (James I) who reigned 1603-1625 (Figure 26).

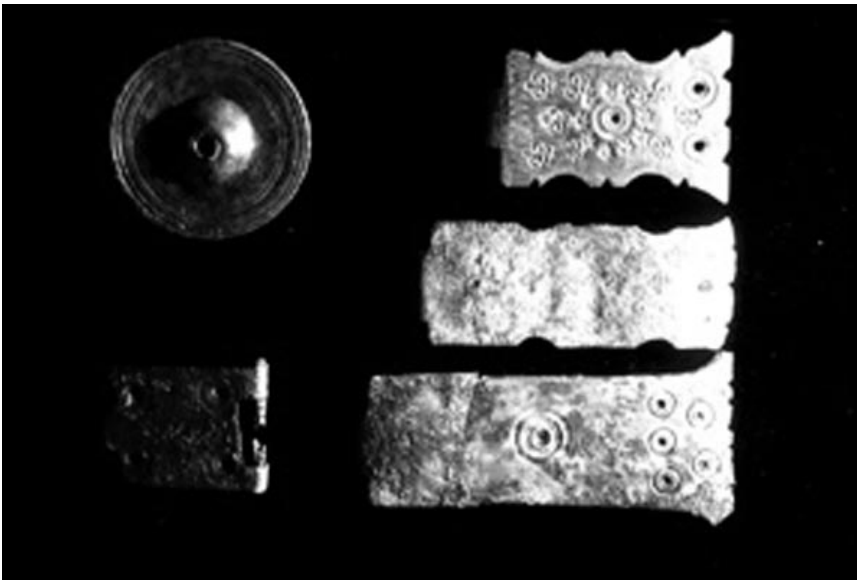


Figure 27: Copper alloy book furnishings, including (left) a boss to protect the leather binding and (right) three sizes of book clasps which would have fastened books closed.

Figure 28: A ring fashioned from copper alloy twisted threads, and a bundle of the threads used by the colonists to fabricate trade goods.



Figure 29: Tubular copper alloy beads (left) and copper alloy scrap representing waste from the manufacture of beads and other items.

Evidence of books consists of two brass book clasps from separate books, a book hinge, and a book boss (Figure 27). Book bosses, which were mounted on the covers of books to protect them from abrasion, were not widely used in England except on liturgical texts. In addition, the largest clasp comes from a massive volume, most likely a bible. The book clasp evolved from being a functional necessity — to keep a book tightly closed against dust, light, and warping — to a decorative and even symbolic accessory.

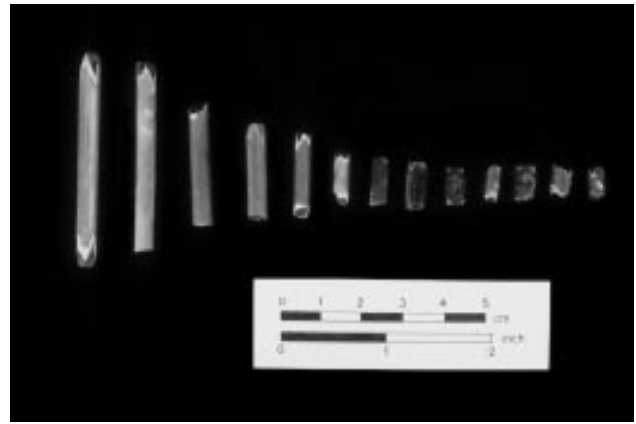


Figure 30: Nueva Cadiz beads

The brass book hardware is only some of the great number and variety of copper alloy objects and scrap found in Pit 1. Other copper alloy items include so-called curtain rings — perhaps used to secure tents as well as to hold bed curtains — armor rivets, aglets, buckles, upholstery tacks, and straight pins. A tiny bundle of copper wire, twisted copper thread, and a braided tiny finger ring suggested a skilled jeweler was at work as well (Figure 28). Copper plates and tubular beads among the copper finds are clearly for the Algonquian trade (Figure 29).

A large number of square-sectioned blue beads with ground corners, a type known as Nueva Cadiz after the Venezuelan island where they were first identified, were found (Figure 30). Nueva Cadiz beads typically appear on sites occupied a century earlier by Columbus and other Spanish explorers. The Jamestown finds apparently indicate that they have a long history. Recovery of a number of small round sky blue beads and a rectangular Neuva Cadiz bead together suggested they belonged to a necklace or a bracelet and that they are contemporary.

There is no evidence that early craftsmen made any of the glass at the site, but there are obvious signs of other glassmaking. The top layer of pit fill contained a concentration of broken glass, including a number of edge pieces and some central bull's-eyes, which are waste fragments from crown glass disks. The quantity, color, and waste fragments from manufacturing are sure signs that this glass did not come from any broken windows at James Fort. The pit cullet suggests early glass making at James Fort, perhaps resulting in the “trial of glass” sent back to England in 1608-09. Crucible fragments from the pit with molten glass on the interiors may be even a more convincing case for small scale glassmaking in the fort. The pit contained five crucibles of incremental sizes all showing no signs of fire damage from use (Figure 31). Two crucibles fused together, one on top of the other, came from the electrical trench cut through the pit in 1939. Apparently craftsmen used these



Figure 31: Triangular crucibles of varying sizes, probably made in Hesse, Germany.

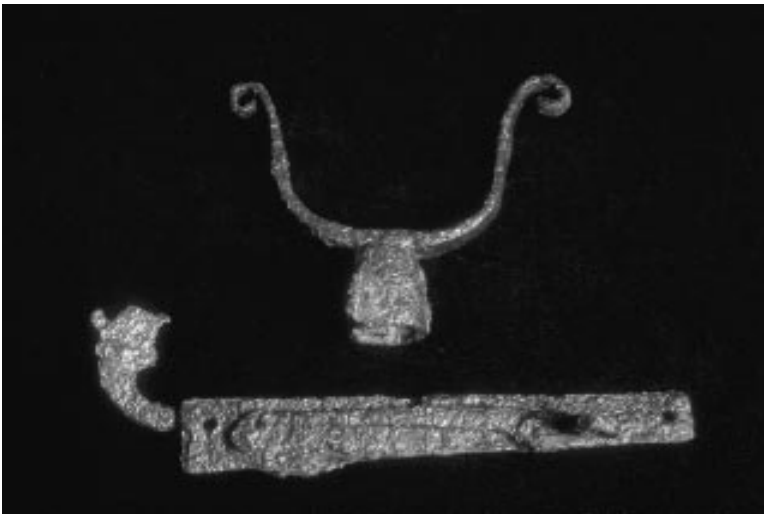


Figure 32: Matchlock lockplate and the top part of the musket rest that was requisite equipment for steadying the aim of these heavy firearms.

the almost rusted-to-dust helmet required extreme care and caution. Adding plaster to the exterior coating of dirt in the field and fiberglass to the interior later in the lab saved the piece from crumbling to oblivion. This is the only intact helmet yet found at Jamestown. Its lack of decoration and style render it one of the plainest types in use at the time.

Pit 1 yielded a distinctive type of clay tobacco pipe (Figure 33). An apparently local, coarse gray clay containing small grains of quartz formed the body of the pipes sharply different from the clays used in English pipes. The bowl shapes are roughly faceted, and one is octagonal with a teardrop shaped heel. The bowls are larger than contemporary English-produced pipes and possibly represent Indian manufacture. A similar faceted pipe bowl and a platform pipe, both believed to be of aboriginal manufacture, were found at the Maine in a first quarter seventeenth-century context (Outlaw 1990:161).

A large amount of faunal material was present, largely composed of sturgeon with little or no evidence of cow or pig.



Figure 33: Octagonally faceted locally made tobacco pipes (top) and early seventeenth-century English clay tobacco pipe (bottom).

vessels to heat frit in the furnace. The gall overflow caused the vessels to fuse necessitating breakage of the upper vessel to extract the finished product.

A variety of arms and armor was found on the site (Figure 32). Excavations recovered parts from at least three matchlocks but only one fragment of its contemporary, the flint-striking snaphaunce. Fragments of three musket rests were also in the pit fill along with a couter, or elbow piece from a three-quarter suit of armor. Recovery of

Two human teeth were found, both molars manifesting advanced periodontal disease. Neither tooth bears extraction marks suggesting that they fell out of the owner's jaw because the diseased gum could no longer hold them.

DISCUSSION

Overview

The palisade shows no evidence of burning, nor does the fill in Pit 1 contain any heavy ash layer that might be expected as a result of the fire of 1608. However, Noël Hume's analysis of burned post structures at Martin's Hundred showed that vertical posts rarely leave evidence of burning below the level of subsoil and that the ashes from a great conflagration, such as occurred at Martin's Hundred, are unlikely to survive in the archaeological record. In his words, the burning of Martin's Hundred in 1622 resulted in a "lack of any mantle of destruction..." (Noël Hume 1982:249-251). Consequently, the absence of burned posts or ash layers is not evidence that the palisade and Pit 1 date to sometime after 1608.

A historical event that may correspond to the filling of Pit 1 is the abandonment of, and return to, Jamestown in 1610. One find that may corroborate this theory is the unusual position of the cabasset in the ground. The other helmets that have been excavated in Virginia all were found laying on their sides, and the odds that a helmet would land and stay upright when tossed into a pit are minimal. In fact, *Jamestown Rediscovery* conducted an experiment using a reproduction helmet. Casually thrown into Pit I, the helmet remained upright one out of ten times. Further, there were no other artifacts found in the same layer with the helmet except for redeposited sherds of Indian pottery and flakes; therefore, it was not discarded as part of refuse. Thus, the helmet likely was intentionally placed into the pit and buried, perhaps when the colonists were abandoning Jamestown as indicated in historical accounts (Noël Hume 1994:268-269).

At this point in time, the interpretation of what Pit 1 and Palisade 1 represent is still open to debate. However, the extensive artifact collection recovered from Pit 1 firmly indicates that it, and almost certainly the palisade, were built during the first years of settlement and are part of John Smith's Jamestown.

A. Palisade

The results of the first field season raise a question of singular importance; namely, what kind of structure is represented by the palisade? The setting of split trees, small posts, and planks into a narrow trench was a common seventeenth-century method for fencing around homelots, garden enclosures, and fortifications. As noted in the Research Design, several slot trench palisades have been excavated on seventeenth-century Virginia sites, and some of these palisades are undeniably fortifications while others are obviously garden enclosures. How does the Jamestown palisade compare with these others?

There are three slot trench palisades on Virginia sites dating to the first half of the seventeenth century that unequivocally represent fortifications: Martiau's Fort, the Middle Plantation palisade, and the Nansemond Fort. Further, the Nansemond Fort site also contained two slot trench rectangular enclosures near the main dwellings that clearly were gardens; but whatever they were, they assuredly were not fortifications. The following is a summary of the vital statistics of the Martiau's Fort, Middle Plantation, Nansemond Fort, and James Fort slot trenches:

Middle Plantation

- 1 foot, 2.5 inches wide
- 1 foot, 11.5 inches bss
- posts set-not driven, side-by-side

Martiau's Fort

- 1 foot, 4 inches wide
- 2 feet, 4 inches bss
- post set-not driven, spaced at 4 inch intervals

Nansemond Fort, fort

- 1 foot, 2-4 inches wide
- averages one foot bss, 2+ feet in sections
- posts set-not driven, side-by-side

Nansemond Fort, garden 1

- averages 7-10 inches wide
- averages 3-5 inches bss
- posts set-not driven, side-by-side

Nansemond Fort, garden 2

- averages 12 inches wide
- ranges from 2.5-6 inches bss
- posts set-not driven, side-by-side

James Fort

- averages 1 foot, 1 inch wide
- averages 2 feet, 10 inches bss
- post set-not driven, side-by-side

The depth of the slot trench below the level of subsoil seems to be a diagnostic variable. The Nansemond Fort site garden slot trenches, which were exposed by removing the plowzone from an a cultivated field, were dug a maximum of 6 inches into the subsoil. In contrast, the Nansemond and Martiau forts and the Middle Plantation palisade slot trenches were substantially deeper; and the James Fort slot trench was the deepest of all, suggesting that it was a fortification palisade. The postholes Harrington found at the western end of the James Fort slot trench (see Figure 5) may have supported a watchtower.

If one accepts the supposition that the palisade was constructed as a fortification, then a second question arises; how tall was the palisade? There were no prepared postholes associated with the palisades at Nansemond Fort, Martiau's Fort, or Middle Plantation. Both the Nansemond Fort and Martiau's Fort palisades are believed to have been breastworks since the Nansemond Fort was built as a temporary defense against the Nansemond Indians, while the Martiau Fort palisade was not the principal defensive element of the fort, but an obstacle in front of an earthwork. There is no documentation regarding the height of the Middle Plantation palisade. Accordingly, a reasonable deduction is that if the James Towne palisade has auxiliary postholes, probably for support, it is of a different character than the stand-alone palisades at Nansemond Fort and Martiau's Fort and that the James Towne palisade very likely is more than a breastwork.

The counter argument to the hypothesis of the slot trench as a fortification is that Pit I, if it represents a building, is well within the 24-30-foot building setback described by Smith (Smith 1966:52). Consequently, the slot trench might represent a secondary interior fortification, perhaps connecting structures. This interpretation also explains the apparent termination of the slot trench and beginning of a line of postholes in Harrington's 1949 test trench. Also, it is still conceivable that the palisade is part of an enclosure north of the fort shown on the Zuniga map.

B. Pit I

What can be said about Pit I? The neatly dug sides and bottom suggest that it was not a hole dug simply to get clay. Interpreting the function of the pit is difficult due to the lack of identifiable parallel examples from other archaeological sites. Possible candidates, based on the types of struc-

tures reported to have been built inside the fort or structures typical of the period, include a cellar, pit house, a storehouse or magazine, ice house, well, saw pit, dungeon, and bake house.

Pit I does not resemble the subterranean house at Site A at Martin's Hundred, the only actual pit house found in Virginia. Unlike the Jamestown pit, the Site A cellar house was built around a rectangular cellar hole that measured 20' by 19'. The bottom of the cellar hole was approximately 3'2" below subsoil (Noel Hume 1982:55-59). Nevertheless, early pit houses may have been extremely crude, and it is possible that Pit I represents some form of subterranean dwelling.

At present, Pit I has similarities to a bake house. A possible bake house dating to the 1620s was uncovered at Site 82 at Flowerdew Hundred in Prince George County. The Flowerdew Hundred bake house is a circular pit, eight feet in diameter, three-and-a-half feet below subsoil, with a one-foot in diameter and three-foot deep oven in one wall. Layers of charcoal and ash were found outside the mouth of the oven (Deetz 1993:43-45). Could the projection off the northwest corner of Pit I be an oven?

Pit I received substantial and relatively artifact-free fill, both intentional and natural, before artifact rich layers were deposited. Dr. Gerald Johnson, from the geology department at the College of William and Mary, made a field inspection of the pit fill and suggested that it was not the result of a single episode of filling, but it may have occurred over several months and perhaps for as long as a year. This would indicate that the filling of Pit 1 was not a result of the two-day abandonment of Jamestown.

C. Specialized Activities

Artifacts from Pit 1 suggest two types of crafts were established during the first years of settlement. The presence of an unusually large amount of scrap copper could be testimony of a deliberate plan to manufacture cheap trade items, such as copper tubular beads, pendants, and copper rings, to exchange with Indians for food during the first struggling years of James Towne. A number of crucibles of the small, triangular-shaped variety were found that also suggest metalworking, although none of the crucibles had any metallic residues.

It is well documented that Virginia Indians prized copper ornaments. For example, copper beads were part of the purchase price when John Smith acquired a village from the Powhatan Indian weroance Parahunt at the falls of the James River in 1609 (Noël Hume 1994: 248-49). Later that year, John Ratcliffe traded copper and beads to Powhatan for food (Noël Hume 1994:258). Further evidence for this early copper-for-food scenario comes from the site of a Paspahegh Indian village located nearly six miles upriver from Jamestown at the of the confluence of the James and Chickahominy Rivers. Recent excavation of part of the village uncovered 25 burials. Two of the burials, one a bundle burial and the other a single extended burial, contained copper beads and pendants, apparently associated with status individuals (Lucchetti, Hodges, and Hodges 1994). A sample of the copper ornaments, 29 beads and 2 pendants, was tested for identification of smelted copper and trace element patterns to suggest the source of the copper. The results indicate that 21 beads and 2 pendants were made from European smelted coppers. The importance of copper to early English settlers can also be seen from recent archaeological investigations at Fort Raleigh

National Historic Site on Roanoke Island, the site of the first attempted English settlement in the New World. A Virginia Company Foundation team led by Ivor Noël Hume discovered the location of a 1585-1586 scientific workshop where copper was clearly being processed (Noël Hume 1994:14-28).

There is further archaeological evidence from the site of a developing English-Powhatan relationship: the presence of Protohistoric Indian pottery in Pit I. However, it is essential to determine whether the pottery is redeposited from previous Indian settlement or if the settlers were using Indian pots? Small sherds and triangular projectile points imply previous Indian occupation in the immediate vicinity. Alternately, Late Woodland period settlements invariably leave surviving features in the subsoil, even where they have been plowed with modern machinery. The project area, which was plowed only with horse drawn equipment, contains no features associated with Indian settlement, implying that there was no Late Woodland occupation of the immediate area and therefore the pottery is the result of trade.

The second craft at the site, glassmaking, is represented by the huge quantity of small broken glass fragments. The color of the glass is sky blue, from a particular glass factory in England and brought over as cullet, an essential ingredient in the glassmaking process. Among the fragments were 121 rim pieces and three bull's-eyes, which were unusable or waste glass produced during the making of crown glass. The large circular sheets of glass or crowns were cut up into diamonds, squares, and triangles for casement windows, making the edges and thick center sections unusable. Crucible fragments containing molten glass also suggest glassmaking.

D. Erosion

How did the story of the first settlement being entirely lost to erosion begin? Certainly a major influence was George Percy's report that the channel ran so close to Jamestown Island that ships could be moored to the trees (Tyler 1907: 15). Since the channel is quite a bit offshore today, the assumption was that a great deal of land had been lost to erosion; and, in the absence of any visible remains, the fort must have been washed away. This theory does not consider that Percy's report most likely was written with the intention of making the new land sound as inviting as possible to attract additional investors and colonists. Apparently the legendary, and now gone, Jamestown cypress tree growing over 300 feet offshore of the west end of the island encouraged this story of a severe loss of land. Also contributing to the lost fort myth was the sighting of remains at extreme low tide off the Ludwell statehouse. These structures, however, are remnants of a late seventeenth-century brick magazine. Certainly Lyon G. Tyler's study of Jamestown in which he concluded that "Nothing is now seen of the fort. Its site is entirely covered by water," (Tyler 1906: 72) validated the lost settlement theory. Perhaps the final, and possibly most influential event that underscored the lost fort story was Project 100, the 1955 search for James Fort. When archaeologists concluded that there was no evidence of the fort in the vicinity of the Confederate Fort and the John Smith statue, they, and other researchers, concluded that the rising sea level and erosion had claimed the fort and its village.

The fact that the fort was not situated immediately on the shore of the James River is suggested by the arrival of Lord De La Warr in 1610 when after stepping ashore, he "marched up into the Towne" In addition to the historical evidence, Harrington's test trenches along the seawall show that the natural grade of the land in the vicinity of the project area slopes down toward the

James River; thus, while there certainly has been erosion of the lowland along the river, the upland existing behind the seawall has remained intact (see Figures 4 and 5).

Questions are first, where was the shoreline in 1607; and second, what was the character of the land between the present shoreline and the conjectural 1607 shoreline? Surely, the fort and buildings were not constructed at water's edge; and while some land clearly has been consumed by erosion, the upland seems intact. The existing literature, particularly historic map analysis, suggests that the area most severely eroded is the shoreline northwest and west of the Dale House, whereas the shoreline along the Confederate fort and church has been only marginally diminished (Figure 24). Indeed, a composite shoreline map shows a conjectural now-eroded landform between the Dale House and Ludwell Statehouse that once projected to the edge of the deep water channel. This scenario would have allowed large ships to moor in the deep water close to land, yet remain outside any potential field-of-fire from James Fort should unfriendly ships appear in the James River.

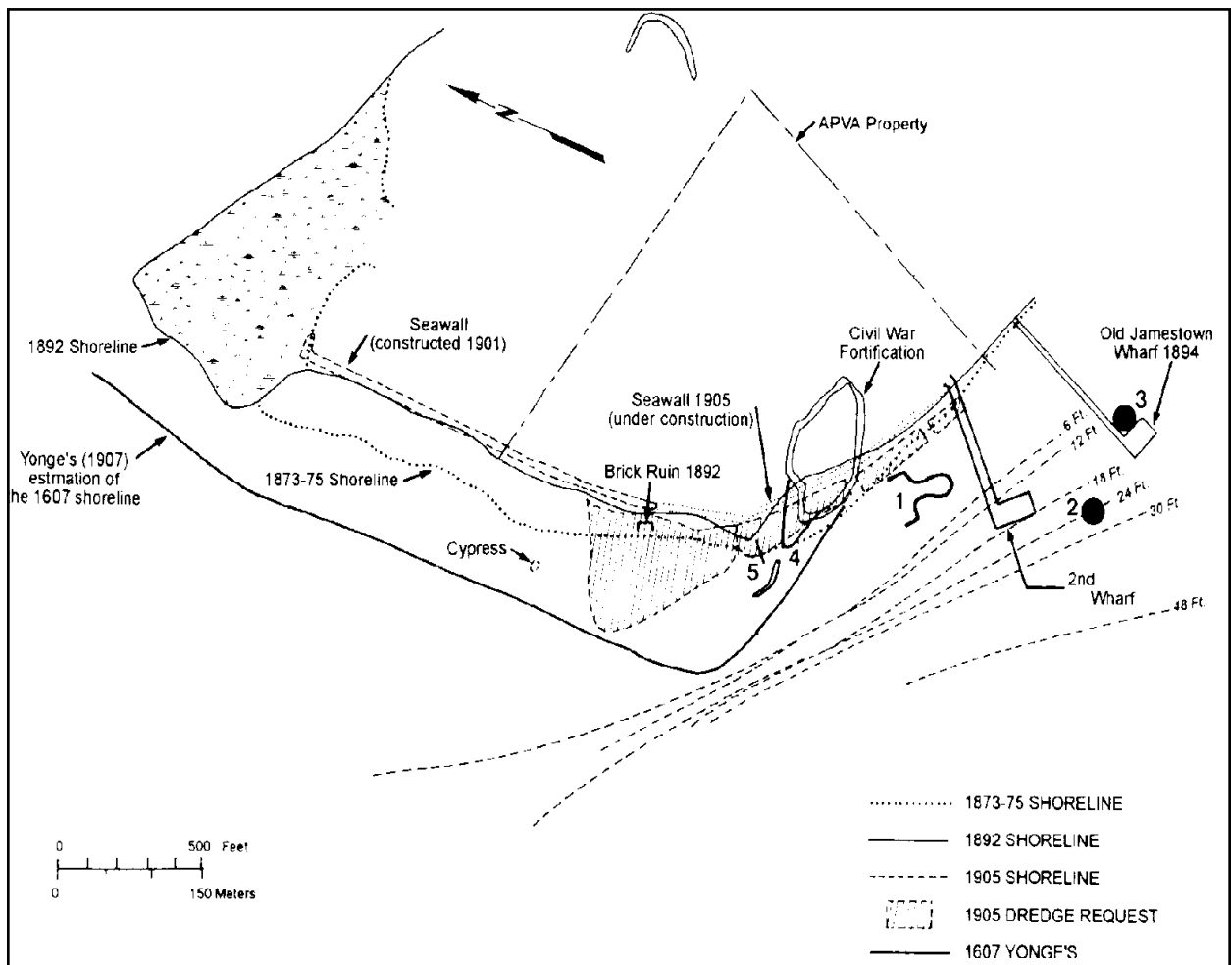


Figure 34: A composite of features and shoreline positions from earlier maps and charts

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