

**RESULTS OF EXCAVATION OF A  
HUMAN BURIAL  
AT SITE 44SK481**

**Located at the former Nansemond Ordnance Station,  
Suffolk, Virginia**

**Prepared For:**

**United States Army Corps of Engineers, Norfolk District**

**Prepared By:**

**Cultural Resources, Inc.  
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Fredericksburg, Virginia 22401  
(540) 370-1973**

**August 2002**

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## MANAGEMENT SUMMARY

From June 5 to 8, 2001, Cultural Resources, Incorporated was contracted by the Norfolk District of the Corps of Engineers to excavate a single human burial located at archaeological site 44SK481 in Suffolk, Virginia. The site is located on former Nansemond Ordnance Station property, now owned by the Virginia Community College System. The site is situated on the banks of the James River as it empties into the Hampton Roads Harbor, adjacent to the Interstate 664 Monitor-Merrimac Bridge-Tunnel as it crosses onto the south shore.

The human burial was discovered by chance in May 1998 when a contractor used a backhoe to cut a dirt access road down to the beachfront. Following a rainstorm, one of the crewmembers noticed bones on the surface of the road cut. The Suffolk Police Department was called in to investigate the site as a possible crime scene. After removing some of the bones to the Forensics Laboratory of the Norfolk Police Department, it was determined that the bones were several hundred years old and did not constitute a modern crime scene. The bone samples were returned and reburied at the site.

To temporarily protect the burial location, the Norfolk District of the Corps of Engineers placed a layer of filter cloth over the road cut and covered it with six to twelve inches of beach sand and gravel. Meanwhile, in August 2000, archaeologists affiliated with the Norfolk District Corps of Engineers conducted a joint Phase I/II survey and evaluation of the area immediately surrounding the burial as a means to determine if there were additional archaeological deposits associated with it. Enough artifacts were recovered from a plowzone context that dated to the late eighteenth and early nineteenth century to merit applying for a formal site designation, although no additional human burials or features were encountered. Assigned site number 44SK481, the project's archaeologist recommended no further work for the site, aside from removing the burial so as to prevent further damage to it.

After the Norfolk District of the Corps of Engineers submitted paperwork and obtained the proper permits, archaeologists with Cultural Resources, Incorporated excavated and removed the burial. During the course of the excavation, it became clear that both erosion and digging conducted by the Suffolk Police Department had damaged portions of the burial. Only the lower half of the skeletal remains were intact. An erosion gully had washed through the cranial area, leaving only fragmented cranium pieces, while the Suffolk Police had dug a large hole through the chest cavity and upper pelvis. The Police dug a second hole to redeposit the bones they recovered from the first hole. Archaeologists were able to recover most of the bones initially retrieved by the Police Department, although many of these were in poor condition.

The human burial was interred in a wood coffin, fastened together with hand wrought nails. The coffin appears to have been hexagonal in shape, although this could not be verified because of the disturbances. The coffin was oriented on an east-west axis, with

the head of the internment located to the west. The individual was placed in a prone position, face up, with the hands resting on the pelvis. Other than several copper pins, no clothing implements were found in association with the burial, suggesting that the individual had been wrapped in a shroud for burial. No other grave goods were observed with the burial. The fill soil within the burial contained no diagnostic artifacts, only a few fragments of handmade brick and oyster shells. Given the circumstantial evidence from the burial and the surrounding site, it is estimated that the individual was buried ca. 1800.

Analysis of the skeletal elements indicates that the individual is most likely a female between the ages of 20 and 23. Based on estimates, the woman was approximately 5' 4" tall. Evidence suggests that the woman was African-American, although the reliability of this determination is not firm. Some of the bones show evidence of heavy physical labor, and the five of her teeth had caries. No indications of the cause of death could be ascertained from the skeletal remains.

Mitochondrial DNA (MtDNA) testing was performed on the skeletal remains in an attempt to confirm osteological findings on origin of the sample. The results of this test were inconclusive and no sequence data was generated.

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## I. INTRODUCTION

From June 5 to 8, 2001, Cultural Resources, Incorporated (CRI) was contracted by the Norfolk District of the Corps of Engineers (COE) to excavate a single human burial located at site 44SK481 in Suffolk, Virginia. The site is located on former Nansemond Ordnance Station property, now owned by the Virginia Community College System. The site is situated on the banks of the James River as it empties into the Hampton Roads Harbor, adjacent to the Interstate 664 Monitor-Merrimac Bridge-Tunnel as it crosses onto the south shore (Figure 1).

The human burial was discovered by chance in May 1998 when a contractor used a backhoe to cut a dirt access road down to the beachfront. Following a rainstorm, one of the crewmembers noticed bones on the surface of the road cut. The Suffolk Police Department was called in to investigate the site as a possible crime scene. After removing some of the bones to the Norfolk Police Department Forensics Laboratory, it was determined that the bones were several hundred years old and did not constitute a modern crime scene. The bone samples were returned and reburied at the site.

To temporarily protect the burial location, the Norfolk District of the COE placed a layer of filter cloth over the road cut and covered it with six to twelve inches of sand and gravel. Meanwhile, in August 2000, archaeologists affiliated with the COE conducted a joint Phase I/II survey and evaluation of the area immediately surrounding the burial as a means to determine if there were additional archaeological deposits associated with it. Enough artifacts were recovered from a plowzone context that dated to the late eighteenth and early nineteenth century to merit applying for a formal site designation, although no additional human burials or features were encountered. Assigned site number 44SK481, the project's archaeologist recommended no further work for the site, aside from removing the burial so as to prevent further damage to it.

The Norfolk District of the COE submitted an application to remove the burial at site 44SK481 and received a permit to do so from the Virginia Department of Historic Resources (VDHR) on June 4, 2001. Removal of the burial commenced on June 5, 2001.

Nick Lucchetti served as Principal Investigator. Garrett Fesler assisted Mr. Lucchetti in the field and compiled the final report. Cliff Boyd and Donna Boyd of Radford University analyzed the skeletal remains and prepared an overview of their findings in Appendix A. Ted Wolf also assisted Mr. Lucchetti in the field. Matt Laird compiled the historical background. Justin R. Atkins prepared the graphics. Lewis Madson washed and processed the artifacts, while Carol Tyrer identified and catalogued them. All field notes, field maps, drawings, and photographs are curated at the VDHR in Richmond, Virginia. Copies are on file at the CRI office in Williamsburg, Virginia. The skeletal remains will be reburied at an as yet undetermined date and place in concordance with the burial permit.

### **Acknowledgements**

CRI would like to thank Tim Thompson of the Norfolk District COE for his guidance throughout the project. Due to location of the site within in the former Nansemond

Ordnance Depot, and the possibility of unexploded ordnance in the vicinity of the burial site, Environmental Protection Agency personnel were on hand as a safety measure. Because the burial was originally suspected of being Native American, Fred Bright, a representative of the Nansemond Tribal Association, served as a liaison with the project and was present when the project began.

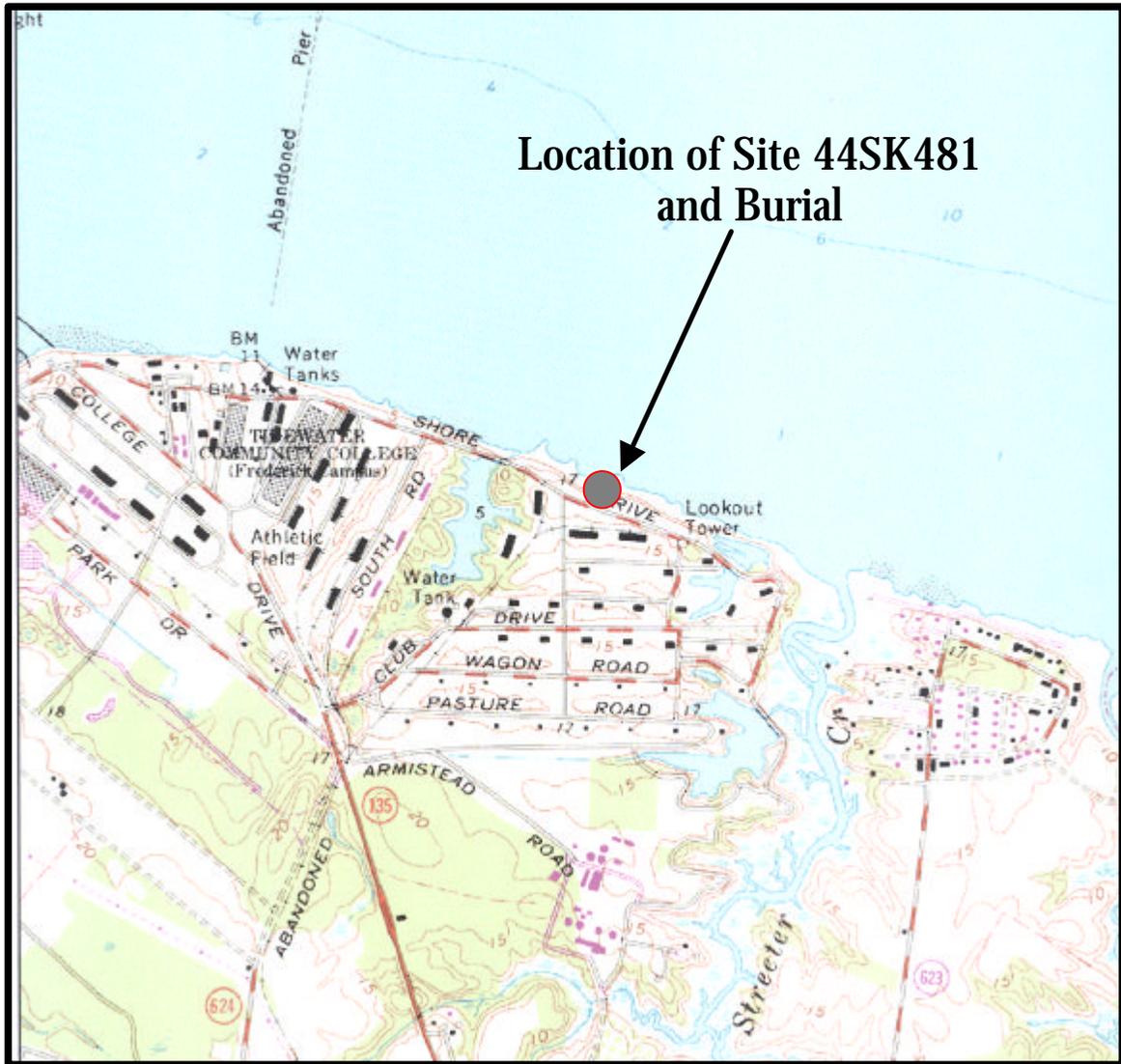


Figure 1. Location of site 44SK481 and burial on the Newport News South U.S.G.S. Quadrangle map (1989).

## II. HISTORIC CONTEXT

Any attempt to determine the identity of this individual, or even the owner of the property in the late eighteenth and early nineteenth centuries, is complicated by the fact that the early court records of what was then Nansemond County were destroyed in three separate fires, the last of which occurred on February 7, 1866. As a result, no deeds or wills pre-dating the Civil War survive to detail the ownership history of this land. However, a number of clues point to the possible association of this tract and its burial. While by no means offering a definitive answer, these fragmentary records offer a tantalizing suggestion of the significance of this site in Nansemond's early history.

The historical trail begins in one of the first surviving Nansemond County deed books. On November 3, 1868, Sarah F. Wise, the widow of Tully R. Wise, sold a 190-acre tract at Pig Point to Henry Kirn (Nansemond County Deed Book 2: 381). From later records, it is apparent that this parcel encompassed the present study area. As described in the deed, Tully R. Wise had purchased the property on October 6, 1866, from the trustees of Yeates' Free School. An examination of the surviving county land books indicated that the acreage Wise purchased had formed part of a larger 240-acre tract, which was credited to "Yeates' Free School" beginning in 1852. There is no earlier mention of this property or the school in the tax rolls.

Pig Point, a promontory east of the confluence of the James and Nansemond rivers, was first patented by Francis Hough in 1635 (Nugent 1992: 33). The land would see several owners until the early part of the eighteenth century, when it came into the hands of John Yeates, a second-generation Virginia tobacco planter. An educated man and philanthropist, Yeates endowed two schools in the Lower Parish of Nansemond for the benefit of local children. When he died in 1731, Yeates bequeathed all his lands, and their rents, for the support of these "free schools." In an unusual turn, he also dedicated his slaves, and their descendants, to work for the maintenance of the local church and schools. "It is my will and desire," he recorded,

that my Negroes be hired out in the said Lower Parish for convenience of paying the same; there being no occasion to sell any, my estate not being in debt; and there being females among them, may, with God's blessing, be a standing stock of them; and the hire of them, and the remainder part of my personal estate undisposed of, together with some of the rents of my lands aforesaid, may be employed in keeping the church on this side of the river in repair, as well as the yearly wages of a school-master and school-masters in the limits of aforesaid forever (MacClenny 1925: 33).

Yeates' scheme worked, and for the next 72 years the Lower Parish vestry diligently recorded payments from the lease of Yeates' land and slaves. With the disestablishment of the Anglican Church in Virginia following the Revolution, however, the administration of the Yeates estate had to be modified. On January 10, 1803, the General Assembly passed an act creating and incorporating a 12-member Board of Trustees to hold the property and manage the schools. According to the 1861 school catalog, Yeates had left 1,007 acres of land and an unknown number of slaves. In 1804, when the

trustees took control, the estate included 19 slaves, six of whom were children. By 1860, the descendants of Yeates' original slaves numbered 85 (MacClenny 1925: 36-37).

In 1866, a group of local residents petitioned the Virginia legislature, asking that the trustees sell the Yeates landholdings and give the money to the schools. The General Assembly agreed and passed an act authorizing their sale. The various properties were offered for purchase in the fall of that year, and sold rapidly. It was in this dispersal of the former Yeates' Free School lands that Tully R. Wise acquired the 190-acre tract that encompasses the study area (MacClenny 1925: 36-37).

Given the destruction of Nansemond County's early court records, and the unique circumstances of the property's ownership and administration, it is unlikely that the identity of the deceased individual can ever be determined. It appears likely, however, that in the latter years of the eighteenth century and the early part of the nineteenth, this land was occupied by a tenant farmer, or perhaps even by descendants of Yeates' original slaves. What is certain is that, in some small way, the history of this property and this individual is linked with one of Virginia's earliest and most successful public school systems.

### III. RESEARCH DESIGN

#### A. Objectives

The objective of the project is to remove a single human burial originally uncovered in a road cut. The Suffolk Police subsequently investigated the burial as a possible crime victim by digging two holes into it. Erosion has also taken its toll on the burial. Given its condition and location, removal is considered the best way to protect the burial from further damage.

#### B. Field Methods

The project is directed by archaeologists who meet or exceed the *Secretary of the Interior's Professional Qualification Standards*. All work and the resulting reports will meet the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* and the Virginia Department of Historic Resources guidelines entitled *Guidelines for Preparing Identification and Evaluation Reports for Submission Pursuant to Sections 106 ad 110, National Historic Preservation Act, Environmental Impact Reports of State Agencies, Virginia Appropriations Act, 1998 Session Amendments and Guidelines for Archaeological Investigations in Virginia* June 1996.

The excavation and documentation of the human burial will be conducted to meet standards outlined in the *Virginia Regulations Governing Permits for the Archaeological Removal of Human Remains* (VR 390-01-02) and VDHR permit application guidelines.

The protective overburden at the site will be removed by the Norfolk District COE, down to the filter cloth cover. The contractor will remove the filter cloth in consultation with the Norfolk District COE project archaeologist, and expose the remains. All human remains will be cleaned, photographed and drawn in place before removal. The excavation and removal will consist of the careful removal of surrounding soil to expose and define the remains and any associated funerary objects. Soil samples may be reserved for soil chemical and micro-artifact analysis. All other fill from the burial pit will be processed by flotation to ensure the recovery of smaller artifacts, ethnobotanical remains, and small or fragmentary skeletal remains.

Detailed excavation records will be kept concerning the consistency, color, artifact content, and stratigraphic nature of the burial fill, the orientation of the skeletal remains, and the presence and placement of any funerary item. The skeletal remains will be photographed and drawn at a scale of 1"=1' in plan and, if conditions allow, in profile. Any funerary objects will be plotted individually on the plan of the skeletal remains. Depending upon the state of preservation of the skeletal remains, they may be removed individually or in block for excavation in a laboratory setting. In the case of the latter, stable grid points will be established in the blocks so that the orientation and provenience of the remains and any associated funerary items can be re-established.

After removal, all human skeletal remains will be transported to Drs. Cliff and Donna Boyd at Radford University to conduct a complete analysis of these materials. This analysis will include at a minimum a complete inventory of all skeletal elements recovered, and to the degree possible, a determination of age, sex, race, stature, nutrition

and pathological stress. If in the judgement of the physical anthropologist there is any possibility that it might contribute to the determination of race, in particular, DNA analysis will be conducted, provided that only a small amount skeletal material need be sacrificed for this procedure.

### **C. Laboratory Methods**

All archaeological data aside from skeletal remains and funerary items will be transported to CRI's laboratory in Williamsburg, Virginia, for processing and analysis. Prior to washing, artifacts from a given provenience are first emptied into a screened basket and sorted. Next, the provenience information from the field bags are confirmed with the bag catalog and transferred onto bag tags. Stable objects are washed with tap water using a soft brush. Edges of ceramics and glass were thoroughly cleaned to aid in the identification of body type and to assist in mending. Washed items then are placed by provenience on a drying rack.

Once dry, the artifacts are rebagged by provenience and material type. Artifacts of a given provenience are placed in clean 2 ml thick polyethylene zip-lock bags that have been perforated to allow air exchange. Each grouped material type is placed in a separate plastic bag (i.e., all glass in one bag, all brick fragments in one bag, etc.) and each of these individual type bags are then placed in a larger bag with the bag tag noting the provenience.

After processing and rebagging, the entire artifact assemblage is cataloged for analysis. Stylistic attributes are described using current terminology and are recorded by count into a database for analysis. Once all the artifacts are cataloged, ceramics are pulled from their bags and marked with correct provenience information. Diagnostic ceramics are sorted and grouped together based on type or ware and/or vessel or function and checked for crossmends.

Analysis of historic artifacts is aided by reference works such as *The Parks Canada Glass Glossary* (Jones and Sullivan 1989), the *Guide to Artifacts of Colonial America* (Noel Hume 1969), and the *Colonial Williamsburg Foundation Laboratory Manual* (Pittman et al. 1987).

All materials generated by a project are curated according to the standards outlined by the VDHR and in 36 CFR Part 79 ("Curation of Federally-Owned and Administered Archaeological Collections"). All processed artifact bags are deposited in acid-free Hollinger boxes for permanent storage and returned to the client.

#### **IV. PHASE I/II ARCHAEOLOGICAL FINDINGS**

In August 2000, the Norfolk District, in cooperation with the Huntsville District, COE conducted a Phase I/II level of archaeological testing at site 44SK481. The testing was prompted by the presence of the human burial that was inadvertently discovered in a road cut in 1998. The objective of the archaeological testing was to identify if there were additional archaeological deposits associated with the burial. Up to that point, it was not known whether the burial was prehistoric or historic. It was hoped that testing the area around the burial would provide some context for it.

Archaeologists excavated 85 2 ft. by 2 ft. test squares within the vicinity of the burial (Figure 2). Test holes were placed at 15 ft. intervals within a 90 ft. radius of the burial to the south, a 100 ft. radius to the east and west, and up to the beachfront to the south. The test hole interval was expanded to 50 ft. on the far perimeter of the site.

Enough artifacts were recovered from a plowzone context that dated to the late eighteenth and early nineteenth century to merit applying for a formal site designation, although no additional human burials or features were encountered. Assigned the number 44SK481, the project's archaeologist recommended no further work for the site, aside from removing the burial so as to prevent further damage to it. A formal report of the findings is in progress.

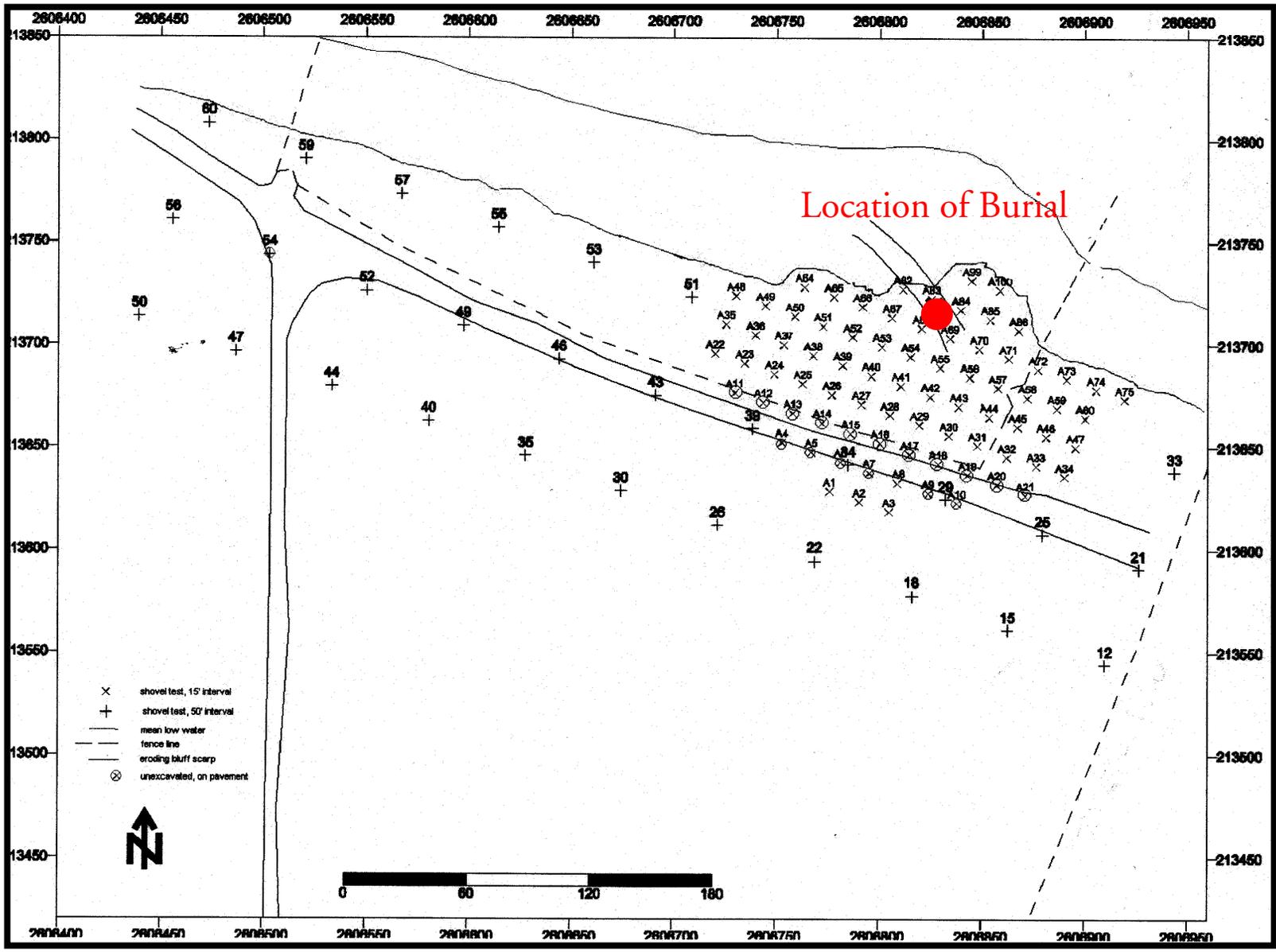


Figure 2. Location of test holes at 44SK481 in relation to burial.

## V. RESULTS OF BURIAL EXCAVATION

### 1. Setting

The burial is located 160 ft. to the west of Interstate 664, within a road cut, on a sloping bank overlooking the beachfront (Figure 3). The bank appears to have been eroding for many years, and trees and brush were visible at the base of the bank, recent victims of erosion (Figure 4). The burial is at an elevation of approximately 5 ft. above mean sea level. Prior to the road cut, the natural depth of the burial is estimated to have been roughly 3 ft. below grade (Figure 5).

### 2. Procedure and Findings

In 1998 the burial had been covered with filter cloth and sealed with a layer 6" to 12" layer of beach sand and gravel as a means of protecting it from further damage. As the project commenced, a backhoe was used to remove most of the layer of beach sand and gravel. A 10 ft. by 10 ft. area of the underlying filter cloth was cut out to reveal the burial (Figure 6). Archaeologists scraped down the area with trowels to reveal the edges of the burial shaft.

It became clear after cleaning the surface of the burial and the surrounding area that several intrusions had damaged portions of the burial. An erosion gully approximately 1.3 ft. in width cut through the west half of the burial (Figure 7). The erosion was severe enough that all evidence of burial shaft, coffin, and skeletal remains within that 1.3 ft. wide gully had been washed away completely. A portion of the far west end of the burial remained *in-situ*, separated by the erosion gully from the remainder of the burial (see Figure 7).

In addition to the erosion gully, archaeologists noted two holes, the larger one intruding into the center of the burial, and a slightly smaller one immediately outside the south edge of the burial (see Figure 7). It was later determined that the larger hole cutting into the burial was dug by the Suffolk Police Department in 1998 when they collected bones from what they thought was a potential crime scene (Figure 8). Evidently the police investigators used a round-tip shovel and a rake to collect bone samples. They dug a second hole next to their first one when they reburied the bone samples, again using a round-tip shovel. The larger hole was approximately 1.6 ft. by 1.9 ft. in size, while the smaller hole overlapped slightly with the larger and was 1.4 ft. by 1.7 ft. in size (see Figure 6). Upon excavation, as would be expected, the larger initial hole contained only small, highly fragmented bone specimens, while the second smaller hole yielded a considerable number of larger bones, including several ribs, a humerus, a radius, skull fragments, and portions of a clavicle (Figure 9).

#### Burial Shaft

Once the intrusive holes were removed (Figure 10), archaeologists began to remove the fill from the remaining portions of the burial. The burial contained two visible layers (Figure 11). The uppermost A fill layer consisted of mottled orange and brown clay loam. The A layer extended to a depth of approximately 0.6 ft. to 0.8 ft. below the top of the exposed burial shaft. When archaeologists encountered skeletal remains, they designated the fill soil as layer B. The B layer consisted of a dark brown and black sandy

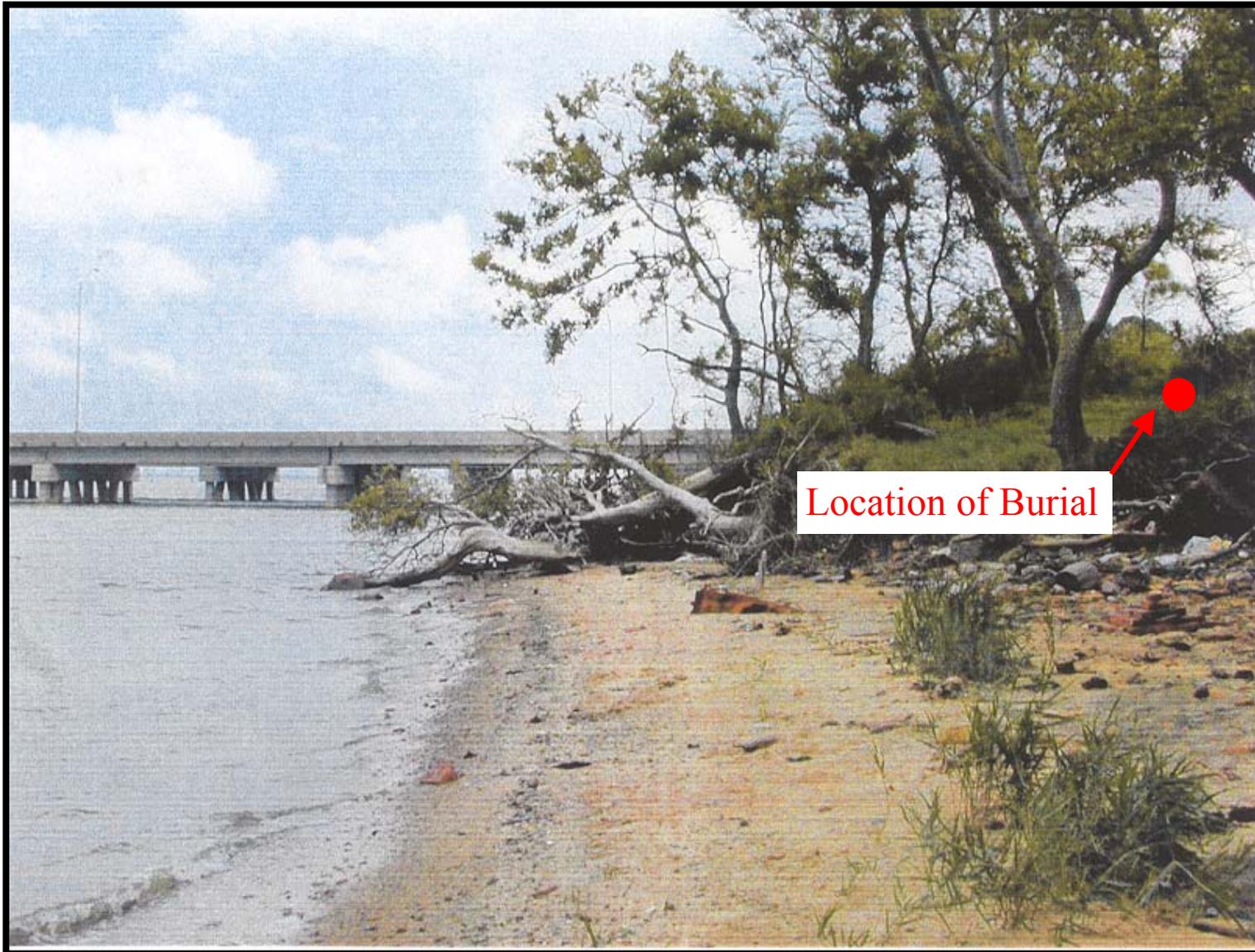


Figure 3. Overview of beach front below burial site, facing east toward Interstate 664 in background.



Figure 4. Overview of burial location, facing southeast from beach, looking up the road cut.

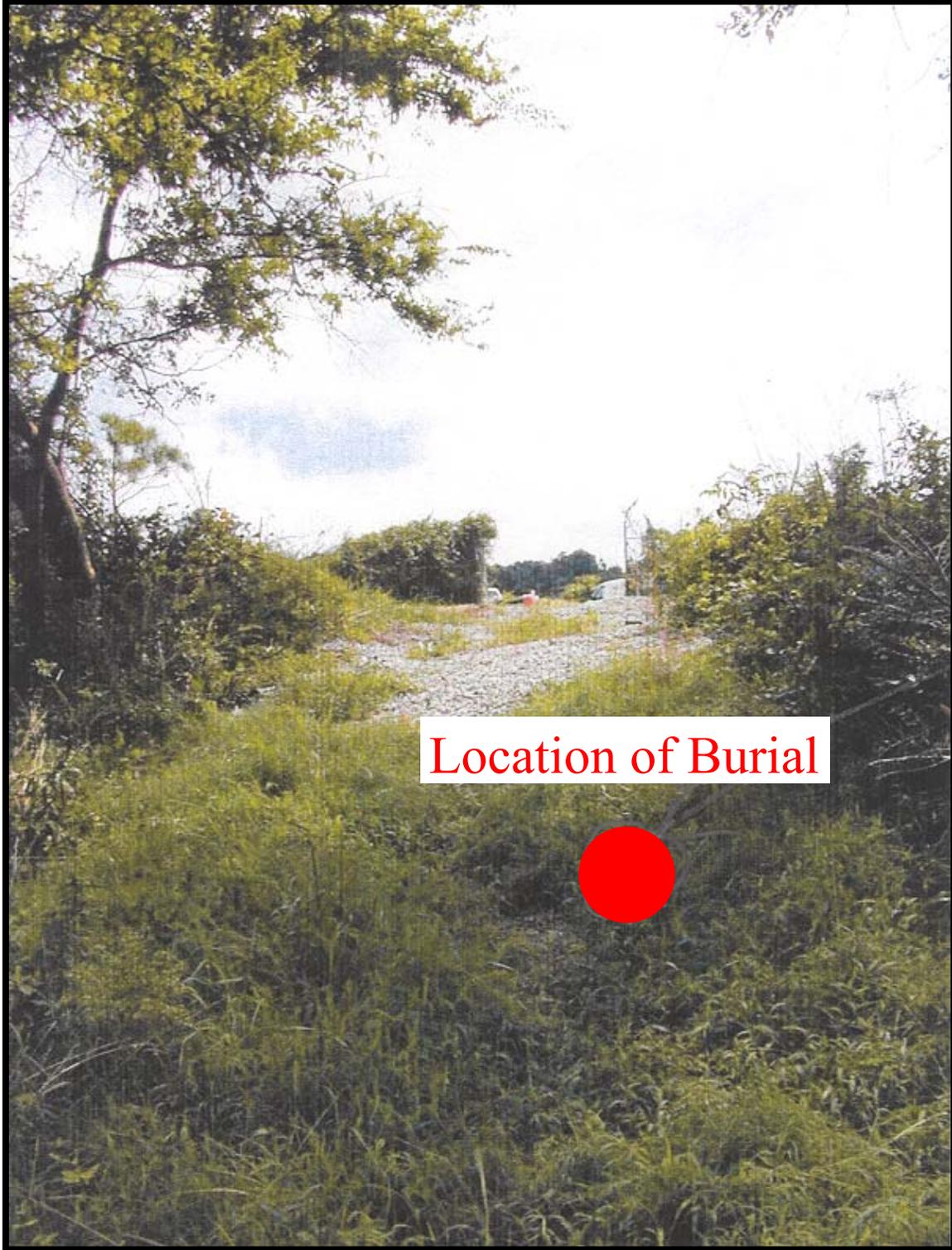


Figure 5. Overview of burial location, facing southeast from road cut.

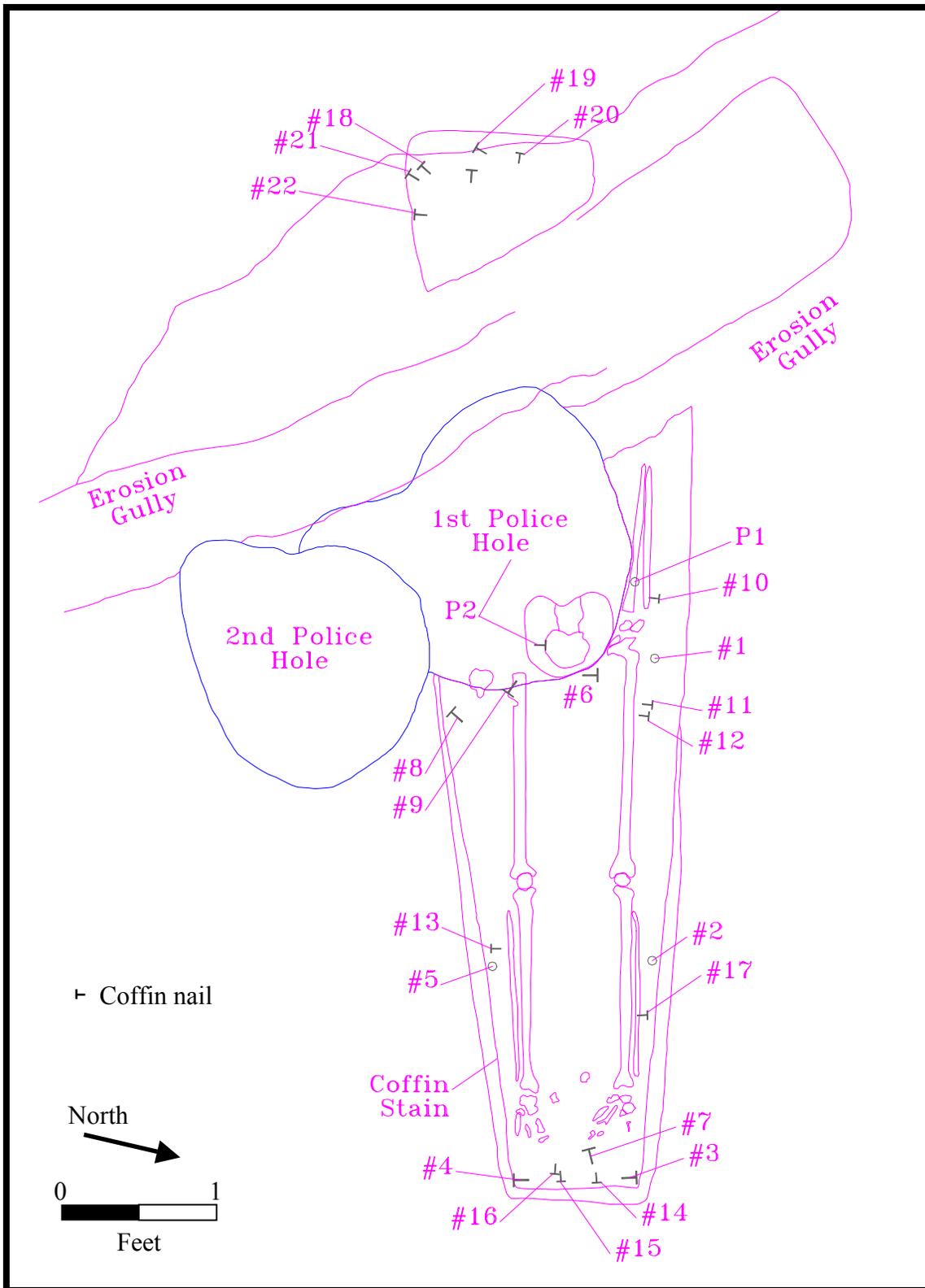


Figure 6. Plan map of burial, including *in-situ* skeletal remains, coffin, coffin nails, and intrusions.

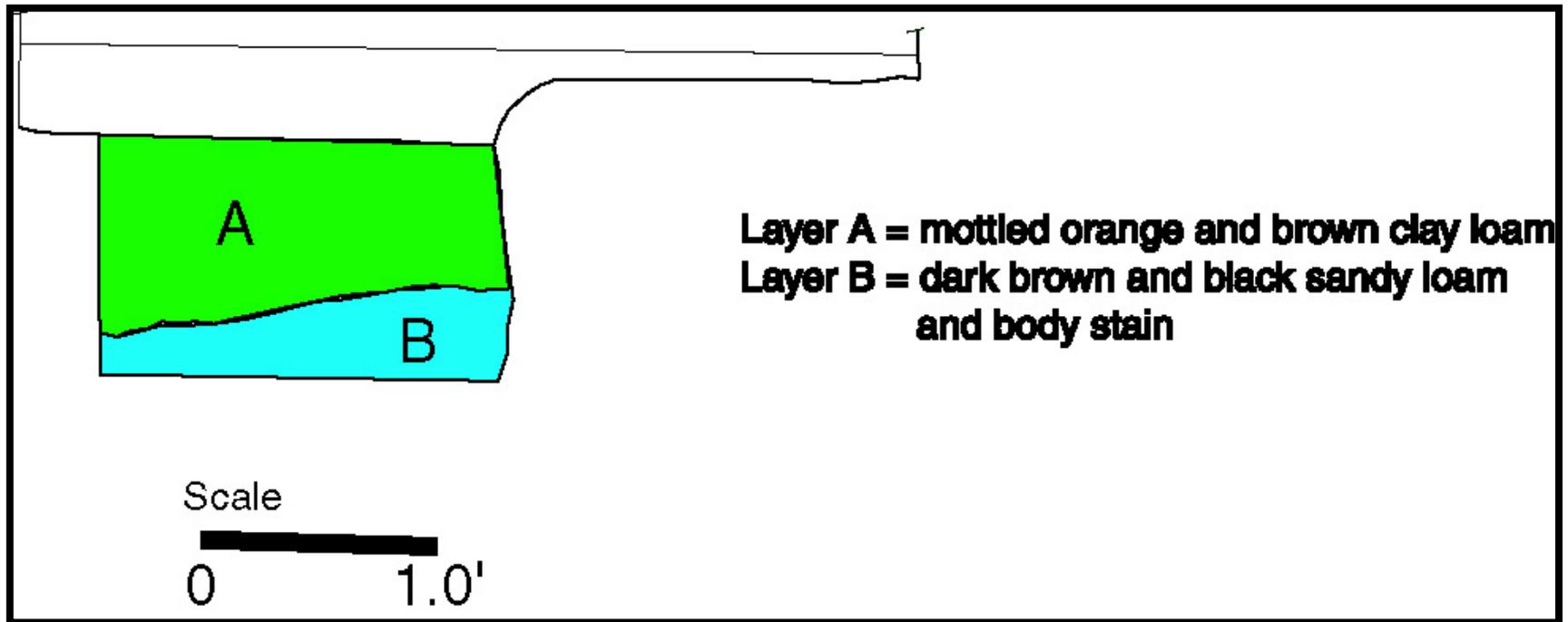


Figure 11. Profile of burial shaft.

loam that was between 0.2 ft. and 0.35 ft. in depth. As measured from the top of the exposed burial shaft, the burial was approximately 1.0 ft. in depth.

The burial shaft was 6.5 ft. in length, and 0.9 ft. wide at the east foot-end (see Figure 6). At its widest, the burial shaft was 1.5 ft wide, although intrusions prevented measuring the full extent of the west half of the burial. The long axis of the burial shaft and the coffin placed into it were oriented east-west. The head of the interment was located in the west end of the burial, with the feet in the east end.

The burial fill contained no diagnostic artifacts aside from the coffin nails and the straight pins associated with the body. The upper layers of burial fill contained several small handmade brick fragments and oyster shell fragments. Otherwise, there were no artifacts directly associated with the burial to provide a clear indication of a date of interment.

### Coffin

Due to the intrusions on the west half of the burial, the exact dimensions of the coffin could not be determined. It is highly likely that the coffin was hexagonal in shape. The foot-end of the coffin was 0.75 ft. wide. At its maximum measurable width, across the mid femur, the coffin was 1.4 ft. in width (see Figure 6). The length of the coffin could not be measured. Fragments of highly friable wood were present in some places along the sides, and in other places the decayed wood had left a visible organic stain.

Archaeologist recovered 23 hand wrought nails used to fasten the coffin together. All the nails were retrieved from along the sides of the coffin, and at the feet and head. The lack of nails down the center of the coffin suggests that it was not gabled. Also, it does not appear from the nail pattern that the coffin was battened across the top or bottom. Concentrations of nails at the feet and head suggest that the main strength of the coffin was found in those areas (see Figure 6).

### Position of Body

The body was placed in a prone position, on its back, face up. Based on the presence of carpals and flanges in the vicinity of the lower pelvis, it is likely the hands were folded on the pelvis, although this could not be verified due to intrusions (Figures 12 and 13).

The body and coffin were placed in an approximately east-west position, as was common in many cultures, and prevalent amongst Christians.

### Grave Goods and Contents of Burial

Aside from several badly decayed brass straight pins, the body contained no signs of clothing or grave goods of any kind. All that remained of several straight pins was a green stain in the soil. No clothing fasteners, buttons, hooks, or loops were encountered to suggest that the body was placed in the ground clothed. Based on the presence of brass straight pins, it would appear as if the body was wrapped in a shroud. No additional items were recovered in context with the body to indicate the presence of grave goods.

Analysis of Skeletal Remains

See Appendix A for a complete analysis of the skeletal remains.

## VI. CONCLUSIONS AND RECOMMENDATIONS

From June 5 to 8, 2001, Cultural Resources, Incorporated was contracted by the Norfolk District of the Corps of Engineers to excavate a single human burial located at archaeological site 44SK481 in Suffolk, Virginia. The site is located on former Nansmond Ordnance Station property, now owned by the Virginia Community College System. The site is situated on the banks of the James River as it empties into the Hampton Roads Harbor, adjacent to the Interstate 664 Monitor-Merrimac Bridge-Tunnel as it crosses onto the south shore.

The human burial was discovered by chance in May 1998 when a contractor used a backhoe to cut a dirt access road down to the beachfront. Following a rainstorm, one of the crewmembers noticed bones on the surface of the road cut. The Suffolk Police Department was called in to investigate the site as a possible crime scene. After removing some of the bones to the Forensics Laboratory of the Norfolk Police Department, it was determined that the bones were several hundred years old and did not constitute a modern crime scene. The bone samples were returned and reburied at the site.

To temporarily protect the burial location, the Norfolk District of the Corps of Engineers placed a layer of filter cloth over the road cut and covered it with six to twelve inches of beach sand and gravel. Meanwhile, in August 2000, archaeologists affiliated with the Norfolk District Corps of Engineers conducted a joint Phase I/II survey and evaluation of the area immediately surrounding the burial as a means to determine if there were additional archaeological deposits associated with it. Enough artifacts were recovered from a plowzone context that dated to the late eighteenth and early nineteenth century to merit applying for a formal site designation, although no additional human burials or features were encountered. Assigned site number 44SK481, the project's archaeologist recommended no further work for the site, aside from removing the burial so as to prevent further damage to it.

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The human burial was interred in a wood coffin, fastened together with hand wrought nails. The coffin appears to have been hexagonal in shape, although this could not be verified because of the disturbances. The coffin was oriented on an east-west axis, with the head of the internment located to the west. The individual was placed in a prone position, face up, with the hands resting on the pelvis. Other than several copper pins, no

clothing implements were found in association with the burial, suggesting that the individual had been wrapped in a shroud for burial. No other grave goods were observed with the burial. The fill soil within the burial contained no diagnostic artifacts, only a few fragments of handmade brick and oyster shells. Given the circumstantial evidence from the burial and the surrounding site, it is estimated that the individual was buried ca. 1800.

Analysis of the skeletal elements indicates that the individual is most likely a female between the ages of 20 and 23. Based on estimates, the woman was approximately 5' 4" tall. Evidence suggests that the woman was African-American, although the reliability of this determination is not firm. Some of the bones show evidence of heavy physical labor, and five of her teeth had caries. No indications of the cause of death could be ascertained from the skeletal remains.

Mitochondrial DNA (MtDNA) testing was conducted on a small sample (2.0 grams) of bone matter from the skeletal remains to confirm osteological findings and contribute to the determination of race. Insufficient DNA was present in the sample to obtain a profile using current Mitochondrial Sequencing Protocol (Appendix C). The test was inconclusive and no DNA sequence data was generated.

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**APPENDIX A: SKELETAL ANALYSIS**

**By Cliff Boyd and Donna Boyd**

## INTRODUCTION

On June 14, 2001, Dr. Donna Boyd received from Cultural Resources, Inc., Williamsburg, Virginia, the excavated skeletal remains from a historic burial on the former Nansemond Ordinance Depot, Suffolk, Virginia. In this report, we present our analysis of these remains, including determinations of age, sex, ethnicity, stature, and pathologies of this individual. The research methods are discussed first, followed by a summary of the results of the analysis. Attachment 1 contains a complete inventory of all skeletal remains, while Attachment 2 presents the results of a metric analysis and sex and ethnicity assessment.

## METHODS

Standard osteological manuals (Bass 1995; Bennett 1993; White 2000) as well as specimens and casts in the Radford University Archaeological and Physical Anthropology Laboratory were consulted as aids in the identification of specific teeth and bone fragments. Age assessment was based on the degree of fusion of postcranial skeletal elements (McKern and Stewart 1957) and dental maturation and wear (Moorrees, Fanning and Hunt 1963; Scott 1979; Smith 1984). Assessment of sex was based on non-metric observation of the innominate and discriminant function analyses of measurements of the legs and feet via the FORDISC software program (Ousley and Jantz 1996; Steele and Bramblett 1988). Ethnicity and stature were also determined by FORDISC discriminant function analyses of these measurements (Ousley and Jantz 1996). Finally, pathologies were identified using standard manuals of paleopathology (Aufderheide and Rodriguez-Martin 1998; Ortner and Putschar 1985). Skeletal and dental elements and pathologies were recorded using forms and standards in Buikstra and Ubelaker (1994).

## AGE, SEX, ETHNICITY, STATURE DETERMINATIONS

The upper half of Burial 1 had been badly disturbed by both erosion and the non-systematic excavation and subsequent reinterment of some of the remains by the Suffolk Police Department (see Figure 6). However, the legs, feet, right arm, and a portion of the innominate were well-preserved and several measurements were recorded for these elements (Figure 14, top); Attachment 2). Several of the teeth, even though disassociated with the maxilla or mandible, were also very well preserved (Attachment 1).

### *Age: 20 - 23 years*

Maxillary and mandibular third molars of this individual had erupted, indicating an age over 18 years. Slight wear on the crowns of these teeth and their complete roots suggest an age of at least 20 years at death (Moorrees, Fanning and Hunt 1963). However, a portion of S1 (the first sacral vertebra) was not completely fused to S2. This indicates a maximum age at death of 23 years, since these vertebrae are at least 3/4 fused by this age (as indicated by a study of Korean War dead by McKern and Stewart [1957]). This young age is further supported by the absence of osteoarthritis or other age-related degenerative pathologies on the vertebrae or long bone joints.

***Sex: Female***

Although the arm and leg bones of this individual are robust, the left innominate has a wide sciatic notch, indicative of a female. Also, when measurements of the right talus and calcaneus (Table 1) were incorporated into Steele and Bramblett's (1988:259-261) discriminant function number 5, a score of 46.35 was obtained. This is close to, but still below, their male/female sectioning point of 47.30. Finally, a FORDISC 2.0 (Ousley and Jantz 1996) analysis of all postcranial measurements (Attachment 2; Figure 15) shows a high probability that this individual is a female (with slight overlap with the male sample population).

**Table 1. Calcaneus and Talus Measurements for Burial.**

Body Height, Right Calcaneus (BHC)	45 mm
Maximum Length, Right Talus (MLT)	50 mm
Maximum Width, Right Talus (MWT)	39 mm

***Ethnicity: Possibly African-American***

Unfortunately, the cranium, which is the best area to determine ethnicity or racial affinity, was represented by only a few unmeasurable fragments. FORDISC 2.0 was applied to postcranial measurements to determine this attribute. The results (Attachment 2; Figure 16) show that the remains classify with African-Americans. It must be stressed, however, that determination of ethnicity using only postcranial elements is less reliable than a determination using the cranium.

***Stature: 64.2 inches +/- 2.4 inches***

Using femora and tibia length measurements, FORDISC 2.0 again was applied to estimate stature. A stature estimate of 5 feet 4.2 inches with a range of 5 feet 1.8 inches to 5 feet 6.6 inches was produced using the formula for African-American females (Ousley and Jantz 1996).

**PATHOLOGIES**

Five teeth (four premolars and one molar) had caries, but none had extensively damaged the teeth and three were incipient interproximal caries (Attachment 1). Six teeth also had a slight calculus buildup near the base of the crown

Three thoracic vertebrae also had Schmorl's nodes on their bodies, with two possessing these lesions on both superior and inferior surfaces of the body (Figure 14, bottom). Schmorl's nodes are vertical disc hernias that are uncommon before the age of 30, but can be associated with occupational stress (Aufderheide and Rodriguez-Martin 1998:96-97; Ortner and Putschar 1985:428-431).

## **SUMMARY**

Although only partially preserved, Burial 1, 44SK481 is likely that of a 20 - 23 year old African-American female who was approximately 5 feet 4 inches tall and who died and was interred sometime between the late eighteenth to early nineteenth centuries.

The pronounced muscle markings on many long bones and the vertebral disc hernias might seem unusual for a young female, but they are not, considering the temporal period and her ethnicity. Other skeletal biological studies of African-Americans (both slave and free) from the 19th century (Boyd and Boyd 1999; Kelley and Angel 1983, 1987) show very robust skeletons and markers of occupational stress (such as Schmorl's nodes), indicative of heavy physical labor. Thus, evidence for such physical stress on this individual is not surprising.

**ATTACHMENT 1 – SKELETAL AND DENTAL INVENTORY**

# INVENTORY RECORDING FORM FOR COMPLETE SKELETONS

Site Name/Number 44SK481 / \_\_\_\_\_ Observer CBOYD  
 Feature/Burial Number BURIAL 1 / \_\_\_\_\_ Date 8/22/01  
 Burial/Skeleton Number BURIAL 1 / \_\_\_\_\_  
 Present Location of Collection \_\_\_\_\_

### CRANIAL BONES AND JOINT SURFACES

	L(left)	R(right)		L	R
Frontal	<u>3</u>	—	Sphenoid	—	<u>3</u>
Parietal	—	—	Zygomatic	—	<u>3</u>
Occipital	—	—	Maxilla	<u>3</u>	—
Temporal	<u>3</u>	—	Palatine	—	<u>3</u>
TMJ	<u>3</u>	—	Mandible	—	—

### POSTCRANIAL BONES AND JOINT SURFACES

	L	R		L	R
Clavicle	<u>2</u>	<u>2</u>	Os Coxae		
Scapula			Ilium	<u>1</u>	<u>2</u>
Body	<u>3</u>	<u>3</u>	Ischium	—	—
Glenoid f.	<u>2</u>	<u>1</u>	Pubis	—	—
Patella	<u>1</u>	<u>1</u>	Acetabulum	<u>1</u>	<u>2</u>
Sacrum	<u>3</u>	<u>3</u>	Auric. Surface	<u>1</u>	—

*Collyx* 1

### VERTEBRAE (individual)

	Centrum	Neural Arch
C1	—	—
C2	—	—
C7	—	—
T10	—	—
T11	—	—
T12	—	—
L1	—	—
L2	—	—
L3	—	—
L4	—	—
L5	—	—

### VERTEBRAE (grouped)

	#Present/# Complete	
	Centra	Neural Arches
C3-6	<u>1/1</u>	<u>1/0</u>
T1-T9	<u>8/1</u>	<u>18/0</u>
LUMBAR	<u>3/0</u>	<u>14/0</u>

Sternum: Manubrium 1 Body 1

### RIBS (individual)

	L	R
1st	—	—
2nd	—	—
11th	—	—
12th	—	—

### RIBS (grouped)

	#Present/# Complete		
	L	R	Unsided
3-10	<u>10/0</u>	<u>9/0</u>	<u>47/0</u>

(fragments)

1 = >75% PRESENT  
 2 = 25-75% PRESENT  
 3 = < 25% PRESENT

Series/Burial/Skeleton 445K481 Bu.1  
 Observer/Date C. BOYD

**LONG BONES**

	Proximal Epiphysis	Diaphysis			Distal Epiphysis
		Proximal Third	Middle Third	Distal Third	
Left Humerus	—	1	1	2	—
Right Humerus	2	—	1	1	2
Left Radius	—	1	1	1	1
Right Radius	—	2	1	2	2
Left Ulna	—	2	1	2	—
Right Ulna	1	1	1	—	1
Left Femur	1	1	1	1	1
Right Femur	2	1	1	1	1
Left Tibia	2	1	1	1	1
Right Tibia	2	1	1	1	2
Left Fibula	—	1	1	1	1
Right Fibula	1	1	1	1	—
Left Talus	1	—	—	—	2
Right Talus	1	—	—	—	—
Left Calcaneus	1	—	—	—	—
Right Calcaneus	1	—	—	—	—

**HAND (# Present/# Complete)**

	L	R	Unsided
# Carpals	7/6	1	1
# Metacarpals	4/2	5/5	1
# Phalanges	9/9	13/13	4/1

**FOOT (# Present/# Complete)**

	L	R	Unsided
# Tarsals	5/4	5/4	1
# Metatarsals	5/5	5/5	1
# Phalanges	8/7	3/3	1

Comments: 156 unidentified postcranial fragments from police excavations

Left carpals (hand) associated with left innominate; right metacarpals associated with head of right femur.

Left and right radii had green staining from shroud pins at midshaft.

## DENTAL INVENTORY RECORDING FORM

### DEVELOPMENT, WEAR, AND PATHOLOGY: PERMANENT TEETH

Site Name/Number 445K481 / \_\_\_\_\_ Observer D. Boyd

Feature/Burial Number Burial 1 / \_\_\_\_\_ Date 10/8/01

Burial/Skeleton Number Burial 1 / \_\_\_\_\_

Present Location of Collection \_\_\_\_\_

**Tooth presence and development:** code 1-8. For teeth entered as "1" (present, but not in occlusion), record stage of crown/root formation under "Development." **Occlusal surface wear:** use left teeth, following Smith (1984) for anterior teeth (code 1-8) and Scott (1979) for molars (code 0-10). If marked asymmetry is present, record both sides. Record each molar quadrant separate in the spaces provided (+) and the total for all four quadrants under "Total." **Caries:** code each carious lesion separately (1-7); **Abscesses:** code location (1-2). **Calculus:** code 0-3, 9. Note surface affected (buccal/labial or lingual).

	Tooth Presence	Development	Wear /Total	Caries	Abscess	Calculus/Affected
Maxillary Right	1 M <sup>3</sup>	All		---	---	---
	2 M <sup>2</sup>	complete	2	---	---	---
	3 M <sup>1</sup>	↓		---	---	---
	4 P <sup>2</sup>	---	1	Interproximal(1)	---	Slight
	5 P <sup>1</sup>	---	1	---	---	---
	6 C	---	1	---	---	---
	7 I <sup>2</sup>	---	---	---	---	---
	8 I <sup>1</sup>	---	---	---	---	---
Maxillary Left	9 I <sup>1</sup>	---	---	---	---	---
	10 I <sup>2</sup>	---	---	---	---	---
	11 C	---	2	---	---	---
	12 P <sup>1</sup>	---	---	Interproximal(1)	---	---
	13 P <sup>2</sup>	---	1	---	---	---
	14 M <sup>1</sup>	---	2	Interproximal(1)	---	Slight
	15 M <sup>2</sup>	---	3	---	---	---
	16 M <sup>3</sup>	---	1-2	---	---	---

Series/Burial/Skeleton 44SK481 BA.1

Observer/Date D. Boyd

	Tooth Presence	Development	Wear /Total	Caries	Abscess	Calculus/Affected
Mandibular Left	17 M <sub>3</sub>	<u>1</u>	<u>All complete</u>	<u>1-2</u>		
	18 M <sub>2</sub>	<u>↓</u>				
	19 M <sub>1</sub>					
	20 P <sub>2</sub>	<u>1</u>	<u>2</u>	<u>Interproximal (1)</u>		<u>slight</u>
	21 P <sub>1</sub>	<u>1</u>	<u>2</u>	<u>root carie (1)</u>		
	22 C	<u>1</u>	<u>2</u>			
	23 I <sub>2</sub>	<u>1</u>	<u>2</u>			<u>slight</u>
	24 I <sub>1</sub>					
Mandibular Right	25 I <sub>1</sub>	<u>1</u>	<u>2</u>			<u>moderate</u>
	26 I <sub>2</sub>	<u>1</u>	<u>2</u>			<u>slight</u>
	27 C					
	28 P <sub>1</sub>					
	29 P <sub>2</sub>					
	30 M <sub>1</sub>					
	31 M <sub>2</sub>	<u>1</u>	<u>1-2</u>			
	32 M <sub>3</sub>					

Estimated dental age (juveniles only) \_\_\_\_\_

Supernumerary Teeth:	Position between teeth	Location (1 - 4)	Position between teeth	Location (1 - 4)	Position between teeth	Location (1 - 4)
	<u>/</u>		<u>/</u>		<u>/</u>	
	<u>/</u>		<u>/</u>		<u>/</u>	

Comments:

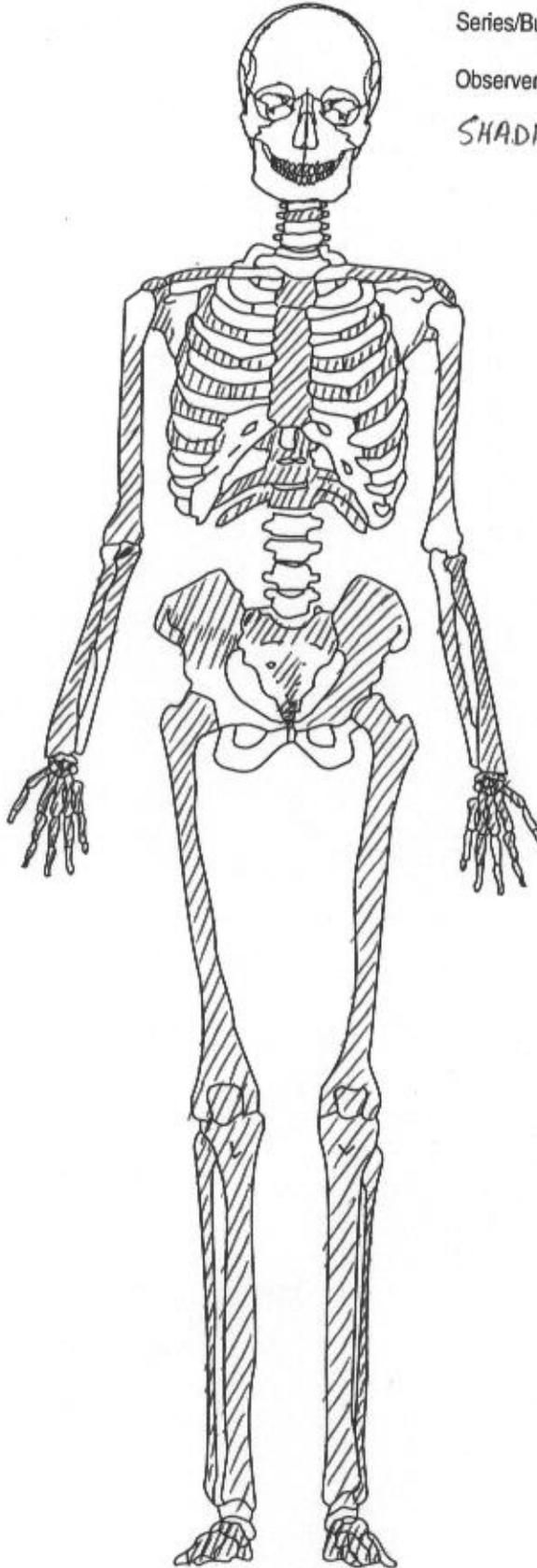
Caries are incipient ones or very small; tooth wear is slight.

**ADULT SKELETON RECORDING FORM: ANTERIOR VIEW**

Series/Burial/Skeleton 445K481, BU.1

Observer/Date C. Boyd 10/15/01

SHADING = BONES PRESENT



**ATTACHMENT 2 – METRIC AND FORDISC ANALYSIS**

## Forensic Measurements

CASE #: 445K481 Ba.1 RECORDER: C, D BOYD DATE: 8/24/01

### ----- CRANIAL MEASUREMENTS -----

1. MAXIMUM LENGTH (g-op): _____	13. NASAL HEIGHT (n-ns): _____
2. MAXIMUM BREADTH (eu-eu): _____	14. NASAL BREADTH (al-al): _____
3. BIZYGOMATIC BREADTH (zy-zy): _____	15. ORBITAL BREADTH (d-ec): _____
4. BASION-BREGMA (ba-b): _____	16. ORBITAL HEIGHT (OBH): _____
5. CRANIAL BASE LENGTH (ba-n): _____	17. BIORBITAL BR. (ec-ec): _____
6. BASION-PROSTHION L. (ba-pr): _____	18. INTERORBITAL BR. (d-d): _____
7. MAX.-ALVEOLAR BR. (ecm-ecm): _____	19. FRONTAL CHORD (n-b): _____
8. MAX.-ALVEOLAR L. (pr-alv): _____	20. PARIETAL CHORD (b-1): _____
9. BIAURICULAR BREADTH (AUB): _____	21. OCCIPITAL CHORD (l-o): _____
10. UPPER FACIAL HGT. (n-pr): _____	22. FORAMEN MAGNUM L. (ba-o): _____
11. MIN. FRONTAL BR. (ft-ft): _____	23. FORAMEN MAGNUM BR (FOB): _____
12. UPPER FACIAL BR. (fmt-fmt): _____	24. MASTOID LENGTH (MDH): _____

### ----- MANDIBULAR MEASUREMENTS -----

25. CHIN HEIGHT (gn-id): _____	30. MIN. RAMUS BREADTH: _____
26. BODY HEIGHT at MENTAL FOR: _____	31. MAX. RAMUS BREADTH: _____
27. BODY THICKNESS at M. FOR: _____	32. MAX. RAMUS HEIGHT:* _____
28. BIGONIAL DIAMETER (go-go): _____	33. MAND. LENGTH:* _____
29. BICONDYLAR BR. (cdl-cdl): _____	34. MAND. ANGLE:* _____

\* Record only if mandibulometer is used.

### ----- POSTCRANIAL MEASUREMENTS -----

CLAVICLE: Epiph. P/A	INNOMINATE: Epiph. P/A
35. MAXIMUM LENGTH: _____	56. HEIGHT: _____
36. SAGITTAL DIAM. at MIDSH: _____	57. ILIAC BREADTH: _____
37. VERTICAL DIAM. at MIDSH: _____	58. PUBIS LENGTH: _____
SCAPULA : Epiph. P/A	59. ISCHIUM LENGTH: _____
38. HEIGHT: _____	FEMUR: Epiph. P/A
39. BREADTH: _____	60. MAXIMUM LENGTH: <u>440</u>
HUMERUS : Epiph. P/A	61. BICONDYLAR LENGTH: <u>437</u>
40. MAXIMUM LENGTH: _____	62. EPICONDYLAR BREADTH: <u>75</u>
41. EPICONDYLAR BREADTH: _____	63. MAX. DIAM. of HEAD: <u>41</u>
42. MAX. VERT. DIAM. of HEAD: _____	64. A-P SUBTROCH. DIAMETER: <u>28</u>
43. MAX. DIAM. at MIDSHAFT: _____	65. TRANSV. SUBTROCH. DIAM: <u>31</u>
44. MIN. DIAM. at MIDSHAFT: _____	66. A-P DIAM. MIDSH: <u>27</u>
RADIUS: Epiph. P/A	67. TRANVS. DIAM. MIDSH: <u>27</u>
45. MAXIMUM LENGTH: _____	68. CIRCUMFERENCE AT MIDSH: <u>88</u>
46. SAGITTAL DIAM. at MIDSH: <u>13</u>	TIBIA: Epiph. P/A
47. TRANSV. DIAM. at MIDSH: <u>15</u>	69. CONDYLO-MALLEOLAR LEN: <u>375</u>
ULNA: Epiph. P/A	70. MAX. PROX. EPIPH. BR: _____
48. MAXIMUM LENGTH: _____	71. MAX. DIST. EPIPH. BR: _____
49. DORSO-VOLAR DIAMETER: _____	72. MAX. DIAM. NUTRIENT FOR: <u>39</u>
50. TRANSVERSE DIAMETER: _____	73. TRANSV. DIAM. NUTR. FOR: <u>26</u>
51. PHYSIOLOGICAL LENGTH: _____	74. CIRCUM. AT NUTR. FOR: <u>100</u>
52. MIN. CIRCUMFERENCE: _____	FIBULA: Epiph. P/A
SACRUM: Number of segments: _____	75. MAXIMUM LENGTH: _____
53. ANTERIOR HEIGHT: _____	76. MAX. DIAM. at MIDSHAFT: <u>16</u>
54. ANTERIOR SURFACE BREADTH: _____	CALCANEUS: Epiph. P/A
55. MAX. BREADTH (S-1) _____	77. MAXIMUM LENGTH: <u>77</u>
	78. MIDDLE BREADTH: <u>39</u>

Reference group classification using 18 variables:  
 RADAPD RADTVD FEMXLN FEMBLN FEMEBR FEMHDD FEMSAP FEMSTV  
 FEMMAP FEMMTV FEMCIR TIBXLN TIBNFX TIBNFT TIBCIR FIBMDM  
 CALCXL CALCBR

From Group	Into Group M	F	Total Counts	Percent Correct
M	145	12	157	92.4 %
F	1	91	92	98.9 %
Totals:	236		249	94.8 %

Two Group Discriminant Function Results

Group	Classified into	Distance from	Posterior Probabilities	Typicality
M		28.0	.142	.062
F	** F **	24.4	.858	.142

Two Group Discriminant Function Coefficients

44SK481	M 157	F 92	D.F. Weight	Relative Weights	
RADAPD	13	13.25	10.72	1.764	9.1 %
RADTVD	15	16.41	13.92	.111	0.6 %
FEMXLN	440	479.89	442.47	-.400	30.4 %
FEMBLN	437	475.98	437.77	.419	32.5 %
FEMEBR	75	84.82	74.41	.301	6.4 %
FEMHDD	41	48.34	42.09	.465	5.9 %
FEMSAP	28	28.79	25.49	-.168	1.1 %
FEMSTV	31	32.59	28.78	-.104	0.8 %
FEMMAP	27	30.73	27.38	.240	1.6 %
FEMMTV	27	28.13	24.33	-.058	0.4 %
FEMCIR	88	91.70	80.95	-.127	2.8 %
TIBXLN	375	398.15	364.00	-.011	0.8 %
TIBNFX	39	36.76	31.37	.322	3.5 %
TIBNFT	26	25.96	22.65	-.155	1.0 %
TIBCIR	100	99.10	85.86	.002	0.0 %
FIBMDM	16	15.62	13.86	-.302	1.1 %
CALCXL	77	85.01	76.78	.082	1.4 %
CALCBR	39	44.28	39.50	.053	0.5 %
Constant			-68.779		
Scores	5.670	-5.670	-1.803		
	(Class means)		(Unknown)		
D square =	11.339				

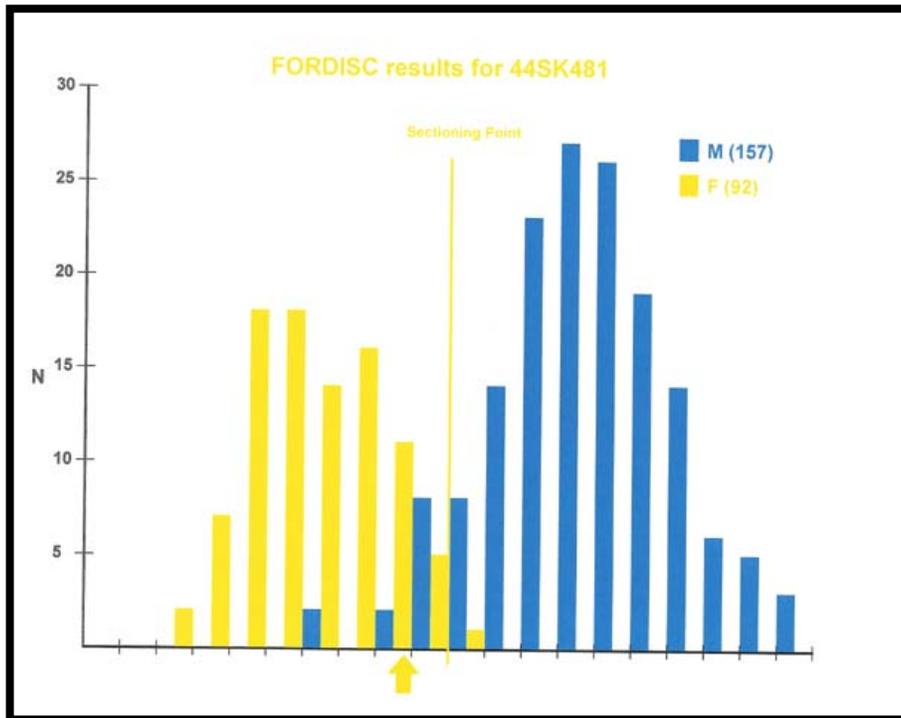


Figure 15. FORDISC analysis for sex.

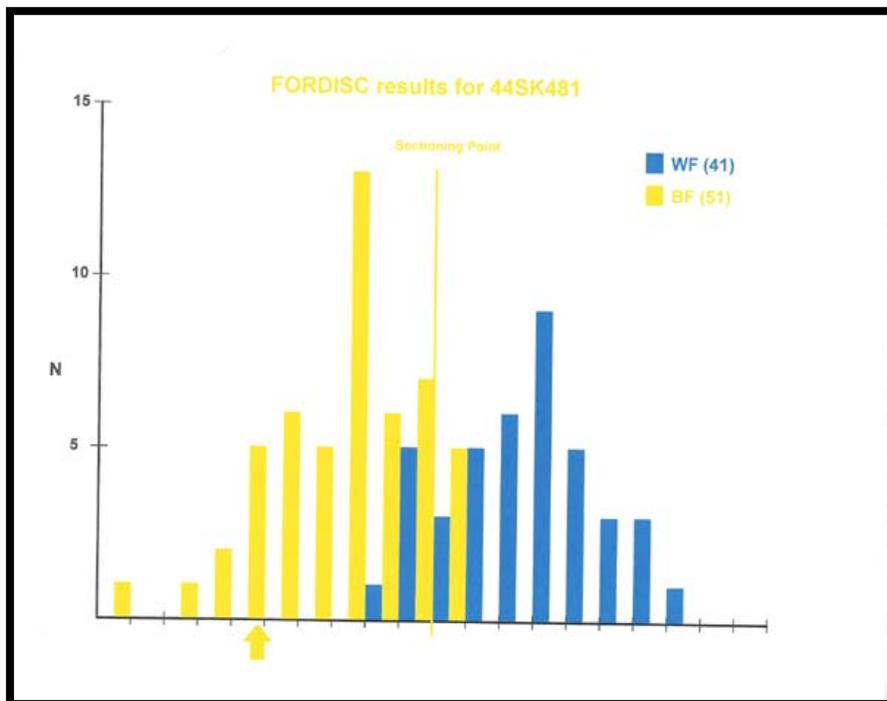


Figure 16. FORDISC analysis for ethnicity.

**APPENDIX B: ARTIFACT INVENTORY**

**ARTIFACT INVENTORY**

Site: 44SK481

Phase I

Recorder: C. Tyrer

June 14, 2001

<b>Providence</b>	<b>Quantity</b>	<b>Description</b>
Backdirt pile	2	Shatter, chert
	1	Biface fragment, chert
	1	Ax fragment, chert
FS2	9	Debitage, chert
ST A3	1	Creamware body sherd, c. 1775-1820
	1	Porcelain rim sherd, hard paste, underglaze blue design on interior and exterior, teabowl, Chinese export, c. 1660-1840
	1	Stoneware body sherd, gray body with a gray salt glaze on interior and exterior, blue filled in checkerboard square design on exterior, Rhenish, c. 1700-1775
	1	Bottle glass body fragment, dark green
	1	Window glass fragment, aqua, 3/32" thick
ST A11 Surface	1	Thin sheet brass sign, 1862 No. 5 cutouts
ST 12	1	Delftware body sherd, buff body, glaze missing, c. 1600-1800
	1	Whiteware rim sherd, rim flares outward, basin, c. mid 19 <sup>th</sup> century
	1	Stoneware body sherd, tannish gray body with a brown salt glaze on interior and exterior, English, c. mid 18 <sup>th</sup> century
	2	Stoneware body sherds, white body with a white salt glaze on interior and exterior, English white salt glazed stoneware, c. 1720-1775
	1	Porcelain body sherd, fire damaged
	1	Porcelain body sherd, hard paste, Chinese export, c. 1660-1840
	1	Bottle glass body fragment, green
	1	Bottle glass body fragment, medium green
	6	Window glass fragments, aqua, 2/32" thick
	1	Nail fragment, wire
ST 15AP	1	Creamware rim sherd, Royal shape, c. 1775-1820
	1	Bottle glass body fragment, solarized

		amethyst, c. late 1880s to 1918
	1	Window glass fragment, aqua, 3/32" thick
	1	Brick fragment, red
	1	Shell fragment, oyster
ST 21	1	Creamware body sherd, c. 1775-1820
	1	Pearlware body sherd, hand painted blue design on exterior, c. post 1795
	1	Stoneware body sherd, white body with a white salt glaze on interior and exterior, English white salt glazed stoneware, c. 1720-1775
	1	Bottle glass body fragment, medium green
	1	Window glass fragment, aqua, 3/32" thick
	1	Brick fragment, reddish buff, handmade
ST 22	1	Bottle glass body fragment, aqua
ST A22	1	Bottle glass body fragment, amber
	1	Bottle glass body fragment, aqua
	1	Window glass fragment, aqua, 3/32" thick
	1	Nail fragment, cut?, corroded
	1	Wire fragment
	2	Asbestos tile fragments
ST A24	1	Whiteware body sherd
Mixed screen sample	1	Bottle glass body fragment, clear
	1	Bottle glass body fragment, solarized amethyst, c. late 1880s to 1918
	1	Glass base fragment, clear
	1	Glass lid fragment, clear
	1	Window glass fragments, aqua, 2/32" thick
	2	Nail fragments, cut
	2	Stone fragments, fire damaged
ST A24	1	Delftware core sherd, buff body, c. 1600-1800
	1	Creamware rim sherd, c. 1775-1820
	1	Bottle glass body fragment, aqua
	5	Window glass fragments, aqua, 2/32" thick
	5	Nail fragments, cut?, corroded
	1	Slate fragment
	3	Fire damaged fragments, indeterminate
ST A25	1	Fire damaged earthenware sherd
	1	White ball clay pipe stem, 6/64" diam. c. 1680-1710
	1	Bottle glass body fragment, cobalt blue
	4	Window glass fragments, aqua, 3/32" thick
ST 25	1	Pearlware rim sherd, incised and hand

		1	<p>painted green shell edge on interior, scalloped rim, c. post 1795</p> <p>Stoneware rim sherd, gray body with a gray salt glaze on interior and exterior, bottle, American, c. post 1850</p> <p>Bottle glass body fragment, aqua</p> <p>Bottle glass body fragment, clear</p> <p>Bottle glass body fragment, medium green</p>
ST 26		1	Window glass fragment, aqua, 2/32" thick
		2	Nail fragments, cut
		1	Slate fragment
ST 26		2	Bottle glass body fragments, amber
Mixed fill		1	Bottle glass body fragment, aqua
		1	Scissors handle fragment?, iron
		1	Non cultural fragment
ST A 28		1	Coarse earthenware body sherd, buff body with a clear lead (appears yellow) on interior and exterior, Staffordshire, c. 1690-1795
		3	Delftware body sherds, buff body with a blue tinted glaze, c. 1600-1800
		1	Pearlware body sherd, c. post 1779
		1	Bottle glass body fragment, amber
		2	Bottle glass body fragments, aqua
		1	Bottle glass body fragment, clear
		1	Bottle glass body fragment, dark green
		2	Nail fragments, cut
		1	Bone fragment
ST A29		1	Coarse earthenware body sherd, brick red body with a thick black lead glaze on interior and exterior, Black glazed redware, c. 1720-1810
		1	Coarse earthenware rim sherd, buff body with a clear lead glaze on interior and exterior, Staffordshire, c. 1790-1775
		5	Delftware body sherds, buff body, fire damaged, c. 1600-1800
		1	Delftware body sherd, buff body, blue tinted glaze on interior and exterior, c. 1600-1800
		3	Creamware body sherds, c. 1775-1820
		1	Whiteware body sherd
		1	Bottle glass body fragment, aqua
		2	Bottle glass body fragments, clear
		2	Bottle glass body fragments, dark green
		2	Window glass fragments, aqua, 2/32" thick
		2	Nail fragments, cut?, corroded
ST 29		1	Coarse earthenware body sherd, reddish

	1	orange body with a thick black lead glaze on interior, exterior unglazed, Redware Delftware body sherd, buff body with a solid blue ground on interior, c. 1600-1800
	5	Creamware body sherds, c. 1775-1820
	1	Creamware rim sherd, c. 1775-1820
	1	Pearlware body sherd, c. post 1779
	4	White ball clay pipe bowl fragments
	1	White ball clay pipe stem, 5/64" diam., c. 1710-1750
	1	Bottle glass body fragment, aqua
	3	Bottle glass body fragments, olive green
	8	Nail fragments cut
	3	Bone fragments, mammal
	1	Tooth, mammal
	1	Brick bat, reddish brown, handmade
ST A29 Bottom of P2	5	Delftware rim sherds, buff body with a hand painted blue floral design on interior, plate, c. 1600-1800
	1	Pearlware body sherd, c. post 1779
	1	Stoneware body sherd, white body with a white salt glaze on interior and exterior, English white salt glazed stoneware, c. 1720-1775
	1	White ball clay pipe stem, 5/64" diam., c. 1710-1750
	5	Bottle glass body fragments, dark green
	1	Bottle glass base fragment, dark green
	2	Nail fragments cut
	1	Bone fragment, mammal
	2	Teeth, mammal
	2	Brick bats, reddish brown, handmade
ST A30	4	Creamware body sherds, c. 1775-1820
	2	Pearlware body sherds, c. post 1779
	1	Whiteware base sherd
	1	Bottle glass body fragment, aqua
	3	Bottle glass body fragments, clear
	1	Window glass fragment, aqua. 3/32" thick
ST A32	2	Flakes, quartzite, secondary
	1	Hurricane lamp globe fragment, solarized amethyst, scalloped rim, c. late 1880s to 1918
	1	Nail fragment, cut
	2	Fire damaged fragments, indeterminate
ST A33	2	Creamware body sherds, c. 1775-1820
	1	Creamware rim sherd, c. 1775-1820

	1	Whiteware body sherd
	1	Stoneware rim sherd, white body with a white salt glaze on interior and exterior, English white salt glazed stoneware, c. 1720-1775
	1	Bottle glass body fragment, amber
	1	Bottle glass body fragment, aqua
	1	Bottle glass body fragment, clear
	1	Nail fragment, cut
	2	Fire damaged fragments, indeterminate
ST 33	1	Yellow ware body sherd, c. post 1830
Mixed	1	Bottle glass body fragment, clear
	1	Handle fragment
ST A34	1	Bone fragment, fowl
	2	Brick bats, reddish brown, handmade, glazed
	2	Mortar fragments, shell temper
ST A35	1	Coarse earthenware body sherd, brick red body with yellow clay streaks, unglazed, Buckley, c. 1720-1775
	2	Bottle glass body fragments, aqua
	1	Hurricane lamp globe fragment, clear
	1	Glass fragment, fire damaged
ST 35	1	Bottle glass body fragment, green
	1	Bottle glass body fragment, clear
	1	Window glass fragment, aqua, 2/32" thick
	1	Metal alloy fragment
	1	Fire damaged fragment
ST A36	1	Earthenware body sherd, fire damaged
	1	Window glass fragment, aqua, 2/32" thick
ST A39	1	Coarse earthenware body sherd, brick red body with a ginger brown lead glaze on interior and exterior, Redware
Mixed fill	2	Pearlware body sherds
	1	Refined earthenware body sherd, buff body with a flint enameled lead glaze on interior and exterior
	1	Porcelain body sherd, hard paste, Chinese export, c. 1660-1840
	1	Stoneware body sherd, gray body with a caramel brown lead glaze on interior, American
	1	Bottle glass body fragment, solarized amethyst, c. late 1880s to 1918
	10	Window glass fragments, aqua, 2/32" thick
	3	Window glass fragments, aqua with chicken

		1	wire embedded in center, ¼" thick
		1	Brick fragment, reddish orange, handmade
		1	Asbestos tile fragment
ST A39		1	Creamware body sherd, c. 1775-1820
ACP/mixed		1	Whiteware body sherd, fire damaged
		1	Whiteware rim sherd, plate
		1	Stoneware body sherd, buff body with a brown salt glaze on exterior
		1	Bottle glass body fragment, clear
		1	Bottle glass body fragment, cobalt
		4	Iron fragments, corroded
		1	Mortar fragment, sand temper
ST 40		1	Pearlware body sherd, c. post 1779
ST 40		1	Coarse earthenware body sherd, brick red body with yellow clay streaks, thick black lead glaze on interior, exterior unglazed, Buckley, c. 1720-1775
		1	Coarse earthenware base sherd, brick red body with yellow clay streaks, thick black lead glaze on interior, exterior unglazed, Buckley, c. 1720-1775
		2	Pearlware body sherds, c. post 1779
		1	Whiteware base sherd, plate
		1	Whiteware rim sherd, cup
		1	Stoneware body sherd, tan body with a tan salt glaze on exterior
		1	White ball clay pipe stem, 5/64" diam., c. 1710-1750
		1	Bottle glass body fragment, aqua
		1	Bottle glass body fragment, clear
		1	Bottle glass body fragment, dark green
		7	Window glass fragments, aqua, 3/32" thick
		1	Nail fragment, indeterminate, corroded
		1	Iron fragment, indeterminate
ST 41		2	Earthenware body sherds, fire damaged
		1	Coarse earthenware body sherd, buff body with a thick black lead glaze on interior and exterior
		1	Creamware body sherd, c. 1775-1820
		1	Stoneware body sherd, fire damaged
		1	Bottle glass rim fragment, dark green
		1	Glass knob fragment, solarized amethyst, faceted cut on exterior, c. late 1880s to 1918
		5	Nail fragments, indeterminate, corroded
ST A42		1	Delftware body sherd, buff body with a blue tinted glaze on interior and exterior,

		hand painted blue design on interior, c. 1600-1800
ST A43	1	Shatter
	2	Bottle glass body fragments, aqua
	1	Bottle glass body fragment, olive green
	1	Window glass fragment, aqua, 2/32" thick
ST 43	1	Stoneware body sherd, gray body with a gray salt glaze on exterior
	2	Bottle glass body fragments, clear
	1	Bottle glass body fragment, olive green
	3	Window glass fragments, aqua, 3/32" thick
ST A44	1	Coarse earthenware rim sherd, brick red body with yellow clay streaks, thick black lead glaze on interior and exterior, Buckley, c. 1720-1775
	1	Bottle glass body fragment, clear
	1	Bead, white with incised lines on side
	1	Buckle fragment, pewter
	2	Fire damaged fragments
ST A45	1	Creamware body sherd, c. 1775-1820
	1	Bottle glass body fragment, aqua
	1	Bottle glass body fragment, clear
	1	Bottle glass body fragment, dark green
	1	Bottle glass body fragment, lime green
	1	Window glass fragment, aqua, 3/32" thick
	9	Copper fragments
ST 50	1	Creamware body sherd, c. 1775-1820
	1	Porcelain body sherd, hard paste, Chinese export, c. 1660-1840
ST 51	1	Whiteware glaze chip
	1	Bottle glass body fragment, clear
	2	Window glass fragments, aqua, 2/32" thick
ST 53	1	Pearlware body sherd, c. post 1800
	1	Whiteware body sherd
	1	Iron fragment, corroded, punch?
	4	Window glass fragments, aqua, 3/32" thick
ST A54 Shell	1	Bone fragment, mammal
ST A54	1	Coarse earthenware base sherd, brick red body with yellow clay streaks, thick black lead glaze on interior, exterior unglazed, Buckley, c. 1720- 1775
	1	Bottle glass body fragment, olive green

ST A55 Backhoe backdirt pile	1	Stoneware body sherd, reddish tan body with a tannish white salt glaze on interior and exterior, blue design on exterior, mug, American
ST A55	1	Coarse earthenware rim sherd, brick red body with yellow clay streaks, thick black lead glaze on interior, exterior unglazed, Buckley, c. 1720-1775
	1	Delftware core sherd, buff body, c. 1600-1800
	1	Delftware body sherd, buff body with a hand painted blue design on interior, c. 1600-1800
	1	Delftware rim sherd, buff body with a blue tinted glaze on interior and exterior, c. 1600-1800
	1	Earthenware body sherd, fire damaged
	1	Creamware body sherd, c. 1775-1820
	1	Pearlware rim sherd, incised and hand painted green shell edge on interior, c. post 1795
	1	Stoneware glaze chip, white salt glaze, English white salt glazed stoneware, c. 1720-1775
	1	Porcelain body sherd, hard paste, under glaze blue design on exterior, Chinese export, c. 1660-1840
	1	White ball clay pipe bowl fragment
	1	Bottle glass body fragment, aqua
	1	Glass rim fragment, clear, bowl?
	1	Window glass fragment, aqua, 2/32" thick
	3	Iron fragments, indeterminate
	1	Chert flake, fire damaged
ST A58	1	Coarse earthenware body sherd, red body with a caramel brown lead glaze on interior and exterior, redware
	1	Coarse earthenware body sherd, brick red body with a thick black lead glaze on interior and exterior, Black glazed redware, c. 1720-1810
	1	Delftware body sherd, buff body with a blue tinted glaze, c. 1600-1800
	1	Refined earthenware body sherd, fire damaged
	1	Refined earthenware rim sherd, fire damaged
	2	Creamware body sherds, c. 1775-1820
	2	Pearlware body sherds, c. post 1779
	1	Whiteware body sherd
	1	Porcelain body sherd, hard paste, underglaze blue design on interior, Chinese export, c. 1660-1840
	1	White ball clay pipe stem, 5/64" diam., c. 1710-1750
	1	Bottle glass body fragment, aqua

	4	Bottle glass body fragments, clear
	1	Bottle glass base fragment, clear
	1	Bottle glass body fragment, cobalt
	1	Window glass fragment, aqua, 3/32" thick
	1	Mortar fragment, sand temper
ST 60	1	Pearlware body sherd, c. post 1779
ACP	1	Mortar fragment, sand temper
ST 60	2	Fire damaged fragments, indeterminate
	1	Bottle glass body fragment, medium green
ST 60 Profile	6	Native American pottery body sherds, sand temper with shell and hematite inclusions, smoothed interior and cord marked exterior
ST 64	1	Coarse earthenware rim sherd, brick red body with yellow clay streaks, glaze missing, Buckley, c. 1720-1775
	3	Bottle glass body fragments, amber
	1	Bottle glass base fragment, amber, molded on base "Duraglass"
	1	Iron fragment, indeterminate
	2	Asbestos tile fragments
	1	Tile fragment, sewer
ST 65	1	Creamware body sherd, c. post 1800
	1	Glass fragment, clear
	1	Tile fragment, ceramic
ST A66	1	Coarse earthenware core sherd, brick red body with yellow streaks, Buckley?, c. 1720-1775
	1	Creamware body sherd, c. 1775-1820
	3	Whiteware body sherds
	3	Whiteware base sherds, plate
	2	Whiteware rim sherds, plate
	1	Whiteware rim sherd, cup
	1	Porcelain bisque fragment, figurine
	1	Bottle glass body fragment, cobalt blue
	16	Bottle glass body fragments clear
	2	Bottle glass rim fragments, clear
	1	Bottle glass base fragment, clear
	1	Bottle glass rim fragment, light green
	1	Window glass fragment, aqua, 2/32" thick
	1	Brick fragment, reddish brown, handmade
	1	Electrical insulator, ceramic
ST A67	1	Coarse earthenware body sherd, brick red body with yellow clay streaks, thick black lead glaze on interior, exterior unglazed, Buckley, c. 1720-

		1775
	1	Coarse earthenware base sherd, brick red body with yellow clay streaks, thick black lead glaze on interior, exterior unglazed, Buckley, c. 1720-1775
	1	Delftware body sherd, fire damaged
	1	Creamware body sherd. c. 1775-1820
	1	Creamware rim sherd, c. 1775-1820
	1	Whiteware body sherd
	3	Bottle glass body fragments, clear
	1	Bottle glass body fragment, olive green
	1	Window glass fragment, aqua, 2/32" thick
	1	Wire fragments
	1	Gun flint fragment, chert
	3	Bone fragments
ST A68	2	Coarse earthenware body sherds, buff body with a yellow lead glaze on interior and exterior, Staffordshire, c. 1690-1795
	1	Delftware core sherd, buff body, c. 1600-1800
	1	Whiteware body sherd
	1	White ball clay pipe bowl fragment
	1	White ball clay pipe stem, 4/64" diam. c. 1750-1800
	1	Glass fragment, opaque white
	2	Window glass fragments, aqua, 2/32" thick
	1	Tooth fragment
	3	Fire damaged fragments, indeterminate
ST A70	3	Delftware body sherds, buff body, glaze missing, c. 1600-1800
	1	Stoneware rim sherd, white body with a white salt glaze on interior and exterior, tankard or mug, English white salt glazed stoneware, c. 1720-1775
	2	Bottle glass body fragments, clear
	1	Bottle glass body fragment, medium green
	1	Glass fragment, clear, fire damaged
	2	Window glass fragments, aqua, 3/32" thick
	2	Nail fragments, wire
ST A71	1	Glass electrical insulator, light green
	1	Iron fragment, indeterminate
ST A73	1	Coarse earthenware body sherd, brick red body with yellow clay streaks, thick black lead glaze on interior and exterior, Buckley, c. 1720-1775
	3	Delftware body sherds, buff body with traces of a blue tinted glaze, c. 1600-1800
	1	Creamware rim sherd, c. 1775-1820
	1	Stoneware body sherd, tan body with a brown

	1	salt glaze on interior and exterior, English Porcelain body sherd, hard paste, Chinese export, c. 1660-1840
	1	White ball clay pipe bowl fragment
	2	Bottle glass body fragments, aqua
	1	Glass fragment, clear
	1	Nail, cut, 2" L
	1	Iron fragment, indeterminate
	1	Pewter fragment, handle?
ST 74	1	Coarse earthenware body sherd, brick red body with yellow clay streaks, thick black lead glaze on interior, exterior unglazed, Buckley, c. 1720-1775
	1	Coarse earthenware base sherd, brick red body with yellow clay streaks, thick black lead glaze on interior and exterior, Buckley, c. 1720-1775
	4	Delftware body sherds, buff body with traces of a blue tinted glaze, c. 1600-1800
	1	Creamware body sherd, c. 1775-1820
	1	Pearlware body sherd, c. post 1779
	1	Stoneware body sherd, fire damaged
	1	Stoneware body sherd, white body with a white salt glaze on interior and exterior, English white salt glazed stoneware, c. 1720-1775
	1	Porcelain base sherd, hard paste, Chinese export, c. 1660-1840
	1	Bottle glass body fragment, aqua
	1	Bottle glass body fragment, olive green
	1	Fire damaged fragment
ST 75	1	Creamware body sherd, c. 1775-1820
AL Horizon	2	Pearlware body sherds, c. post 1779
	1	Porcelain body sherd, hard paste, Chinese export, c. 1660-1840
	1	White ball clay pipe bowl fragment
	3	Bottle glass body fragments, aqua
ST A82	1	Coarse earthenware body sherd, brick red body, unglazed interior and exterior, flowerpot
	1	Stoneware base sherd, white body with a white salt glaze on interior and exterior, English white salt glaze stoneware, c. 1720-1775
	3	Bottle glass body fragments, dark green
	1	Window glass fragment, aqua, 2/32" thick
	2	Nail fragments, cut?, corroded
	1	Iron fragment, indeterminate
	1	Tooth, mammal
	1	Brick fragment, reddish orange, handmade
	2	Fire damaged fragments, indeterminate

ST A86	1	Refined earthenware base sherd, mottled green and brown lead glaze on exterior, yellow lead glaze on interior, Whieldon, c. 1720-1760
	2	Delftware body sherds, buff body with a blue tinted glaze, c. 1600-1800
	1	Whiteware glaze chip
	1	Bottle glass body fragment, aqua
	1	Window glass fragment, aqua, 2/32" thick
	1	Nail fragment, cut

*ARTIFACT INVENTORY*

Site: Burial 1

Phase III

Recorder: C. Tyrer

May 14, 2001

<u>Providence</u>	<u>Quantity</u>	<u>Description</u>
Upper fill	1	Bottle glass body fragment, aqua (intrusive)
Stratum A	1	Tooth fragment, rodent
	2	Brick fragments, reddish brown, handmade
	8	Shell fragments, oyster
Adult Burial:		
Stratum B	1	Nail, wrought, 3" L
#1	2	Nail fragments, wrought
#2	1	Nail, wrought, 3" L
#3	3	Nail fragments, wrought
#3	4	Nail fragments, wrought
#4	1	Nail, wrought, 3" L
#4	2	Nail fragments, wrought
#5	1	Nail, wrought, 3" L
#6	1	Nail fragment, wrought
#7	1	Nail, wrought, 3" L
#8	1	Nail fragment, wrought
#9	1	Nail fragment, wrought
#10	2	Nail fragments, wrought
#12	1	Nail fragment, wrought
#13	2	Nail fragments, wrought
#14	2	Nail fragments, wrought
#15	Nail fragments, 1	Nail, wrought, 3" L
#16	1	Nail, wrought, 3" L

#17	1	Nail, wrought, 3" L
#18	1	Nail, wrought, 3" L
#19	1	Nail fragment, wrought
#20	2	Nail fragments, wrought
#21	1	Nail, wrought, 3" L
#22	3	Nail fragments, wrought
#23	2	Nail fragments, wrought
On Left radius	1	Pin fragment, copper
Clean-up of Erosion Gully	1	Stoneware rim sherd, white body with a white salt glaze on interior and exterior, rim flares out, English white salt glazed stoneware, c. 1720-1775
	1	Brass leaf
	1	Bottle glass body fragment, amber
	6	Nail fragments, wrought
	1	Nail, wire, 5" L
	1	Iron fragment, indeterminate
Backfill of Police Hole	3	Nail fragments, cut
	1	Wire fragment
	1	Brick fragment, reddish purple, machine made

## **APPENDIX C – DNA RESULTS**



# ORCHID CELLMARK

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## LABORATORY REPORT - FORENSIC IDENTITY

### CASE DATA:

Referring Agency: Cultural Resources, Inc.  
 Agency Reference #: 44SK481  
 Agency Contact: Kimberly Zawacki  
 Cellmark Case #: FOR 3498  
 Report Date: July 15, 2002

### 1. Evidence Received:

Accession #	Sample Description	Receipt Date/Method of Delivery
3498-001	Long Bone - circa 1800A.D	5/13/02 - Federal Express

### 2. Results:

Mitochondrial DNA (mtDNA) from specimen 3498-001 was extracted according to accepted Mitochondrial Sequencing Protocol. No mitochondrial data was obtained following two amplification attempts. Therefore, no sequence data was generated.

### 3. Conclusions:

Sample 3498-001 did not provide sufficient human mitochondrial DNA to produce a sequence profile. Since no mitochondrial sequence data was generated, no conclusions can be reached concerning the origin of the sample.

### 4. Disposition of Evidence:

Unless contacted within thirty days from receipt of this report, Orchid Cellmark Forensic Personnel will return all evidence relating to this case to the submitting agency.

Orchid Cellmark has maintained complete chain of custody documentation from receipt of evidence to disposition.

The individuals below have reviewed the results and conclusions described in this report.

*Rick W. Staub*

Rick W. Staub, Ph.D.  
 Director of Operations

*Joe Warren*

Joseph Warren  
 Forensic Supervisor

*Bryan M. Sloan*

Bryan M. Sloan  
 Forensic Technologist

S I G N E D under oath before me this 15th day of July, 2002.

*Andrea Colleen Bradshaw*

Notary Public

