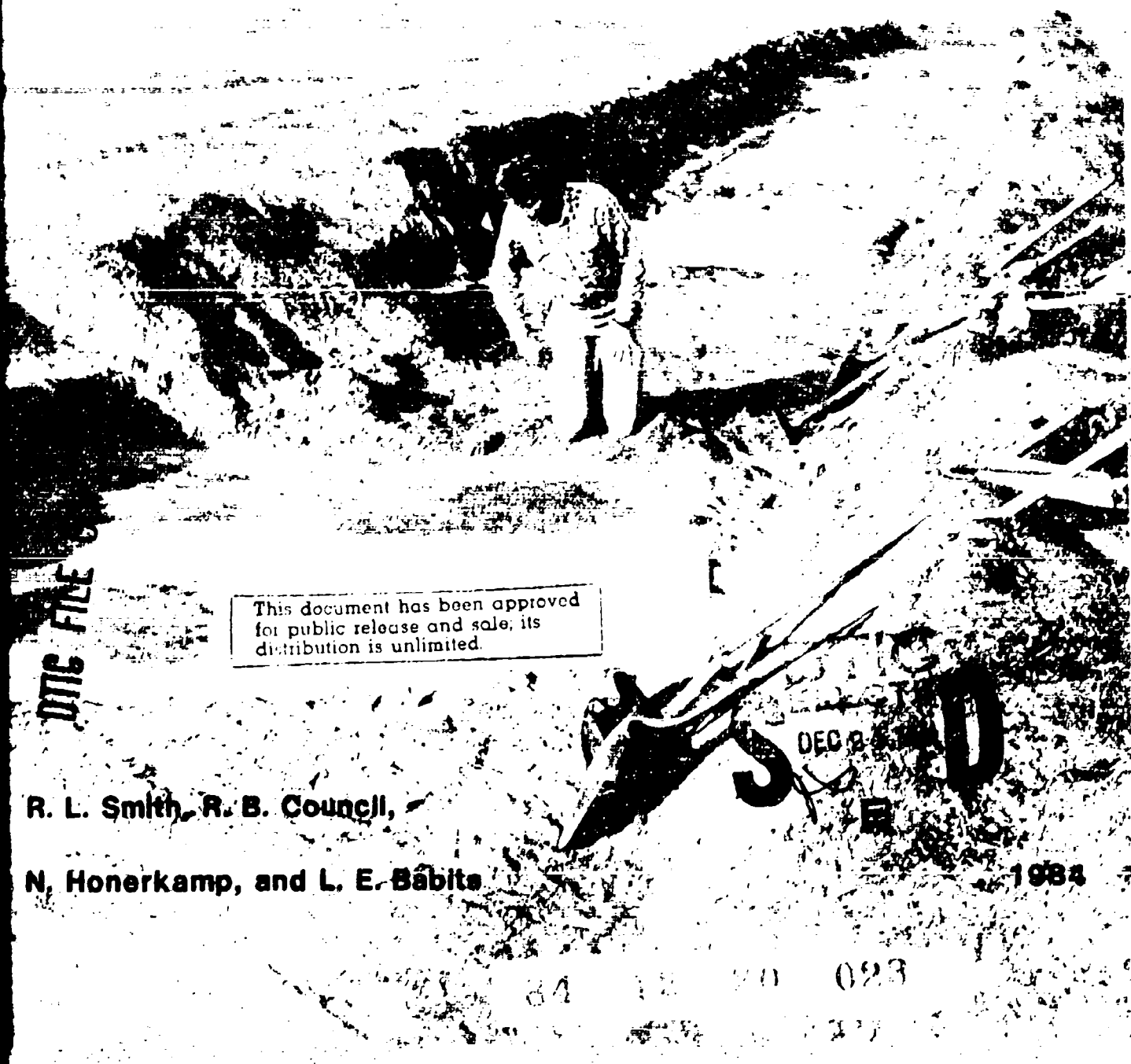
Archaeological Survey and Testing at Hunter Army Airfield Savannah, Georgia



R. L. Smith, R. B. Council, N. Honerkamp, and L. E. Babits

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Archaeological Survey and Testing at Hunter Army Airfield, Savannah, Georgia

By:

Robin L. Smith, R. Bruce Council,
Nicholas Honerkamp, and Lawrence E. Babits

Principal Investigator:

Nicholas Honerkamp, Director
Jeffrey L. Brown Institute of Archaeology
Department of Sociology and Anthropology
University of Tennessee at Chattanooga

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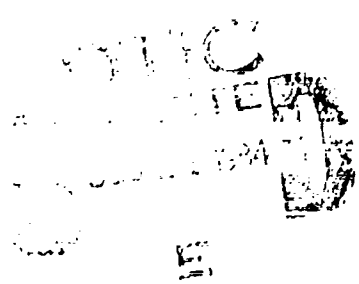

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PROFESSIONAL ABSTRACT

A systematic pedestrian survey employing standardized, screened shovel tests was carried out at Hunter Army Airfield in Chatham County, Georgia. Nine archaeological sites were discovered and delineated; two of these are prehistoric sites, six are historic, and one has components from both periods. The prehistoric sites are a Deptford period campsite and a Savannah period shellfishing station. The historic sites are all small rural farmsteads occupied between 1775 and 1850 or later. All sites are relatively small and have sparse deposits of artifacts. The small number of sites and small size of individual sites at Hunter appear to be a consequence of two factors: (1) large areas of the base are intensively developed and therefore inaccessible to survey, including the locations of the colonial period towns of Hampstead and Highgate and (2) much of the remaining area is low-lying, poorly drained land which would have been unattractive to prehistoric settlers and was only marginally useable in the historic period with the advent of dry culture.

Phase II testing was carried out at one of the historic sites to evaluate potential impacts of a road-widening project. The sample recovered permits more detailed description of events at the site but the best preserved remains represent mid-20th century activities. The site does not meet criteria for inclusion in the National Register of Historic Places and no further work was recommended.

LAY ABSTRACT

An archaeological survey was carried out at Hunter Army Airfield in order to determine at what times and in what ways earlier cultures used this area. Nine sites were located. The earliest is a small campsite briefly occupied by Native Americans of the Deptford culture sometime between 500 B.C. and 700 A.D. A second Indian site is a shellfish gathering camp in the saltmarsh by the Little Ogeechee, occupied by people of the Savannah culture sometime between 1000 and 1400 A.D. Seven historic period sites, established between 1775 and 1850 and occupied for varying lengths of time, were also found. These appear to have been small, rural farmsteads, probably occupied by tenants rather than landowners. The Hunter area was sparsely settled until recent years due to poor drainage which discouraged both residential and agricultural uses of the land. More extensive archaeological research was carried out at one historic site which was threatened by the planned widening of White Bluff Road. It was found that no important information will be lost and construction can be allowed to proceed as planned.

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Chapter 1
INTRODUCTION

This report documents the results of a cultural resources survey of Hunter Army Airfield, Savannah, Georgia, conducted by the Jeffrey L. Brown Institute of Archaeology, University of Tennessee at Chattanooga. The project was sponsored by the United States Army and administered by the Archeological Services Branch of the National Park Service under contract number CX5000-3-0421. Fieldwork was carried out in the spring of 1983; additional testing at one of the sites discovered during the survey took place in the fall of 1983; and the analysis and report were completed in the spring of 1984.

Project Location

Hunter Army Airfield is a 2175 hectare (5372 acre) military base which provides aviation support to the 24th Infantry Division (mechanized) at Fort Stewart, Georgia. It is located in urban Savannah, in Chatham County, approximately 16 km (9.6 miles) inland from the Atlantic Ocean. The southwestern boundary of the base is the Little Ogeechee, or Forest, River which empties into Ossabaw Sound, thus linking Hunter with the intracoastal waterway and estuarine system. The northeastern boundary of Hunter is about 7 km (4.2 miles) southwest of the center of colonial Savannah (see Figure 1).

Project Scope

The survey was undertaken in order to comply with the National Historic Preservation Act and related cultural resource management legislation. Project specifications called for a literature and background investigation coupled with a systematic field survey to locate both prehistoric and historic period sites. Since there are no standing structures on the base which predate World War II, no historical architectural study was required.

During the final week of field survey a site was defined at the approach end of runway 27 on land slated for transfer to the city in conjunction with the widening of White Bluff Road. This historic period site was given the designation HAAF-11, the White Bluff Road Site. On the recommendation of the Archeological Services Branch, the Army requested Phase II testing to evaluate site significance and predict the effects of the proposed construction. Results of both Phase I and Phase II studies are contained in this report.

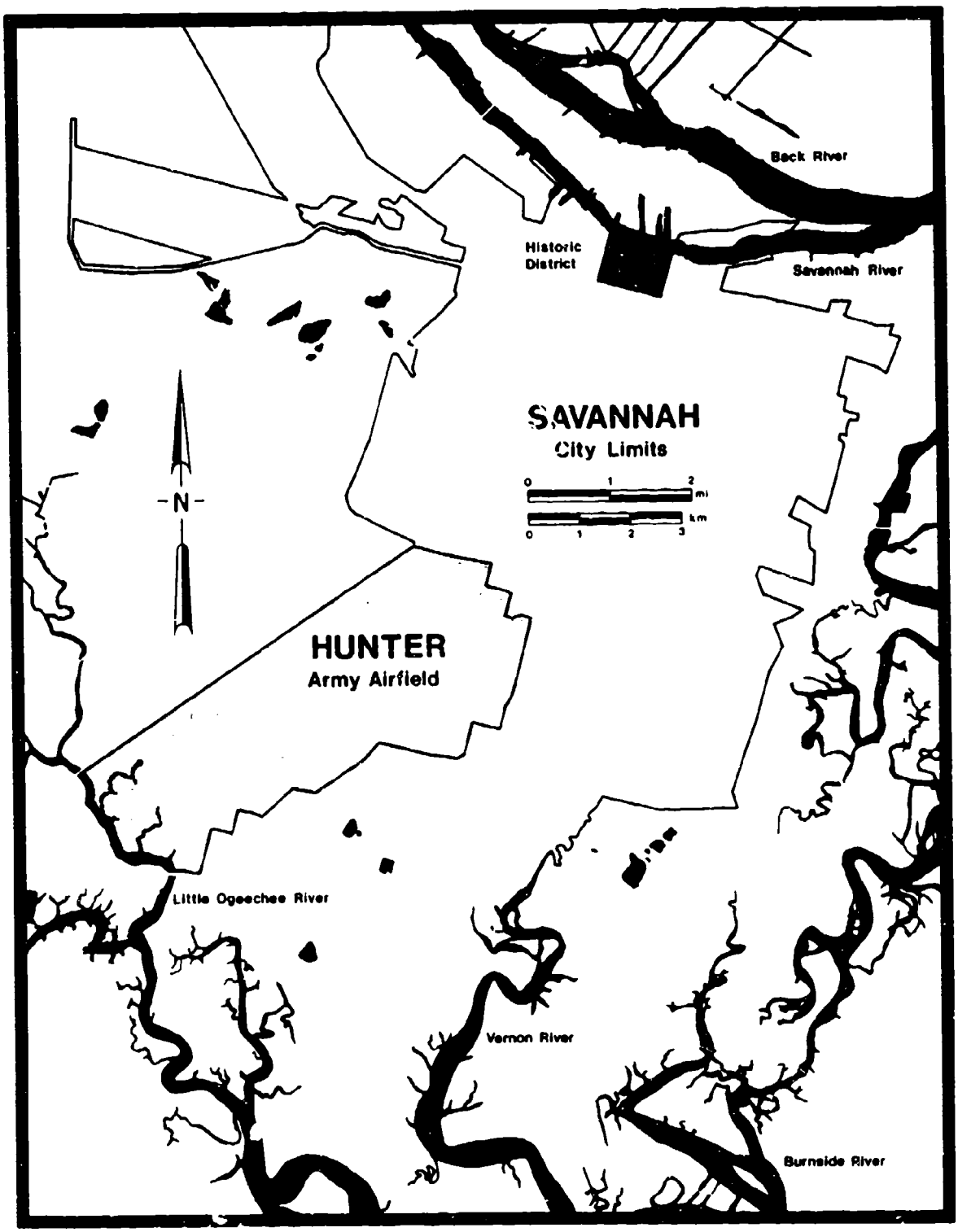

Figure 1. Location of Hunter Army Airfield, Chatham County, Georgia.

Personnel

These investigations were conducted under the overall direction of Principal Investigator (PI) Dr. Nicholas Honerkamp. Dr. Robin Smith served as CoPrincipal Investigator (Co-PI) and supervised the Phase I fieldwork, analysis, and documentation. Dr. Lawrence E. Babits, Assistant Professor in the Department of History and Political Science at Armstrong State College in Savannah, served as Consulting Historian for Phase I. Field Assistants for the survey were Sheron Yount, Carla Yount, and Betty Leigh Hutcheson. Local residents who served as Field Technicians included John Parks, Ken Kramer, Kenny Brown, Mike Cirincicni, Neal Wilder, Keith Williams, and Fred Saxon. Dr. Honerkamp conducted documentary research for Phase II testing at HAAF-11. The Phase II fieldwork was supervised by Mr. R. Bruce Council, Research Instructor at the Institute. He was assisted in the field by Sheron Yount and Carla Yount; two Savannah residents, Timothy Foard and Karen Clark, completed the crew. Laboratory analysis for both phases was managed by Sheron Yount; Carla Yount, Carol Dickert, Robert Lambdin, Lynda Lancaster, Kathryn Temple and David Tyrer provided assistance in the laboratory.

Acknowledgements

We would like to express our appreciation for the assistance of Lucy Henry, Director of Grants and Research at UTC, throughout this project. Judy Fry and Mary Lee Cleveland of the UTC Word Processing Center Center were patient and helpful through successive drafts of this report. We are also grateful to Dr. Edward Cahill, Chairman of the Department of Sociology and Anthropology, for his continuing support of the Institute's research program.

In Savannah we received assistance from Mr. Dale Kiefer, of the Fort Stewart Environmental Office, and Mr. C. K. Pounds of the Directorate of Engineering (DEH) at Hunter. In addition, all of the Hunter military and civilian staff with whom we interacted were pleasant and helpful.

Chapter 2
METHODS

This chapter describes methods and techniques employed in each phase of research at Hunter, except for the secondary testing at HAAF-11, which is covered in chapter 4. Selection of the methods used was based on available funding, on specific requirements of the research design presented in the scope of work, and on the researchers' prior experience under similar field conditions.

Research Design

It is important to recognize the role of the administering agency (Archeological Services Branch. National Park Service) in determining the plan and format of this research project. To a great extent, the research design was specified in the scope of work issued by ASB and only minor technical and organizational details were added in the research proposal offered by UTC. In preparation of the best and final offer some of these minor details had to be altered to conform to the research plan envisioned by ASB archaeologists. Thus, the following description adheres closely to the language used in the scope of the work (ASB 1983). The major addition is a discussion of possible rationales for the scoping specifications.

According to the scope of work, the research design was to provide for an archaeological literature search and cultural resources survey with considerations of both historic and prehistoric resources but without intensive site testing. (This latter provision was subsequently modified to provide for Phase II evaluation of HAAF-11.) Although standing structures were to be discussed in evaluating the resource potential of developed zones at Hunter, no professional architectural expertise was specified.

Two major considerations appear to have shaped the approach to fieldwork specified in the scope of work. First, the primary objective of the research was to produce a cultural resources inventory to be used as a management tool. Therefore, it was desired that this survey result in the identification of as many as possible of the archaeological sites present at Hunter. Second, a major assumption of the site discovery strategy was that the woodland, buffer zone, drainage, outdoor recreation, open space and marsh areas of the base (which together comprise 1197 ha or 60 percent of the total area) would be likely to contain intact sites. Conversely, it was assumed that the 793 ha of developed area would be unlikely to contain intact prehistoric or historic cultural resources. In the undeveloped zone, it was assumed that marsh hillocks and land within 2500 ft (762 m) of the marsh would be most likely to contain prehistoric sites. Accordingly, the scope of work calls for a survey strategy with three levels of intensity: "intensive" survey of the marsh and adjacent 2500-ft wide strip of land; "less intensive" survey of the balance of the undeveloped zone; and "field checking" of open spaces within the developed zone. Although the scope of work states that "no sample survey of Hunter Army Airfield is acceptable since the installation is relative small and so highly developed," it should be recognized that virtually any survey involves some degree of sampling. There is no such thing as a complete survey, short of total excavation. The three levels of survey intensity specified in the scope of work constitute three levels of sampling, selected on the basis of

expectations concerning the quantity and quality of sites in each area, in order to maximize discovery of potentially significant sites.

These expectations concerning the quantity and quality of sites present in each area are based on several assumptions which deserve further discussion. The assumption that many, if not most, prehistoric sites in the coastal zone occur on high ground adjacent to the marsh is derived from a pattern of aboriginal settlement that has been documented and verified in several recent archaeological studies (e.g. Pearson 1979; DePratter 1976; Smith 1978; McMichael 1980; Erenhard 1976). This pattern appears to be a function of aboriginal behavior involving selection of settlement areas with high elevation and good drainage in close proximity to marsh and estuarine resources. It is valid for Late Archaic to post-contact aboriginal occupations under essentially modern environmental conditions. Variations on this pattern, related to technological and social evolution, have been explored in recent studies, notably Pearson.s comparison of Savannah and Irene settlement systems on Ossabaw Island (1978).

It is important to note that most of the studies cited above have defined this pattern on high ground adjacent to the lower reaches of the coastal estuarine system. Hunter is located nearer the middle reaches of the Ossabaw Sound Estuarine System in a mesohaline aquatic environment. A somewhat different faunal complex occurs here; this situation may have affected aboriginal settlement pattern.

While it has been demonstrated that the rimlands along saltmarsh and estuarine zones within the coastal sector were a primary locus of aboriginal activity, there are several aspects of this behavior which are as yet poorly understood. Two unresolved issues in particular are the degree of permanence of these settlements and, if seasonal, the season(s) of occupation. It is possible that the marsh edge sites were occupied only part of the year and that seasonal camps and other specialized sites exist farther inland (see especially Fish 1976). Thus the valid assumption that a large number of prehistoric sites will be found adjacent to the marsh must be tempered with the understanding that a sample of these sites will not necessarily be representative of prehistoric activities in the coastal zone.

In addition to intensive survey of the rimland, the scope of work calls for intensive investigation of the marsh and field checking of periodically innundated marsh areas. Recent work by DePratter, Marrinan and others has shown that there are, in some places along the coast, archaeological sites buried beneath the present marsh surface. St. Simons and Refuge period materials have been recovered from tests adjacent to a Late Archaic site and from canals and drainage ditches in marshes and swamps (Marrinan 1975, 1978; DePratter 1975; DePratter and Howard 1977). Apparently at least some of these materials were deposited as terrestial sites during a low stand of the sea which occurred 3000 to 2500 years ago. DePratter has used air photos to identify old beach ridges within present-day salt marsh. Test pits in these features have verified the presence of Early Woodland stage sites (DePratter, personal communication). Ongoing research on the problem of innundated sites may eventually lead to accurate environmental predictors of their occurrence (such as relict beaches). Presently, due to the labor-intensive nature of marsh testing, field checking of existing exposures and very limited

subsurface testing are the only feasible investigative techniques for inventory surveys.

Low intensity testing in undeveloped and wooded areas of the base is called for in the scope of work. Apparently the assumptions governing this choice are 1) that very few, if any, sites are present more than 762 m inland from the river and 2) that any sites which do occur in this area will be adequately represented in a small sample.

A final major assumption embodied in the scope of work is that any archaeological sites located within the developed area of the base are likely to have been seriously disturbed by recent construction and are unlikely to retain significant scientific research potential. Consequently, only spot-checking of cleared, tree-lined open areas between building clusters in the cantonment area is called for. This is something of a self-fulfilling prophecy, in that optimal settlement areas are occupied by modern structures and, therefore, are not tested, while most of the areas examined are unsuitable for either past or present residential occupations. This assumption bears further consideration in view of the myriad recent studies of heavily developed areas which compose the burgeoning field of urban archaeology. A recently enunciated principle in urban archaeology states that what has, in the past, been called "disturbance" of a site is more equitably regarded as simply the most recent of a series of site formation processes (Honerkamp, Council, and Fairbanks 1983). In essence, this is a caveat that it is seldom reasonable to automatically assume that archaeological sites are nonexistant or highly disorganized in urbanized areas. On the other hand, outright removal of archaeological materials through massive cut-and-fill operations associated with construction activities does result in the absence of significant sites altogether.

While a more thorough survey of the cantonment area might have been desirable, practical considerations have entered into the research design process. It is possible that survey activities would have interfered, to some degree, with normal base security and operations in some portions of the cantonment area. Thus the level of sampling selected for the developed portion of the base was predicated on present land use as well as past conditions of historic occupation and recent construction.

Research Methods

Literature and Background Investigation

Background research was conducted prior to and during the period of field survey in order to determine whether any data pertaining to cultural resources at Hunter are available from archival, published, or other sources. Both the CoPI and the Historian contributed to this phase of the research, with the CoPI handling out-of-town investigations (Atlanta and Athens) and the Historian conducting research in the Savannah locality. In Atlanta, the State Historic Preservation Officer's files were consulted for information on National Register sites; all other relevant files in the SHPO's office were also searched. At the Georgia Department of Archives the map collection in the office of the Surveyor General was reviewed. In Athens, the state archaeological site file at the University of Georgia was searched.

Local sources of documentary information included the collections of the Georgia Historical Society, Chatham County Courthouse records, and research files maintained by Dr. Lawrence Babits. Emphasis was placed on the study of early maps for the Hunter area, in order to identify locations of material remains in the field. It was not deemed appropriate, for a survey level study, to collect documentation unconnected with potential archaeological sites, for example, information on nonresident owners.

In addition to written records, the Historian consulted local nonprofessional archaeologists and members of archaeological and historical societies. As a resident of Savannah and member of the Armstrong State College faculty, the Historian was already familiar with local resources and was able to contact and evaluate a variety of informants.

Field Survey

The basic approach to field survey data collection used in this study involves systematic placement of small, screened shovel tests to sample subsurface deposits, combined with surface inspection of all areas traversed. The only major difference in survey techniques across the survey area is variation in the density of sampling points. A minor difference is the use of a soil auger, instead of a shovel, in the salt marsh, due to wet conditions.

Standard test units were 30 cm square shovel tests excavated to sterile, with the fill sifted through 1/4-inch mesh screen. Tests were dug at 25 m intervals along transects in all areas except those with standing water. If the water table was encountered at or above ground surface, the test was omitted from the sample. If the water table was encountered above the sterile soil zone before a minimum depth of 30 cm was reached, excavation was terminated at that point.

In addition to narrative notes on the overall progress of the survey, certain data were recorded for each test pit using a form which elicited the following variables: data, area designation, transect number, test number, field specimen number (if artifacts were recovered), frequency of aboriginal artifacts, frequency of historic artifacts, frequency of modern artifacts, amount of shell present, presence or absence of recent disturbance, type of vegetation, and top depth, bottom depth, and color for each soil stratum. The form was designed to directly encode these data for computer input, and to allow multiple entries on a single sheet. An example is shown in Appendix A.

Test locations were measured off and flagged, using a hand-held compass to determine bearing and a 50 m tape to determine intervals. In most areas it was possible to lay a baseline along a road, and then turn 90 degree angles off of this line at appropriate intervals to run transects into the woods. The interval between transects was 25 m in the high intensity testing area, 250 m in the low intensity area, and irregular in the developed area.

A procedure for defining site boundaries using surface evidence and supplementary tests, in addition to the systematic sample, was established as follows. It was assumed that the edge of a site lies halfway between the last positive test and the first negative test along transects running away from the center of the distribution in each cardinal or grid direction. In order

to reduce the sampling interval around the edges of the site, a series of supplementary tests was dug in the vicinity of each positive systematic test (or each cluster of positive systematic tests). Surface indications were treated as additional positive data points. Supplementary tests were placed halfway between the last positive and first negative systematic test, reducing the test interval to 12.5 m and thereby allowing a maximum error in determination of site boundaries of +/- 6.25 m. This, of course, assumes that a test within the boundaries of a site will always be positive and that a test outside site boundaries will always be negative.

A somewhat different approach was used in testing inundated areas of the marsh. A 4-inch diameter soil auger was used to sink 50-cm deep tests in the marsh at low tide as shown in Figure 2. Soil removed by the auger was screened through 1/4-inch mesh hardware cloth. Tests were dug at 50 m intervals along the entire marsh/land interface and at several points along each of three natural creeks which drain the marsh. In addition, several remnants of dikes encountered along the shoreline were surface inspected and auger tested.

As explained in the preceeding discussion of research design, the survey area was divided into three zones which were treated differently in terms of testing intensity. These are shown in Figure 3 and described below.

High Intensity Testing. This area is composed of high ground in the marsh and high ground adjacent to the marsh and extending inland a distance of 762 m. High ground in the marsh consists of two islands: Lotts Island and an unnamed island near the Seaboard Coastline tracks along the northwest boundary. Both islands lie between the 1.5 and 3.0 m contours and have sandy surface soils. High ground adjacent to the marsh ranges from 1.5 to 7.5 m in elevation. Soils are of variable character, with sandy soils on rises alternating with loamy sands in drainage swales and low areas. In several places a clayey underlying layer was encountered within the 30 cm depth of the test pits. Areas in which many or most test pits could not be excavated due to standing water include (as labeled in Figure 3): the southwestern half of area A; the south central portion of area G; and all of area H. Elsewhere surface water was limited to pools which generally did not exceed 75 m in diameter. With a test size of 30 cm (square), a test interval of 25 m, and a transect interval of 25 m, intensive testing resulted in a sample size of 0.0144 percent by area.

Low Intensity Testing. Relatively undisturbed woodlands line the northwestern and southeastern boundaries of Hunter, adjacent to the airfield (areas AAn, AAs, and BB in Figure 3). Elevations range from 1.5 to 12.0 m with most of the area above the 4.5 m contour. Transects of shovel tests spaced 25 m apart were laid out at 250 m intervals throughout this zone, except where special use areas imposed hazards to survey activities, i.e. the airfield, munitions storage areas, skeet range, archery range, pistol range, and radar installation. The recently closed sanitary landfill (in AAs) was also omitted from testing. Due to an extensive ditch system in AAn and AAs, this portion of the base is significantly drier than it would be under natural conditions.

With a test size of 30 cm, a test interval of 25 m, and a transect interval of 250 m, low intensity testing resulted in a sample size of 0.00144 percent by area. This is 10 percent of the high intensity sample.

Figure 2. Use of a Soil Auger to Sample Salt Marsh Deposits.

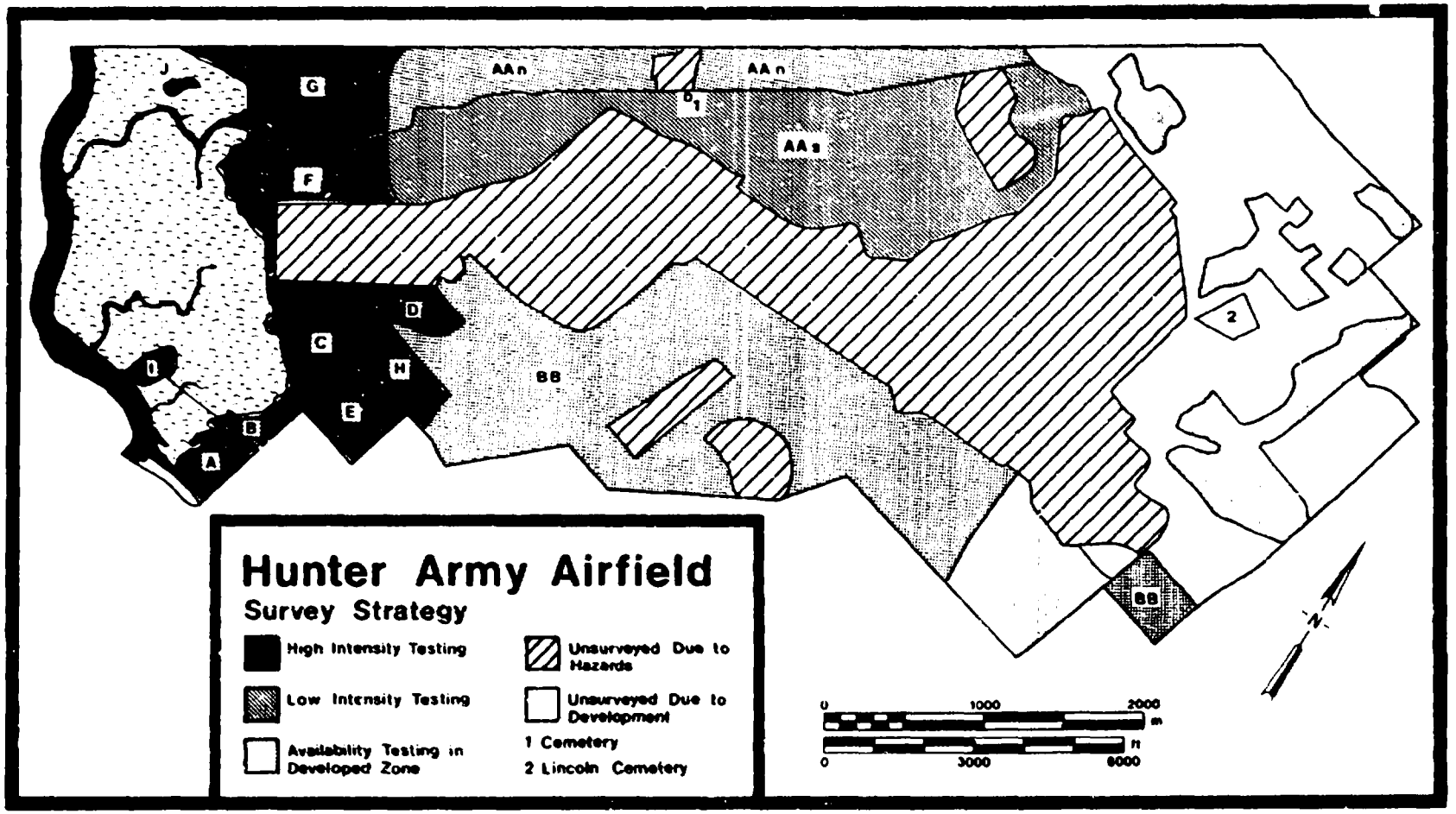

Figure 3. Survey Strategy for Differential Sampling at Hunter Army Airfield.

Availability Testing. Within the intensively developed cantonment area at Hunter are several tracts of wooded and partially wooded land which have been left undeveloped. Most of these areas, shown on the right-hand side of Figure 3, are dominated by very poorly-drained soils. Although the developed zone lies mostly at higher elevations, much of the area available for testing is low and wet. Several small tracts of well-drained sandy soil near the Montgomery Street gate were tested, however. These tracts are in the vicinity of the colonial period Highgate and Hampstead wards.

Test pits in the developed area were placed at 25 m intervals along transects laid out to intersect centers of undisturbed tracts. For these tracts, the test pit density is approximately equivalent to the density of sample points in the low intensity testing area, i.e. on the order of 0.001 percent by area. For the cantonment zone as a whole, however, the effective sample size is much smaller, due to the exclusion of all developed areas.

Laboratory Analysis

No analysis of field specimens was carried out in the field. On completion of the survey, all specimens were returned to the UTC laboratory for processing and analysis. Artifacts were washed, air dried, and sorted according to material type. An inventory form was completed for the contents of each test pit (see Appendix A). Additional observations were recorded separately for the few aboriginal artifacts recovered. Data from the inventory sheets was encoded and input to build an SPSS file which was then used to produce a descriptive table for each site. Due to the small number of sites and small artifact collections for each site, no statistical programs were considered necessary.

No artifacts requiring electrolysis or other specialized cleaning and stabilization procedures were recovered. Although a considerable number of metal artifacts was recovered at HAAF-11, in no case would artifact conservation have contributed significantly to their interpretive value.

On completion of analysis, artifacts were enclosed in clean polyethylene bags and labeled with complete provenience information. The research collection, including maps, photographs, color slides, notes, data forms, and artifacts will be temporarily curated at the Institute. It is anticipated that the collection will be transferred to the Fort Stewart Museum for permanent curation.

Chapter 3
RESULTS

This chapter describes the results of all phases of survey research at Hunter Army Airfield, including background and historical research, field survey activities, and laboratory analysis. The testing program and results for site HAAF-11 are described separately in Chapter 4.

It is customary in many archaeological survey reports to provide detailed descriptions of the natural environment and the cultural chronology of the study area in a separate chapter near the beginning of the report. We have elected, instead, to place these categories of information in our Results section. This has been done for three reasons. First, these data are logically placed with field research results since they are a product of this study. Second, because these data have recently been published in conjunction with other Southeastern coastal archaeological studies (especially the Fort Stewart survey), brief summaries with references to these other studies are adequate here. Finally, it is hoped that juxtaposition of prior knowledge about the area with new information from the survey will facilitate integration of the two.

Natural Setting

Three major sources were consulted in preparing this section: the Chatham County Soil Survey (Wilkes, Johnson, Stoner, and Bacon 1974), the Hunter environmental assessment report (Higginbotham and Associates 1982), and the Fort Stewart cultural resources survey (Miller, Fryman, Griffin, Lee, and Swindell 1983). Additional studies which form a background for understanding the coastal environment include: Johnson, Hillestad, Shanholtzer and Shanholtzer (1974) for an overview of Georgia coastal ecology with an emphasis on the barrier islands; and Larson's discussion of coastal resources as they were used by late prehistoric period inhabitants (1980).

Location

Hunter Army Airfield is located in Chatham County, at the extreme northern end of the Georgia coast. The Savannah River and the City of Savannah lie to the north of Hunter; the Atlantic Ocean is 10 miles to the east. The base occupies a 5370 acre (1989 ha) tract of land which is roughly 2 miles wide and 5 miles long. It is bounded on three sides by urban or suburban areas; the southwestern edge is defined by the Little Ogeechee River, also known as the Forest River.

Climate

The subtropical latitude and coastal location of Hunter Army Airfield are major factors resulting in a mild climate. Summers are warm and humid but not extremely hot, due to the moderating effect of the nearby ocean. Throughout the year the average daily high temperature is about 20 degrees Farenheit higher than the average daily low (Figure 4). High temperatures from May through September are typically in the high 80s or low 90s. The average annual rainfall of 49 inches is well distributed through the year with a marked wet season in summer (Figure 4). Summer precipitation frequently occurs in the form of afternoon thundershowers. Relative humidity is also high in this season, averaging 90 percent in the early morning hours and 60 percent in the early afternoon.

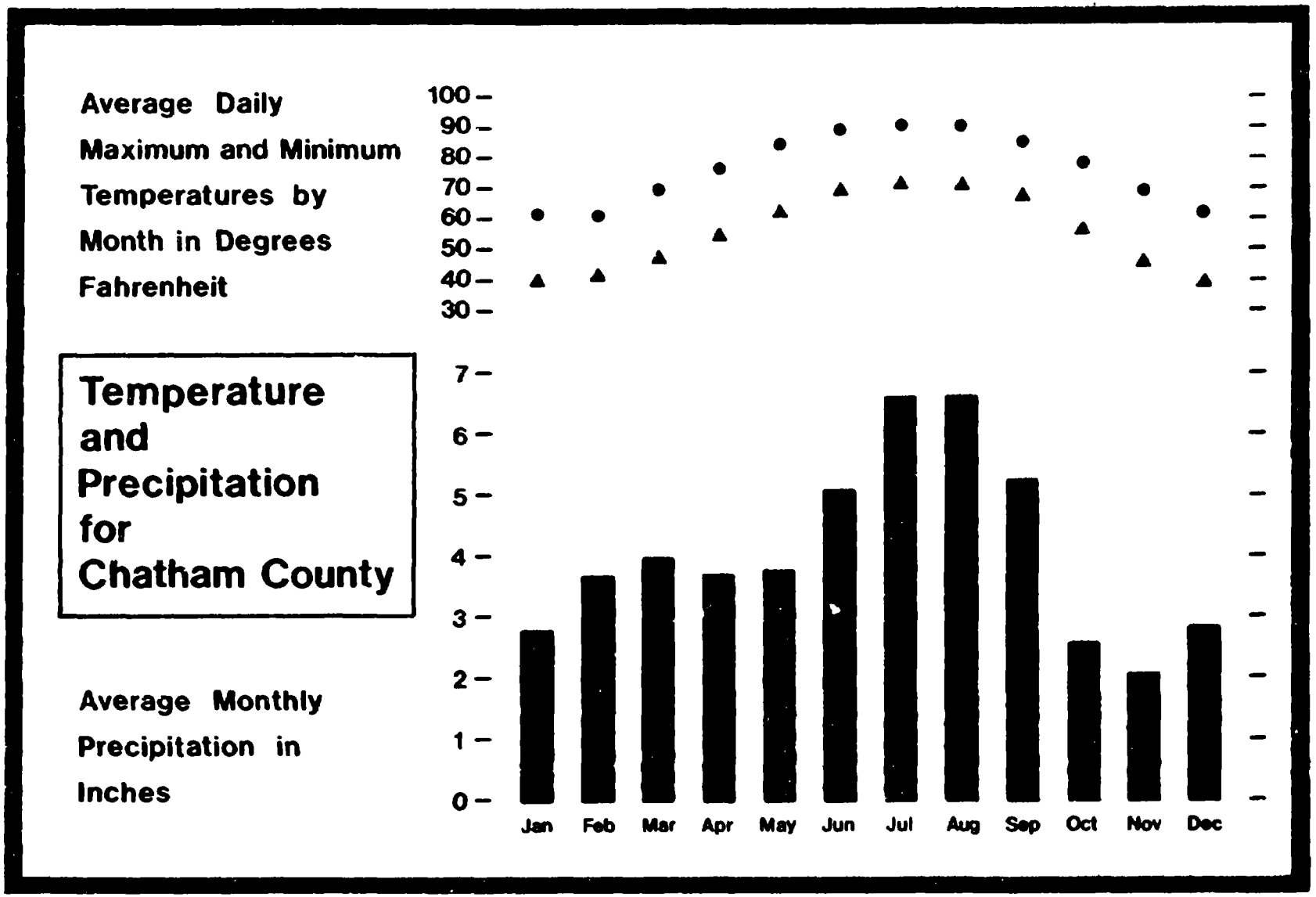

Figure 4. Annual Temperature and Precipitation for Chatham County, Georgia. Based on data published in Wilkes et al. 1974.

Winters are short and mild; cold spells associated with fronts last only a few days. Daily lows in winter average about 40 degrees Farenheit. Frost seldom occurs before December or after March; on the average only 20 days out of the winter will have freezing temperatures. Humidity is somewhat lower in winter than in summer with a dawn average of 85 percent and a midafternoon average of 55 percent.

Severe weather conditions include tropical storms and hurricanes in the late summer and fall, occasional tornadoes, and thunderstorms which produce damaging winds and hail. Of these, thunderstorms are most common, occurring on 65 days in an average year. Snowfall is rare on the coast but occasionally occurs.

Geology

The study area is situated on the eastern margin of the Atlantic Coastal Plain physiographic province. This region is characterized by the presence of a series of terraces associated with successive marine advances during the Pleistocene. The terraces were formed through deposition or erosion as the sea stood at different levels in response to climatic changes. Five ancient marine terraces occur in close proximity to the study area; the oldest, highest deposits are farthest inland while the youngest, lowest deposits compose the present-day barrier islands. From oldest to youngest, these formations are named the Okefenokee, the Wicomico, the Penholoway, the Pamlico, and the Silver Bluff.

Only the three youngest formations occur in Chatham County. The Silver Bluff Formation, at less than 10 ft above sea level, includes the offshore barrier islands, the salt marsh savannahs, and the intercoastal tidal flats.

The Pamlico Formation covers most of Chatham County, including Hunter Army Airfield. Areas of higher elevation at Hunter are remnants of offshore islands or barrier beaches in the Pamlico Formation. The long narrow ridge, (marked by a 25-ft contour) which extends from the Savannah River southward to the northeastern section of the base, is one such island. As the marshes landward were quite extensive during this period, the remnant ridge is an isolated feature in the surrounding low-lying, poorly-drained landscape. This explains why the northern end of the ridge, adjacent to the Savannah River, was selected for the colonial town. Settlement expanded southward along the ridge through time, with the southern tip, where the Hunter cantonment area is located, being the most recently urbanized area of this Pamlico feature.

The Penholoway Formation occurs primarily in the western half of Bryan County (adjacent to Chatham County) where it rises from 30 to 70 ft above sea level.

Large expanses of surface water are a major feature of the coastal zone which, from the air, appears as a mosaic of different terrestial and estuarine habitats. The Savannah and Ogeechee Rivers lie, respectively, north and south of the study area. The Savannah originates in the Blue Ridge province, and the Ogeechee is of Coastal Plain origin. Thus, recent deposits in the flood plain of the Ogeechee are composed of Coastal Plain materials while Savannah River deposits are of mixed Coastal Plain and Piedmont materials.

For a distance of about 10 km in from the sea these rivers are subject to tidal influences and are lined by fresh to brackish tidal marsh. Numerous small streams drain the lower reaches of this estuarine zone, contributing to the complexity of the land/water interface.

Soils

The general soils map of Chatham County indicates six main soil associations within the boundaries of Hunter Army Airfield. These are: Tidal marsh-Capers; Pooler-Cape Fear; Ogeechee-Ellabelle; Ocilla-Pelham-Albany; Chipley-Leon-Ellabelle and Lakeland-Chipley. The locations and general characteristics of these associations are described below; the significance of these features is considered in a later section.

The Tidal marsh-Capers soil association occurs in the salt marsh bordering the Little Ogeechee or Forest River on the southwestern margin of the base. Typically, this association is very poorly drained tidal marsh and is underlain by a clayey horizon.

The Pooler-Cape Fear soil association is present in the northern corner of the base along the Seaboard Coastline tracks. This group consists of somewhat poorly-drained and very poorly-drained soils with a clayey underlying layer. These soils occur in low-lying areas and depressions.

The Ogeechee-Ellabelle association dominates the western corner of the base and underlies much of the central portion where the runway is located. This association is composed of soils which are poorly drained or very poorly drained; which have a sandy surface layer over loamy underlying layers; and which occur mainly on broad flats.

The Ocilla-Pelham-Albany association occurs on the bank of the Little Ogeechee opposite Lotts Island. This group includes somewhat poorly-drained soils on low ridges and poorly-drained soils in depressions. In both cases the soils have a sandy surface layer and an underlying loamy layer.

Chipley-Leon-Ellabelle soils are present in a band through the center of the study area. This band is part of the Pamlico Formation ridge which stretches from the colonial Savannah district to the Hunter cantonment area. These are moderately well-drained and poorly-drained soils that are sandy throughout and occur on broad, low ridges. Also included are very poorly drained soils with loamy underlying layers which occur in depressions and drainageways.

The Lakeland-Chipley association occurs in the cantonment area of the base, on the same ridge described for the preceding group. It includes excessively-drained to moderately well-drained soils which are sandy throughout and occur on broad ridges. This complex underlies most of urban Savannah.

These general soil associations are useful for characterizing terrain conditions on a broad scale. The tidal marsh soils are continually wet; the south-western and central portions of the base are seasonally wet; and the extreme northeastern area is relatively well-drained.

Flora and Fauna

Natural vegetation and drainage patterns have been rather extensively altered at Hunter. The salt marsh is probably the least affected area. Remnants of small earthen dikes are present in the marsh and a causeway connecting Lotts Island to the mainland has been built. It does not appear, however, that this section of marsh was ever brought under cultivation for rice, as were many other marshy areas in the coastal sector. The present marsh vegetation, predominantly Spartina alterniflora (smooth cordgrass), is probably close to its undisturbed state. Two natural islands occur within the section of salt marsh which borders Hunter. These are Lotts Island, near the south boundary and a small, unnamed island near the north boundary. Both rise less than 1 m above the surrounding marsh and are noticeable primarily because they support pine, oak, cedar, and cabbage palm trees, in contrast to the monospecific stands of marsh grass. Lotts Island exhibits extensive 20th century alterations but the smaller island is nearly undisturbed.

For a distance of approximately 500 m inland from the marsh the tree cover is a complex mosaic of several types of hardwood forest. The composition of the forest varies from place to place in direct relation to drainage properties of the local soils. These, in turn, are conditioned by soil type (especially permeability of the B horizon), elevation, and slope. In some areas recent disturbances and artificial drainage systems have altered natural conditions. This is especially true along the northwestern margin of the base where a system of drainage canals begun early in the 20th century has been maintained and expanded with continued development of the facility. For the most part, however, this zone adjacent to the marsh is mature mixed hardwood forest.

Inland, beyond the belt of hardwood forest along the river, the vegetation is somewhat more xeric and is much more extensively modified by construction and development. Along the tops of low ridges and on better-drained soils pine and xeric species of hardwoods, including loblolly pine, longleaf pine, slash pine, red oak, and hickory, predominate. In wetter areas the hydric hardwoods, including cypress, black gum, sweet gum, water oak, willow oak, sycamore, ash, and tupelo gum, occur. Intermediate zones are forested in live oak and magnolia.

The understory at Hunter is a highly variable mixture of herbaceous plants, woody plants, shrubs, and vines. Palmetto (Serenoa repens) is present in most areas; wax myrtle (Myrcea cerifera) and smilax or greenbriar (Smilax spp.) are also very common members of the understory.

Animal communities at Hunter have been significantly affected by the process of urbanization. Effects on large mammals are most noticeable. The panther (Felis concolor) and black bear (Ursus americanus) have been extirpated from the area. Deer (Odocoileus virginianus) are present in considerable numbers and may be more abundant than in the past due to wildlife management practices. Feral pigs (Sus scrofa), a species introduced along with human populations from Europe, are abundant. Smaller mammals range largely undisturbed in the hammock along the river. Alligators (Alligator mississipiensis), which are listed as an endangered species in Georgia, are present in the drainage canals in the southwestern part of the base (Odom, McCollum, Neville, and Ettman 1977). Other economically important species, especially estuarine fauna, are present in reduced numbers due to commercial harvesting.

Although there is little direct archaeological evidence for plant use, the botanical resources of the coastal sector which would have been available for aboriginal exploitation are diverse and abundant. Larson has discussed these at length (1980). The environment at Hunter is most similar to Larson's lagoon and marsh section, which is composed of the salt marsh, together with its drainage system, and the high ground adjacent to the marsh. The lagoon and marsh section is the most productive biotope group within the coastal sector and would have been attractive to both aboriginal and immigrant human populations due to the availability of subsistence resources and high, well-drained settlement areas adjacent to water transportation routes.

Groups of characteristic flora and fauna for the marsh and lagoon section are described below and are listed more completely in Johnson et al. (1974) and Hillestad et al. (1975). Portions of the following discussion are taken from an analysis by Smith (1982).

Saltmarsh System. Saltmarsh flora vary with respect to frequency, depth and duration of tidal inundation. Areas which for several hours daily are covered by salt water support only smooth cordgrass (Spartina alterniflora). At higher elevations where inundation averages an hour per day, glasswort (Salicornia virginica) and saltwort (Salsola kali) prevail. Salt meadow cordgrass (Spartina patens) is limited to the rim of the marsh where flooding occurs several times a week while needlerush (Juncus roemerianus) grows on infrequently flooded ground (Johnson et al. 1974:72-74).

Sediments underlying the marsh are composed of fine silts and clays. As a consequence of unstable bottom conditions and the constant wash of the tides, the creeks and rivers exhibit little aquatic vegetation.

As the marsh grasses are assorted with respect to tidal action, so are the molluscs. Among those of aboriginal economic importance, the quahog clam (Mercenaria spp.), the whelks (Busycon spp.), and the stout razor clam (Tagelus plebeius) are found in the creeks and estuaries. The Eastern oyster (Crassostrea virginica) and the saltmarsh periwinkle (Littorina irrorata) inhabit the mud flats which are exposed at low tide, while the Atlantic ribbed mussel (Geukensia demissa) is often found near the high tide line along the rim of the marsh. Several species of crab are marsh dwellers; the blue crab (Callinectes sapidus) and the stone crab (Menippe mercenaria) are aquatic while the fiddlers (Uca spp.) are more visible because of their preference for high marsh areas.

Remains of shrimp have recently been identified in fine screened (1/16 in. mesh) samples from excavations at Kings Bay, Camden County, Georgia (Irvy Quitmyer, personal communication). Several species are found in the estuaries at the present time and it is quite possible that shrimp were an abundant and important resource in the prehistoric period.

The only reptile resident in the marsh is the diamondback terrapin (Malaclemys terrapin). This small turtle is commonly identified among aboriginal food remains and was also highly prized in early 20th century northern gourmet circles (Johnson et al. 1974: 79). Alligators (Alligator mississipiensis) are occasionally encountered in the salt marsh but probably should be considered residents of swamps and freshwater creeks.

Fishes frequenting the estuary system are numerous and vary with season, water temperature, and salinity, among other factors. Reitz has given detailed consideration to the interplay of local availability and human selectivity in the use of fish in this region (1979a). A review of marine conditions between Santa Elena, South Carolina, and St. Augustine, Florida, indicates a species gradient in terms of abundances along the coast, although the same species are present throughout. Recent studies of Cumberland Sound supply species composition and abundance figures for the lower coast which are assumed to be valid for the prehistoric period (Reitz 1982). On the basis of trawl catch biomass, star drum (Stellifer lanceolatus) is abundant while the sea catfish (Arius felis), spot (Leiostomus xanthurus), sea trout (Cynoscion spp.), silver perch (Bairdiella chrysoura), kingfish (Menticirrhus spp.), and croaker (Micropogonias undulatus) are common. Reitz notes that although mullets (Mugil spp.) were among the fishes that compose less than 1.1 percent of total biomass and are considered rare, this could be due to their ability to evade trawls (1979a:8).

In addition to the boney fishes, sharks and rays frequent the estuary and apparently were of some economic importance to prehistoric populations. Among the cartilaginous fishes common in the coastal sector are several Requiem sharks (Carcharhinidae) and stingrays (Dasyatidae).

Although many species of birds visit the salt marsh, three are integral members of the marsh community: the long-billed marsh wren (Telmatodytes palustris), the clapper rail or marsh hen (Rallus longirostris) and the seaside sparrow (Ammospiza martima). The clapper rail has in recent years been an important game bird (Johnson et al. 1974:76). Other large birds which would have been attractive to aboriginal populations are the great blue heron (Ardea herodias), the common egret (Casmerodius albus), and the double-crested cormorant (Phalacrocorax auritus). Because the coastal region is within the southern portion of the Atlantic flyway, many species of migratory waterfowl are present for limited periods of time during the year. Larson lists four ducks--mallard (Anas platyrhynchos), lesser scaup (Aythya affinis), hooded merganser (Lophodytes cucullatus) and red-breasted merganser (Mergus serrator)--as having been utilized in the late prehistoric period.

In the coastal sector raccoons (Procyon lotor) spend much of their time feeding in the marsh. Though not normally active at midday, if low tide occurs near noon these animals can be found on the mudflats. Usually they spend the daylight hours sleeping in trees along the marsh rim. Mammals which rest as well as feed in the marsh are limited to the rice rat (Oryzomys palustris) and aquatic forms such as the bottle-nosed dolphin (Tursiops truncatus) and other small whales, the manatee (Trichechus manatus) and formerly, as an occasional visitor, the monk seal (Monachus tropicalis) which is now extinct.

The resources of the saltmarsh biotope which would have been available to aboriginal inhabitants are almost entirely faunal. Although the vast expanses of marsh grass are highly significant as primary producers, these grasses are not directly usable by humans. Faunal resources are distinguished by their variety in kind and in season and place of availability. Perhaps the most important observation that can be made is that no single saltmarsh species could have served as a year-round staple in the diet of coastal populations.

Oak Hammock System. The second important biotope within the marsh and lagoon section is composed of high ground and associated freshwater drainages. The characteristic floral complex along the bluff line is Maritime Live Oak forest in which Quercus virginiana is dominant because of its tolerance for salt spray and low soil fertility. Other hardwoods occur in varying proportions, including several oaks, palms, hollies, bays, and hickories. Small stands of hickory (primarily Carya glabra) are found in the coastal region and it is thought that they represent secondary succession climaxes, whereas live oak forest is the product of primary succession (Johnson et al. 1974:50). It is possible that aboriginal activities may have promoted the development of hickory stands. A practice such as fire clearing the brush and leaves beneath the hickories to facilitate collection of fallen nuts would have had the effect of maintaining open, park-like nut groves. Shrubs, woody vines, and herbs in the Maritime Live Oak forest are numerous and varied.

Inland from the hardwood hammocks on the mainland, the somewhat less well-drained soils are covered by pine flatwoods, composed predominantly of loblolly pine (Pinus taeda). The lowest areas, where the water table is at or near the surface throughout the year, support hardwood swamps composed primarily of cypress (Taxodium ascendens), red maple (Acer rubrum) and sweet gum (Liquidambar styraciflua). It is these wetlands which feed the freshwater streams flowing through the oak hammock into the marsh.

Further inland, stretching from the upper limits of tidal influence to the fall line, the dominant floral complex of the coastal plain is what Larson has described as the pine barrens (1980:35-65). Formerly composed of longleaf pine (Pinus palustris), this forest is interrupted by broadleaf species only in the floodplains of rivers and streams. Because the longleaf forest offered virtually no game or other resources of interest to aboriginal inhabitants, prehistoric occupation of the coastal plain was limited to the tidewater region and the river floodplains (Larson 1980:51; Snow 1977). Terrestrial fauna of the coastal plain river valleys are essentially the same as those enumerated below for the live oak hammocks of the coast.

As elsewhere in the southeast, deer, turkey, and raccoon were the primary live oak forest animals used for food. The behavior, distribution and exploitation of the white-tailed deer (Odocoileus virginianus) have been described by Hudson (1976:274-279), Larson (1980:166-172) and B. Smith (1974). As the largest herbivores of the southeastern woodlands, deer were the target of a well-developed hunting tradition. It has been suggested that the culling and population control of hunting, together with the provisioning which followed fire-clearing, resulted in semidomestication of the deer (Hudson 1976:276-77). The only larger mammal used as food was the black bear (Ursus americanus), valued for the fat which it contributed to an otherwise lean diet.

Besides the raccoon (Procyon lotor), other small mammals associated with the oak hammock or its edges are the opossum (Didelphis virginiana), the cottontail rabbit (Silvilagus floridanus), the gray squirrel (Sciurus carolinensis) and the fox squirrel (Sciurus niger).

Wild turkeys (Meleagris gallopavo) are the largest of the oak hammock birds, but Larson indicates that they were not much used in this part of the southeast during the Mississippian period. Other wild fowl which would have

been available include several of the migratory geese, the wood duck (Aix sponsa), which is a permanent resident, and the bobwhite (Colinus virginianus). The Eastern Carolina Parakeet (Conuropsis carolinensis carolinensis), which was once plentiful in the coastal region, may have been hunted by the Indians. This bird was rapidly extirpated from the southeast following white settlement due to its destructive effects on maize crops and fruit orchards. Its preference for flocking and its unsuspicious, easily approachable nature facilitated extermination. These habits might also have promoted aboriginal garden-hunting of the bird. By 1849 Le Conte reported that, in the maritime districts, "scarcely any are now to be found" (Burleigh 1948:313). Some of the migratory ducks mentioned earlier in connection with the saltmarsh system might also have been hunted when they visited the freshwater marshes and ponds associated with the oak hammock system.

Of the terrestrial reptiles, the gopher tortoise (Gopherus polyphemus), the box turtle (Terrapene carolina) and several species of snakes are the most conspicuous. Snake remains appear regularly in faunal collections from coastal sites and Pearson has pointed out that a Le Moyne drawing shows the preparation of snake as food (Pearson 1979:155). Several freshwater turtles were also used; the alligator mentioned previously is another reptile associated with this habitat.

Fishes found in the freshwater streams which drain the uplands are much more limited in variety. Probably the most important were catfish (Ictaluridae). Anadromous species frequenting the freshwater rivers of the coastal plain may have been of seasonal importance in the aboriginal diet. These include American shad (Alosa sapidissima), alewife (A. pseudoharengus), glut herring (A. aestivalis), striped bass (Morone saxatilis), Atlantic sturgeon (Acipenser oxyrhynchus) and shortnosed sturgeon (A. brevirostrum).

No invertebrates of the oak hammock system seem to have been important subsistence items. Several terrestrial snails regularly occur in small numbers in shell middens, but they are generally interpreted as commensal detritus feeders. Only Euglandina rosea would have been large enough to be rewarding; collection of significant numbers would have been difficult.

The specific botanical composition of any tract within the forest is a product of many factors, including soil type, elevation, drainage and forest maturity. High diversity and low equitability are characteristic. It is important to note that aborginal populations in the late prehistoric period must have contributed to this diversity through the practice of swidden horticulture.

While the remains of mammals are the most conspicuous evidence of oak hammock exploitation appearing in the archeological record, they probably do not represent the most critical resource. Wild plant foods, especially the protein- and fat-rich nuts of oak and hickory trees, must have been seasonal staples. Fruits and berries, especially persimmon (Diospyros virginiana), black cherry (Prunus serotina), grapes (Vitis spp.), blueberries (Vaccinium spp.), blackberries (Rubus sp.), palm fruit (Sabal palmetto), and saw palmetto berries (Serenoa repens) would have been important sources of carbohydrates, vitamins, minerals, and trace elements. In addition, gums and saps, honey, starchy roots (especially Smilax spp.), pot herbs, teas (including Ilex vomitoria), and various seasonings, though not in evidence archeologically,

are likely to have been used. Other forest products, such as 1) wood and vines for construction of houses, canoes and tools, 2) pitch as an adhesive, 3) firewood, and 4) mosses and other fibers for fabric, nets, and twine, are among the oak hammock resources which would have been important in maintaining coastal lifeways.

It is likely that aboriginal communities were frequently based within the Maritime Live Oak forest belt along the coast to take advantage of the natural shelter and clear floor of the hammock, the good drainage and freedom from flooding afforded by the high bluffs, the fruit, nut, and seed products of the varied vegetation, proximity to freshwater runs draining the interior pine forest, availability of firewood, and proximity to estuarine and marsh resources. The linear distribution of hardwood forests would have affected spatial patterns of settlement and may have conditioned migration patterns.

The coastal sector offered these same amenities to the Spanish explorers and priests who arrived in the 16th and 17th centuries and to the English colonists who settled at Savannah in 1733. The same soils which were best suited for aboriginal settlement and swidden horticulture were also prefered for English towns and agricultural fields. To a certain extent prior occupation by coastal tribes may have enhanced the desirability of the best settlement locations: abandoned gardens represented that much less clearing required of the newcomers and aboriginal middens enriched the marginally fertile soil. At Frederica, on St. Simons Island, Oglethorpe noted the presence of "Indian old fields" and there is evidence that the English settlers took advantage of peach trees left behind by earlier, Spanish inhabitants (Fairbanks 1956:229).

Because of this pattern of repeated occupation of the most favorable settlement locations, many coastal sector sites exhibit multiple components, including a modern component. The culture sequence on the Georgia coast displays several general developmental trends which occurred as different cultures, and sometimes different populations, evolved and adapted to the basically stable coastal environment. These cultures and trends are briefly summarized in the next section.

Cultural Setting

The Prehistoric Period

The prehistoric culture sequence for the Georgia coast has been the subject of many studies during the last two decades. In large measure recent research has confirmed the basic chronology established by Waring, Caldwell and McCann, Holder, and other early students while contributing new information on adaptation and environmental interactions, social structure and political relationships, and demography and health. Although this more richly detailed picture of aboriginal life is one of the major goals of archaeological research, it is the barebones chronology, with its necessarily normative set of marker types, which is the essential tool at the survey level. Thus the following summary will concentrate on general characteristics and distinguishing features of the series of arboriginal cultures which occupied the southeastern coast in the vicinity of Hunter, leaving controversial and speculative details to more specialized studies.

Several recent summaries of the prehistoric sequence have been produced in conjunction with work elsewhere on the coast. Of particular relevance for the Hunter area are (1) a survey of Fort Stewart, Georgia (Miller et al. 1983), (2) a survey and synthesis of prior work at Pinckney Island, South Carolina (Braley 1982), (3) a study of the Edisto River basin in South Carolina (Anderson, Lee, and Parler 1979), and a series of studies at Kings Bay, Georgia (Smith 1978; Smith et al. 1981; Adams 1984). All of these studies deal with long culture sequences and wrestle with the problems of identifying and seriating individual components. Each contains a summary of current knowledge of coastal prehistory from a slightly different geographical perspective.

Several general themes and long-range trends characterize the environmental adaptation and cultural evolution of coastal populations. These are (1) increasing sedentism overlain by a pattern of seasonal movement persisting up to Spanish contact, (2) early development of and long-continued reliance on a broad-spectrum hunting-fishing-collecting subsistence strategy, (3) increasing population size, accompanied by an increase in both size and number of sites, (4) a concomittant increase in social and political complexity, (5) in-place development of new cultures by groups receptive to ideas from elsewhere in the southeast.

The earliest time period for which there is good evidence of resident populations in the vicinity of Hunter is the Late Archaic state (3000 to 1100 B.C.). Prior to stabilization of sea level at near present heights about 5000 years ago, the coastline was much further east, the coastal plain rivers ran more swiftly between steeper banks, and the marsh/estuary system had not yet developed. No doubt PaleoIndian (before 9000 B.C.), Early Archaic (9000 to 6000 B.C.), and Middle Archaic (6000 to 3000 B.C.) stage nomadic hunter-gatherers passed through the Hunter area but they did not make intensive use of this part of the coastal plain. For the coastal plain in general, it has been noted that the known finds of PaleoIndian projectile points are concentrated along the major rivers communicating between the Piedmont and the sea (Miller et al. 1983:62). Early and Middle Archaic sites are somewhat more common, probably reflecting a population increase, but still are represented primarily by small numbers of stone tools. A shift from Pleistocene megafauna to smaller game, such as white-tailed deer, is evident in the lithic technology of the Archaic stage, but the lifestyle remained nomadic with band-level social organization.

Late Archaic stage (3000 to 1100 B.C.) occupations are well-represented in the area surrounding Hunter, if not at Hunter. This cultural stage represents an adaptation to increasingly localized subsistence resources. As sea level stabilized, the lagoons behind the barrier islands silted in and the marsh/lagoon/estuary system was formed. With the appearance of these biotically-rich natural features it became possible for aboriginal groups to remain in one camp for longer periods of time. The invention of pottery, which occurs earlier in the Savannah River region than anywhere else in North America, represents a shift from eat-as-you-go nomadism to a food-accumulation and storage subsistence strategy. This new way of life has been labelled the Coastal Tradition (Milanich 1971). Early ceramic technology was crude but apparently effective, judging from the number and variety of vessels at some sites. Late Archaic stage pottery is typically fiber-tempered, slab molded, and decorated with linear patterns of incising and punctation.

Late Archaic period sites on the Georgia and South Carolina coast are represented by several types of deposits, one of which is the distinctive doughnut- or crescent-shaped midden commonly called a "shell ring." Shell rings have been the subject of considerable interest, due to their large size, regularity of form, good faunal preservation, and, especially, due to the fact that sites of a similar form and age occur on the Carribean coast of South America (Marrinan 1975; DePratter 1976; Reichel-Dolmatoff 1972). Other Late Archaic site types are shell mounds and nonshell sites, both of which contain the same distinctive fiber-tempered pottery that occurs in shell rings. A semi-nomadic hunting and gathering existence with at least seasonal specialization in estuarine resources has been postulated for Late Archaic coastal peoples. The relationships, functional and/or temporal among the different site types have not yet been firmly established.

The earliest Woodland stage (1100 B.C. to A.D. 1000) occupations on the north Georgia coast are assigned to the Refuge period, which is characterized by sand or sand and grit tempered pottery bearing punctated, incised, dentate stamped, and simple stamped surface treatments. Some Refuge ceramic decorative styles are carried over from St. Simons or Stallings Island period styles, indicating a developmental continuum. Decoration of the interior surface is occasionally observed. DePratter has synthesized information on Refuge period ceramics and has provided formal type descriptions for these and the subsequent Deptford, Wilmington, and St. Catherines period ceramics (1979:109-132). This study appears in the context of an analysis of Refuge/Deptford mortuary practices based on the recent excavation of nine burial mounds on St. Catherines Island (Thomas and Larsen 1979). No excavated village components for the Refuge period are available to provide information on subsistence and technology.

.The technological transition from fiber to sand tempered ceramics was accompanied by an equally significant innovation in ceramic engineering: the slab construction technique was replaced by coiled, malleated construction. The shallow, flat-bottomed, straight-sided Late Archaic pots which could be modelled from slabs of clay must have been cumbersome and of limited usefulness in food preparation. The coiling technique allowed the potter to build deep, round-bottomed jars, to construct necks, and to create a stronger, thinner-walled vessel. These changes must have allowed new applications for ceramic vessels, or at least more efficient cooking, carrying and storage.

The next cultural development in the Woodland stage is the Deptford period. Basic similarities in ceramic decorative techniques, such as simple stamping, suggest a settlement and subsistence pattern continuum between the early and middle Woodland sand tempered pottery-making cultures. The Deptford period in the Atlantic subregion of that culture's distribution was a long period during which the basic Coastal Tradition subsistence and settlement patterns remained stable. This is not to suggest that no changes occurred. New decorative styles and vessel shapes reflect increasing sophistication in pottery manufacture and probably also reflect wider and more varied use of pottery in subsistence and perhaps social and ceremonial contexts.

Another change which occurred during the Deptford period was the appearance of burial mounds at some sites. The transition from midden to mound burial is not only a settlement pattern change but implies a higher level of social organization.

Settlement was typically within the live oak strand and adjacent to the salt marsh, on a major ecotone between the Pine Barrens and Coastal biomes (Milanich 1971:199). Data from Cumberland Island indicate that a kin group of 30 to 50 people occupying about five nuclear family dwellings made up a Deptford band (Milanich 1971:199). Subsistence may have been organized around a seasonal transhumant movement. Marsh, lagoon, and tidal stream habitats furnished a large proportion of the animal species exploited. Terrestrial species, including deer, raccoon, and turtle were also important. A hunting, collecting, and gathering economy is indicated.

As the final Woodland stage, on the northern Georgia coast, the Deptford period is followed by a culture known as Wilmington. Classic Wilmington-style pottery is grog or sherd tempered and cord marked. The Wilmington period represents a gradual transition occurring at the end of a long period of relative cultural stability. Social organization was probably still based on the small, semi-nomadic band but a possible shift in settlement pattern is indicated by the appearance of two basic types of sites. In addition to marsh-edge shell middens, nonshell sites occur in upland oak forests. The ceramic assemblage is characterized by increasing use of cord marking, which first appeared in late Deptford times, and by the introduction of ground sherd or grog as a tempering agent. There is no evidence that these changes can be attributed to an intrusive population, as Waring believed (Williams 1968:221). Subsistence practices continue to reflect heavy exploitation of marsh and estuary combined with terrestrial hunting and gathering. No clear indications of the practice of horticulture have been found.

This period is best known from the northern Georgia coast where it appears during the latter half of the first millenium A.D. At the close of the Wilmington period a brief transitional period, called St. Catherines, is defined on the basis of research conducted on St. Catherines Island. Ceramics of this period are distinguished chiefly by the small size of the ground sherd or clay particles which serve as temper. Net marking and burnishing of surfaces appear in this assemblage. It has not been shown that the St. Catherines phase is a widespread coastal phenomenon.

The Mississippian stage (1000 to 1500 A.D.) is the final fully prehistoric developmental stage on the coast. Beginning with the brief St. Catherines phase and closing at Spanish contact, the Mississippian stage is a time during which many new ideas and technologies were incorporated into the Coastal Tradition by indeginous coastal peoples.

Savannah cultures are thought to have evolved a major departure from the previously prevailing Coastal Tradition subsistence pattern: the addition to the diet of significant quantities of cultigens. Beginning about A.D. 1100, Savannah period sites include the largest and most complex prehistoric occupations on the Georgia coast, reflecting an increase in population size and level of social organization. These changes seem to indicate the influence of Middle Mississippian cultures in central Georgia. The ceramic assemblage exhibits both continuity, in the refinement of earlier decorative modes (chiefly cord marking) and change, in the reintroduction of check stamping and complicated stamping. Sites are of several types: platform mound ceremonial centers, burial mounds, large villages, and small, seasonal campsites. Crook has defined a site type, the aggregate village, which represents the major population concentrations during this period. An aggregate village is

characterized by its large size and clustered, circular shell middens, the presence of two or more mounds, and Mississippian period temporal association (1978:21). A site of this type on Sapelo Island was investigated by Crook and furnishes the most complete data available on the Savannah period adaptation. Crook found evidence of large communal structures, pallisades, and heavy reliance on estuarine resources, especially fish. Although cultigens figure prominently in the proposed subsistence model, no direct evidence of horticulture was recovered. A ranked chiefdom level society is inferred (1978).

Protohistoric period. By the time of Spanish contact in the early 16th century, the aboriginal ceramic complex on the coast exhibited major differences from the preceding Savannah period assemblage. These changes are attributed to continuing influences from the Lamar culture of the interior. Ideas, at least, perhaps also people, were diffusing toward the coast. The aboriginal inhabitants on the Georgia coast north of Cumberland Island were called the Guale by the Spaniards. Those from Cumberland Island southward were the Timucua.

Some archaeologists place the beginning of the Irene period as early as A.D. 1250 (Fryman et al. 1979:38) or A.D. 1300 (DePratter 1979:111), while others, including Milanich (1977), see continuing developmental changes within the Savannah period and would begin Irene at earliest contact (A.D. 1526). There is no evidence for a significant change in subsistence or settlement pattern after the beginning of the Savannah period and prior to European arrival. It seems most logical to initiate a new period to account for the major changes which must have begun shortly after contact as European diseases began to affect aboriginal demographics. It is now believed that earliest contact occurred between 1514 and 1516, which would have allowed at least two generations of acculturative change prior to permanent European settlement at St. Augustine in 1565 (Hoffman 1980).

The Pine Harbor period has been defined by Larson as the temporal equivalent of Irene on the lower Georgia coast (1958a). It differs from Irene in the presence of an additional ceramic type, McIntosh Incised. Larson has described the Pine Harbor village pattern as a series of low shell middens, haphazardly scattered, usually in association with a burial mound in the case of larger sites. Ethnohistoric documentation confirms the practice of horticulture during this period but Larson feels that its importance was slight (1978:122). Maize, pumpkin, and beans were cultivated. Continued reliance on estuarine resources is revealed by the middens which contain a wide variety of fish and shellfish remains. Terrestrial species also occur.

Larson has synthesized archaeological and ethnohistoric data to provide a picture of Guale Indian life under the influence of Spanish contact (1978). Irene/Pine Harbor represents the early period of sporadic, exploratory contact. Altamaha/Sutherland Bluff represents the period of intensive contact after the establishment of the mission system and prior to its destruction by British raiders from the Carolinas (approximately A.D. 1600 to 1700).

Mission period. Altamaha is the name given to the cultural complex which succeeded Irene on the north Georgia coast. The Sutherland Bluff period followed Pine Harbor on the lower coast. In these sites, San Marcos series ceramics (the northern equivalents are labelled Altamaha series) occur in association with Spanish artifacts, primarily olive jar and majolica sherds.

A shift in settlement pattern at several levels occurred during this period. Missionaries seem to have persuaded the inhabitants of at least some Guale villages to relocate at points convenient to the Spaniards. Jones presents data indicating that, while most of the Spanish missions were established on the sea islands, the principal towns of the Guale were located on the mainland coast and along the major rivers (Thomas et al. 1978:194-195). Larson describes the appearance of Sutherland Bluff period sites and contrasts them with the pattern of the previous period. Mission period sites lacked low mounds; instead, the shell was scattered unevenly over the entire site (1978:132). Other changes, including larger cultivated fields, resulted from the missionaries. attempts to convert the Guale to sedentary agriculturalism.

Larson notes that the amount of shell on Sutherland Bluff sites is much less than in earlier periods and attributes this to increased agricultural reliance. His evidence indicates that hunting and fishing were much less important than in the previous period (1978:132-133).

The mission period ends at the close of the 17th century as aboriginal populations were driven from the Georgia coast into the interior and toward Spanish Florida by British raiders from the Carolina colonies. By the time Oglethorpe arrived on the Savannah River to found the colony of Georgia in 1733, Creek Indians had moved into the vacuum left by the decimation of the original coastal populations. Thus the chiefs who treated with the British to allow establishment of the colony at Savannah were the first new population to enter the area since the establishment of the Coastal Tradition almost 5000 years earlier.

The Historic Period

Documentary research for the Hunter survey resulted in three different products. First, a chronological overview is presented with references to sources consulted. Second, brief discussions of information on those persons who could be identified as living within the survey area are incorporated into the appropriate site descriptions. Finally, there is an annotated listing of the sources consulted (Appendix B). This organizational scheme has been followed because of the scarcity of material which directly relates to the Hunter Army Airfield area. Most of the documentary material dealing with Chatham County, Georgia, concentrates on the city of Savannah and concerns the survey area only marginally. No county history, as such, exists and since Hunter was not incorporated into the city of Savannah until rather late, the earlier history of the survey area has been neglected. Nevertheless, it is possible to summarize the general history of the airfield by recourse to a wide variety of sources.

Chronological Overview. The documentary and cartographic research was designed to provide information relating to the survey area and to fit that information within broad regional, as well as more localized, research interests. Specifically, recent studies relating to the prehistoric site distribution and sea level rise (Chester DePratter, personal communication, August 1983) suggest a more complex geological-demographic pattern than was thought previously. Additional information relating to site distribution in marshy coastal areas is useful for the entire coastal plain.

Similarly, patterns of development within the framework of spreading urbanization and its "urban processes" (Honerkamp, Council, and Fairbanks 1983) suggest that Savannah's landscape has been altered considerably over the past 250 years. Local interpretation of these changes is not always consistent with archaeological evidence (Babits 1982b; Rutch 1981). Information generated from the present survey can be used to provide additional clarification of these complex past activities.

With the needs of the survey, and regional and local research in mind, the documentary and cartographic study was designed around a number of research foci. These include (1) the introduction of dry rice culture (Gamble 1900:141) and (2) the concerted effort made to drain low areas surrounding the high bluff of the original settlement that has continued until the present. While the initial reasons for removing water (Gamble 1900:142, Pringle 1775:321-5; Rush 1810:84-6) may not have credibility in medical circles today, the nineteenth century drainage anticipated the 1930s Chatham County mosquito control drainage program which relied on "dry culture" tactics. As the surface water and the water table were lowered, more areas were opened for habitation. Stated as a hypothesis to guide research, this assumption is that "If archaeological sites are to be found in the survey area, then earlier sites will be found on high ground and/or closer to the city of Savannah."

A corollary to this initial hypothesis states that, "If roads are noted in the survey area, then they will follow the higher ground." These roads thus could serve as indicators of higher ground on maps which were not contoured. A secondary corollary states that "Historic period archaeological sites will be found in the high ground areas along, or on secondary roads leading from, these high ground roads." In the absence of accurate topographic maps dating to the nineteenth century, the road network may provide opportunities for analyzing the earlier contours (Schlereth 1981:70).

The initial settlement of Savannah took place on the high bluff along the Savannah River (Gordon 1740). Smaller outlying villages were located in two arcs outside the initial settlement. The outer-most arc consisted of larger villages such as Ebenezer, and Fort Argyle and Fort Frederica. The inner arc consisted of smaller villages such as Vernonberg, Abercorn, Highgate and Hampstead (Jones 1974). This configuration seems to be based primarily on defensive alignments to guard against probable Spanish attack or Indian raids. The outlying settlements were, in part, designed to provide warning of danger for the main settlement at Savannah.

Hampstead and Highgate were located approximately one mile apart on "rising ground" four or five miles southwest of Savannah's 1733 limits (Jones 1974:248). Hampstead was occupied by only twelve families, chiefly of Germanic ancestry. Highgate was of similar size and largely French. Both of these settlements failed; only two families were still at Highgate in 1740 and no one was at Hampstead (Jones 1974:248). The occupants were described as living in "neat Huts," suggesting the impermanent nature of the dwellings. Such structures would have very low focus and visibility (Deetz 1974:3-4). Discrimination between the two might be made on the basis of ceramics if the two groups of families had been supplied initially with products from their own countries. Both the Platen (1875) and the Chapman (1906) maps yield evidence about the location of these early settlements as they record old plantation or more recent subdivision names, suggesting a spatial connection

with these now vanished towns. Figure 5 shows a section of the Platen map covering the vicinity of Hunter.

In other areas of Southern and coastal Georgia, a riverine-oriented pattern of settlement can be seen as early as the 1750s (des Barres 1780; Mouzon 1775). This type of settlement cannot be documented for the survey area. This obvious break with a traditional mode of settlement may be due to two factors. First, the low ground in the area made farming difficult, if not impossible, until drainage was completed. A similar situation was noted archaeologically for an area just north of Richmond Hill, Georgia (Babits 1982a). A second reason may be that there is little high ground immediately associated with the Little Ogeechee (Forest) River in the vicinity of Hunter. The lack of high ground is exacerbated by the shallow, tidal nature of the tributaries of the Little Ogeechee in the Hunter area.

Within the Hunter Army Airfield area, the earliest grants date from the 1750s period and deal with the "Little Ogeechee District" (Hemperley 1973:vii, 216-252). No maps show any structures within the area of Hunter until 1864-65 (Poe 1864, Rziha 1864), with the exception of the des Barres map (1780) which indicates a possible structure located on the bank of the Little Ogeechee at the end of a road. The road may be Middleground Road, but this is not certain. Until 1864, all the other maps showing this area and pictorial representations indicate that Hunter was a wooded, swampy area. This cartographic and artistic portrayal of the survey area seems to be confirmed by documentary sources, as Haunton states that in the 1850s Savannah was fronted and flanked by undrained swamps (1968:281). Nevertheless, some travel through the area was underway and more roads are shown as one views maps progressing through the nineteenth century. The construction of the railroad along the western edge of the survey area between 1837 and 1840 also caused additional use of the area (Waring 1973:51). In addition, the plantations along the Savannah River west and north of the city may have extended as far as the Hunter area, especially those portions of Colerain plantation which later became Springfield plantation.

Springfield plantation is of interest because the city of Savannah bought it in order to drain it (Granger 1972). Drainage of the Springfield area would have affected the Hunter survey area due to the interlocking network of streams in the area. As Springfield was drained after 1850 (Haunton 1968:297), the project would have drawn off water from the Hunter region as well. Conflicting evidence suggests that the actual drainage did not start until 1874 (Gamble 1900), giving additional reasons for the late settlement of the survey area.

During the Civil War, greater attention was paid to the Hunter area. A generalized map shows proposed and completed Confederate earthworks which may have run through the northern end of Hunter (Bischoff 1864). No other details are shown on the Bischoff map beyond the junction of White Bluff and Middleground Roads. Two Union maps (Poe 1864; Rziha 1864) show structures within what is now Hunter. Poe's map is less clear than Rziha's. Although it covers a wider area, Poe's map does not clearly show structures. Rziha's more limited map shows some farms which were "ruins" and others which can be identified with those shown on the Poe map. If nothing else, these two maps detail the presence of farms in the area. The lack of many farms is apparent

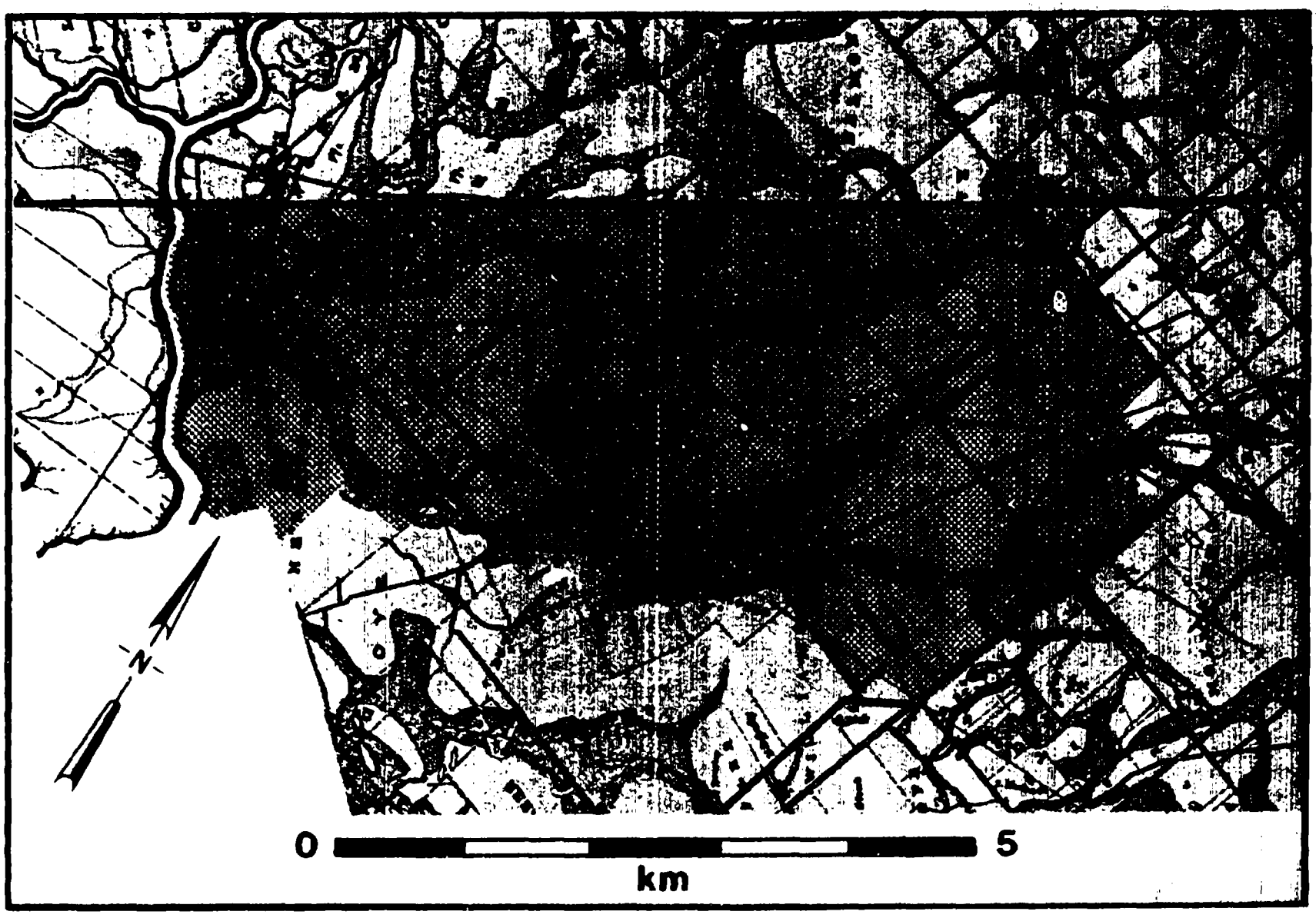

Figure 5. A Portion of the 1875 Platen Map Showing the Hunter Vicinity.

and the reason again may be the lack of drainage. If the area had been militarily important, Federal forces would have had to occupy it to seal off Savannah in December, 1964. That this was not done, and that the Confederates apparently did not complete defensive earthworks in the area (Bischoff 1864), suggests the relative lack of military utility the area had for either side at the time.

The lack of documented structures is not to be construed as meaning there were no people in the area. As early as 1837, Chatham County had 16,000 people outside the city of Savannah. Since nearly 80 percent were blacks, most of whom were presumably slaves working on rice plantations (Waring 1973:26), this population would have been concentrated on the plantations, or if free (black or white) scattered in very small farms, again, probably of low focus and visibility.

By the 1870s more interest was expressed in the area. The additional interest can be documented by the greater detail of the Platen map (1875). Since the 1870s were the decade when much of the outlying region around Savannah was drained (Gamble 1900:304), the lowering of the water table may have created the opportunity for using this once marginal land. The elaborate patterns of the road and lot networks on the Platen map outside the survey area were never completed, indicating this 1875 map is really a designer's impression of the existing and planned development. In 1906, the Chapman map shows even more development of the area. Again, this increased use of the region is probably the result of more successful drainage of the surrounding region. Since the Chapman map was drawn up for a banking firm, the representation of the small lots and roads is again suspect, especially as they do not currently exist in this fashion. Neither the Platen nor the Chapman maps show any structures within the survey area.

In 1912, the U. S. Coast and Geodetic Survey prepared a contour map of the Savannah region which included the Hunter survey area. This particular map was later reissued and updated in 1920 and 1942 (a publishable version was not located). The 1912 version shows structures within what is now Hunter Army Airfield. Some of the structures located along White Bluff Road may have been found during the archaeological field survey, especially two farms which can be identified as to name when compared with the 1875 Platen map.

These two properties are the Poulain (HAAF-8) and Kollock (HAAF-11) farmsteads. A preliminary check of the Kollock name through the Chatham County deed books reveals a great many references to the name. No entries were found for Poulain, suggesting that this family was composed of tenants on another person's land. A third possible site, visible on the 1875 map within the borders of the R. Woodhouse property, was not identified in the field. Additional research into the Kollock and Poulain properties might clarify the ownership of the property and status of the families.

Other features can be noted as well on the 1912 map. They include a cluster of houses along the Middleground Road corridor on the west side of the road. Contour intervals indicate this is some of the higher land in the vicinity. The concentration of housing increases in the vicinity of the junction of Buckhalter Road with Middleground Road. A dairy is listed for Buckhalter Road in close proximity to a church near a small stream. This particular area was heavily disturbed during construction of the runway and

may contain little intact cultural material. The presence of the dairy in 1912 cannot be construed as being indicative of heavy dairying activity prior to 1890 because the pasteurization process enabling the transport of milk was not developed until the 1890s (Jenson 1983:11).

As Savannah expanded southward from the bluff in the twentieth century, more use was made of the previously unwanted land in the Hunter area. In part, this increased use may have been due to the increased use of motor vehicles which expanded the distance a person could travel to exchange commodities and still return within one day. In the horse drawn/foot travel era, this distance was about six miles (Babits 1981:62-64). The introduction of the motor car can be seen clearly with the increased paving of roads which occurred prior to 1940. The 1930 Brown map shows the types of roads in Chatham County and indicates that a concrete roadway (Wilson Boulevard) ran into the airport which had been established within present-day Hunter. Other roads are shown as asphalt and dirt. While this map does not show structures, it does indicate the shift of interest toward the Hunter area which occurred with the siting of the city airport there in the late 1920s (William Coyle, personal communication, May 1983).

Expansion into the Hunter survey area was apparently much more rapid after the development of the automobile. In 1908, 1910 and 1911, the International Grand Prize race of the Automobile Club of America was held in Savannah (Quattlebaum 1983). The occurrence of these races and the publication of an accurate survey of the environs of Savannah by the U. S. Coast and Geodetic Survey in 1912 are probably not a coincidence. Increasing use of the automobile necessitated more accurate maps detailing the condition of roadways and, in the absence of road signs, houses along the route.

According to Higginbotham and Associates (1982:5), the Hunter area was chosen by the City of Savannah as the site for a municipal airport in 1928. The U.S. Army took it over during 1941-1946, followed by civilian use until 1950. In that year the City gave up its ownership to the Air Force in exchange for Travis Field. During the next 17 years the Air Force made considerable improvements, including the extension of runway 27. In 1967 the Army once again took possession of the base. The initial extensive ground disturbance due to runway and building construction may have eradicated many habitation sites dating to earlier times. This alteration of the area was most pronounced in those zones of higher, and therefore dryer, land which had been used earlier. As a result, much of the potential for recovering the fragile remains of Hampstead and Highgate appears to have been lost since these sites were probably located in areas which experienced the most extensive modern development. In a similar fashion, much of the archaeological potential for the loose clusters of farmsteads along Buckhalter and Middleground Roads was lost during runway construction.

Since the end of World War II the runway has been lengthened and additional structures erected on even more land, affecting those sites which had not been previously altered. A building campaign apparently initiated following World War II continues to the present. This campaign has resulted in the alteration and/or destruction of most of the original military architecture leaving only post-1950 structures standing. A ground survey of standing structures revealed none that dated before 1950, based on architectural identification alone.

A current example of the changing nature of the land is the building up of Lotts Island. This small hammock located in the lowland adjoining the Forest River is used now as a recreation area. As recently as March 1983, permits were requested to add pilings, walkways and a pier to the already manipulated soil (Savannah District, U. S. Army Corps of Engineers Joint Public Notice 074 OYN 004575). Just as this adaptive use of the area continues, so did it exist during the military (1942-present) and pre-military (1733-1942) periods. On at least two occasions, this continued development has encountered human remains in the cantonment area (Richard Anuskiewicz, personal communication, October 1983) and this is likely to continue in that localized area until a thorough exploration of the cemetery area has been completed.

Archaeological Sites

Field Survey

The six-week period of fieldwork, with a crew consisting of three two-person teams and one supervisor, required an investment of 210 persondays of labor. With only a few exceptions, the entire crew worked together and field time was allocated as follows: 3 weeks (1/2) devoted to high intensity survey of areas A through J and the marsh; 2 weeks (1/3) devoted to low intensity survey of areas AAn, AAs, and BB; and 1 week (1/6) devoted to availability testing in the developed area.

Survey activities resulted in the identification of nine archaeological sites. Seven are primarily historic sites and two are prehistoric. Archaeological materials encountered elsewhere at Hunter were isolated examples of prehistoric or historic artifacts. None of these were significant in and of themselves; all were treated as isolated finds. No architecturally important properties were identified. No sites less than 50 years old were defined, although one site (HAAF-11) contains a considerable amount of material that is less than 50 years old.

An isolated find was defined as less than three contiguous positive tests in an array of systematic and supplementary tests generated by the testing and boundary definition procedures described in Chapter 2. Although two positive tests 12.5 m apart might be construed as a small site, very little other information would likely be forthcoming. Thus while this minimal level of evidence does indicate human use of an area, it is not adequate for archaeological definition of a locus of patterned behavior and therefore is not called a site.

Figure 6 is an outline map of Hunter showing the locations of all archaeological sites. More detailed sketch maps accompany the individual site descriptions. USGS topographic maps bearing site locations and Georgia Archeological Survey forms will be filed with the SHPO.

Site Inventory

HAAF-1. The McNish Site is located in survey area B on the north side of Lotts Island Road. The presence of a 19th century gravestone in this area was

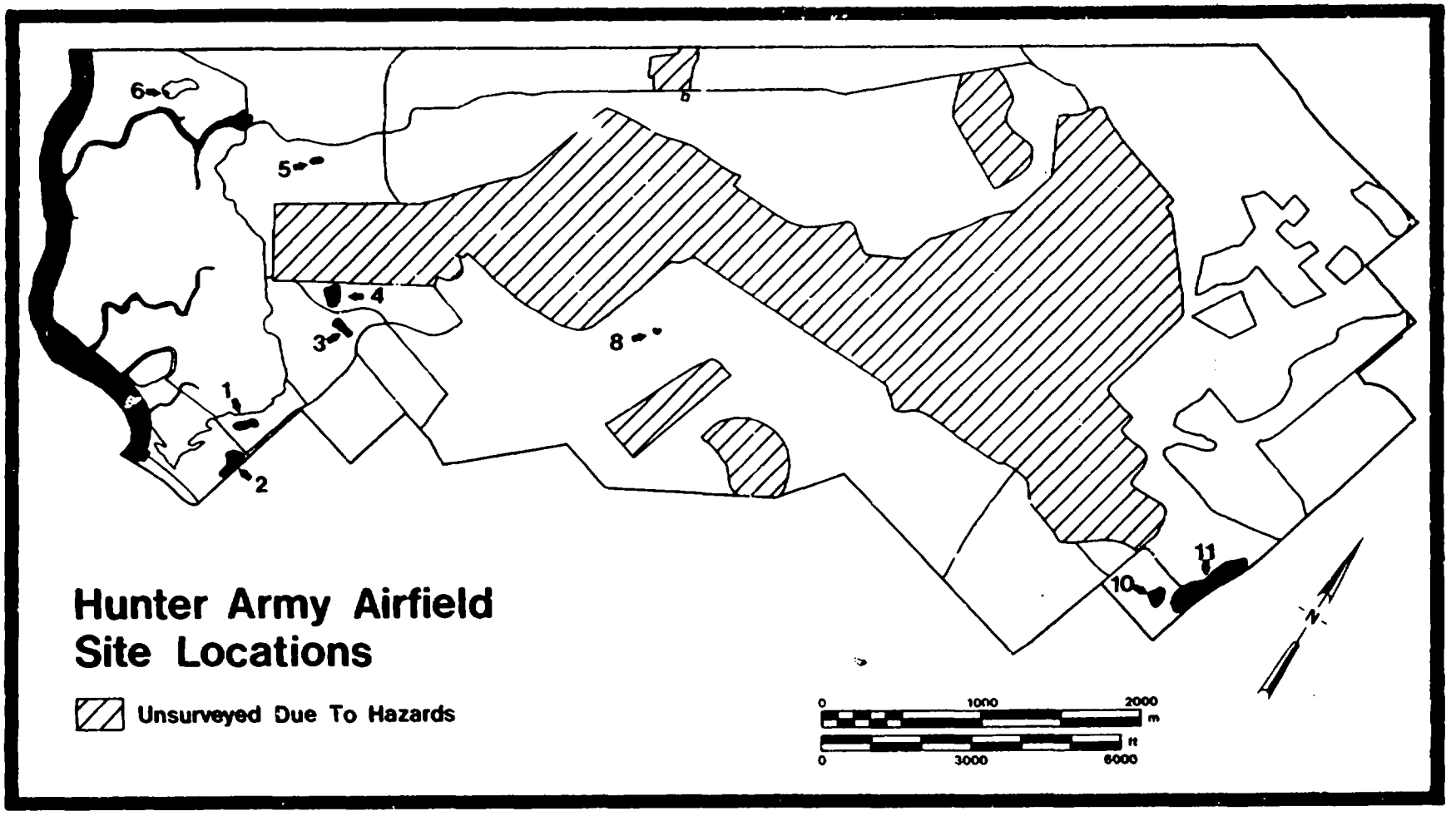

Figure 6. Locations of Archaeological Sites at Hunter Army Airfield.

mentioned to the CoPI by a DEH Hunter staff member during background research but no written record of historic remains was found. The site was encountered during surface reconnaissance between test pits along a transect through Area B. One complete gravestone, a portion of an unmarked gravestone, and several carved marble ornaments were found on the surface (see Figures 7 and 8). Subsequently, tests in the vicinity yielded historic period artifacts which may be associated with the graveyard or with a contemporary structure.

The McNish Site is located in a mesic hammock of mature southern mixed hardwoods dominated by live oak. A large magnolia stands at the south end of the site, about 100 m east of the edge of the salt marsh. From an elevation of 1.5 m at the marsh edge, the land slopes gently upward to 2.5 m at the graveyard. A jeep trail paralleling the marsh edge about 30 m below the site may follow an old roadbed.

According to the soils map, Ellabelle loamy sand is present in the vicinity of the site. However, soil profiles from test pits across Area B demonstrate that this poorly drained Ellabelle soil is actually located closer to the corner of Lotts Island Road (near the Rio Gate) and that the site is on Albany fine sand. This latter soil type is easily recognized by the yellow color (or Munsell light olive brown 2.5 Y 5/4) of the second stratum. It is classed as "somewhat poorly drained" but is, with respect to elevation and drainage, the most suitable soil in the area for human habitation. There are no freshwater creeks in the immediate vicinity; in the historic period water would have been obtained from shallow, hand-dug wells.

This section of woods has been left under natural forest cover. No evidence was seen of any serious recent disturbance of the surface soils.

Table 1 contains an inventory of artifacts recovered from test pits at HAAF-1. In addition to these materials, 5 carved marble ornament pieces, a Savannah gray brick, and several tabby mortar fragments were collected form the surface. The inscribed gravestone, partial marble slab, and brick foundation remains were left in situ as illustrated in Figure 10. A small amount of aboriginal material was also recovered from tests defining HAAF-1. Since the distributions of aboriginal and historic period materials are nearly coincident, especially as contrasted with the virtual absence of cultural material elsewhere in Area B, they are treated here as components of a single site.

On the basis of 7 positive systematic tests and 11 positive supplementary tests HAAF-1 was defined as a roughly rectangular area oriented parallel to the marsh edge and measuring 135 m long by 50 m wide. An area of approximately 0.68 h is included within the boundary shown in Figure 11.

Aboriginal materials were recovered from 6 of the 18 positive tests at HAAF-1 and totaled 10 artifacts. These included two eroded sand tempered sherds, one plain sand and grit tempered sherd, three plain grit tempered sherds, one possibly cord marked sherd with sand and grit temper, two pieces of chert debitage, and one utilized chert flake. None of these materials is diagnostic of a particular temporal period; the ceramics are Woodland or later. Artifact concentrations ranged from one artifact per test (in four cases) to four artifacts per test (in one case). Only one of the tests containing aboriginal materials also yielded mollusc shell. In none of the tests was there evidence of a discrete cultural stratum. The materials recovered

Figure 7. Five Marble Finial Fragments on the Surface Near the McNish Cemetery.

Figure 8. McNish Gravestone at HAAF-1. In middleground are, L to R, a map-board, brick wall footing, and partial marble slab.

Figure 9. Vicinity of the Rio Road Site, HAAF-2.

Table 1. Artifact Inventory for the McNish Site, HAAF-1.

	Frequency	Weight
HISTORIC		
Ceramics		
Lead-glazed earthenware	5	
Slip-decorated redware	1	
Blue-on-white delftware	1	
Unidentified refined earthenware	1	
Underglaze blue oriental export porcelain	1	
Brown salt-glazed stoneware	1	
Total	10	
Glassware		
Clear lead glass	1	
Pale blue-green glass	1	
Green glass	5	
Modern glass	1	
Unidentified burnt glass	1	
Total	9	
White Clay Tobacco Pipes		
Pipe stems	4	
Architecture		
Window glass	1	
Cut nails	2	
Wire nails	1	
Brick and mortar fragments	7	
Whole Savannah gray brick with tabby mortar	1	
Carved marble finial fragments	5	
Total	17	
Bone	6	2.8
Miscellaneous		
Scrap iron	1	4.0
ABORIGINAL		
Pottery		
Sand tempered eroded	1	
Sand and grit tempered plain	1	
Grit tempered plain	3	
Sand and grit tempered c.f. cordmarked	1	
Total	6	
Lithics		
Chert debitage	2	
Utilized chert flake	1	
Total	3	
Site Total	56	

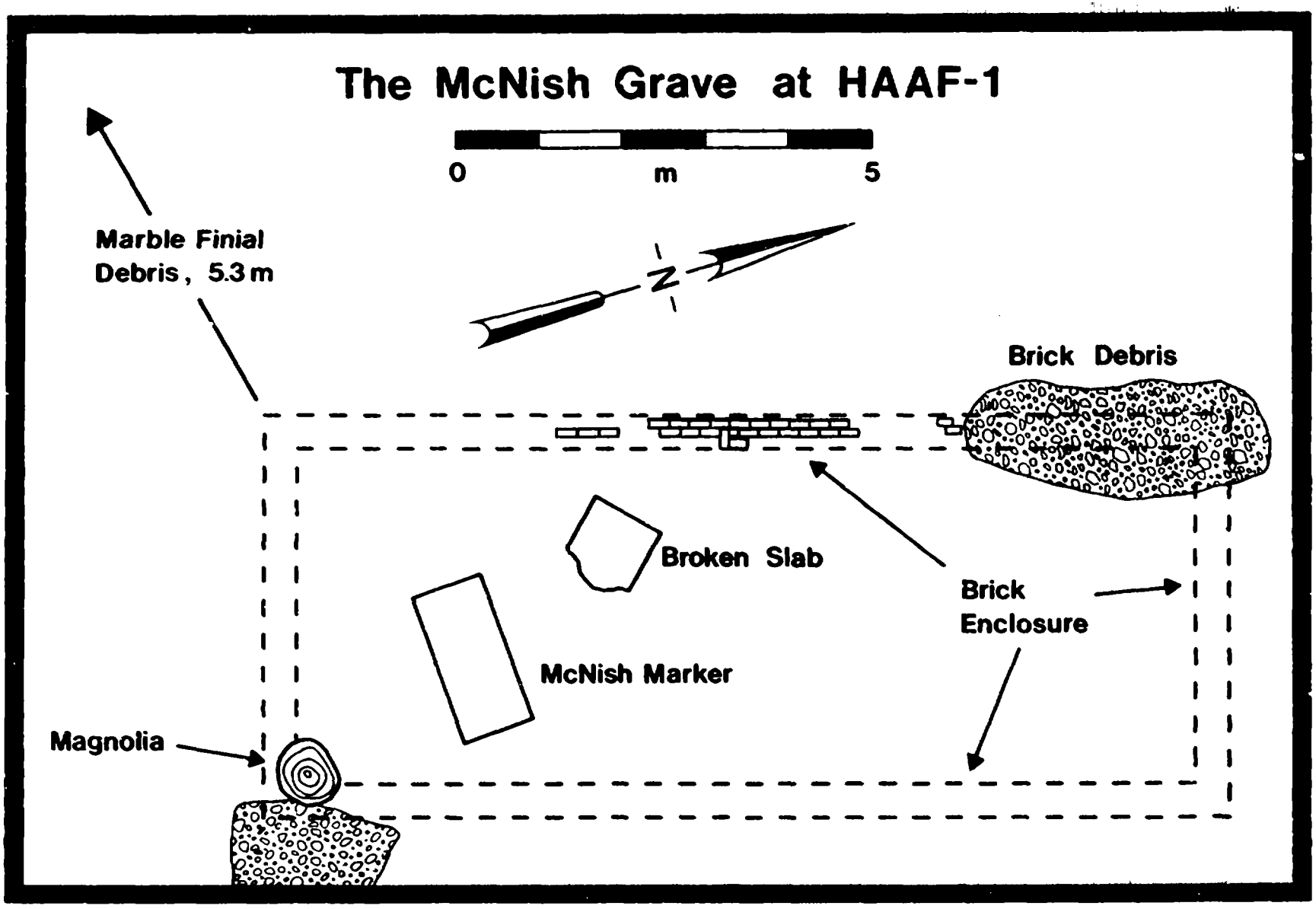

Figure 10. Field Map of the McNish Grave at HAAF-1.

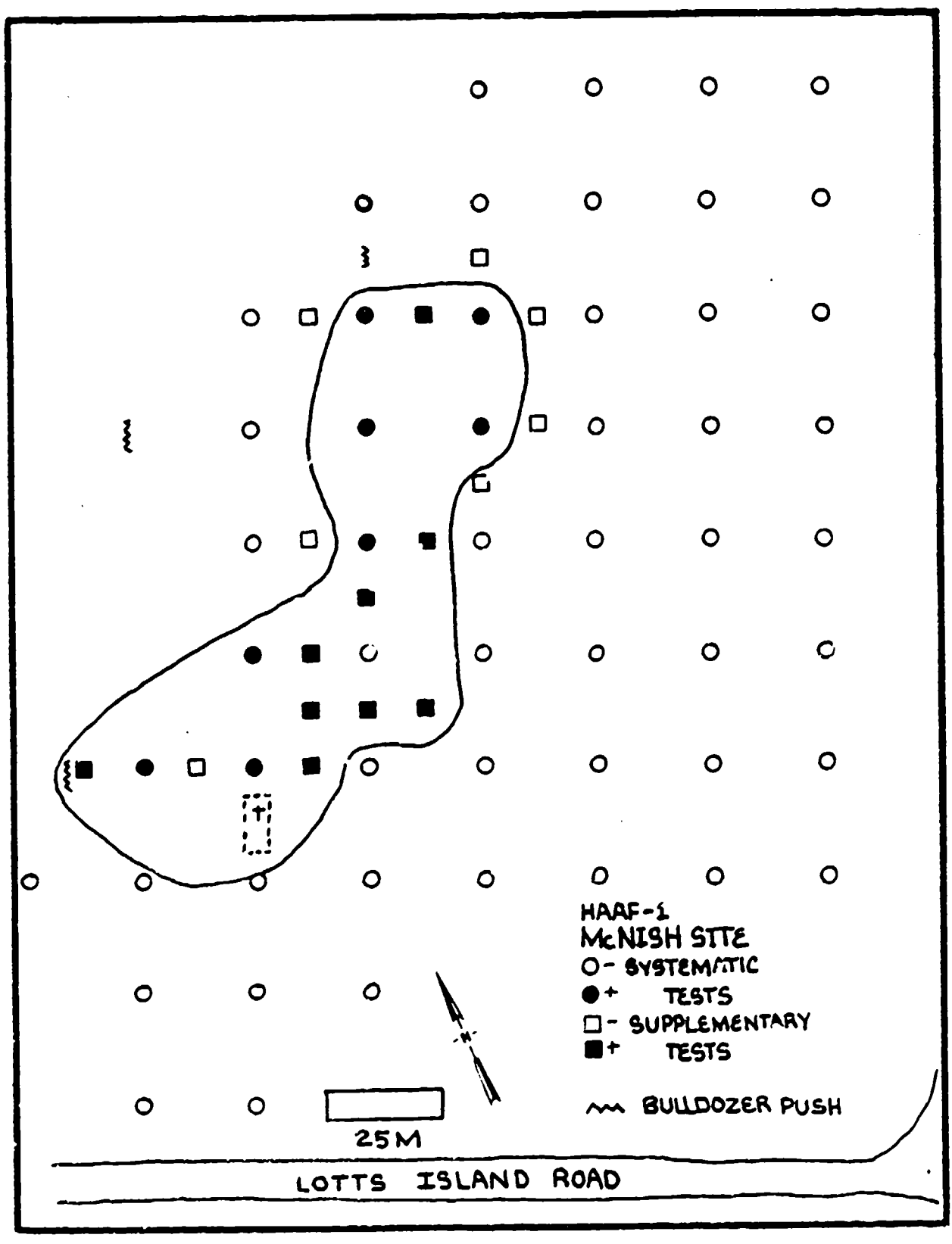

Figure 11. Sketch Map of Test Pit Array at HAAF-1. Test pits not to scale.

are suggestive of functions such as food storage and preparation (ceramics), tool sharpening (lithic debitage), and food, hide, or wood processing (chert flake scraper). There is insufficient evidence to infer the number of occupations represented. In view of the low density of materials encountered, it may be stated that aboriginal activities at HAAF-1 involved small groups and brief periods of time.

Historic period artifacts recovered from 16 tests (7 systematic, 9 supplementary) at HAAF-1 are listed in Table 1. The ceramic assemblage is too small for the absence of certain types to have much significance, those types which are present suggest an occupation sometime in the period from the mid-18th century through the early 19th century. The white clay tobacco pipe fragments are also appropriate to this time period. Together with the ceramic artifacts, the glass and bone are debris which suggest a domestic occupation. Architectural materials indicate the presence of a structure of some type in the vicinity. Although some of the brick and mortar fragments may have come from the cemetery enclosure (described below), the window glass, nails, and domestic debris are consistent with a residential structure.

The gravestone(s) and cemetery enclosure found at the McNish Site are illustrated in Figures 8 and 10. Lying on the surface, within the remains of a rectangular brick enclosure, are two marble slabs. One is rectangular (1.84 m long by 0.87 m wide) with a finished surface, finished edges, and an inscription. The second slab appears to be half of an unfinished, blank gravestone: it is 0.90 m wide and 0.81 m long. Both stones are carved from a fine-grained white marble. Also made from this same marble are the 5 fragments of three ornamental finials which were found nearby but outside the enclosure (Figure 7).

All of these stone artifacts appear to have been moved from their original positions: neither of the slabs is aligned with the enclosure walls and the finial fragments were obviously displaced. This is probably the work of vandals, although the missing portion of the unfinished marble slab might have been broken off and removed at the same time the enclosure wall was robbed for brick.

The remains of the brick wall are visible at ground surface along the center of the western wall. Elsewhere subsurface remains of the lower course or courses of brick were delineated by probing with machetes. Some gaps appear in the base of the wall and some portions felt as though they were composed of displaced brick or rubble. On the whole, however, the outline and dimensions can be reconstructed. The rectangular enclosure measures 11.6 m long (38.0 ft) by 4.8 m wide (15.7 ft) and is oriented 14 degrees E of magnetic N. The highest, most nearly intact section of the wall is two bricks wide and three courses deep.

The inscription on the finished marble slab is finely executed and provides information about both the marker and the person it memorializes. It reads as follows:

SACRED
To the Memory
of
JOHN Mc.NISH

a native
of Gatehouse in the county of Galloway
SCOTLAND
who departed this life
on the 19th December,
1826
in the 46th year
of his age.
He died
calmly resigned to the will
of his Maker
breathing those memorable
words:
"Father not my will but thine
be done."

Forgive blest shade! the tributary tear,
That mourns thy exit from a world like this,
Forgive the wish that would have kept thee here,
And stayed thy progress to the realms of bliss.

(Tingley, Providence, R.I.)

According to the Providence, Rhode Island city directories for the period 1824-1854, the Tingley family operated a "steam marble works" described as a "big concern" (John Gallagher, personal communication). The marble is probably from a New England source. It seems likely that the finials and blank stone are also from the Tingley works, since the marble is similar.

The man named in the epitaph, John McNish, is something of an enigma. There are few direct references to McNish, although he is not completely unknown. According to the grave marker, he lived from 1780 to 1826. He was a Savannah merchant between 1806 and 1825, judging from will book references, newspaper advertisements and letters. The tax digests and property transfers indicate that he owned slaves. His wife later probated his will which provides additional information. The limited data about McNish are very perplexing.

Virtually all of his property was held downtown in Warren Ward. No chain of title has been run on the lots he owned but the description is of a corner lot in Warren Ward. A very preliminary search of newspaper advertisements shows that he received many shipments of goods such as ale, cotton, rice, and flour, but there are no advertisements of his selling them. This preliminary evidence suggests that he was acting as a distribution "middleman" by importing goods for Savannah's factors.

No deed information indicates any link between a McNish and the Hunter vicinity until 1843, when Jane E. Johnston deeded 1000 acres of the "Hermitage Plantation in White Bluff District" to her sister, Ann Mary McNish, and Ann's daughter, Mary Jane McNish. The 1875 Platen map labels a large tract, adjacent to the Little Ogeechee and incorporating HAAF-1, as "Hermitage." This is the only link discovered thus far between the name McNish and the land where the gravestone was found.

Another tantalizing piece of information is that McNish, as a name in the marriage registers, is qualified by the term "colored" after 1865. Entries of the name McNish prior to this date are all without this qualifier. This coincidental information suggests possible intermarriage and trade with blacks, in addition to his owning slaves. These leads have not been followed out to their conclusions but a search of Free Black records is currently underway. There are free black McNish names in the index. Given the marginal nature of the land, it is possible that it was used by a tenant or landholding free blacks prior to the Civil War era. Another possibility is that former slaves of John McNish took on this name after the Civil War.

The stone with John McNish's name on it is difficult to assess. Since it rests within a line of bricks, it seems that the area was a grave yard. Yet John McNish has not been shown to have owned the land here. The stone itself is, on the basis of signature and carving style, a product of the Tingley family in Providence, Rhode Island. The fine stone and its shipment from New England again suggests a successful merchant, but the absence of any land holding record for the graveyard makes any interpretation exceedingly questionable.

In summary, the McNish Site contains at least two components. The aboriginal component is represented by a very small amount of nondiagnostic material which is suggestive of a Woodland or later occupation. The historic component includes a small amount of domestic debris, suggestive of a residential structure, adjacent to the remains of a small grave yard. Although the temporal proveniences of the marked gravestone and the artifact assemblage are consonant with an occupation of the site during the first quarter of the 19th century, no direct association between the cemetery and domestic assemblage can be established on the basis of survey evidence.

As indicated by the 30 cm tests, the site occupies an area of 0.68 ha. It should be noted that the 25 m test interval is large enough to have missed features such as a small outbuilding, well, privy pit, or other structures which might be associated with a domestic occupation.

The occurrence of both aboriginal and historic materials at HAAF-1 indicates that this area was a preferred settlement location in the prehistoric period as well as the historic. Relatively good drainage of the Albany fine sand soil which composes the site matrix and proximity to the marsh and river are probably key factors in selection of the site in both periods.

The data generated by survey research at HAAF-1 pose more questions than they answer. It is not clear that the merchant McNish is the same McNish memorialized on the banks of the Little Ogeechee. Nor is it certain that anyone is buried at HAAF-1; the stone might be a monument rather than a grave marker. The presence of a residential structure can be conjectured but its dimensions, form, and character are unknown. The fact that the cemetery is relatively more substantial than the (unlocated) domestic structure suggests that it may be later, representing re-use of an early homestead clearing.

In view of the many unanswered questions about the McNish Site, further research will be required to determine its scientific potential. Specifically, this research should focus on the following:

1) Documentary research to determine: who owned the land in question during the late 18th and early 19th centuries; who might have rented, resided on, and/or worked the land; what connection exists between the Savannah merchant McNish and the Scots immigrant; and what contemporary occupations on tracts adjacent to the Hunter research area might be related to this site.

2) Field research to determine: whether there are any graves within the cemetery enclosure; whether there are any features indicating a structure associated with the historic sheet midden; and whether datable materials are associated with functionally interpretable contexts.

Because it is anticipated that the Army might attempt to protect the cemetery from further disturbance by erecting a fence, it should be emphasized that there is a subsurface component extending northward from the brick enclosure which should not be disturbed. It would be best to conduct Phase II testing prior to installing a protective fence. It is possible that testing would demonstrate that no protective measures are required.

Since no evidence of the colonial period towns of Hampstead and Highgate was found during this survey, the McNish Site may represent the earliest extant Euro-American occupation at Hunter. It is recommended that a Phase II research project be undertaken to determine the validity of this claim and establish the potential for scientific research at this site.

HAAF-2. The Rio Road Site is located in survey area A on the south side of Lotts Island Road near the Rio Gate. Mid-19th century ceramics were observed in the ditch along Rio Road within 75 m of the gate. Test pits in the systematic sample produced additional 19th century material.

The Rio Road Site is situated in a mesic hammock of mature southern mixed hardwoods dominated by live oak. Figure 9 illustrates vegetation and ground cover in the vicinity of HAAF-2. Elevations across the site range from 3.5 to 4.5 m amsl; the ground is generally level. The soil is Albany fine sand, which is characterized by a very dark gray surface layer 15 to 20 cm thick, underlain by a distinctive light olive brown or yellow sandy subsoil. This soil type is described as somewhat poorly drained but it is the best-drained soil along the Little Ogeechee in the vicinity of Hunter. There are no freshwater creeks in the immediate area.

A moderate amount of modern surface disturbance is evident in the area, especially along the Lotts Island and Rio Road margins of the site. Disturbances appear to be due to a combination of factors, including modern dumping and heavy equipment activities.

HAAF-2 occupies a roughly rectangular area which measures 175 m north-south by 50 m east-west. Approximately 0.88 ha is included within the boundaries defined by 13 positive systematic tests and 3 positive supplementary tests (Figure 12). Two additional positive tests occur adjacent to the west side of the site; one contained a single pearlware sherd while the other yielded two fragments of Savannah gray brick. These were included within the site boundary although each was separated from nearby positive tests by two

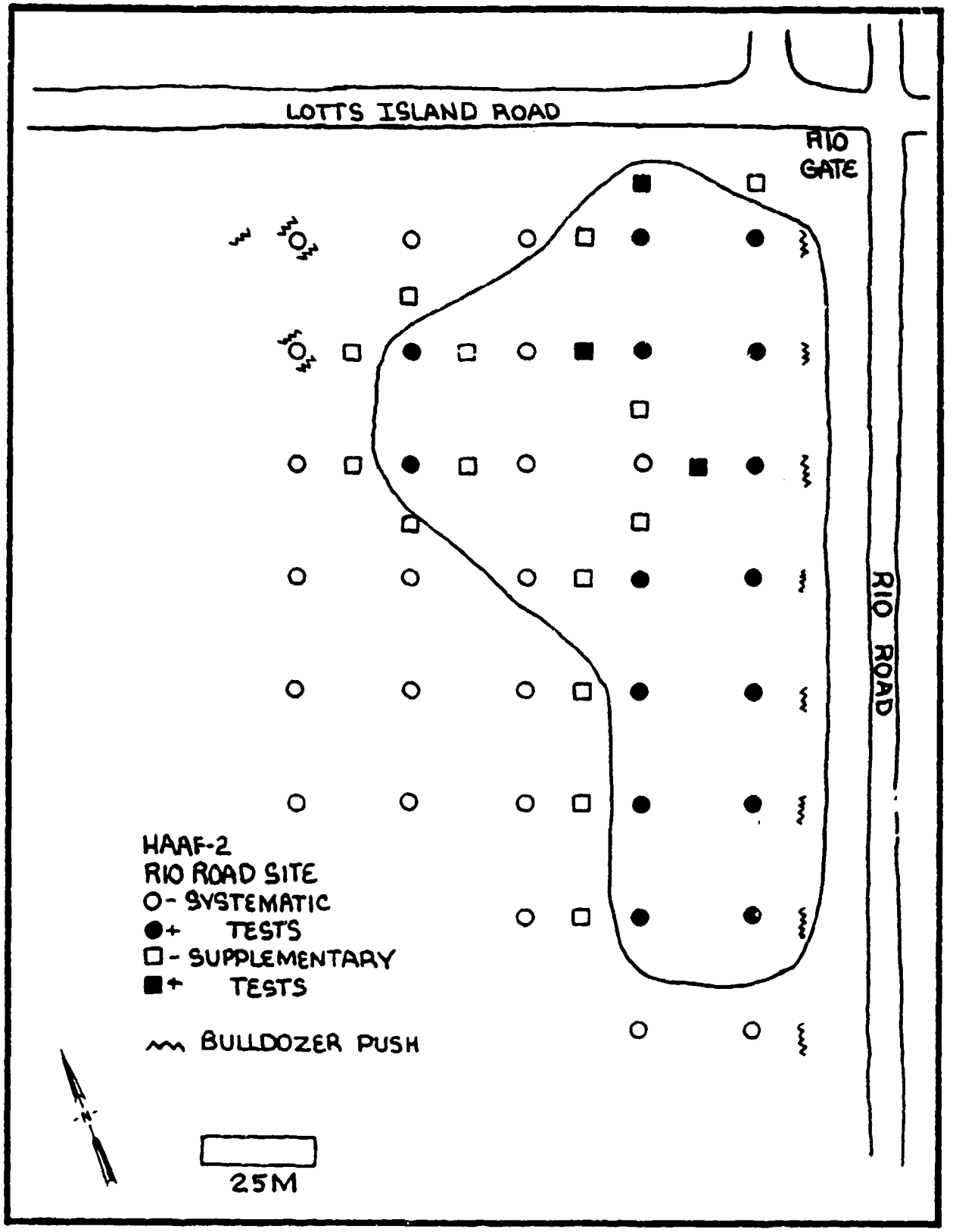

Figure 12. Sketch Map of Test Pit Array at HAAF-2. Test pits not to scale.

negative tests. Their inclusion is logical because there are no additional historic materials farther west in Area A. The positive tests west of HAAF-2 yielded aboriginal and modern artifacts from highly disturbed contexts.

The artifact inventory for HAAF-2 is listed in Table 2. Ceramic artifacts are predominantly early-19th century types; the earthenware, redware, and creamware could be earlier. Late-19th and early-20th century whitewares and ironstones are notably absent. A mean ceramic date (South 1977) of 1803.3 was calculated for 41 sherds from the collection for which the manufacturing dates are known. The glassware group is dominated by dark olive green ("black") wine bottle glass. White clay tobacco pipes are represented by two stem and two bowl fragments. The window glass, nails, and brick and mortar fragments suggest a structure somewhere in the vicinity. No structural evidence was observed in test pit profiles. However, it would not be likely that 30 cm square, 30 cm deep tests would reveal structural features, even in an area containing structures.

Documentary research concerning early occupations in this area produced no evidence leading to identification of the occupants of HAAF-2. It is possible that a title search would identify the land owner(s) for the appropriate period but, of course, this would not necessarily lead to identification of the site's residents.

The artifact assemblage at HAAF-2 contains ceramic types which indicate an occupation spanning the last quarter of the 18th century through the first quarter of the 19th century. The classes and kinds of materials present are consistent with a small domestic occupation. The site appears to be potentially eligible for inclusion in the National Register; hence, Phase II testing is recommended.

HAAF-3. The Dutchtown Road Site is located in survey area C on the west side of Lotts Island Road where it cuts across the western most end of Dutchtown Road. The site was discovered through subsurface testing. Twentieth century refuse, including canning jars and automobile tires, is scattered on the surface in the vicinity of the site. Except for a little modern glass and barbed wire, artifacts from subsurface tests date from the late 18th century through the first half of the 19th century.

HAAF-3 is situated in mixed pine and hardwood forest on level land at an elevation of 6.0 to 6.5 m amsl (Figure 13). The site's soil is described as Ocilla complex, which consists of somwehat poorly drained soils characterized by a dark gray loamy fine sand surface layer 10 to 15 cm thick followed by a medium tan to olive brown fine sand subsoil. A channelized stream flows south and west into the Little Ogeechee within 50 m of the western edge of the site. It is difficult to reconstruct natural drainage patterns due to extensive 20th century channelization and ditching but overall contours suggest that this drainage would have been a freshwater run which could have supplied water for the site's inhabitants during the historic period.

A total of seven positive tests occur on the three transects intersecting HAAF-3. An additional 20 supplementary tests were dug to define site boundaries; seven of these were positive. The site is roughly rectangular and averages 50 m north-south by 125 m east-west. The area is approximately 0.6 ha, as shown in Figure 15.

Table 2. Artifact Inventory for the Rio Road Site, HAAF-2.

	Frequency	Weight
Ceramics		
Lead-glazed earthenware	1	
Slip-decorated redware	1	
Plain creamware	12	
Plain pearlware	17	
Polychrome hand-painted pearlware	2	
Blue transfer-printed pearlware	5	
Green shell-edged pearlware	2	
Annular pearlware	2	
Whiteware	1	
Unidentified refined earthenware	4	
Plain oriental export porcelain	1	
Underglaze blue oriental export porcelain	2	
Total	50	
Glasswares		
Clear lead glass	3	
Pale blue-green glass	1	
Green glass	29	
Modern glass	3	
Total	36	
White Clay Tobacco Pipes		
Pipe stems	2	
Pipe bowls	2	
Total	4	
Architecture		
Window glass	4	
Cut nails	9	
Square nails	1	
Unidentified nails	2	
Brick and mortar fragments	17	
Total	33	
Bone	18	75.4
Clothing		
Glass button	1	
Miscellaneous		
Scrap iron	2	4.8
Lead sprue	1	2.5
Total	3	
Site Total	144	

Figure 13. Surveyors Excavating in the Vicinity of HAAF-3.

Figure 14. Vicinity of the Cherburg Site, HAAF-4.

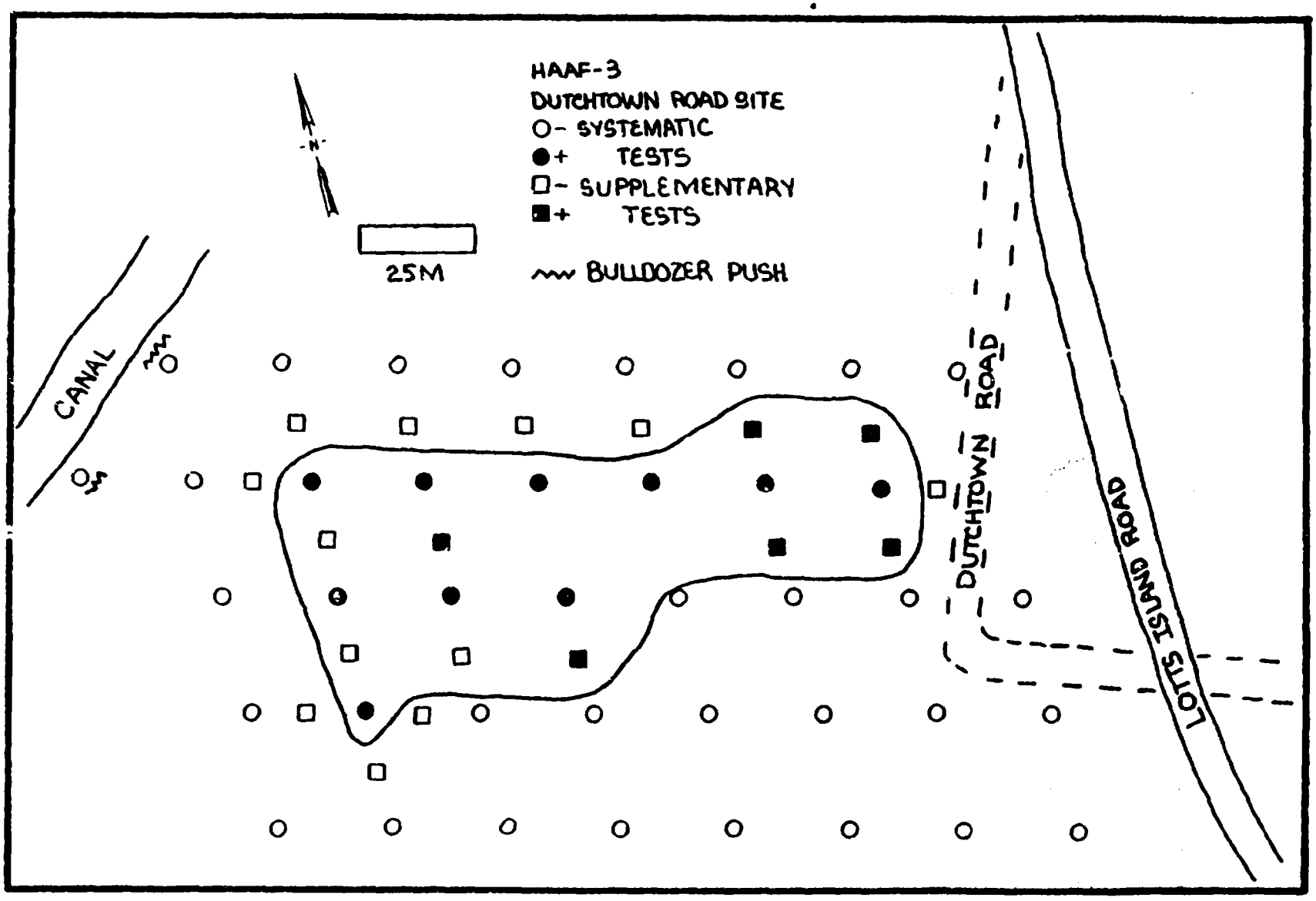

Figure 15. Sketch Map of Test Pit Array at HAAF-3. Test pits not to scale.

Artifacts recovered at the Dutchtown Road Site are listed in Table 3. The ceramic inventory suggests an occupation from the last quarter of the 18th century through the first half of the the 19th century. The white clay pipe bowls are consistent with this temporal range in that they are similar to specimens dated by Noel Hume at 1780-1820 (1974:303). The very small amount of architectural debris indicates the possibility that if a house was once present on the site, its materials were probably salvaged and re-used elsewhere, since so little structural evidence was encountered. None of the tests revealed features or cultural stratigraphy.

In addition to these Euro-american materials, three aboriginal stone artifacts were found at HAAF-3. These three flakes lack evidence of use wear and probably represent debris from attrition in use or resharpening of stone tools. These materials do not represent a significant aboriginal component at HAAF-3.

No documentary evidence relating to a historic period occupation at this location was found by the Consulting Historian. Dutchtown Road is one of the earlier named thoroughfares in the Hunter vicinity. It is first identifiable on the Platen map of 1875 which also shows three "x" marks, presumably representing structures, at HAAF-3. The tract containing these structures is labeled "Cars Regan." The presence of a small, undocumented domestic site along this road in the late 18th or early 19th century is suggestive of a tenant farmer, yeoman farmer, or squatter's residence. HAAF-3 may be eligible for inclusion in the National Register and therefore requires Phase II testing.

HAAF-4. The Cherburg Site is located in survey area D immediately south of the ordnance storage area at the southwestern end of the base. The name Cherburg is taken from the 1875 Platen Map which shows a rectangular tract of land beginning in the vicinity of HAAF-4 and extending northward across the Seaboard Coastline tracks. No residence is depicted on this map. Historic period artifacts were observed on the surface of the dirt road which parallels the southern perimeter of the ordnance area. Transects of tests running south (perpendicular to the road) into the woods revealed a thin scatter of 19th century material together with a very small number of aboriginal artifacts. The Cherburg Site is situated on Ocilla complex soils at an elevation of 6.0 to 7.5 m amsl. These soils are somewhat poorly drained, low in organic matter, and low in natural fertility. They typically exhibit a dark gray loamy fine sand layer from the surface to a depth of 10 to 15 cm followed by a medium tan to olive brown fine sand subsoil. Vegetation at HAAF-4 is a mixture of mature pine and hardwoods with an understory dominated by wax myrtle, cassina and hardwood saplings (Figure 14). A channelized stream flows along the southern edge of the site. This stream would have been the nearest source of fresh water in the historic period.

Natural contours have been significantly altered both north and south of HAAF-4. South of the site channelization has resulted in disturbance of both surface and subsurface soils. To the north, and impinging upon the northern edge of the site, construction of the ordnance storage area has disturbed the surface soils over a large area. According to DEH Hunter, the entire ordnance area was leveled and filled prior to construction of the bunkers. Bulldozer pushes and tracks are present for a distance of 15 to 20 m inside the woodsline along the northern edge of the site.

Table 3. Artifact Inventory for the Dutchtown Road Site, HAAF-3.

	Frequency	Weight
HISTORIC		
Ceramics		
Plain creamware	4	
Plain pearlware	5	
Polychrome hand-painted pearlware	2	
Blue transfer-printed pearlware	1	
Blue shell-edged pearlware	2	
Annular pearlware	2	
Whiteware	3	
Blue edge-molded whiteware	1	
Unidentified refined earthenware, burned	1	
Brown salt-glazed stoneware	1	
Total	22	
Kitchen		
Olive green bottle glass	4	
Clear lead glass	1	
Modern glass	4	
Total	9	
White Clay Tobacco Pipes		
Ribbed pipe bowl fragments	3	
Architecture		
Square nails	1	
Orange sandy brick	2	
Savannah gray brick	1	
Total	4	
Bone, burned	5	2.0
Miscellaneous		
Barbed wire	3	
Scrap iron	1	
Total	4	
ABORIGINAL		
Pottery		
Sand and grit tempered plain	1	
Lithics		
Quartz debitage	2	
Chert debitage	1	
Total	4	
Site Total	51	

Surface artifacts observed in the dirt road between the site and the ordnance area include 4 olive green bottle glass fragments, 1 white clay pipe stem, 5 whiteware sherds, and 2 shell-edged pearlware sherds, one green and one blue. These artifacts were recorded but not collected due to obvious recent disturbance (road construction and grading) and because a systematically excavated sample from the adjacent wooded area was available.

The artifact sample described in Table 4 was recovered from 13 positive tests in the systematic sample and 4 of 13 supplementary tests. As shown in Figure 16, the pattern of positive tests is somewhat more dispersed than at other, previously described historic sites at Hunter. Two of the positive tests are separated from the rest of the site by a transect of sterile tests (Transect 21). The generalized site boundary includes several sterile tests. This dispersed pattern may be the result of post-depositional disturbance or it may accurately reflect a sparse deposit resulting from a brief or low-intensity occupation.

The assemblage includes a single grog tempered plain aboriginal sherd (c.f. Wilmington Plain), 40 historic artifacts, and 1 piece of modern glass. The aboriginal sherd is similar to other isolated finds in Area D and is not in itself significant. Historic period ceramic artifacts date from the late 18th century through the middle of the 19th century. The architectural materials indicate the presence of a structure with glazed windows and a slate-shingled roof. The assemblage is typical of what would be generated by a small and/or brief domestic occupation. None of the test pits revealed features or indications of cultural stratigraphy. This site is potentially eligible for inclusion in the National Register. Phase II testing to determine the content and condition of the archaeological resources with reference to the eligibility criteria is therefore recommended.

HAAF-5. The Creekside Site is located in survey area F on the south bank of a small, unnamed creek. This creek empties into the marshes along the Little Ogeechee approximately 350 m west of the site. At this point there is an earthern dike and a concrete tide gate. The creek has been channelized and is connected to the Springfield Canal and other ditches which drain the northwestern section of Hunter. A tide gate was present at this point as early as 1906; it is shown as a "lock" in the Rockingham tract on the Chapman map. Prior to construction of the dike and lock this creek would have been a freshwater source (at least at low tide) and would have provided canoe access to the marsh and the Little Ogeechee, and to the estuary system.

The Creekside Site was discovered by systematic tests in the section of woods north of the ordnance area. The dominant vegetation is mixed hardwoods, with mesic species (live oak, hickory) at the top of the creek bank and hydric species (sweet gum, maple) along the creek bed (Figure 17). There is relatively little undergrowth beneath the almost-closed, mature canopy. The site is located on a small prominance above the 3 m amsl contour on Ocilla complex soil. This soil is characterized as somewhat poorly drained but since the site is on the bank above an effective drainage, it would have provided a relatively dry campsite. Ocilla series soils exhibit a 10 to 15 cm thick dark gray loamy fine sand surface layer followed by a medium to olive brown fine sand subsoil. There is no evidence of disturbance at the site itself. The creek bed, 50 m to the north shows evidence of heavy equipment operations connected with channelization while the ordnance area, 100 m south of the

Table 4. Artifact Inventory for the Cherburg Site, HAAF-4.

	Frequency	Weight
HISTORIC		
Ceramics		
Plain creamware	8	
Polychrome hand-painted pearlware	1	
Blue transfer-printed pearlware	1	
Blue shell-edged pearlware	1	
Whiteware	2	
Brown salt-glazed stoneware	1	
Total	14	
Glassware		
Green glass	4	
Modern glass	1	
Milk glass	1	
Total	6	
White Clay Tobacco Pipes		
Plain pipe bowl fragment	1	
Architecture		
Window glass	1	
Square nails	2	
Cut nails	4	
Unidentified nails	2	
Slate fragment	1	
Brick and mortar fragments	5	
Total	15	
Miscellaneous		
Scrap iron	5	17.4
ABORIGINAL		
Pottery		
Grog Tempered Plain, c.f. Wilmington	1	
Site Total	42	

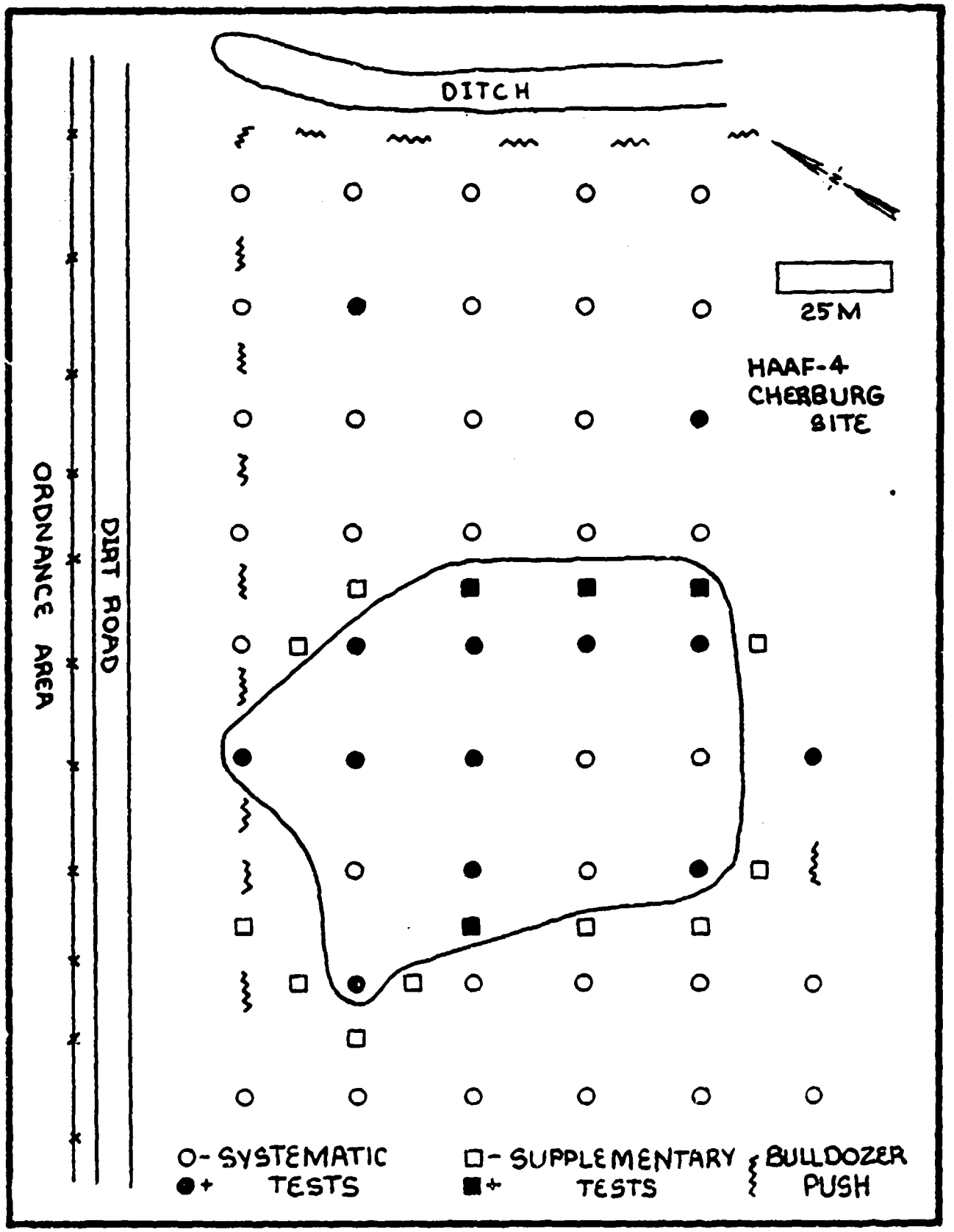

Figure 16. Sketch Map of Test Pit Array at HAAF-4. Test pits not to scale.

Figure 17. Vicinity of the Creekside Site, HAAF-5.

Figure 18. North Side of the Marsh Island Containing HAAF-6.

site, has been cleared and graded. Fifty m east of the site is a drainage ditch lined by bulldozer pushes.

The small survey collection described in Table 5 was recovered from 2 tests in the systematic sample and 4 of 14 supplementary tests. The two positive tests were on transects separated by one transect of sterile tests. The deposit is quite sparse and the two small clusters of aboriginal material are grouped together within a single site boundary by virtue of similar paste types in the pottery specimens from each. An area of 0.12 ha is enclosed within the boundary shown in Figure 19.

The artifact collection contains two sherds which are clearly identifiable as Deptford Bold Check Stamped and one eroded sherd which could be Deptford Simple Stamped. These sherds and those in the balance of the pottery collection are composed of a hard, yellow gritty to sandy/gritty paste. The two quartz flakes may represent tool manufacture or debris resulting from use of a quartz cobble hammerstone. Casual tools manufactured from quartz pebbles with a few flakes removed have been recovered from a Deptford context at Kings Bay, Georgia (Smith, et al. 1981:459).

No evidence of cultural stratigraphy was observed in any of the tests at HAAF-5. No mollusc shell, bone, or other food remains were observed or recovered.

This site can be interpreted as a small Woodland period campsite. The assemblage recovered in survey testing does not indicate more than a single brief occupation. It is possible that a larger sample would contain a greater variety of ceramic types indicating multiple occupations and/or multiple temporal components. The location was probably selected to afford access to the Little Ogeechee (for estuarine resources or transportation) or, conversely, was a point affording access to the forest (for food resources, firewood, campsite) to travelers on the Little Ogeechee.

The Creekside Site is a Woodland period site documenting aboriginal use of this area of Hunter. However, the artifact assemblage is sparse and there is no indication of features, cultural stratigraphy or food remains. It is unlikely that further research at this site would provide significant information. The site is not eligible for National Register listing.

HAAF-6. The Marsh Island Site is located in the saltmarsh between the Little Ogeechee River and Hunter, about 200 m south of the Seaboard Coastline tracks (Figure 18). This island is part of the high intensity survey area and is designated J in Figure 3. The island can be reached, at low tide, by walking south from the railroad tracks or, at high tide, by canoeing up the northernmost saltmarsh creek to a small tributary that is passable to within 25 m of the island. Both of these routes were used to gain access to the island during the survey. The Marsh Island Site was discovered through surface inspection of the island during initial reconnaissance. Subsequently, subsurface testing and probing were used to delineate site boundaries. Supplementary tests were not used for boundary definition since the site consists of a highly visible surface deposit of mollusc shell (Figure 20).

The Marsh Island Site lies on the southwest corner of a small, low island in the saltmarsh. The island is too small to be depicted as a separate soil

Table 5. Artifact Inventory for the Creekside Site, HAAF-5.

	Frequency
Pottery	
Grit tempered eroded (c.f. Deptford Simple Stamped)	1
Deptford Bold Check Stamped (sand and grit tempered)	2
Grit tempered plain	4
Grit tempered eroded	1
Sand and grit tempered paste fragments	2
Total	10
Lithics	
Quartz debitage (from waterworn cobbles)	2
Site Total	12

Table 6. Artifact Inventory for the Marsh Midden Site, HAAF-6.

	Frequency
Pottery	
Savannah Fine Cordmarked (grit tempered, cross cordmarked)	1
Grit tempered Plain	2
Grit tempered paste fragments	2
Bone	
Turtle	6
Site Total	11

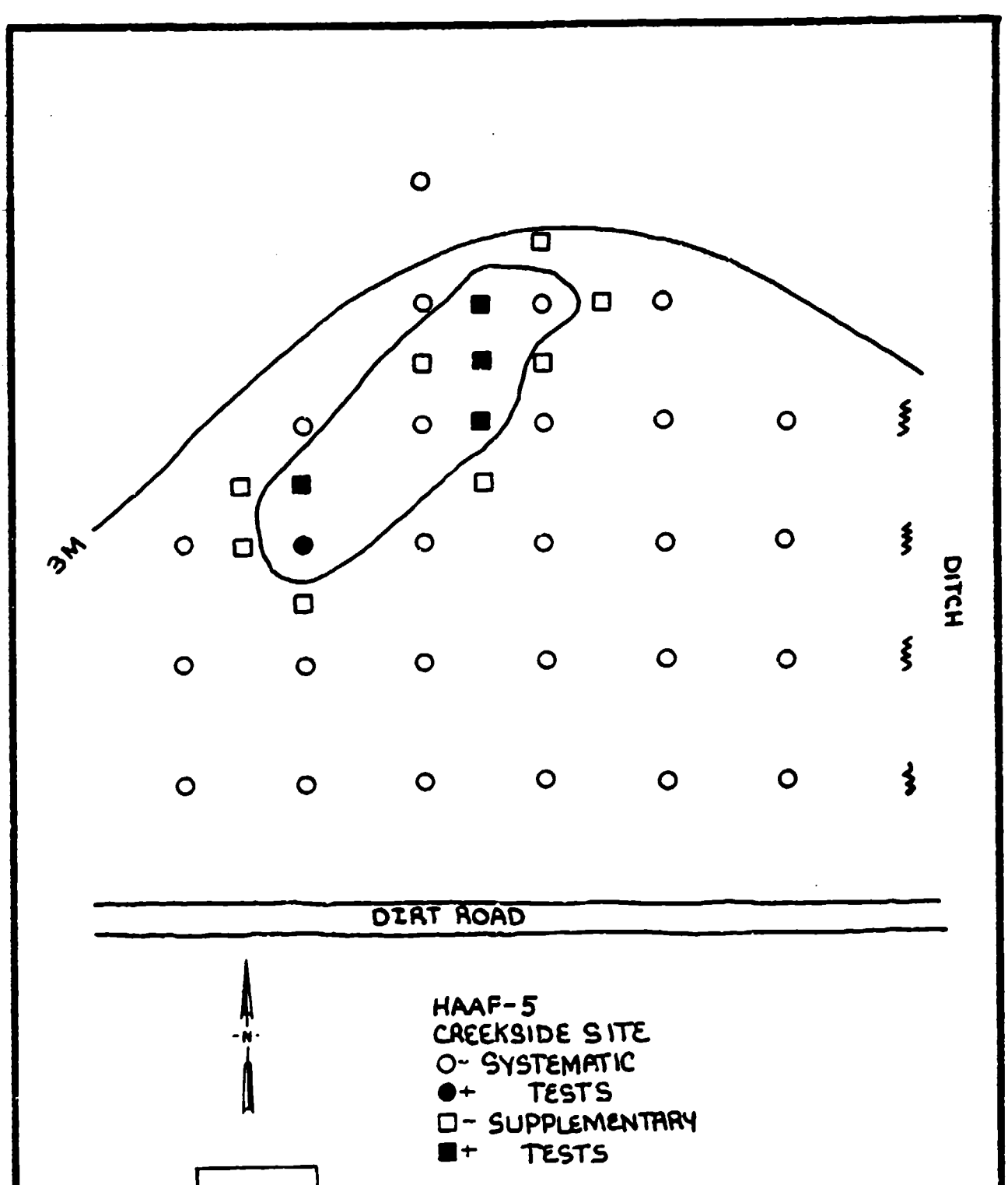

Figure 19. Sketch Map of Test Pit Array at HAAF-5. Test pits not to scale.

Figure 20. Surface of Shell Midden at HAAF-6.

Figure 21. Vegetation and Ground Cover on Marsh Island, HAAF-6.

zone on the county soil survey. It is too low (less than 1 m above the surrounding marsh) to be marked by a contour on the topographic map. However, the island's vegetation is visible in the aerial photo backgrounds of both these maps. The island actually consists of two low hammocks separated by a narrow strip of high marsh. The smaller and lower of these was saturated to the surface during the survey, so no subsurface tests were dug. Intensive reconnaissance revealed no evidence of sites on the smaller hammock.

The island's tree cover is dominated by live oak, pine, red cedar, and sabal palmetto. There is a sparse understory consisting of small sabal palmettos and wax myrtles but much of the ground surface is visible (Figure 21). A typical soil profile as revealed in testing consists of 5 cm of modern duff and humus, followed by 10 to 20 cm of medium gray sandy clay, underlain by light gray sand.

There is little evidence of modern activity on the island. A few C-ration cans were seen on the surface and one large pothole has been dug in the shell midden. The pothole was used to obtain a profile and screened sample of the midden deposit without causing further disturbance to the site. An earthen dike which is 1.0 to 1.5 m high and 2 m wide wraps around the western shore of the island (see Figure 22). It is not clear whether this was intended as a breakwater to protect the island from high tides off the Little Ogeechee or whether it is part of an uncompleted dike intended to enclose a section of marsh for agricultural purposes. There was no sign of the still which is said by a DEH Hunter staff member to have been operated on this island during Prohibition.

The pothole is located on the northern side of the midden at its highest point. One side of this 1.5 m diameter, 0.6 m deep, round hole was profiled and the material from the profile cut was screened through 1/4-inch mesh hardware cloth. No bone fragments or artifacts were recovered. The profile shows 12 cm of very dark humic soil with scattered crushed shell followed by 21 cm of compact midden composed mostly of Atlantic ribbed mussel (Geukensia demissa), with a few whole oysters, followed by a 10 cm medium gray sand leaching zone, underlain by light tan sterile sand.

Two tests in the systematic sample were placed to intersect the edges of the shell midden. Soil samples were taken from the midden zones in each of these tests. On the eastern edge of the midden the shell zone extends from 10 to 39 cm below the surface; on the western edge the shell zone extends from 3 to 40 cm. The two soil samples showed a similar species composition by weight: 19 percent oyster shell, 40 percent Atlantic ribbed mussel, and 41 percent small, unidentifiable fragments, including a few land snails. Neither 600 ml soil sample contained any bone or artifacts.

The artifact assemblage from the surface and one positive test (on the east side of the midden) is described in Table 6. The single decorated sherd is probably a Savannnah phase artifact.

The Marsh Midden Site is a small, special-use aboriginal site which was probably generated during the Savannah period. The midden is 20 m in diameter and 40 cm deep and is composed primarily of Atlantic ribbed mussel shell with small amounts of oyster shell and traces of pottery and bone. It was probably

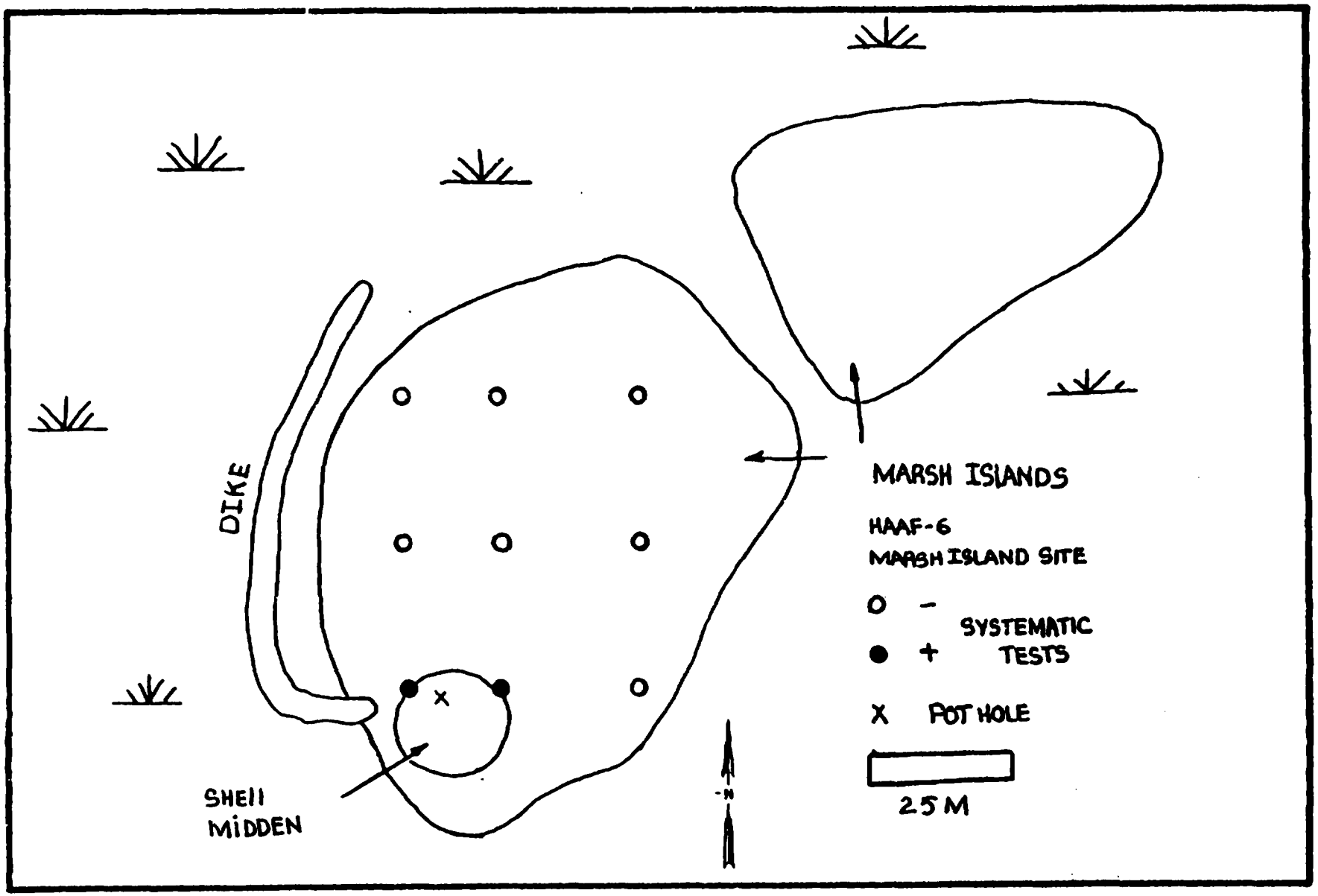

Figure 22. Sketch Map of Test Pit Array at HAAF-6. Test pits not to scale.

occupied by small groups for brief periods for the purpose of processing shellfish and other food resources from the surrounding marsh.

The role of sites such as HAAF-6 in the Savannah period subsistence and settlement system has been discussed in detail by Crook (1978). This site could provide valuable data for the verification or refutation of hypotheses advanced by Crook and others, especially those concerning seasonality. The deposit is nearly intact and is unlikely to be disturbed by other than natural processes. It should be nominated to the National Register of Historic Places at the local level of significance. The local level is appropriate because data from this site would provide information about one aspect of a system of adaptation to the coastal environment in this region.

HAAF-7. This field site designation was not used.

HAAF-8. The Hallstrom Lake Site is located in survey area BB approximately 500 m north-northeast of an artificial lake in the south central portion of the base. The site lies midway between two transects in this moderate-intensity testing zone and would not have been discovered except that the surveyors returned from the end of one transect to the beginning of another by walking down a dirt road through this area. Oystershell fragments and a white clay pipestem were observed on the surface of this road in the vicinity of the site. Farther north along the road, at the edge of the airfield, a borrow pit yielded a handful of historic potsherds and glass fragments. These include 1 blue-on-white delft, 1 lead-glazed earthenware, 2 creamware, 16 whiteware, 1 oriental export porcelain, 1 dark green bottle glass fragment, and a lead sprue. The presence of these surface materials indicated at least one historic period occupation in the vicinity, so an additional transect of tests was placed through the area, parallel to the dirt road. HAAF-8 was defined at the south end of the transect while the north end (in the vicinity of the borrow pit) produced no additional historic artifacts.

The Hallstrom Lake Site is located on a small rise of land above an unnamed creek which flows into Buckhalter Canal. This creek would have afforded a supply of fresh water for at least part of the year during the historic period. The site lies above the 7.5 m contour on Lakeland Sand. Lakeland Sand is described as an excessively drained sandy soil. It typically exhibits a dark grayish brown surface layer 15 to 20 cm deep followed by a yellowish-brown sandy subsoil. The vegetation at HAAF-8 reflects relatively xeric conditions, and includes pines, live oak, hickory, and red oak, with an understory of wax myrtle (Figure 23).

A surface midden of oyster shell lies immediately north of the site but, from the condition of the shells, appears to be a recent, unrelated deposit. It was tested and no artifacts or bone were found in association with the shell. Other evidences of modern activity on and around the site include: a small rectangular concrete pad, fence posts and fence wire, a hunting stand, and a small amount of recent refuse (bottle glass and aluminum beer cans).

Historic period artifacts were recovered from a very small area (0.18 ha) at the top of the rise (Figure 25). Due to the level of testing prescribed for this part of Hunter, only the immediate vicinity of the positive systematic tests was examined. It is possible that there are other, non-contiguous deposits of historic remains in the area.

Figure 23. Looking south toward the Hallstrom Lake Site, HAAF-8.

Figure 24. Looking south into the tract of forest containing the Acton Site, HAAF-10.

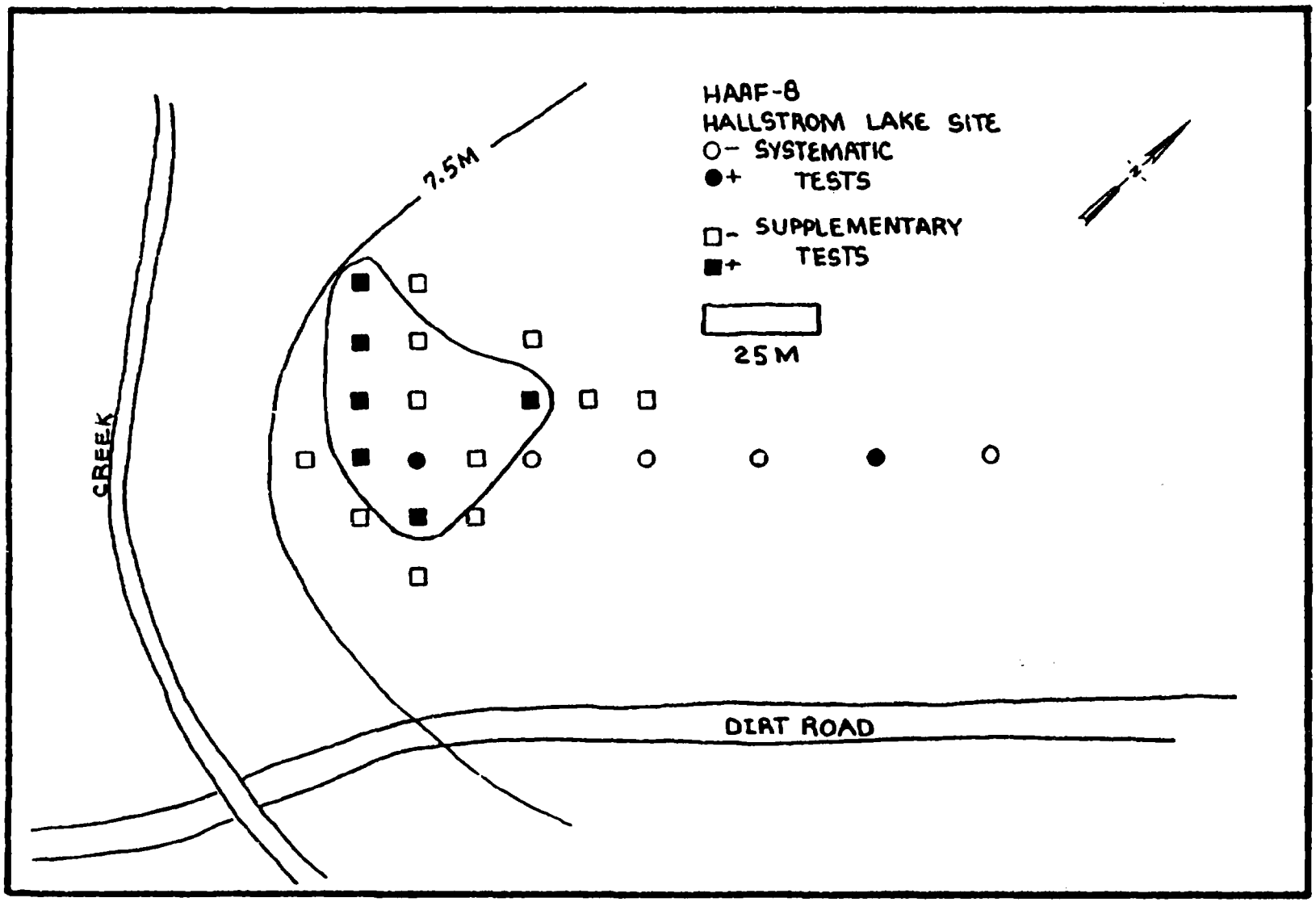

Figure 25. Sketch Map of Test Pit Array at HAAF-8. Test pits not to scale.

The assemblage described in Table 7 was derived from a total of six positive tests, as shown in Figure 25. These materials include ceramic types which date from the mid-18th through the mid-19th century and white clay pipe fragments which are most probably associated with the earlier half of this range. Small amounts of architectural and other debris indicate a possible structure but the evidence is quite sparse. Two aboriginal sherds, from non-adjacent tests were also recovered. Other than indicating post-Archaic aboriginal activity in the area, these provide little information.

None of the tests dug at HAAF-8 revealed cultural stratigraphy or evidence of features. All recovered specimens appear to be from a very sparse sheet midden.

The project historian did not locate any documentary information pertaining to the identity of the site's occupants. The 1875 Platen map labels the tract "St. Annes" and shows two residences in the vicinity. One is labeled "Farm" and the other "Beatt" Beatty ? . The latter is probably at or near the location of HAAF-8 but it is very difficult to reconstruct natural drainages and contours in order to verify this tentative identification.

The Hallstrom Lake Site is represented by a small scatter of late 18th through early 19th century domestic debris located on a well-drained rise above a small creek. Although the artifact assemblage is not extensive, the site may be eligible for inclusion in the National Register. An eligibility determination based on Phase II testing is recommended.

HAAF-9. This field site designation was not used.

HAAF-10. The Acton Site is located in survey area BB at the eastern extreme of the base in a block of woods adjacent to the golf course. The single transect of tests placed through the center of this tract intersected the site at a point 150 m west of White Bluff Road. Additional transects of tests were laid out in order to determine the north-south extent of the site. The Acton Site is adjacent to and possibly part of the White Bluff Site, HAAF-11. Extensive recent disturbances to HAAF-11 and the excavation of a deep drainage ditch between the two sites make it most practical to handle them separately.

HAAF-10 is situated on a low ridge bordered on the west by a seasonally swampy area. The site lies above the 7.5 m contour on Ocilla complex soils and is forested with a mixture of pine and hardwoods. The understory is sparse and the leaf litter is thick but occasional historic materials, such as brick, and modern debris can be seen on the surface. Figure 24 shows the appearence of the site. Ocilla soils are somewhat poorly drained and present a profile consisting of 10 to 15 cm of dark gray loamy sand followed by an olive or yellow brown sandy subsoil. There are no freshwater sources in the immediate area; it is difficult to tell whether the drainage west of the site would have carried a stream prior to modern land alterations.

There is little evidence of surface disturbance within HAAF-10 as its boundaries are defined by this survey. However, large drainage ditches have been dug both north and south of the site and the northern ditch may have arbitrarily severed the deposit designated HAAF-10 from the adjacent site HAAF-11.

Table 7. Artifact Inventory for the Hallstrom Lake Site, HAAF-8.

	Frequency	Weight
HISTORIC		
Ceramics		
Lead-glazed redware	1	
Plain creamware	8	
Plain pearlware	4	
Blue hand-painted pearlware	2	
Blue transfer-printed pearlware	2	
Blue shell-edged pearlware	1	
Annular pearlware	1	
Total	19	
Glassware		
Clear lead glass	2	
Green glass	9	
Modern glass	2	
Total	13	
White Clay Tobacco Pipes		
Pipe stems	4	
Pipe bowls	1	
Total	5	
Architecture		
Cut nails	1	
Brick and mortar fragments	3	
Total	4	
Bone	1	0.5
Activities		
Slag or clinker	3	2.0
Miscellaneous		
Scrap iron	2	9.3
ABORIGINAL		
Pottery		
Clay and grit tempered eroded	1	
Sand and grit tempered plain	1	
Total	2	
Site Total	49	

The Acton Site was intersected by four consecutive tests on a single east-west transect. A series of supplementary tests indicated that the site extended both north and south of the transect so an additional six transects of systematic tests were laid out perpendicular to the initial transect, creating a square grid (Figure 26). These tests were used to delineate site boundaries without additional supplementary testing due to sparse distribution of artifacts. A roughly rectangular area measuring 140 m north-south by 100 m east-west and containing 1.4 ha was defined as the site. Twenty-six positive tests within this area and two non-included tests yielded the artifact inventory described in Table 8.

The artifact collection for HAAF-10 contains ceramic types which date from the late-18th through the mid-19th centuries. While there are no clearly modern ceramic artifacts, modern glass and at least one wire nail indicate recent activity at the site. The architectural materials in the collection suggest the presence of a structure. The three aboriginal sherds are from a single test and represent an isolated find, rather than a prehistoric component, at this site.

No evidence was seen in any of the tests of a cultural stratum or of features or structures. A significant proportion of the collection consists of scrap metal and waste products of coal burning which are probably not associated with initial occupation of the site. Thus the archaeological assemblage from HAAF-10 appears to represent a thin sheet midden generated by a domestic occupation beginning as early as the second half of the 18th century with additional deposition during the 20th century.

The project Historian was not able to determine the identity of the person(s) who resided at HAAF-10. The 1875 Platen map shows the tract just south of HAAF-10 labeled "Munnerlyn" with one or two residences labeled "Poulain." These residences are shown as being considerably farther west of White Bluff Road than is HAAF-10. The tract encompassing the site (and HAAF-11) is labeled Acton, which is probably a place name rather than the name of an individual.

It may be of historical interest to seek further documentation of a late 18th to early 19th century occupation at HAAF-10. The archaeological collection requires Phase II evaluation in order to determine whether the site's material remains meet National Register criteria.

HAAF-11. The White Bluff Road Site is located at the approach end of Runway 27 on the extreme eastern side of Hunter. This tract of land was initially excluded from the sample because the survey team was instructed to stay completely off the airfield and out of range of ground-scanning radar designed to warn pilots of obstacles on the runway such as deer and hogs. HAAF-11 was discovered when a survey crew returned from completing a transect through the adjacent woods (and HAAF-10) by walking along the margin of the airfield. The southern half of what was eventually defined as HAAF-11 was a recently bulldozed field sparsely covered by weeds. A large number of artifacts ranging from 18th century delftware through 20th century asphalt shingles, was visible on the surface. Permission to work on the airfield in order to test and delineate this site was requested and received during the last week of the survey.

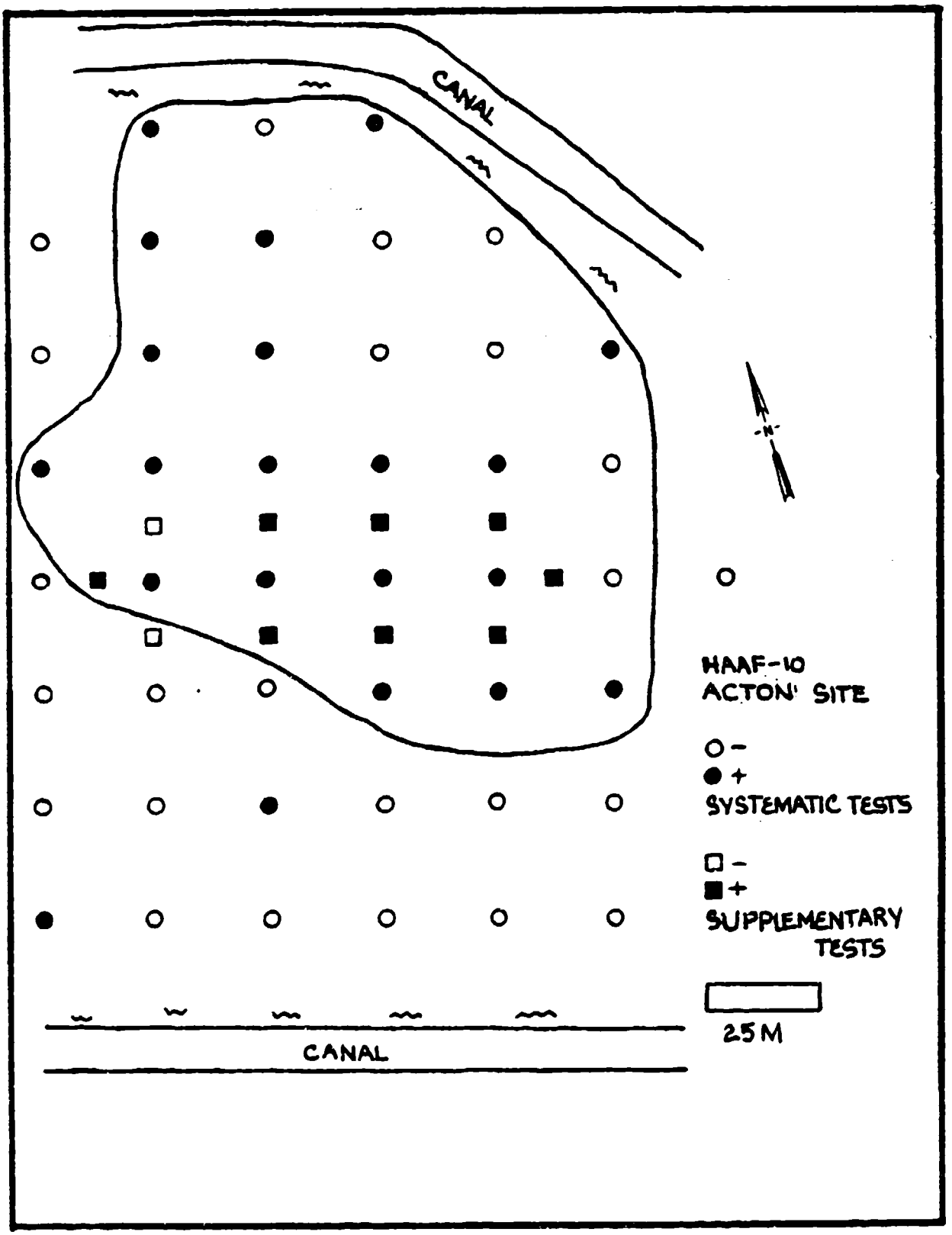

Figure 26. Sketch Map of Test Pit Array at HAAF-10. Test pits not to scale.

Table 8. Artifact Inventory for the Acton Site, HAAF-10.

	Frequency	Weight
HISTORIC		
Ceramics		
Plain creamware	2	
Plain pearlware	3	
Blue shell-edged pearlware	1	
Annular pearlware	2	
Unidentified earthenware	1	
Overglaze/polychrome oriental export porcelain	1	
Total	10	
Glassware		
Clear lead glass	1	
Pale blue-green glass	5	
Blue glass	1	
Modern glass	9	
Total	16	
White Clay Tobacco Pipes		
Plain pipe bowl	1	
Personal		
Brass watch base plate	1	
Architecture		
Cut nails	3	
Square nail	1	
Wire nail	1	
Unidentified nails	3	
Slate fragments	2	
Staples, ferrous	1	
Brick and mortar fragments	15	
Total	26	
Bone	4	2.2
Activities		
Coal slag and coke	28	28.2
Total	29	
Miscellaneous		
Scrap iron	20	13.3
ABORIGINAL		
Pottery		
Sand and grit tempered checkstamped	3	
Site Total	109	

The White Bluff Road Site is located on a long, narrow strip of Albany Fine Sand above the 7.5 m contour. The boundaries of the site conform quite closely to the boundaries of the portion of this soil deposit lying west of White Bluff Road. Albany Fine Sand is a somewhat poorly drained soil exhibiting a dark gray fine sand layer 15 to 20 cm thick followed by a distinctive yellow-tan or light olive brown subsoil. Albany sands are low in natural fertility but suitable for agriculture with appropriate management. They are the best soils for agriculture use in the area.

The northern half of the White Bluff Road Site is sodded and has been part of the airfield for a number of years. The south end is shown in the 1978 USGS Savannah quadrangle (1974 air photo) as a heavily wooded area. According to DEH Hunter personnel, the treecover was cleared and the large drainage ditch between HAAF-10 and HAAF-11 was dug within the last few years. Surface disturbance attributable to heavy machinery operation was visible across the southern half of the site (Figure 27).

A surface collection was begun before the extent of HAAF-11 was realized. It was initially thought that surface disturbance was so extensive that a representative collection of artifacts could be obtained without testing. However, once it was determined that the deposit extended up to, and possibly continued under, the sodded portion of the field, shovel tests were deemed necessary to evaluate the site. As shown in Figure 28, five transects of tests at 25 m intervals were required. A total of 96 systematic tests were used t delineate the site. Although sterile tests were not reached along the western edge of the site, a sharp fall-off in artifact concentration and the presence of numerous bulldozer pushes and disturbance extending into the B horizon obviated further effective testing. The area encompassed by the boundary shown in Figure 28 is 5.4 ha. The site measures about 500 m north-south and averages just over 100 m east-west. The assemblage listed in Table 9 was derived from 83 positive tests; almost all of the artifacts were recovered from the A horizon. The ceramic collection includes a few specimens of 18th century date, many late 18th/early 19th century types, and a number of types which are later than the mid-19th century. A mean ceramic date of 1845.7 was derived from 163 dateable ceramics recovered from both the surface and from tests. The glasswares are equally varied and the Architecture group also contains a range of hardware and debris indicating construction and/or repair of structures from the 18th through 20th centuries. None of the materials recovered during the survey would be out of place in a rural domestic assemblage of the indicated temporal range.

Only three aboriginal artifacts were recovered at HAAF-11. These are two Savannah Burnished Plain sherds and a single small chert flake. These were from nonadjacent tests and are regarded as isolated and insignificant finds.

The Consulting Historian was able to find two names which might be identified with occupants at the White Bluff Road Site. The names Kollock and Woodhouse appear on the 1875 Platen map in connection with symbols indicating rural farmsteads. These two family names (Kollock and R. Woodhouse) are entered in the Chatham County deed books on a number of occasions. As this survey is preliminary in nature, they were merely noted and recorded. The information only substantiates that the families held land within the county. A third name was noted on the Platen map but no deed entries could be found for Poulain. However, numerous deed references were recorded for an alternate

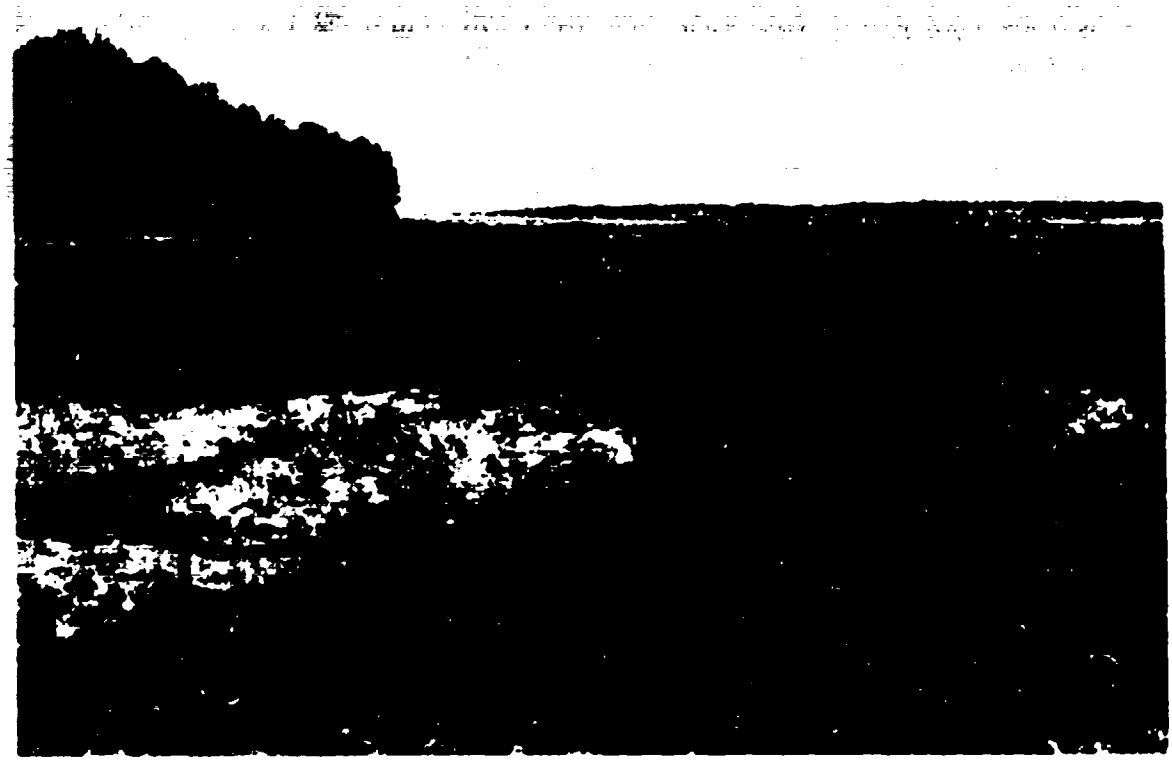

Figure 27. Looking West across HAAF-11 from White Bluff Road.

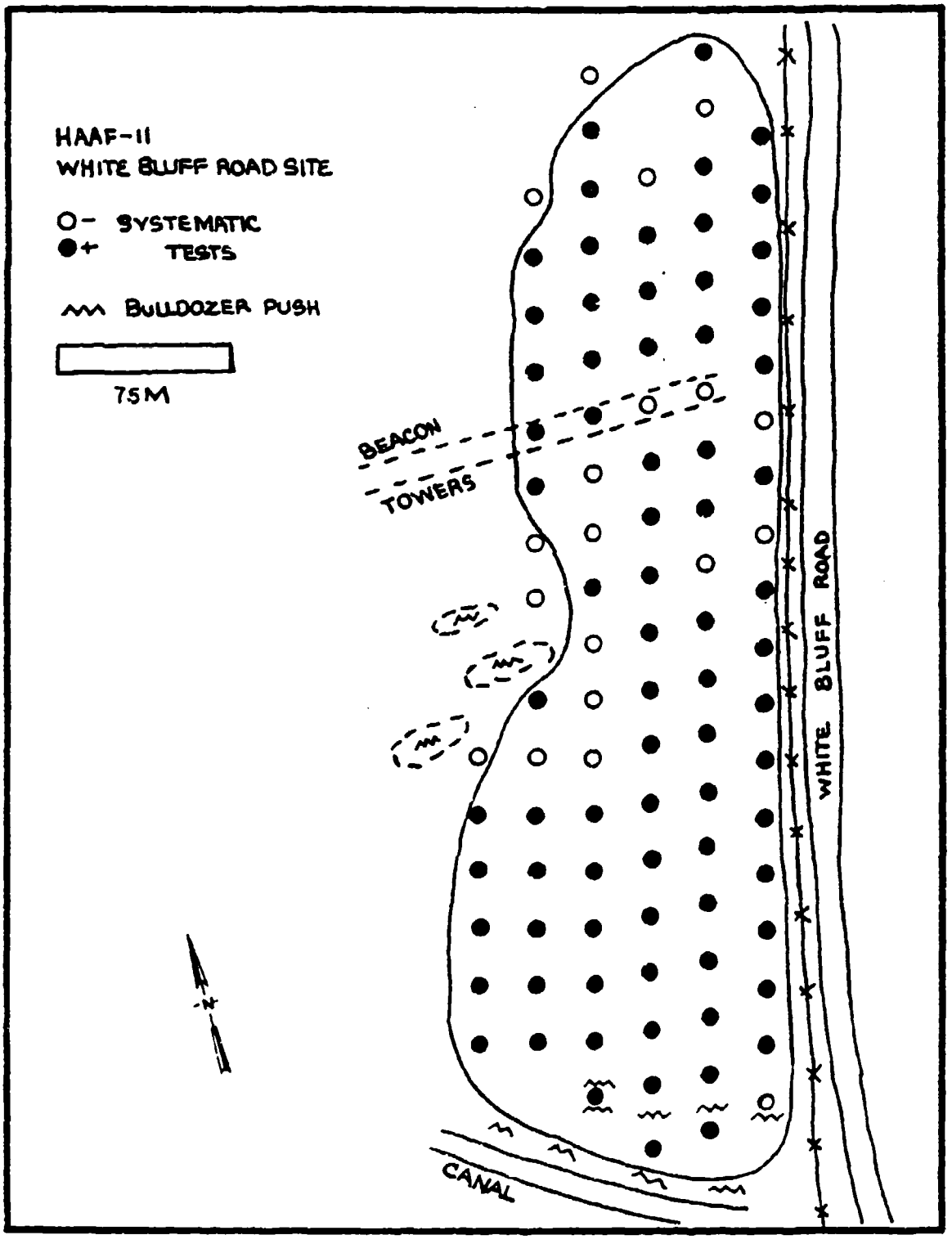

Figure 28. Sketch Map of Test Pit Array at HAAF-11.

Table 9. Artifact Inventory for the White Bluff Road Site, HAAF-11.

	Test Pits		Surface	
	Frequency	Weight	Frequency	Weight
HISTORIC				
Ceramics				
Plain redware	2		0	
Plain earthenware	1		0	
Lead-glazed redware	1		1	
Lead-glazed earthenware	9		4	
Staffordshire-Bristol-style slip-decorated earthenware	0		1	
Slip-decorated earthenware	1		1	
Annular yellowware	0		3	
Annular/Mocha yellowware	1		0	
Blue-on-white delftware	0		1	
Bisque (delft w/tin-enamel absent)	2		0	
Plain creamware	11		31	
Underglazed green creamware	1		0	
Plain pearlware	10		10	
Blue hand-painted pearlware	1		2	
Polychrome, over-glazed hand-painted pearlware	1		0	
Polychrome hand-painted pearlware	0		3	
Blue transfer-printed pearlware	1		6	
Black transfer-printed pearlware	0		1	
Blue shell-edged pearlware	9		0	
Green shell-edged pearlware	1		2	
Annular pearlware	1		2	
Annular/Marbled pearlware	0		1	
Other annular pearlware	0		1	
Whiteware (incl. ironstone)	14		37	
Blue shell-edged whiteware	0		4	
Tint-glazed whiteware	1		1	
Blue transfer-printed whiteware	1		2	
Polychrome, over-glazed hand-painted whiteware	2		0	
Annular whiteware	1		0	
Annular/Mocha whiteware	2		0	
Over-glaze transfer-printed whiteware	0		2	
Unidentified earthenware	4		1	
Plain oriental export porcelain	1		1	
Underglaze blue or. exp. porcelain	0		2	
Plain porcelain	2		3	
Gray salt-glazed stoneware	0		4	
Alkaline glazed stoneware	0		1	
Slip-glazed stoneware	1		2	
Other stoneware	1		0	
Total	83		130	
Kitchen				
Black glass	2		1	
Clear lead glass	17		1	

Table 9. (continued)

	Test Pits		Surface	
	Frequency	Weight	Frequency	Weight
Pale blue-green glass	3		6	
Pale green glass	3		0	
Green glass	19		24	
Amber glass	4		1	
Blue glass	0		1	
Amethyst glass	8		1	
Modern glass	188		2	
Milk glass	3		0	
UID glass--burnt	18		4	
Other glass	1		0	
Ferrous bottle cap	2		0	
Ferrous jar lid	1		0	
Ferrous can (smashed)	1		0	
Kettle handle-iron	1		0	
Total	271		41	
White Clay Tobacco Pipes				
Pipe stems	2		2	
Pipe bowls	2		1	
Total	4		3	
Personal				
1907 one cent Indian head	0		1	
Architecture				
Window glass	34		2	
Square nails	14		0	
Wrought nails	2		0	
Cut nails	36		5	
Wire nails	52		5	
Unidentified nails	17		0	
Screws	2		0	
Bolts	2		0	
Washer/nut	1		0	
Tack-ferrous	6		0	
Staples-ferrous	2		0	
Wire-ferrous	2		0	
Portion of switch lock	1		0	
Terra cotta fragment	0		1	
Enamelled earthenware bathroom tile	1		0	
Slate fragments	10		1	
Brick and mortar fragments	278		6	
Brass auger	1		0	
Total	461		20	

Table 9. (continued)

	Test Pits		Surface	
	Frequency	Weight	Frequency	Weight
Furniture				
Drawer pull	1		0	
Unidentified brass object	0		1	
Total	1		1	
Bone	18	30.1	3	35.5
Arms				
.22 bullet unfired (discarded)	1		0	
Shell fragment	1		0	
Unidentified lead casing	0		1	
Total	2		1	
Clothing				
Glass button	1		0	
Activities				
Wastes	146	490.3	1	2.5
Lime	2	4.75	0	
Pebbles	6		0	
Cobble stones	0		4	
Snaffle bit	1		0	
Horseshoe	1		0	
Clay marble	0		1	
Clay pigeon	2		0	
Valve stem cover (for tire)	1		0	
Total	159		6	
Miscellaneous				
Scrap iron	90	171.7	2	69.3
Iron wire	3		0	
Aluminum strip	1		0	
Aluminum plate	1		0	
Asphalt shingles	105		0	
Asbestos shingles	39		0	
Asbestos tiles	1		0	
Concrete	12		0	
Cement	2		0	
Drainage pipe	2		0	
Sewer pipe	4		0	
Glass filament holder	1		0	
Granite gravel	15		0	
Limestone rock	1		0	
Shale	5		0	
Total	282		2	

Table 9. (continued)

	Test Pits		Surface	
	Frequency	Weight	Frequency	Weight
ABORIGINAL				
Pottery				
Fine sand tempered burnished plain	2		0	
Chert debitage	1		0	
Total	3		0	
Site Total	1202		206	

spelling of this name (Poullen). The earliest pertinent deed dates to 1808, when "John Poullen, Planter" granted 54 acres of land in the Hunter area to Lewis N. Allard, also listed as a planter. This deed indicates that Poullen was already in possession of a fairly large parcel of land at this early date. He apparently retained the parcel shown on the Platen map, which is south of the land deeded to Allard, at least until the last quarter of the 19th century. There is no mention of any improvements on the property transmitted to Allard (Deed Book 2B, p. 137).

Although it was observed in the field that most, if not all, of the artifact assemblage was recovered from the A horizon, it was not possible to determine whether structural remains or subsurface features were present. The site may be composed of primary and secondary refuse from a local occupation; it could be a dump, i.e. secondary refuse from an occupation (or occupations) in another location; or it could be a combination of the two.

During the last week of fieldwork it was determined in an on-site discussion between the Archeological Services Branch (ASB) representative and the DEH Hunter director that an immediate evaluation of HAAF-11 was required because of plans to transfer a portion of the site to the city for the purpose of widening White Bluff Road. On the basis of field observations and preliminary analysis of the survey collection, it was recommended that this evaluation involve machine excavation of a number of transects to the base of the A horizon in order to search for structural evidence and features which would indicate a local occupation. Conversely, profiles of these transects could be expected to show a buried humus zone if the deposit were a dump. The Phase II testing program resulting from these recommendations is described in the following Chapter.

Chapter 4
PHASE II TESTING AT THE WHITE BLUFF ROAD SITE, HAAF-11

Introduction

In area BB of the Hunter reconaissance survey the results of a systematic 30 cm shovel testing sample on a 25 m grid revealed three apparent concentrations of historic-period cultural debris in the area along White Bluff Road in the approaches to runway 27. A SYMAP-based representation of the site's artifact distributions, as generated from the shovel tests, is presented in Figure 29. This apparent site, designated HAAF-11, consisted of a tract of largely cleared ground (see Figure 27) and dominated by a range of runway approach lights mounted on towers. The area measures c. 100 m on an east-west axis, and 425 m north-south. North and south of the cleared area are tree stands. The site boundaries of HAAF-11 were estimated to fall within the 100 m by 425 m area between the adjacent tree lines.

On the advice of the Archaeological Services Branch of the National Park Service, Atlanta, the Army requested secondary testing of the historic-period site HAAF-11. The proposed widening of White Bluff Road, adjacent to the east side of the site, was to involve primary construction impact on a strip of land c. 15 m wide along the existing right-of-way. The objectives of secondary testing at HAAF-11 were to determine the eligibility of the archaeological resources on the site for inclusion in the National Register of Historic Places and to make an assessment of the impact on archaeological resources of the proposed widening of White Bluff Road.

Documentary Research

Methodology

The project PI was responsible for conducting documentary research relating to the site prior to any fieldwork. This research was scheduled to last at least three days but was not completed, for reasons to be discussed below. Based on information provided by the contracting agency, it was expected that the documentary research would begin with an examination of a chain of title for Hunter that was supposedly available from the Army Corps of Engineers Real Estate Office in Savannah. A complete chain of title would provide both synchronic and diachronic information on land ownership, including names of landowners in the immediate vicinity of HAAF-11. Once these names had been established, secondary sources could be consulted to determine if the owners actually occupied their land, and if so, to determine the extent and type of occupations present. This information could then be used to formulate specific research questions for structuring the secondary testing program, or at least to aid in the interpretation of the archaeological assemblages recovered during the testing program.

Unfortunately, the Corps records on Hunter land ownership extended back only as far as 1968, when the Air Force transferred Hunter to the Army. In the absence of a complete chain of title an alternate approach was taken by the PI which concentrated on constructing a partial title chain based on deed and title research. An examination of the 1875 Platen map reveals one name

Figure 29. SYMAP Artifact Distributions for HAAF-11. Based on the shovel test results, artifact densities at the site are represented through application of SYMAP, a computer-generated graphics program. The top view shows three locations of high artifact densities, for all artifact classes. The bottom view represents ceramics only. Frequency ranges are different for the two maps:

Range	All Artifacts	Ceramics Only
1	Below 0	Below 0
2	0 - 28	0 - 3
3	28 - 55	3 - 5
4	55 - 82	5 - 7
5	82 -109	7 - 9
6	109 -136	9 - 11

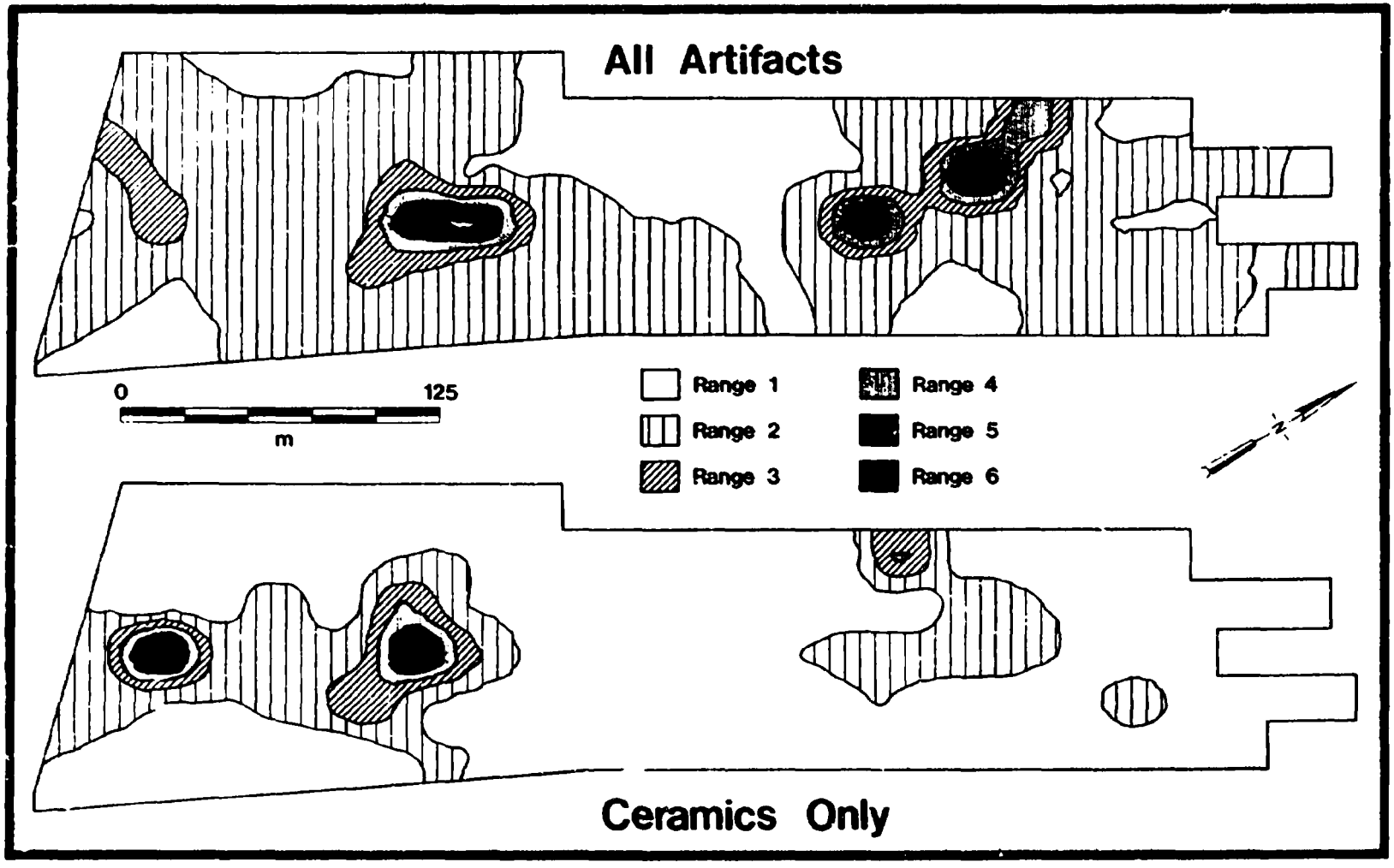

Figure 29. SYMAP Artifact Distributions for HAAF-11.

(Kollock) appearing in the immediate vicinity of HAAF-11; the "x" next to the name suggests the presence of a structure (see Figure 30). If a Kollock owned and/or resided on this property, some evidence of the acquisition and disposition of this land would be expected to appear in the form of a warranty deed recorded by the Clerk of the Superior Court, whose office today is located in the Chatham County Courthouse. Other names (Woodhouse, Poullen, Oglesby) shown on the Platen map to be adjacent to Kollock (Figures 5, 30) could also be traced using the same procedure. Although he did not own land in the HAAF-11 area, deed entries for John McNish were also reviewed in order to shed historical light on this enigmatic individual.

Both the direct (grantor) and reverse (grantee) deed indexes were examined and all index entries pertaining to the five names were recorded. A total of 78 entries were noted, including 16 for Kollock and 21 for McNish. All the Kollock and McNish entries were checked, and information for each entry was recorded on standardized title search forms (Appendix A). Basic documentation such as the deed book designation and folio (page) number, grantor/grantee names, type of instrument, date of conveyance, previous conveyances, and a brief narrative summary of what each conveyance involved was written for each entry.

As might be imagined, this process is a time consuming one, and review of all 78 references was not feasible due to time constraints. Upon arriving in Savannah to begin the documentary research the PI learned that a large portion of HAAF-11 had been bulldozed by the Army. This action, carried out one week prior to the initiation of archaeological testing, was attributed by an Army representative to military exigencies occasioned by the invasion of Grenada. At any rate, the PI was forced to devote one day of documentary research time to conferring with various Army personnel, to making an extensive on-foot inspection of HAAF-11 to assess its condition, and to telephone discussions with NPS representatives. This "lost" day was not made up, but it was decided that the documentary research that had been completed was sufficient for evaluating the significance of the site.

Results

The deed information pertaining to Kollock can be summarized in brief fashion. Most of the conveyances pertain to Phineas Miller Kollock, who is listed as a Savannah physician. He apparently married the daughter of a wealthy landowner (James Johnston) sometime after 1831. In that year a marriage indenture between Kollock and Jane P. Johnston was drawn up which specified that Jane was to retain all the real property she was entitled to through her inheritance, while at the same time Phineas was to surrender all power of disposition to a trust composed of Jane's two brothers (Deed Book 2Q, pp. 395-398). Phineas apparently outlived Jane, for in 1846 he signed another marriage agreement, this time with Sarah Campbell, which also specified that her property be kept separate from his and conveyed to a trust upon her death (Deed Book 3D, pp. 417-418).

Sometime before 1880 Phineas Kollock died, for in that year his widow, Sarah Campbell Kollock, entered into a pre-nuptual marriage agreement with one Charles William King. This indenture specified that although they were to be brought together as man and wife, they were to retain separate ownership of property and stock. Sarah Kollock's property description in this instrument

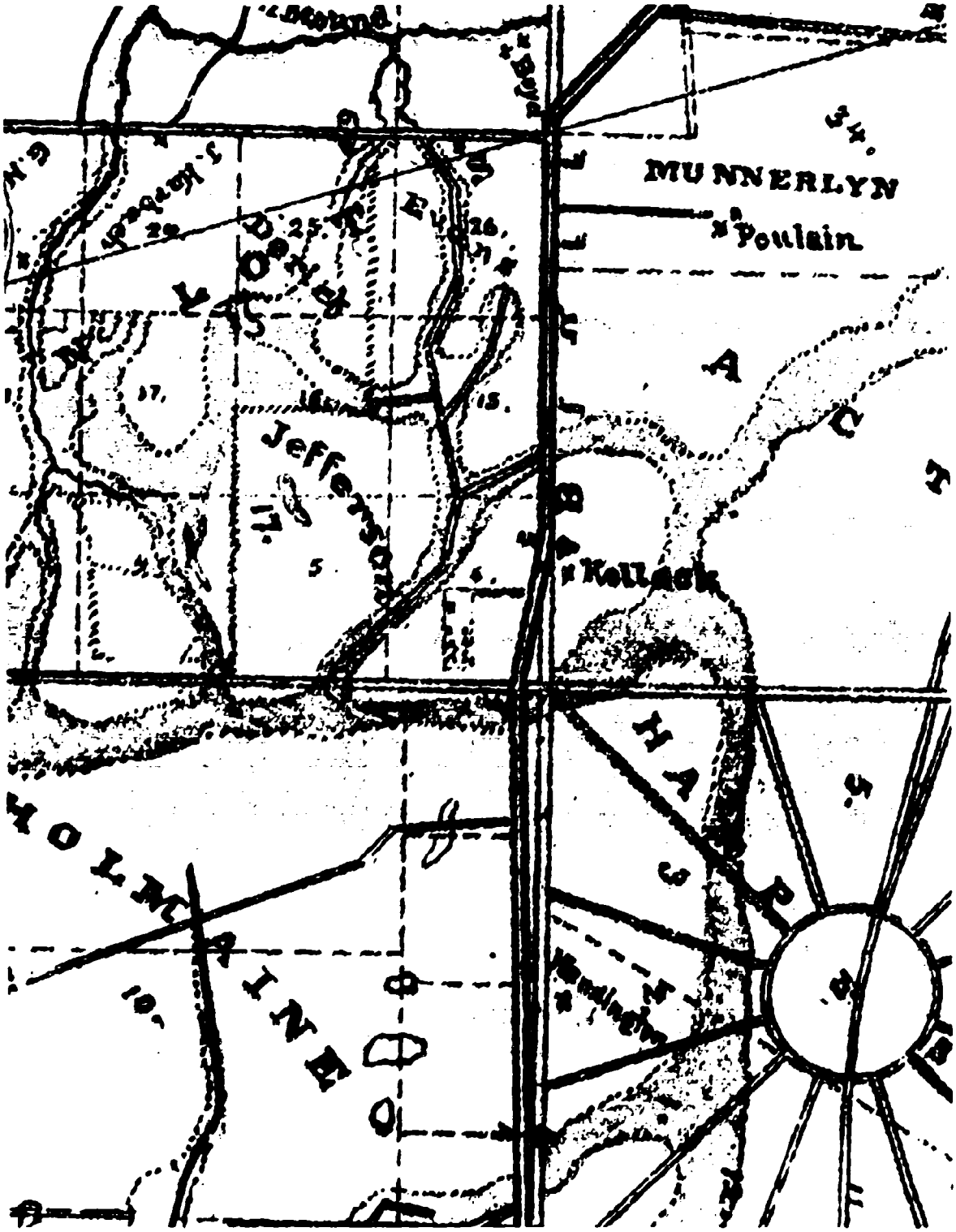

Figure 30. Detail of the Platen map. This detail of the 1875 Platen map of Chatham County faces south-southwest and shows the Kollack homestead near the HAAF-11 locality off White Bluff Road.

(Deed Book 4Y:564-572) shows no correspondence to the Kollock location indicated on the Platen map. Thus, none of the Kollock deeds or marriage agreements that were found can definately place a Kollock, from Phineas to Sarah, at HAAF-11.

The Kollock name is perhaps indirectly linked to Hunter through a warranty deed filed in 1858. For a consideration of $5,261.20, Agustus Bonaud, Sr., deeded a large parcel of land to George H. Johnston, the sole surviving trustee of Jane P. Johnston. (She kept her maiden name after her marriage, whereas her daughters Maria and Jane J. took the Kollock surname.) The parcel acquired by George Johnston was described as

> . . . being in the Village of Acton in the White Bluff district in the County of Chatham aforsaid, consisting of several lots originally separate, and containing by recent survey six hundred and thirty four (634) acres, bounded on the North by the Hempshead and Highgate Lots, West by lands formerly belonging to the estate of Miller, South by the lands known as the Woodhouse lands and by lands once belonging to John Poullen, and East by the road from Savannah to White Bluff, the united tract being more commonly known as the Acton plantation. (Deed Book 3R, pp. 231-232)

When compared to the Platen map this description encompasses the area marked by Kollock's name. Since George Johnston was still acting as trustee for his sister's estate, he may have been investing in land at the behest of Maria and Jane J. Kollock. Thus it seems possible that the "Kollock" noted on the 1875 Platen map was a relative newcomer to the Acton vicinity and probably consisted of one or both of the Kollock daughters. It could not be determined if Bonaud ever resided on this property. Thus, known historic occupations of HAAF-11 consist only of a probable Kollock residence that was established between 1858 and 1875.

Testing Methodology

Secondary testing at HAAF-11 was to involve two general operations: (1) the expansion of the 30 cm, 25 m grid shovel testing to more clearly define site boundaries, and (2) intensive subsurface testing in order to assess the presence or absence of occupations on the site and to date these occupations and determine their character. Specifically, three excavation operations were proposed. First, the placement of additional 30 cm tests extending the original 25 m grid on the north and west sides of the site would "fill out" the survey grid and allow clearer definition of site boundaries. Second, a road grader would be employed to strip away the A horizon fills on transects systematically spaced over the site, thereby exposing any subsurface features which might be associated with site use or occupation. Third, at locations suggested by data from the grader transects, hand-excavated test pits would be dug to provide controlled stratigraphic views of depositional sequences.

Since the 30 cm tests only determined the presence or absence of cultural debris and not the nature of the depositions, the secondary or phase 2 testing was aimed at distinguishing whether the debris was the result of secondary depositions or the result of on-site occupation in the historic period.

Field Techniques

At the request of Directorate of Engineering and Housing, and prior to the execution of any subsurface testing, the locations of all Grader Transects and 30 cm tests were marked to allow review of possible disturbance of buried utilities. Minor adjustments in the locations of some trenches were made to avoid buried electrical power cables. Grader Transects 7 and 8 were aligned parallel to and 20 m distant from the landing light range to avoid any possibility that the grading machine might collide with the light support poles. After an excavation permit was secured, testing proceeded.

The original transect grid of the initial survey was relocated, and an arbitrary zero point was staked 10 m west of the White Bluff Road fenceline and in line with the center of the runway approach light range. A baseline was run north and south from this zero point along a compass bearing of approximately 30 degrees east of north. Hereafter, cardinal directions are given with reference to grid north, unless otherwise specified. The specific orientations, lengths, and designations of the ten grader transects are shown in Figure 31, which also illustrates the two 2 by 2 m test units.

Results

The testing program at HAAF-11 resulted in the definition of 56 features, as discussed below. A total of 928 artifacts was collected from the surface of the grader transects and from the freshly-bulldozed areas between the transects (artifact inventories are presented in Appendix C). Of this total, 29% were ceramics, with 47 types defined; the majority were refined earthenware types dating to the 19th century. High artifact frequencies were also recorded for the miscellaneous bottle glass and window glass classes (46% and 10%, respectively).

Excavated contexts produced 9396 artifacts (Appendix C), most of which can be attributed to domestic-related activities (Figure 32). Only 7% of this total was composed of ceramics, while miscellaneous bottle glass and window glass accounted for 15% and 8%, respectively. Nails and nail fragments were also numerous, accounting for 8% of the total assemblage. Although ceramic types spanning at least 250 years are present at the site, the vast majority of artifacts either date to the late 19th century or are associated with late 19th-early 20th century contexts. The structural, temporal, and functional attributes of the archaeological features are discussed in the following section.

Grader Transects

In areas where the ground surface was grassed, the motor grader made an initial pass to remove the often tough sod. Subsequent passes were made with the grader to remove dark "A" zone soils down to the interface with culturally-sterile tan-orange sands. Although the intended width of the grader transects was 3 m, the size of the machine employed and the exigencies of obtaining a clean cut dictated an actual exposure 2 m wide. The only problems encountered during the grading concerned the dryness of the soil at the start of grading operations; visibility of features was very low due to

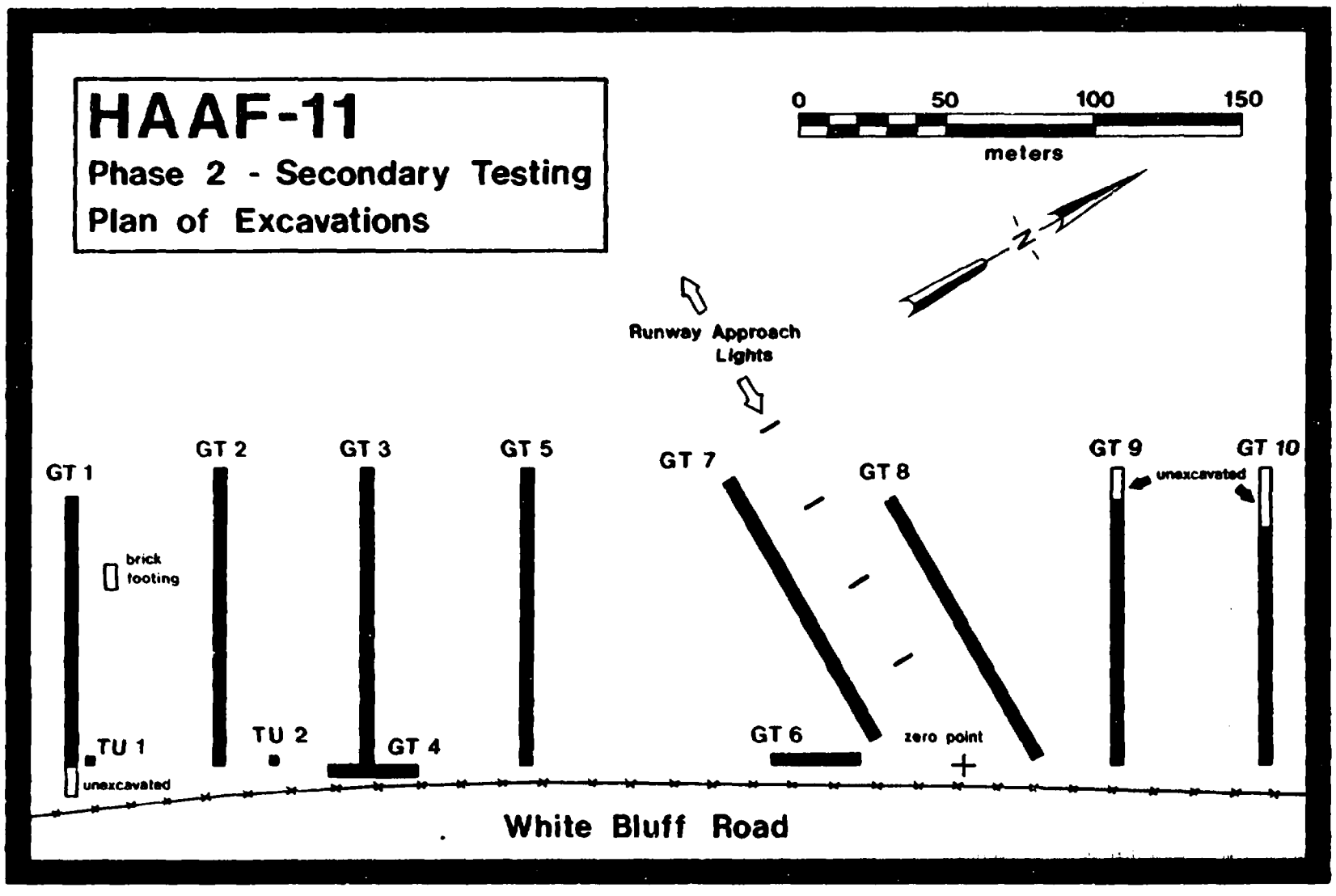

Figure 31. HAAF-11 Plan of Excavations for Phase II Testing.

Figure 32. The HAAF-11 artifact assemblage. The HAAF-11 artifacts, ranging in date from the mid-18th to the mid-20th centuries, were washed, sorted and classified in the Institute's laboratory.

rapid drying of the soil. Rains during the first week of the project greatly ameliorated the visibility.

Each pass of the grader down the transects was monitored by one or two persons, including the project director. After completion of each transect, potential features were flagged and then shovel-scraped in order to define their extent (Figure 33). Clusters of features were mapped on large-scale plans, but isolated, individual features were sketched in field notes. Horizontal locations of features were recorded with respect to the staked 4 m corridor outlines that guided grading operations.

Two temporary transit stations were erected to record elevations of features and to note general site contours at the time of testing. Both transit stations were tied into a site bench mark, a metal-capped concrete post marking marker on the centerline of a buried power cable between two ceiling-measuring beacons south of the runway approach light range. The transit station serving Grader Transects 8-10 had a datum plane 2.00 m above the concrete marker, and the station serving Grader Transects 1-7 was 2.28 m above the marker.

After noting the location of each feature and recording its elevation, feature numbers were assigned to each for identification purposes; each Grader Transect and 2 by 2 m Test Unit had its own feature number sequence beginning with number one. A single field specimen (FS) catalog was maintained for the Phase II testing, excluding the additional 30 cm transect tests, which were field cataloged as continuations of the original FS number sequence for the initial survey. Blocks of field specimen catalog numbers were assigned to each grader transect and test unit; these catalog numbers are enumerated below.

Our research proposal specified that, minimally, 20 percent samples of large features would be recovered. In most cases, the totality of small features was excavated, but usually only half of larger features was excavated. With few exceptions, all features were excavated and the fill screened through 1/4-inch mesh hardware cloth (Figure 34). Soil samples were taken of feature fills for later pH determinations and fine screening for botanical and faunal remains.

Field documentation consisted of (1) narrative-style field notes maintained by the field director, assistant archaeologist and one field assistant, (2) 30 cm transect test data sheets, (3) a field specimen catalog, (4) photographic documentation and accompanying caption sheets, and (5) scaled drawings of features.

Grader Transect 10. Beginning at a point c. 9.4 m from the White Bluff Road fence 100 m north of the zero point, Grader Transect 10 ran west on a bearing of west 30 degrees north. Although staked to a distance of 100 m, only the eastern 79 m of the transect was actually graded. This transect was terminated just short of a drainage ditch.

Two small features were noted near the east end of the unit and were designated Features 1 and 2. Both features were amorphous and when excavated proved to be shallow soil scars or debris-filled root disturbances. The Feature 1 scar (FS 1001) contained mid- to late-19th century debris; and

Figure 33. Defining features in Grader Transect 8. With the approach lights of runway 27 in the background, a crew member defined features marked by dark soil stains.

Figure 34. Reaming features in Grader Transect 3. Defined in the shovel-scraped floor of the grader cut, cultural features were systematically excavated and screened.

Feature 2 (FS 1002) contained some apparent early 20th century debris. Although both features contained debris (ceramics, glass, etc.), neither feature was functionally interpretable.

No other features were noted in the trench, although parallel soil scars running north-south were noted and are construed to represent plow scars from past agricultural activity.

Grader Transect 9. Situated 50 m north of the zero point, Grader Transect 9 was carried to a distance of 89 m west of the baseline before being terminated at a modern drainage ditch. No cultural features were noted in this transect.

Grader Transect 8. One of three apparent artifact concentrations located on HAAF-II during the reconnaissance survey was situated 60 to 80 m west of the baseline and c. 25 m north of the runway approach light range (see Figure ??). In order to intersect this artifact concentration without trenching in such a manner as to interfere with the approach lights, a 100 m grader transect was carried on a due west compass bearing (parallel to the lights) beginning at a point 23.1 m north of the zero point and 1.5 m west of the baseline.

Feature 1 was defined as a possible trash pit situated approximately 55.1 m west of the east trench line. The feature was linear in nature, crossing the grader transect north-south and varying in width from 1.0 m to 0.45 m. The feature was shallow, c. 6 cm, but contained relatively high densities of burned oyster shell and cultural debris from the early 19th century. FS 801, which was opened to collect surface remains associated with Feature 1, included cut nail debris and pearlware ceramic varieties manufactured in the period 1795-1840. The feature was excavated in two halves: the north half (FS 805 and soil sample FS 806) contained shell-edged whitewares (which indicate a TPQ (terminus post quem) of c. 1826 for the deposition) and a double-edge iron knife blade. The south half of the feature (FS 806 and soil sample FS 807) also contained shell-edged whitewares. In all, Feature 1 appears to have been a shallow trash pit filled with food bone, oyster shell, glass and ceramic debris, and architectural debris generated in the second quarter of the 19th century.

Feature 2, a small oval soil feature centered at a point c. 57.2 m west of the trench origin, was designated a small possible trash pit. The 1.0 m (north-south) by 0.75 m feature was only 13 cm deep. FS 802 was assigned to recovered surficial material, and the feature was excavated in halves. The north half (FS 811 and soil sample FS 810) and south half (FS 813 and soil sample FS 812) collectively contained debris from the 18th, 19th, and 20th centuries. An intact clear glass machine-made bottle embossed "Martin and Martin, Chicago," is technologically dated to the approximate period 1930-1940, providing a rough TPQ of 1930 for the Feature 2 deposition.

Feature 3 was defined as an amorphous linear soil feature 2 m long (east-west) and 40 to 70 cm wide. The center of the feature was approximately 63.8 m west of the trench's origin. Only the east half of the feature was excavated. Surface debris was collected in FS 808, the screened sample was FS 821, and the associated soil sample FS 820. The charcoal-stained fill was c. 23 cm deep and contained mostly glass debris and unidentifiable metal debris. On the

basis of machine valve scars on one bottle glass base, the TPQ of the deposition is c. 1930.

Feature 4 was situated c. 58 m west of the trench origin and projected from the south trench baulk. The outline of the 16 cm deep feature was irregular, and the fill contained charcoal and oyster shell. The associated artifacts were collected from the surface (FS 809) and from the excavation of the north half of the feature (FS 817 and soil sample FS 816). The artifact sample was small, principally nail scrap, and tentatively dates the deposition to the second quarter of the 19th century or later.

Like Feature 4, Feature 5 projected from the south baulk of the transect at a point c. 59 m west of the origin of the trench. The associated artifacts (FS 815 and soil sample FS 814) are scant and not temporally sensitive. The collection contains a fragment of coal, slag, and molded clear glass which, subjectively, is late 19th or 20th century in origin. The depth of the feature was 13 cm; no specific function is attributed to the feature.

Feature 6 was an apparent posthole situated c. 58.5 m west of the trench origin. The surface of the feature was oval and 50 to 60 cm in diameter, and was excavated to a depth of c. 80 cm before excavation ceased. The associated debris (FS 819 and soil sample FS 818) included fragments of coal, coal clinker, wood and mortar debris, and wire nails suggestive of a deposition during (or after) the very late 19th or 20th centuries. The depth and size of the feature have been interpreted as possibly representing a backfilled utility pole posthole.

Feature 7 was a large 20th century trash pit that emerged from the south transect baulk c. 62.8 m west of the trench origin. The squarish pit was c. 1.6 m wide and at least 1.4 m long. Only the eastern half of the feature was sampled; approximately 26 cm of the pit fill was excavated and screened. The associated debris (FS 823 and soil sample FS 822, and FS 825 and soil sample FS 824) included 18th century cultural material (white clay pipe fragments, Whieldonware), early 19th century debris (pearlwares), and 20th century debris. The TPQ for the deposition was provided by the presence of an intact glass bottle bearing an Owens scar on its base, thus dating the deposition after c. 1910.

In summary, a cluster of features near the middle of Grader Transect 8 range in date from the second quarter of the 19th century (Feature 1) to the second quarter of the 20th century (Features 2 and 3). Whether the deposits represent a continuous occupation in the vicinity or continual, episodic occupation is not known. The density of 20th century debris is suggestive of a habitation in the immediate vicinity. DEH personnel at Hunter noted that several houses in the immediate area were bulldozed when the runway at Hunter Army Airfield was extended in 19??, and that the demolition rubble generated was buried in large pits excavated in the area adjacent to the west end of Grader Transect 8.

Grader Transect 7. Like Grader Transect 8, Grader Transect 7 was angled due west to run parallel to the runway approach lights and thereby avoid crossing associated buried power cables, etc. No cultural features were discerned in this 100 m transect. Although the 30 cm shovel tests from the reconnaissance survey had detected an apparent artifact concentration in the

area intercepted by Grader Transect 7 (see Figure 29), no subsurface features were detected, indicating that the shallow shovel tests had encountered only thin sheet refuse in that area.

Grader Transect 6. Grader Transect 6 ran grid north (north 30 degrees east) and was situated on the west side of the baseline. The northern end of the 30 m long grader trench was 35.2 m south of the zero point. This transect was placed south of a known power cable which services the ceiling-measuring instruments situated immediately south of Grader Transect 7.

The only cultural feature noted in Grader Transect 6 was an apparent machine-excavated trench evidently housing an electrical cable running south from the above-noted power junction box. This cable trench was not anticipated and was not archaeologically explored other than noting its width (10 cm), depth (over 30 cm), and direction (parallel to White Bluff Road).

Grader Transect 5. Inspection of the 100 m excavation floor of Grader Transect 5 revealed three possible cultural features. Features 1 and 3 were tentatively designated possible postholes, but subsequent excavation revealed that Feature 3 was a root disturbance, and Feature 1, a shallow rubble-filled depression. Neither feature yielded artifacts and no field specimen numbers were assigned. Although Feature 1 had contained brick and mortar rubble, it was determined that the feature probably had not been purposively formed, but rather was generated during grading of the site.

Feature 2 was identified as a rubber-insulated electrical cable 2 cm in diameter and running grid east and west in a narrow ditch. DEH personnel were not aware of the cable's presence or possible functions, and no further investigation was made of Feature 2.

Grader Transect 4. Grader Transect 4 was staked out parallel to and immediately east of the baseline, with the northwest stake of the unit being 185 m south of the zero point. The length of the transect was 30 m. The surface collection for the unit (FS 401) included a miscellany of 18th through 20th century debris. Fragments of scratch-blue and bat-molded white salt-glazed stoneware, both 18th century ceramic varieties, were present on the transect surface.

Grading exposed six discernible features, most of which are clearly 20th century in origin. At the northern end of the unit, between 24 m and 30 m from the south end of the unit, was exposed Feature 1, the construction or footing trench for a modern cement block structure. The east wall footing and adjacent portions of the north and south footings extended out from the west baulk of the unit. The footing trench was c. 50 cm in width, and the outside dimension of the footing trench was c. 6.7 m (22 ft). The east wall was aligned along a compass bearing approximately 25 degrees east of north. The footing was mapped, but no artifact collections were made.

In the south end of the transect five soil features were mapped in the first four meters of the trench. Features 2 (FS 403), 4 (FS 404), and 5 (FS 402) proved to be root disturbances or nondescript shallow soil depressions containing small counts of cultural debris from the 19th or 20th centuries. Feature 3 (FS 405 and soil sample FS 407) proved to be a definite trash pit from the mid-20th century. The bulk of the artifacts consisted of window

glass and finely broken ferrous sheet metal as from food or other types of containers. Architectural debris included wire nails and brick and mortar fragments. Several examples of glass bottle bases in the debris exhibited Owens' scars (TPQ 1910). Aluminum foil was also present. The feature was irregular in form (c. 150 cm) and c. 25 cm deep.

Feature 6 was designated a possible posthole. The feature was squarish in plan, 20 cm square, and 44 cm in depth. The associated debris (FS 406), which includes an aboriginal sherd, is low in volume. Wire nails indicate deposition during or after the very late 19th century.

Grader Transect 3. Grader Transect 3 was staked out at a point 200 m south of the zero point and ran grid west (west 30 degrees north) 100 m. Prior to grading the transect, the trench was divided into four 25 m sections and surface collected (east to west) in Field Specimens 301 through 304. The surface debris included 18th, 19th, and 20th century debris.

Three clusters of sub-surface features were defined and excavated in the transect. The first cluster of soil features occurred in the first 10 m of the trench, and consisted of a series of features designated as possible postholes. Features 1 through 7 ranged in depth from 5 cm to 21 cm; the general shallowness of these features calls into doubt the attribution of postholes. Feature 1 (FS 313), Feature 2 (FS 317), and Feature 3 (FS 327) were all elongated, ovoid forms of small size (c. 30 cm wide and 55 to 65 cm long) which contained temporally non-diagnostic (and low density) historic-period artifacts. Features 4 (FS 329), 5 (FS 330), 6 (FS 331), and 7 (FS 332) were round or squarish forms (c. 30 cm in size). After excavation, Features 1 through 7 were reclassified as miscellaneous soil scars since none were of sufficient depth to be termed postholes.

Feature 8, located c. 20.5 m west of the trench origin and protruding from the north trench baulk, was designated a possible trash pit. The associated debris (FS 308 and soil sample FS 307) appears to be from the very late 19th century or early 20th century. A series of three small postholes was noted in and adjacent to Feature 8. Features 17, 18, and 19 were c. 10 cm in diameter and straight-sided, and had slightly curved bottoms. Feature 17 (FS 315) appeared in the bottom of Feature 8, Feature 18 (FS 316) east of Feature 8, and Feature 19 (FS 323). Feature 17 had apparently intruded through Feature 8, and Features 17, 18, and 19 were also filled with late 19th or early 20th century debris.

The third cluster of features defined in Grader Transect 3 appeared in the interval 51 to 61 m west of the trench origin on the baseline. Feature 9 (FS 306 and soil sample FS 305) was defined as a miscellaneous linear feature 3.5 m long and 40 cm wide. The 26 cm-deep feature was centered at a point c. 53 m west of the baseline. The west half of the fill was excavated and contained debris from the late 19th century, including milk glass and wire nails. However, creamware and pearlware sherds were also present in the fill. The function of Feature 9 is uncertain. Feature 10, centered at a point c. 55.1 m west of the baseline, was defined as a small, squarish possible posthole. The fill (FS 310) contained little but the skull of a small unidentified mammal. Feature 11, centered c. 56 m west of the baseline, was also defined as a possible posthole. The feature contained only two enamelled tinware pans, of late 19th or 20th century origin, pressed tightly down into a 30 cm deep hole.

Feature 12 (FS 312 and 320 and soil samples FS 311 and 319) was mapped as a rectangular pit feature 59 cm by 1.2 m and centered at a point 59.3 m west of the baseline. Excavation revealed that the pit contained the skeleton of a small dog. Wire nails in the light scatter of accompanying artifacts indicate a deposition during or after the late 19th century. Feature 13 was defined as a possible posthole situated at a point c. 60.2 m west of the baseline. The 30 cm diameter feature was 50 cm deep and contained a light scatter of late 19th century debris (FS 314). Feature 14 (FS 326 and soil sample FS 325) was designated a small possible trash pit. Situated c. 59.8 m west of the baseline, the 30 cm deep, squarish feature contained little debris and evidently originated sometime during or after the second quarter of the 19th century. Feature 15, also a possible trash pit, was c. 25 cm deep and centered c. 60.7 m west of the baseline. The irregularly-shaped pit, like Feature 14, contained little debris and is dated to the same period. A possible posthole, Feature 20, was noted beneath Feature 15 but contained little temporally diagnostic debris (FS 328).

Grader Transect 2. Prior to excavation of Grader Transect 2 this unit, situated 250 m south of the zero point, was surface collected in 25 m sections, (from east to west, FS 201 through FS 204). The debris ranged in date from the 18th through the 19th century. No subsurface features were noted in the transect, however. The transect was 100 m long and oriented west 30 degrees north.

Grader Transect 1. Grader Transect 1 was oriented west 30 degrees north and was initially staked to begin at a point 10 m east of the baseline, adjacent to the White Bluff Road fenceline. However, the initial 10 m of the trench could not be graded without blocking a perimeter security road inside the fenceline. As excavated, Grader Transect 1 measured 90 m in length, from the baseline west. The surface collection of the transect (FS 101 through FS 104) was made in 25 m intervals.

Two metal items found in the grader cut but unassociated with any features were retrieved from Grader Transect 1: a metal hoe blade (FS 106) and early style padlock (FS 105).

Feature 1 was a linear soil feature located c. 33 m west of the baseline. The feature was linear in aspect, measuring c. 22 cm by 1.3 m, and contained debris dating to the second half of the 19th century or later. The debris included the proximal end of a large mammal long bone.

Feature 2 was a large trash pit situated c. 50.2 m west of the baseline. The trash pit, c. 2 m wide (east-west) and stretching from baulk to baulk of the grader transect, was 1.1 m deep and densely packed with domestic refuse from the late 19th century and the first half of the 20th century. FS 124 was opened for surface finds over the feature, FS 126 (and soil sample FS 125) for screened fill from 2.08 m to 2.31 m BD, and FS 127 for unscreened fill. Screening was abandoned after the initial sample due to the large size and depth of the feature. The north half of the pit was excavated (Figure 35). Apparently deposited about the middle of this century, the refuse represented a domestic occupation and included ceramic table and kitchenware, glass containers (bottles and jars) and serving dishes, lamp globe and flue fragments, metal bedsprings, horseshoes, container fragments, remnants of a metal heating stove, etc. Although this debris was deposited at the middle of the 20th

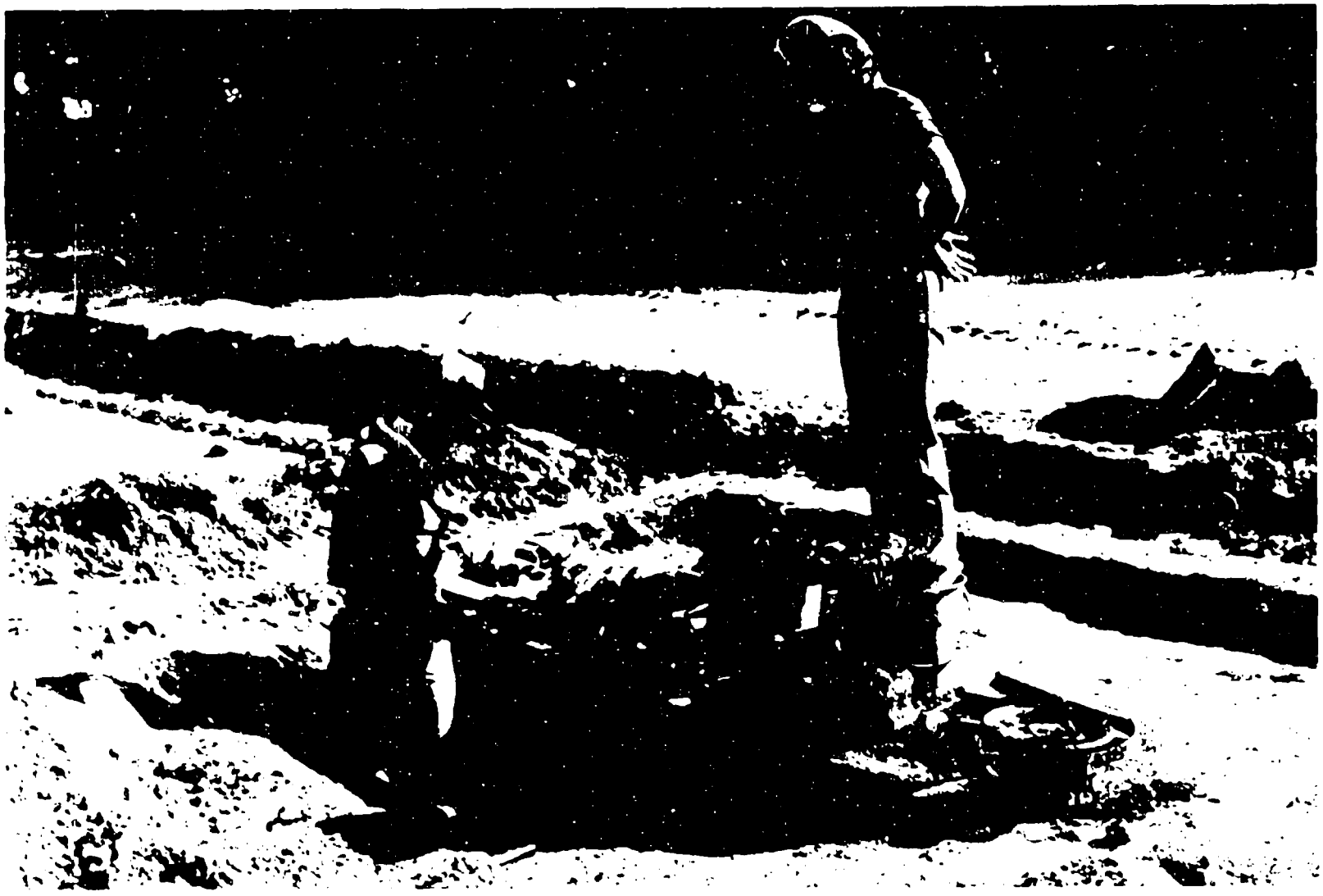

Figure 35. Feature 2 in Grader Transect 1. Feature 2, a mid-20th century trash pit, contained dense domestic debris from the late-19th as well as 20th centuries.

century, the ceramic and glass subassemblages contain pieces manufactured as early as the middle of the 19th century, such as hand-painted polychrome whiteware (i.e., Gaudy Dutch).

Feature 3 was defined as a possible trash pit centered at a point c. 62.2 m west of the baseline. The feature was irregular in outline and, when excavated, proved to be shallow (8 cm). The associated debris (FS 108 and soil sample FS 107) is 19th century. Only the north half of the feature was excavated. The feature is assumed to represent a natural soil scar filled with cultural debris and "A" horizon soil.

Features 4 through 13 appeared in a cluster in the interval c. 85 to 91 m west of the baseline. All were initially classified as possible postholes. Features 13, 4, 6, 8 10, 11, and 12 formed what might be termed a "line" of postholes and Features 5, 7, and 9 formed a second tier.

Feature 13 (FS 109) was a possible posthole roughly 20 cm square, 17 cm deep, and filled mostly with ferrous sheet metal scrap. Feature 4 (FS 112 and soil sample FS 114) was 50 cm in diameter, 32 cm deep, and filled with bones from at least two fowls, probably chickens. Wire nail fragments suggest a deposition after the mid-19th century. Feature 5 had an apparent squarish mold, but upon excavation was found to be quite shallow and to contain no cultural debris; it was reclassified as a shallow depression. Feature 6 (FS 113 and soil sample FS 115) was a squarish, soil feature c. 40 cm in size, 24 cm deep, and like Feature 4, contained principally fowl bones. Feature 7 (FS 118) was determined to be a miscellaneous soil stain only 9 cm deep and evidently not a posthole. Feature 8 was a possible posthole 30 cm in diameter and 49 cm deep, containing scant debris; wire nail fragments suggest a deposition after the mid-19th century (FS 119). Feature 9 (FS 123) was a possible posthole 40 cm in diameter, 23 cm deep, and contained little diagnostic debris. Feature 10 (FS 120) was a miscellaneous soil feature 15 by 35 cm, 7 cm deep, and contained one whole pharmaceutical bottle dated on the basis of an Owens' scar to after 1910. Feature 11 was a possible posthole 40 cm in diameter and 42 cm deep. The associated debris (FS 117 and soil sample FS 116) was late 19th century in origin. Feature 12 was a possible posthole 40 cm square and 55 cm deep (FS 121 and soil sample FS 122). The debris in the feature was relatively dense, and included fowl bone, clear glass bottle fragments, and an electric light socket. One intact clear bottle with plastic screw cap indicated a deposition around the mid-20th century.

In summary, the cluster of small features in the west end of Grader Transect 1 included several apparent trash and food refuse depositions.

Test Units 1 and 2. The Phase II secondary proposal called for the judgemental placement and excavation of two 2 by 2 m hand-excavated test units. While surface collections in the southern area of HAAF-11 had revealed the presence of 18th century debris, none of the grader transects intersected subsurface features of that period. In placing the 2 by 2 m test units it was our objective to situate them in places where there were concentrations of 18th century debris. However, much debris had been transported by the recent grading of the site. As a compromise, we situated the test units along the baseline, which was in the projected road construction impact area along White Bluff Road.

Test Unit 1. This 2 by 2 m square was situated west of the base line 2.5 m north of Grader Transect 1. Zone 1, a machine-cleared surface, consisted of dark, humic soil and was c. 15 cm in depth. The Zone 1 artifact collection (FS 50) contained a mixture of 18th, 19th, and 20th century debris, including sherds of creamware and blue shell-edged pearlware. At the base of Zone 1 the floor of the unit was mapped and one soil feature was defined. Feature 1 consisted of a linear soil scar c. 40 cm wide, running diagonally across the north-west corner of the unit. The feature was c. 11 cm deep, and no attribution was made as to its function. The associated artifacts (FS 53) contained some creamware, but other debris from the late 19th or 20th centuries was also present. Feature 1 was probably modern in origin. A soil sample of the Feature 1 fill was collected (FS 53).

After reaming Feature 1, the floor of the unit was further excavated with Zone 2A, a soil zone characterized as a humic-stained transition into sterile orange-tinted sand (FS 52). Zone 2A contained very little cultural debris; sherds of creamware and pearlware were present and no late 19th or 20th century debris was noted. A soil sample was collected from Zone 2A (FS 57).

At the base of Zone 2A three apparent cultural features were noted. Feature 2 was an apparent postmold in the southeast corner of the unit. The postmold was 19 cm square, with a pointed bottom in profile. The fill contained no artifacts (FS 54). Feature 3 was a possible posthole or postmold noted in the west profile of the unit. The shallow feature contained (in the narrow, excavated portion) only one small copper button (FS 55). Feature 4 was defined as a possible posthole or mold, 20 by 17 cm and shallow; the fill contained no artifacts (FS 56).

In summary, the unit produced a series of small features and possible postholes or molds, most of which contained little or no diagnostic cultural material.

Test Unit 2. Test Unit 2 was a 2 by 2 m square situated 15.5 m north of Grader Transect 2, on the west side of the baseline. Zone 1 (FS 60) consisted of a remnant of the dark humic topsoil truncated by machine clearing in the area. The artifact collection consisted of a mixture of 18th, 19th, and 20th century debris, and included early ceramic types such as creamware, pearlware, and white salt-glazed stoneware. At the base of Zone 1 the floor of the unit was mapped, revealing three small soil features.

Feature 1 was defined as a probable posthole 40 cm in diameter and 29 cm deep. The associated debris (FS 65) included wire nails and a crown-top glass bottle neck, suggesting that the fill accumulated no earlier than c. 1900.

Feature 2 and 3 (FS 61 and FS 64) were very shallow, ovoid soil scars otherwise not functionally attributable. Feature 2 contained burned bone and fire-crazed glass; the feature contained little indication of other than a late 19th century (or later) deposition. Similarly, Feature 3 contained little temporally sensitive debris except wire nails; its suggested deposition date is the early 20th century.

Zone 2A, the matrix for Features 1-3, was defined as a transition to sterile soil. The associated cultural material (FS 62 and soil sample FS 63) included an aboriginal flint flake, white clay pipe fragments, and a pearlware

sherd. Wire nails in the collection, however, indicate late 19th or 20th century intrusions into the sterile horizon.

In summary, Test Unit 2 produced no 18th or early 19th century features and only one probable posthole of perhaps early 20th century origin.

30 cm Transect Tests. Twenty 30 cm shovel tests were dug to provide additional data on site boundaries on the west and north sides of HAAF-11. Thirteen tests yielded artifact collections and seven contained no debris. The tests were extensions of the initial survey testing, although two tests were moved two meters in order to avoid conflicts with buried utilities. The data recording procedure has been described elsewhere. The additional 30 cm tests did not reveal any new artifact concentrations.

Conclusions

Despite the presence of 18th century cultural debris in surface collections from the southern half of HAAF-11, no 18th century features were encountered, suggesting either that there were no actual early habitation sites in the area or that our sampling scheme failed to intersect them. It is conceivable that a small domestic habitation could be missed, falling between our grader transects spaced 50 m apart. The other possible explanation is that HAAF-11 is contiguous to an 18th century occupation, but has only received sheet refuse depositions from that occupation. The presence of 18th century material in late 19th and 20th century subsurface features indicates that the 18th century refuse has been present for a long period of time, diminishing the probability that the bulk of this early cultural material is the result of 20th century landfill deposits.

One feature apparently created in the second quarter of the 19th century was located near the middle of Grader Transect 8. This feature suggests the presence of an early 19th century occupation in the immediate vicinity. The distance of the feature from the road indicates that road construction impacts will not adversely affect the possible locality of an early 19th century occupation.

Evidence of late 19th and 20th century habitations is common, particularly in the southern half of HAAF-11, but including also the Grader Transect 8 area. Actual architectural remains of structures were present in Grader Transect 4 and between Grader Transects 1 and 2. Subsurface features (such as trash pits and postholes) from late 19th and early 20th century features are highly localized. For all intents and purposes, Grader Transects 2, 5, 6, 7, 9, and 10 were devoid of features associated with non-military activities on the site. The density and character of early 20th century features indicating on-site occupation was particularly evident in Grader Transects 1 and 3.

The preponderance of late 19th and early 20th century features and artifacts suggests that this period represents the most intensively occupied time span for the site. Earlier materials are present, although in much smaller quantities; only one small, miscellaneous feature appears to pre-date the mid-19th century. In general, these data mirror the documentary data presented earlier for HAAF-11. No documented occupations were noted for the site until the post-1858 Johnston/Kollock acquisition of property occurred.

If an earlier occupation was present at the site, it does not appear to have been a substantial one.

Recommendations

The purpose of secondary testing at HAAF-11 was to evaluate the significance of the site in terms of its eligibility for inclusion in the National Register of Historic Places. Approximately 1.9% (828 m^2) of the c. 4.25 ha site was tested using a combination of purposive and systematic placement of transects and excavation units. The majority of artifacts and features from this site are attributable to domestic functions dating to the late 19th and early 20th centuries; some of these remains may be associated with an occupation by the descendents of Phineas Kollock. The site has experienced numerous modern disturbances occasioned by municipal and military use of the runway area in addition to "late" (i.e., 20th century) domestic use of the site.

With reference to the criteria for eligibility for the National Register, as presented by the Advisory Council's Procedures for the Protection of Historic and Cultural Properties (36 CFR 800), it is the opinion of the PI that HAAF-11 does not merit inclusion in the National Register. For evaluating archaeological properties, the most relevant criterion concerns the question of whether or not the site has yielded or may be likely to yield information important in prehistory or history. Both the structure and content of the archaeological record at HAAF-11 are considered to possess low research potential. Admittedly, such an assessment is based on relative research values--a century from now, this site might be considered to be uniquely suited for informing on questions related to rural domestic adaptations. However, for the present the type of site represented by HAAF-11--late 19th/early 20th century rural domestic--cannot be considered to be unique in a local or regional sense and, when coupled with the moderate to poor preservation of the pre-20th century archaeological resources, does not merit further testing or mitigation.

Chapter 5
EVALUATION AND RECOMMENDATIONS

Summary

Project Scope

The results summarized in this chapter are the product of a research project designed to invest available funds in obtaining an inventory of cultural resources at Hunter Army Airfield, Savannah. The research took the form of a six-week field survey with a crew of six, preceded and accompanied by two weeks of background and documentary research. The field survey utilized systematic subsurface testing as well as surface inspection. Test units were allocated at variable levels of intensity according to environmental and cultural criteria. The wooded zone within 762 m of the Little Ogeechee River was assigned high intensity testing with units at 25 m intervals on a square grid. The wooded zones north and south of the airfield in the central portion of the base were assigned moderate intensity testing with transects of 25 m interval tests spaced 250 m apart. The cantonment area at the northeastern end of Hunter was assigned a low level of testing intensity with transects of 25 m interval tests judgmentally placed to spot-check undeveloped tracts within this urbanized area. The salt marsh along the southwestern margin of the base was also examined on a limited basis within a series of auger tests along the shoreline and along the marsh creeks.

Background and documentary research was carried out to determine whether any previously recorded sites exist at Hunter and whether any documentary information is available with which to interpret archaeological data. Documentary research relied heavily on historic maps as the primary tool permitting location and identification of historic period occupations and evaluation of changing land-use patterns. Only limited inspection of primary documents, based on identification by name of landowners or tenants, was possible within the scope of this survey.

This report also contains results of a Phase II study of one of the sites discovered during the survey. The White Bluff Road Site, HAAF-11, was threatened by construction impacts associated with widening of a historic road and secondary traffic artery. Secondary testing resulted in documentation of the occupations at the site and determined that no significant archaeological resources would be affected by the proposed construction. Results are detailed in Chapter 4 of this report.

Survey Results

It was determined in the course of background research that there were no known sites listed for Hunter Army Airfield in the State Archeological Site file, in the SHPO's National Register (nomination, eligible, or pending) files, in the Historic Preservation office compliance report files, or in any available local or personal files. Verbal reports of historic period burials removed from construction areas at Hunter (R. Anuskiewicz, personal communication) were confirmed by DEH Hunter personnel but are not accompanied by any written archaeological reports in appropriate archives. These and other human remains are reinterred in a small, unnamed cemetery in the north central part of the base.

Nine archaeological sites were discovered in the course of this survey. These include two prehistoric sites, six historic sites, and one site with components from both periods (in which the historic component is of primary interest). These sites were evaluated, in so far as survey data permitted, with the results indicated in Table 10.

As called for in the scope of work, a review of standing structures at Hunter with respect to their cultural resource potential was carried out. It was determined in consultation with DEH Hunter personnel that there are no standing structures at Hunter which predate World War II. Visual inspections of all structures visible from the road (except those in off-limits areas) were made by both the CoPI and the Consulting Historian. In the opinion of both Dr. Smith and Dr. Babits (neither of whom has specialized training in architecture or architectural history), there are no standing structures at Hunter Army Airfield which are eligible for inclusion in the National Register of Historic Places.

An analysis of settlement pattern and land-use pattern change during the historic period resulted in several tentative conclusions which should be adopted as working hypotheses for future research. Results of the documentary research by the Project Historian can be summarized as follows. From the 18th through the mid-19th century, cartographic data is either nonexistent or negative, in that a wooded swampy landscape, devoid of structures, is invariably depicted for the survey area (the 1780 des Barres map provides a single possible exception to this generalization). Initial colonial occupation of Hunter is possibly represented by the Hampstead and Highgate "villages," both of which were small and brief in nature, having failed by 1740. Land grants in the area date to the 1750s but they apparently did not lead to actual occupations, in contrast to the riverine-oriented settlement patterning noted for other coastal Georgia locales. This dearth of settlement activity is thought to have resulted from two related factors: a paucity of productive farm land and the relative inaccessibility of the primary river in this area as a transportation route.

Given the low agricultural potential of much of Hunter, it was hypothesized that early historic sites would be located in areas of high elevation and/or relatively fertile soils. Similarly, it was expected that roads in the survey area would be associated with high ground. Introduction of extensive municipal drainage programs would have improved the agricultural potential of the land, stimulating an increase in land use activities and associated road construction in the third or fourth quarter of the 19th century. Maps dating to the end of the Civil War indicate that Hunter was not of strategic importance and that a small number of scattered farms were present by this time. As the area became better drained it experienced increasing occupation and alteration, culminating most notably in the civilian construction and later military expansion of the airfield in the 20th century. The introduction of the automobile also had an obvious effect, that of increased road construction and paving.

The adaptive use of the survey area can be divided into four main periods:

1) initial large land grants, with little if any occupation, during the colonial period;

Table 10. Hunter Army Airfield Archaeological Site Inventory and Status

Project Site Number	Site Name	National Register Status	Recommendation
HAAF-1	McNish Site	potentially eligible	Phase II testing
HAAF-2	Rio Road Site	potentially eligible	Phase II testing
HAAF-3	Dutchtown Road Site	potentially eligible	Phase II testing
HAAF-4	Cherburg Site	potentially eligible	Phase II testing
HAAF-5	Creekside Site	not eligible	no action required
HAAF-6	Marsh Island Site	eligible, local level	preservation
HAAF-8	Hallstrom Lake Site	potentially eligible	Phase II testing
HAAF-10	Acton Site	potentially eligible	Phase II testing
HAAF-11	White Bluff Road Site	not eligible	no action required

2) a fairly long, stable period of small rural-agrarian occupations until after the Civil War;

3) during the late 19th century, major land alterations in the form of drainage and consequent increased domestic-agricultural utilization; and

4) extensive 20th century alterations associated with the construction and extension of the Hunter runway.

Evaluation of Research

Assessment of Methods

There are several aspects of the methods used in this project which merit review in light of survey conditions and survey results. Four issues are reviewed below: sample design; screen size; differential coverage; and boundary definition procedures. They are discussed for the purpose of clarifying several methodological questions that should be of interest to future researchers on the Georgia coast.

Sample design. In view of the small total number of sites and the small size of individual sites found at Hunter, it is felt that the choice of a 25 m interval for the high intensity testing grid was appropriate. A larger interval (50 or 100 m) might have missed intersecting some of the small sites. The small interval (12.5 m) used in boundary definition did not provide as much supplementary information about the distribution of artifacts within the site as had been expected. This seems to be a consequence of the small size of individual tests in conjunction with a low density of artifacts in these deposits: it is possible to dig a sterile test in the center of some of these sites.

Other aspects of the sample design performed less well. The target area for high intensity sampling was rather arbitrarily drawn as a 762 m wide belt of land along the edge of the salt marsh. The result is a zone which contains habitation, all tested at the same level of intensity. Archaeological studies have repeatedly shown strong correlations between soil type and site distribution. Most recently, the Fort Stewart survey has produced a statistically validated ranking of soil types with respect to probability of site occurrence for an area close by and geographically similar to Hunter. Results of this survey, applied to soil associations at Hunter, are shown in Figure 36. The map shows the two extremes (most reliable portion) of the range of site probability rankings presented by Miller et al. (1982:54). Their rankings reflect the number of observed sites divided by the number of expected sites based on a proportional random sample of transects through each type of soil. Of course only those of the soil types sampled at Fort Stewrt which also occur at Hunter are shown on this map. The included types are grouped as shown in Table 11. Seven of the 9 sites at Hunter are on soil types predicted by the Fort Stewart survey to have a high probability of site occurrence. An eighth is on a soil type which was included in the high probability group in a draft version of the Fort Stewart results. (The difference between the draft and final statistical treatments of the Fort Stewart data has not yet been ascertained.) The ninth Hunter site is located on an unclassified soil type.

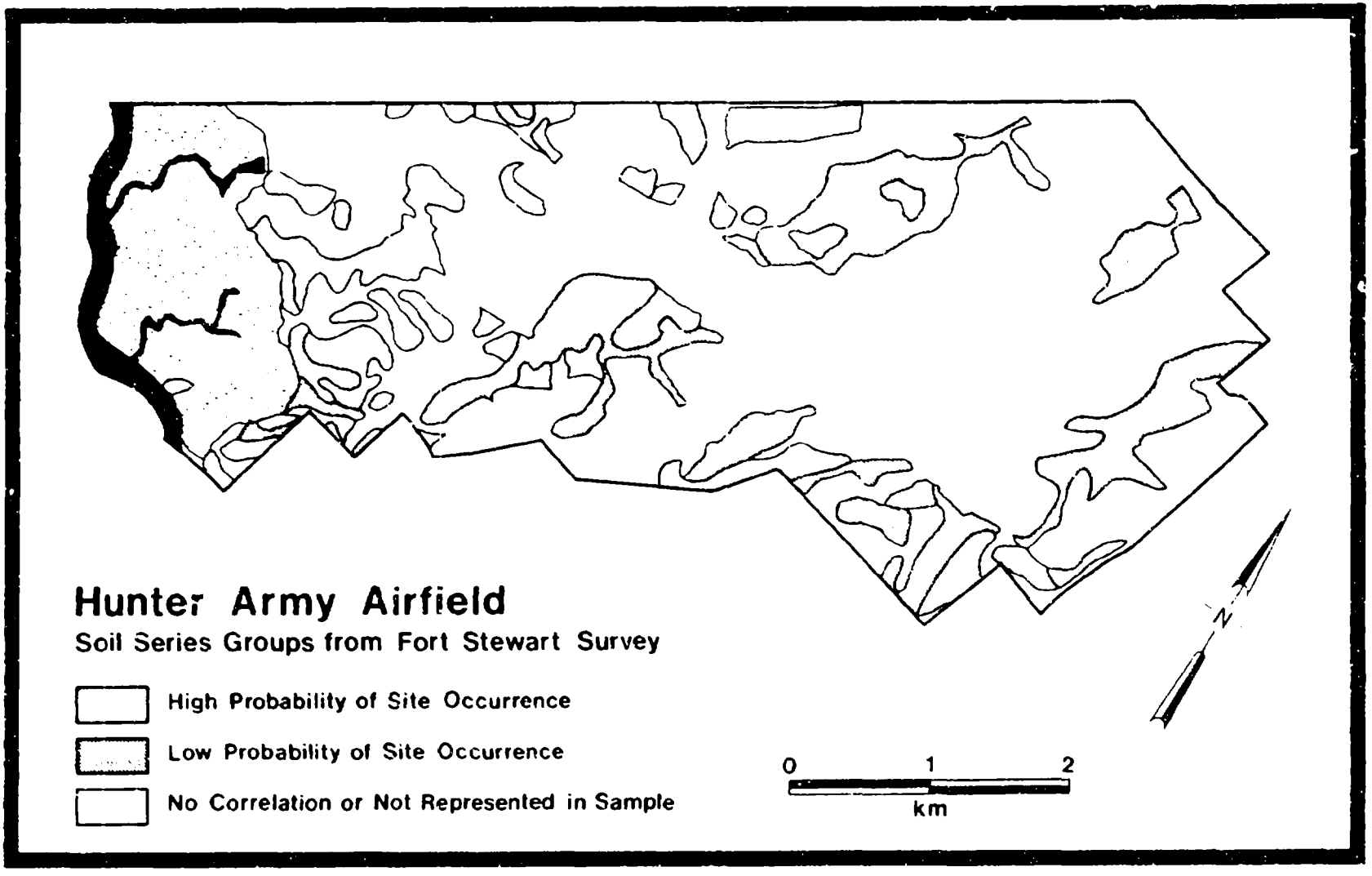

Figure 36. Soil Series Groups from the Fort Stewart Survey as they Occur at Hunter Army Airfield.

Table 11. Soil Associations and Site Occurrence at Hunter Army Airfield.

Occurs at Fort Stewart	Occurs at Hunter	HAAF-Sites[a]
HIGH PROBABILITY		
Craven	Craven	-
Stilson	-	-
Ocilla	Ocilla	3, 4, 5, 10
Pooler	Pooler	-
Albany	Albany	1, 2, 11
	Lakeland[b]	8
LOW PROBABILITY		
Cape Fear	Cape Fear[c]	-
Bladen	-	-
Blanton	-	-
Boyboro	-	-
Johnston and Bibb	-	-
	Ellabelle[b]	

Notes:

[a]HAAF-6 The island on which this site occurs is not classfied as to soil type in the county soil survey.

[b]Included in draft version of Fort Stewart rankings but not in final. Included on Hunter map.

[c]Not included in draft version of Fort Stewart rankings but present in final. Not shown on a Hunter map.

The research design for this project was formulated before the Fort Stewart model became available. However, during the week prior to the start of fieldwork it was proposed that the research design be modified to make use of the Fort Stewart data. This appeared desirable because unusually heavy winter rains had inundated large tracts of poorly-drained land at Hunter. Use of the model--survey of high probability areas only--would have eliminated the need for testing in many soggy or saturated areas and would have increased coverage of high probability soils outside the marsh-edge high-intensity testing zone. However, permission to modify the research design was not granted.

The results shown in Table 11 appear to strongly validate the Fort Stewart model. However, appearances may be misleading. Since the Hunter survey was not designed as a test of the Fort Stewart model, no attempt was made to obtain equivalent samples of high and low probability soils. The fact that high intensity sampling is concentrated along the marsh edge where high probability soils are also concentrated introduces a significant bias in favor of validation of the model. The fact that saturated soils (e.g., Ellabelle and Cape Fear) could not be effectively sampled using shovel tests and 1/4 inch screen and were often omitted from the sample constitutes another bias tending to artificially enhance model validity. Thus, while the Hunter survey does yield results similar to those from Fort Stewart, the study does not constitute an objective test of the model.

It is unfortunate that the Fort Stewart model could not have been used in the Hunter research design--either as a hypothesis to be tested with the Hunter data or as a tool for increasing the efficiency of the Hunter survey. It is hoped that in the future such opportunities to build on previous research will not be lost.

Screen size. A second requested modification of the original research design was also disallowed by the contract administrator but merits further consideration. The authors originally proposed to use 1/2 inch mesh screen to sift the fill of survey tests. Based on previous experience at coastal sites this was felt to be the most efficient screen size. In general, artifacts large enough to be of diagnostic value in a survey collection are larger than 1/2 inch. At the request of ASB archaeologists, this was reduced to 1/4 inch. When, during the first week of survey, the ground was found to be extremely wet, it was requested that 1/2 inch mesh be used to decrease the time required to push wet sand through the screens. No change was allowed.

Survey conditions eventually ameliorated, although standing water remained in some areas throughout the fieldwork period. The 1/4 inch mesh proved to be a workable tool on drier soils. However, the archaeologists remained curious about just how much and what kinds of information would have been missed had 1/2 inch mesh been employed. One of Dr. Honerkamp's students, Tim Young, was enlisted to perform the retrospective test described below.

Hunter sites HAAF-1 through HAAF-6 were selected for re-evaluation. HAAF-8 was omitted because it had been discovered by surface evidence and included a surface collection (not screened) field specimen. Sites HAAF-10 and HAAF-11 were also omitted because they contained considerable amounts of relatively large, 20th century debris.

The field specimen collections for the six sites were sifted through 1/2 inch mesh hardware cloth; the number of specimens passing through the screen and the number retained by the screen was recorded for each specimen collection. The kinds of materials passing through the 1/2 inch screen were noted.

It was found that 54 of 269 specimens (about 20 percent) in the combined six site assemblage would have been missed using 1/2 inch screen. Twenty-three of these small items are fragments of bone and charcoal which may be natural, rather than cultural and, if cultural, do not aid in discrimination between prehistoric and historic occupations. The balance (11.5 percent of the total collection) consists of 16 historic sherds, 9 brick fragments, 4 pieces of glass, and 2 chert flakes. Clearly the amount of information contributed by any of these artifacts is dependent on what other artifacts occur in a particular site assemblage. Every one of the 23 tests which contained artifacts smaller than 1/2 inch also contained larger artifacts. Therefore, no "false negative" readings (sterile tests) would have occurred with the larger mesh size. In our opinion, based on this sample, no significant decrease in the precision or quality of site detection and assessment would occur with the use of 1/2 inch mesh. Time saved through quicker screening could be invested in more thorough coverage. Clearly, an arbitrary "standard" technique (in this case, use of 1/4 inch screen), should not be adhered to if site conditions favor other, more efficient techniques.

Differential testing. A third methodological issue deserving further comment is the effect of the differential sampling scheme on the reliability of the site inventory generated. For sites with a diameter greater than 25 m, the high intensity testing should have detected close to 100 percent. The moderate intensity testing would detect only one-tenth as many, or less than 10 percent. It is not really possible to evaluate the effectiveness of testing in the low intensity zone, i.e., whether there are few sites observed because of low site density or because of low testing intensity, since there is no contrastive information. Contrastive information could have been secured by testing limited blocks of the interior woodlands with a 25 m square grid of test pits which would be equivalent to similar-sized blocks along the marsh edge. As was discussed earlier, under Research Design, the sample for the developed zone is almost certainly biased against site detection. In the intensively developed cantonment area the best-drained land was built upon first and much of the "green-space" which was accessible for archaeological testing lies in low areas and drainage swales. Since aboriginal and historic period occupants probably chose the same areas preferred for military construction, the highest probability locations are inaccessible to study.

Boundary definition. Finally, the methodology used to define site boundaries requires comment. It was projected that boundary definition could be made reliable to within + 6.25 meters by placing supplementary tests halfway between positive and negative tests around the edges of sites. In fact, it was almost never the case that a site could be defined around a solid "core" of positive tests. When isolated positive tests occurred on the periphery of a site, then the boundary definition procedure became something of a wild goose chase. This seems to be largely a consequence of the small size and low density of artifact deposits at Hunter. The site boundaries shown in this report should be understood for what they are: inferences based on a few small sample points. This may seem to most archaeologists too obvious to mention, but it is

often the case that egineers, foresters, and other land managers take site boundaries to be "writ in stone" when they are in reality artificial and conjectural.

Assessment of Results

Prehistoric sites. Only two well-defined prehistoric sites were discovered in this survey. Although small amounts of prehistoric pottery and, rarely, chert and quartz flakes occur in assemblages from several of the historic sites, they do not constitute significant components.

These results were not unexpected. Babits has shown, for another similar area in Chatham County, a complete absence of aboriginal sites and very little historic activity (1982). He attributes this to low, wet conditions which made the land unsuitable for settlement prior to the adoption of dry culture. Although Hunter is not entirely composed of poorly drained soils, the belt of land along the Little Ogeechee is in no way comparable to the high, hardwood-forested bluffs immediately adjacent to major rivers, such as are found along the Savannah River. With regard to environmental variables and on the evidence of archaeological manifestations, the Hunter marsh-edge must be classified as a "low suitability for habitation" zone.

The two aboriginal sites reflect the kinds of non-permanent uses which would be expected in this kind of zone. The Deptford period site, HAAF-5, is located on the bank above a small freshwater creek. It appears to be little more than a briefly occupied camp. It might represent a hunting camp or a stopover spot for travellers on the Little Ogeechee. The Savannah period site, HAAF-6, is clearly a special-use site. Its primary purpose was collection and processing of ribbed mussels. Oysters and other marsh fauna were also procured. It is unlikely that many nights were spent on this island: it would have been too low and wet for comfortable camping in rainy weather and the supply of firewood would have been quickly exhausted. It is doubtful that freshwater could have been procured from hand-dug wells on a land area this small.

Historic sites. Six historic sites were delineated during the survey which were recommended for further testing. As predicted in the historical background section presented in Chapter 3, all these are located in areas of high elevation and/or relatively good agricultural soils; access to surface water does not seem to have been a significant factor in site selection. All six sites possess small archaeological assemblages dating to the late 18th to early 19th centuries, although the domestic component at HAAF-1 may be somewhat earlier. Besides similar temporal ranges, these sites also share functional characteristics: they all appear to consist of small rural, agrarian-based homesteads. These occupations were unexpected in that they predate by 75 to 100 years agricultural enhancement of the area through drainage. The McNish gravestone constitutes the only unusual historic artifact discovered during the survey. The cemetery may represent re-use of an earlier homestead clearing as a mortuary location. None of these domestic sites are well-documented, and the possibility exists that no site-specific documentation on them exists at all. No indications of cultural stratigraphy or features (other than the McNish graveyard) was noted at any of the six sites.

As separate entities these undocumented sites, represented by sparse archaeological assemblages, could be interpreted as possessing low research value due to their seemingly fugitive documentary and archaeological characteristics. When viewed from a regional perspective, however, several questions can be raised with respect to their presence in the survey area. Most interesting are those concerning the apparent temporal and functional similarities between the sites. Despite the generally poor agricultural potential of Hunter which inhibited the development of productive large-scale plantations, a definite "small-farm horizon" appears at the beginning of the 19th century. Determining the identity of these farmsteaders, their ethnic and socio-economic characteristics, the nature of their rural adaptations, and the factors responsible for the development of the farmstead horizon in agriculturally marginal areas provide compelling questions for future research. It is emphasized that a settlement pattern approach as opposed to a site-by-site orientation is required to evaluate the ultimate research potential of these historic resources, and consequently their eligibility for inclusion in the National Register.

Cemeteries. In addition to the archaeological sites recorded by this survey, there are two cultural features which are of historical interest, if not significance. These are the two cemeteries shown on Figure 3: Lincoln Memorial Cemetery in the cantonment area and an unnamed graveyard containing relocated burials in the central part of survey area AAn near the radar installation. Lincoln Memorial is a city-owned tract within the boundaries of Hunter which is in active use as a graveyard. Most of the burials date from the second and third quarters of the 20th century. The cemetery is of historical interest because it lies within the boundaries of the colonial town of Hampstead. It was expected that if any of the colonial period settlements were in this area there would be surface evidence, due to the regular disturbance of the soil in grave digging. The entire cemetery, including several dirt roads, was walked without any evidence of historic period artifacts being seen.

The unnamed cemetery is used for the purpose of reinterring human remains encountered in the course of construction at Hunter. Most of the burials have come from the area west and north of Hampstead, including an area that was once the location of the colonial town of Highgate. It is doubtful that the burials are of colonial date. A more likely hypothesis that has been advanced is that these are mass burials resulting from epidemics in Savannah during the 19th century. Information about these reinterments was requested but it seems that systematic records for the cemetery are not kept by DEH Hunter.

It is likely that more historic period burials will be encountered with continued development in the cantonment area. Archaeological monitoring and systematic recording would be desirable in the event of any future discoveries.

Recommendations

Mission Impacts

Since the primary purpose of this study is to provide an inventory of cultural resources for management purposes, no specific mission impacts were examined. Instead, general field observations of present land use and patterns of disturbance were made for each site vicinity. All of the sites evaluated

as National Register eligible or potentially eligible are located in wooded tracts which are presently subjected only to low-level pedestrian use, such as compass exercises and hunting. In general, there is no evidence that current use is adversely affecting these sites. In several cases, however, it is possible to identify nearby land-use patterns which are potentially threatening. HAAF-1 is immediately adjacent to the Rio Gate. Any upgrading of this entrance to the base might affect the Rio Road Site. HAAF-8 is within 150 m of a borrow pit on the south side of the airfield. Further borrowing or ancillary development at the edge of the airfield might affect the Hallstrom Lake Site. HAAF-10 is adjacent to the recently cleared site of HAAF-11 at the approach end of Runway 27. As mentioned in Chapter 4, HAAF-11 was bulldozed subsequent to its discovery and less than a week before the Phase II testing program was to begin. Because of its proximity to the airfield HAAF-10, the Acton Site, might also be vulnerable to impacts dictated by military priorities.

The present appearance and land use pattern in the cantonment area is illustrated in Figures 37, 38, and 39. Figure 37 shows a view of support services and office buildings on well-drained soils in the vicinity of DEH Hunter. Open areas adjacent to buildings may contain intact resources. Figure 38 shows a tree-lined open area between developed tracts in the cantonment area, also on well-drained soils. This area was sampled with negative results. Figure 39 shows present-day use of a poorly-drained area in the developed zone. This area was also sampled with negative results.

Ongoing construction in the cantonment area of Hunter is likely to encounter evidence of historic occupations from time to time. Without systematic testing of all portions of the developed zone (rather than the availability sample of open spaces provided by this survey) avoidance of historic remains is impossible. The most practical approach to mitigating these impacts would be to provide archaeological monitoring of any significant land-altering activities. Construction contracts should be written to allow for temporary suspension of work in the event that cultural or human remains are exposed which require salvage excavations. The cultural resource potential of the developed zone as a whole is low due to the extent of urbanization. However, it is possible that isolated areas may contain significant archaeological remains, especially 1) remnants of colonial Hampstead and Highgate and 2) burials of 19th century epidemic victims which might yield demographic and nutritional data.

Further Evaluation

We recommend that further evaluation of the six historic sites be carried out as a single comprehensive study. The research potential of these sites has been defined in terms of a settlement pattern approach which cannot be conducted using a customary piecemeal, crisis-driven CRM prodedure. Comparable results are essential for successful settlement pattern research, and they require careful planning rather than unfocussed "rescue" efforts at particular sites which happen to be threatened.

Honerkamp, Council and Fairbanks have suggested a restructuring of traditional CRM studies at urban sites which places emphasis on documentary research (1983:187), and we believe their suggestions are also applicable at Hunter. Accordingly, we recommend that the historic-site testing program consist of two distinct, consecutive stages. The first stage should be devoted to documentary research. The project historian should expand upon the

Figure 37. Current Land Use Patterns in the Developed Zone. Office and support services buildings on well-drained soils.

Figure 38. Current Land Use Patterns in the Developed Zone. Open space between intensively developed tracts in the cantonment area.

Figure 39. Current Land Use Patterns in the Developed Zone. Poorly-drained soils used for physical training course.

information presented in this report and attempt to discover site-specific data concerning the names of owners/occupants. A summary of deed information on the major plantations in the Hunter area (especially the Hermitage) could result in identification of the residents of at least some of the sites, and possibly provide data on specific features present at the site. Additional background information on some of the place names in the immediate vicinity would also be helpful and could be accomplished through a systematic survey of the Colonial Records, the Revolutionary Records, and newspaper indexes available in the Georgia Historical Society Library. Secondary sources can be consulted concerning the basic demographic, economic, and social parameters of Savannah and the surrounding hinterland that might reveal the reasons for the appearance of the farmstead horizon at c. 1800 at Hunter.

This documentary stage must be completed prior to any fieldwork in order to provide the archaeologists with as much information as possible concerning the potential structure and content of the individual sites. A report on the results of this stage should be fully incorporated into the following archaeological testing strategy. In the event that significant archaeological data is found to be absent, a thorough, problem-oriented documentary study will have been produced which will provide a valuable reference for historians, archaeologists, and the general public.

Minimal archaeological testing at each of the six sites should consist of comparable methods and techniques. We recommend that test units of 1 x 2 m, screened with 1/4-inch mesh, be employed at all sites. In the absence of targeting information generated from the documentary research, it is recommended that each site be systematically tested by means of two transects of tests, at right angles to each other, placed to intersect the two largest spatial dimensions defined for each site during the survey. The resulting quadrants should also be systematically tested using 1 x 2 m tests. A sample of 0.4 percent of the total area for each site is suggested as sufficient for determining the sites' research potential. This would require the excavation of 110 test units. This figure is based on a 0.4 percent by area sample size which was recently successfully employed in Phase II testing for the Navy at Kings Bay. For the total area (six sites) of 5.5 ha, a 0.4 percent sample is 220 square meters. Using 1 x 2 m excavation units and allowing 2 person days per unit, a total of 220 person/days of crew time is required. With a crew of 10, this is 22 days or 5 weeks, allowing set-up and contingency time.

Conservation and Preservation

One National Register eligible site and six potentially eligible sites were identified at Hunter Army Airfield. In order to ensure that these sites are preserved for future evaluation and/or research, a base cultural resource officer should be appointed. This individual should be familiar with historic preservation law and procedures and should develop a historic preservation program incorporating at least the following points:

1) A large scale map of the base showing site locations should be prepared and kept readily available for reference at DEH Hunter.

2) A procedure for reviewing all planned land-altering activities for possible impacts on cultural resources should be developed.

3) Land altering activities in the developed zone, especially in areas which have already yielded historic period burials, should be monitored or at least periodically checked by an individual qualified to recognize archaeological remains.

4) The Marsh Island should be posted to identify it as Army property and place it off-limits to unauthorized use. The Marsh Island Site should be nominated for the National Register of Historic Places.

5) The tract of land containing the McNish cemetery should be posted off-limits. The cemetery should not be fenced without first evaluating the adjacent and possibly contemporaneous domestic component of HAAF-1.

6) A program for further evaluation of the six potentially eligible sites should be instituted at the earliest possible opportunity.

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1979 Patterns of Mississippian Period Adaptation in Coastal Georgia. Ann Arbor: University Microfilms International.

Platen, Charles G.
1875 Chatham County, State of Georgia. Map Collection, Georgia Historical Society, Savannah.

Poe, O. M.
1864 Map Illustrating the Defense of Savannah, Georgia. American Photo-lithograph, New York.

Pringle, John
1775 Observations on the Diseases of the Army. London.

Quattlebaum, Julian K.
1983 The Great Savannah Races. Athens: University of Georgia Press.

Reichel-Dolmatoff, G.
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Reitz, Elizabeth
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Rush, Benjamin (ed.)
1810 Observations on the Diseases of the Army. Philadelphia: Edward Earle.

Rutch, Edward and Brian H. Morrell
1981 Archaeological Survey of the Savannah Revolutionary Battlefield Park, City of Savannah. Chatham County, Georgia. Report on file, Archaeology Laboratory, Armstrong State College, Savannah.

Rziha, John
1864 Rebel Defences in Front of the 13th and 14th Army Corps. Map Collection, Georgia Historical Society, Savannah.

Schlereth, Thomas J.
1980 Artifacts and the American Past. Nashville: American Association for State and Local History.

Smith, Bruce D.
1974 Middle Mississippian Exploitation of Animal Populations: A predictive model. American Antiquity 19:274-291.

Smith, Robin L.
1978 An Archeological Survey of Kings Bay, Camden County, Georgia. Bound report, Department of Anthropology, University of Florida.

1982 Coastal Mississippian Period Sites at Kings Bay, Georgia: A Model-based Archeological Analysis. Ann Arbor: University Microfilms International.

Smith, Robin L., Chad O. Braley, Nina T. Borremans, and Elizabeth Reitz
1981 Coastal Adaptations in Southeast Georgia: Ten Archeological Sites at Kings Bay. Report submitted to the U. S. Department of the Navy.

Snow, Frankie
1977 An Archaeological Survey of the Ocmulgee Big Bend Region. Occasional Papers from South Georgia No. 3. Douglas, Georgia: South Georgia College.

South, Stanley
1977 Method and Theory in Historical Archaeology. New York: Academic Press.

Thomas, David H. and Clark S. Larsen
1979 The Anthropology of St. Catherines Island 2. The Refuge-Deptford Mortuary Complex. Anthropological Papers of the American Museum of Natural History 56(1).

Thomas, David H., Grant D. Jones, Roger S. Durham, and Clark S. Larsen.
1978 The Anthropology of St. Catherines Island 1. Natural and Cultural History. Anthropological Papers of the American Museum of Natural History 55(2).

Waring, Joseph F.
1973 Cerveau's Savannah. Georgia Historical Society, Savannah.

Wilkes, Robert L., J.H. Johnson, H.T. Stoner, and D.D. Bacon
1974 Soil Survey of Bryan and Chatham Counties, Georgia. U.S. Government Printing Office, Washington, D.C.

Williams, Stephen
1968 Some Thoughts on Georgia Prehistory. In The Waring Papers, S. Williams, ed. pp. 315-326. Peabody Museum Papers 58. Cambridge: Harvard University.

APPENDIX A

EXAMPLES OF RECORDING FORMS

TEST PIT DATA

HUNTER ARMY AIRFIELD SURVEY

PAGE__ OF__

DATE	AREA	TRANS	TEST	FS[illegible]	[illegible]	[illegible]DIST	[illegible]	SHELL	DISTB	VEGTN	STRATUM A			STRATUM B			STRATUM C			STRATUM D			COMMENTS
											BG	ED	CLR	BG	ED	CLR	BG	ED	CLR	BG	ED	CLR	

HUNTER ARMY AIRFIELD SURVEY 1983 ARTIFACT ANALYSIS

Provenience _____

FS# _____

Ceramics	Kitchen	Tobacco Pipes
		Personal

Architecture	Furniture	Activities
	Bone	
	Arms	
	Clothing	

Miscellaneous	Comments

Soil Samples

Hunter Army Airfield/Phase 2
(HAAF-11/P2)

FS# _____

Provenience
Information _____

Total Weight: _____

pH: Sample 1- _____
Sample 2- _____
Sample 3- _____

		Y/N
A.	1/4" Screen	
	Artifacts	_____
	Faunal	_____
B.	1/8" Screen	
	Artifacts	_____
	Faunal	_____
C.	1/16" Screen	
	Artifacts	_____
	Faunal	_____

Artifacts and Faunal found

A.

B.

C.

TITLE SEARCH FORM

Grantor(s): _____

_____

Grantee(s): _____

_____

Date of Conveyance: _____

Date of Record: _____

Reference: _____

Plat: _____

Type of Instrument: _____

Consideration: _____

Description: _____

_____

_____

_____

_____

_____

_____

_____

Previous Conveyances: _____

_____

_____

_____

Notes: _____

_____

_____

_____

_____

_____

APPENDIX B
ANNOTATED BIBLIOGRAPHY OF DOCUMENTARY SOURCES CONSULTED

Maps

Anonymous
1740 (?) Map of Savannah Out-settlements. Map Collection (#50), Georgia Historical Society, Savannah.

This map is a copy of another modern map attempting to locate the early outlying settlements of the Georgia colony.

Of interest here are the locations of Hampstead and Highgate. These are possibly within the survey area. Later maps (Platen 1875, Chapman 1906) show the location of plantations/subdivisions bearing these village names which are within the survey area.

Anonymous
1741 A Map of the County of Savannah. Map Collection (#30), Georgia Historical Society, Savannah.

Shows the Hunter area as "woods."

Bischoff, (?)
1865 Map of the Vicinity of Savannah Compiled from the Old County Maps of John McKinnon. Map Collections (#31), Georgia Historical Society, Savannah.

Shows the Civil War defenses. Shows Middleground road in study area. Junction with White Bluff Road. Also shows segment of Confederate defense line going through Hunter. Defenses stylized but may still indicate those which were completed as opposed to those which were planned. Other Civil War defenses also shown. Does show the Savannah, Albany and Gulf Railroad. For a better comparison, see the 1864 Poe Map.

Brown, W. F.
1930 Skeleton map showing public highways in Chatham County, Georgia, Commercial Lithograph. Map Collection (#28), Georgia Historical Society, Savannah.

Shows the types of roads in the county (asphalt, concrete, and dirt). A concrete roadway (Wilson Blvd.) runs into the "airport" area. This is now the northeastern portion of the Hunter AAF area.

Middleground Road, Belmont Avenue shown inside airport area. Dutchtown Road enters study area. Dutchtown also shown as a tract on the Platen Map. Buckhalter Road runs from Montgomery Cross Roads as it does today.

No structures are shown.

Burroughs, USGS
1971 Burroughs Quadrangle. U. S. Department of the Interior, Geological Survey. Map Collection, Georgia Historical Society, Savannah.

Overprinting of 1957 map. Shows 1 structure on Lotts Island. Some development south of the Dutchtown Road.

Byck, D. A.
n.d. City of Savannah and Vicinity. Map Collection, Georgia Historical Society, Savannah.

Shows Hunter AAF as a blank area except northeastern corner south of DeRenne and down to Wilson Boulevard. Does not show Oglethorpe Mall so it was apparently drawn prior to 1970.

Campbell, Archibald
1780 Sketch of the Northern Frontier of Georgia. Engraved by William Faden, London. Collections of the Georgia Historical Society, Savannah.

Shows location of Old Ebenezer, other outlying towns. Nothing shown in the Hunter AAF survey area.

Chapman, T. M.
1906 Map of Chatham County, Georgia. Map Collection, Georgia Historical Society, Savannah.

The area of Hunter AAF is already divided into rather extensive tracts/lots. No structures are shown. There are a few roads shown in the Hunter area. Deed references are included for the tract surveyors, which would make it possible to trace down the owners if sites were encountered.

Chatham County
n.d. Deed Books, Chatham County, Georgia. County Courthouse, Savannah.

McNish listed for Book 2F:243,507; 2I:305,306; 2L:208,518.
Kollack has many entries, R. Woodhouse, 6 entries as Grantee. Poulain is not listed.
These are the only entries from Platen 1875 map within survey area which can be ascribed to family names rather than plantation names.

Corps of Engineers
1912 Savannah Quadrangle. U. S. Army Corps of Engineers. Map Collection. Georgia Historical Society, Savannah.

The date of this map is potentially confusing. There is a 1912 map, also a 1920 and 1942 map. All of these are based on the same initial survey done in 1912. Periodic updates are not all that helpful. Of interest on the 1942 map is the observation that while the Hunter AAF area is now a military installation and not shown, the dock areas are shown in considerable detail.

Shows Buckhalter Road with house along it. Much low brush shown in the study area. Most structures are along Middleground Road or Buckhalter Road, plus some on Garrod Avenue which extends southeast into Hunter from beyond the railroad tracks. Some fields shown as well.

A canal and lake near the railroad are now incorporated into the flood drainage system but provide a link of continuity with the Poe and Platen maps. This is the best map of the area for any time period prior to 1950. It shows the contour intervals and structures, allowing some interpretation of man/land relationships.

Des Barres, J-F. W.
1780 The Coast, Rivers and Inlets of the Province of Georgi-. Map Collection (#61), Georgia Historical Society, Savannah.

Actually surveyed by Joseph Avery, et al. Shows nothing in the Hunter survey area except a road and 1 house on the Little Ogeechee (Forest) River at the end of the road. This road may be Middleground Road.

The lack of structures is somewhat surprising when one realizes that it does show a number of plantations on the Great Ogeechee River.

Fountain, D.
1935 Savannah, Georgia. Map Collection, Georgia Historical Society, Savannah.

Nothing shown in study area except for a fringe of Hunter AAF.

Funk, A. J.
1962 Proposed Annexation of Savannah. Map Collection, Georgia Historical Society, Savannah.

Shows Hunter without any road network or structures. Middleground Road stops at south edge of Hunter where it joins Buckhalter Road. No features shown.

Gordon, Peter
1740 View of the Town of Savannah. Map Collection, Georgia Historical Society, Savannah.

Shows initial settlement layout. All beyond city is woods.

Howard, John W.
1910 Map of the City of Savannah, Georgia. Map Collection, Georgia Historical Society, Savannah.

Has no utility for the project on Hunter. Does not show airfield area.

Jefferys, T.
1757 Georgia. London. Map Collection (#59), Georgia Historical Society, Savannah.

Some plantations shown west of the Hunter survey area. Nothing within the present day borders of Hunter AAF.

Lamas Brothers News Company
1929 Map and Guide of the City of Savannah, Georgia and Vicinity. Lamas Brothers News Company, Savannah. Map Collection, Georgia Historical Society, Savannah.

Shows southern edges of Savannah but little detail below 56th Street. Shows Hutchinson Island. Nothing shown of Hunter AAF area.

Liberty National Bank and Trust Company
1965 Chatham County, Georgia. Liberty National Bank and Trust Company, Savannah.

Does not show structures. Does show Abercorn, Tibet, Middleground Road, Rio Road shown. Road that runs on 1912 map into what is now Hunter is presently called Wilson Boulevard and runs into Stephenson at White Bluff Road.

This map helped identify old roads by their modern names. Echols Street is important because it is the road just south of Wilson/Stephenson which does not have a name on earlier maps. Just below Echols, by comparison with other maps, is the Kollack Site where the dense scatter of material was found adjacent to the runway.

McKinnon, John and C. C. Wright
1821 Map of the City of Savannah. Photocopy on display. Hussey, Gay and Bell, Savannah.

Shows dry culture areas on Hutchinson Island, wharf lots. Key has all sorts of good data but chiefly within town limits. Only goes as far south as Liberty Street. Clear view of river lots on south side of river which are keyed

Mouzon, Henry
1775 An Accurate Map of North and South Carolina. Reproduction of original by North Carolina Department of Archives and History, Raleigh.

Riverine settlement pattern shown. Also Ebenezer.

Platen, Charles G.
1875 Chatham County, State of Georgia. Map Collection, Georgia Historical Society, Savannah.

Tracts are shown and these are less well developed than the 1906 Chapman map. Some roads also shown. Numbers of tracts indicate surveyor of tne tract. File exists to cross check these.

The few names shown on the map can be tied to what appear to be houses. In the survey area, there are a number of structures/farms. Unfortunately, most are in the high ground area utilized for the runway. Nevertheless, it is possible to identify Kollock as the owner of what is probably the dense scatter of material found just south of the runway and adjacent to White Bluff Road, HAAF-11.

The scatter of material found in the woods southwest of the Kollack site was probably the farmstead of the Poulain family. HAAF-8 site adjacent to the small stream, does not show any structures on this map. This map also shows the main Confederate fortifications around Savannah.

Poe, O. M.
1864 Map Illustrating the Defense of Savannah, Georgia. American

OPERATOR WARNING: SHUTDOWN FOR ACCOUNT PURGES @ 10:00! PLEASE FINISH S OON...
Photo-lithograph, New York.

This shows the Civil War earthworks. Three cleared areas within the Hunter Survey area. Does show roads into/through Hunter. It is possible to identify Buckhalter, Middleground, and Whitebluff.

This map also shows some buildings in the area, including a clearing with buildings at the Poulain site (see Platen 1875) and the Kollack site. Other clearings are shown to the southwest. These appear to be farmsteads but have no structures. The Rziha Map (1865) shows these areas with "in ruins" as a description.

1864 Rebel Defences in Front of the 13th and 14th Army Corps. Map Collection, Georgia Historical Society, Savannah.

This map dates to the Union occupation of Savannah. It shows more detail than the Poe Map in the SW part of the Hunter Survey area. It includes a number of clearings, some with structures, others with the comment "ruins." These can be cross-checked with Poe. Correlation with this map did not reveal any co-junctions of archaeological evidence with sites shown on the map.

Savannah Electric and Power Company
1944 Bus and Street Car Routes. Map Collection, Georgia Historical Society, Savannah.

Stops short of the Hunter survey area. Does indicate both express and local routes running to Hunter as well as their coverage of the rest of Savannah.

Primary and Secondary Sources

Babits, L. E.
1981 Military Documents and Archaeological Sites: Methodological Contributions to Historical Archaeology. Ph.D. dissertation, Department of Anthropology, Brown University, Providence.

Explores the linkage between trash disposal, disease, conceptions of disease in the 18th and 19th centuries, creation of the archaeological record with emphasis on time, number of people on site. Some discussion of distances traveled in 18th century.

1982 Preliminary Archaeological Survey of the Highway 17 Farm Tract, Richmond Hill, GA: Report on file, Archaeological Laboratory, Armstrong State College, Savannah.

Discusses reasons for not finding any prehistoric and very little historic cultural material in an environment similar to Hunter AAF. Drainage was very poor until post-1930 era, therefore ground was unsuited for use. One likely area was heavily disturbed to provide earth for road grading.

1983 Exploratory Archaeology at the Red Building, Battlefield Park, Savannah, GA. Report on file, Archaeology Laboratory, Armstrong State College, Savannah.

Details how maps can cause confusion in interpretation when contours are missing; discusses changes in land surface through buildup and grading down activity.

Blair, Ruth
1926 Some Early Tax Digests of Georgia. Georgia Department of Archives and History, Atlanta.

Census reports for 1790, 1800, 1810, lost in the burning of Washington, DC in 1814. McNish not in index, does not go so far forward as to allow identification of names on Platen 1875 map.

Census, U. S.
1820 Census of 1820, Georgia. Microfilm Collection, Roll 8, Georgia Historical Society, Savannah.

Page 85. John McNish, owned property. Had one free white male over 18, three free white males between 18-26, one between 26-40. Two free white females between 26-45 and one black male between 14-26.

Cerveau, F.
1837 View of Savannah. Collections of the Georgia Historical Society.

Nothing on Hunter AAF area except heavy woods in that general direction. Heavy woods all around town, cows in street. Flag over armory (?) has circular star arrangement with red, white, blue stripes.

Commissioners, Chatham County, et al
1965 An Environmental Health Report, Savannah, and Chatham County, June 7-12, 1965. City of Savannah, Savannah.

Hunter had a population of c. 5,000. Sewage plant set-up in 1942 to discharge into canal and thence into Forest River. Not paginated.

Court Records
n.d. Superior Court Records of Chatham County, GA. County Courthouse, Savannah, GA.

Roll M2 (1776-1818) #28-Savannah, October 1827. Petition of Ann Mary McNish--Estate of John McNish, merchant, deceased.

Fancher, Betsy
1976 Savannah, a Renaissance of the Heart. Garden City: Doubleday.

Romanticized. Little use except in most general terms and then only for the city proper.

Gamble, Thomas J.
1900 A History of the City Government of Savannah, Georgia from 1790-1901. Savannah: No publishers given.

304: Drainage of Springfield plantation and other lowlands between 1874 and 1876. (This was why Springfield had been bought by the city in 1850s.)
345: City gives authority to condem land for drainage in 1898.
235: Sewage system in city in 1858. A vote did not approve bonds for drainage in 1859.
141: 1820-1830--initiation of dry culture--good information.
142: Cites from a report. Passed a resolution to adopt dry culture at meeting in 1817, but only in front of the city and adjacent areas to the east and west. In 1818, commissioners of health and dry culture appointed.
143: More on dry culture of rice.
144-145: More on health and drainage.
200-201: Dry culture extends on all sides of city.
Only in passing are those areas of the Hunter survey mentioned.

Genealogical Committee
1979 The 1860 Census of Chatham County, Georgia. Georgia Historical Society, Savannah.

Census pages:
. McNish, Thomas J., bank officer, born in Beaufort District, SC.
Kollack, Phineas M., aged 56, physician, born in Savannah, with 7 kids.
No Poulains or Pollocks.

Granger, Mary (ed.)
1972 Savannah River Plantations. Savannah: The Reprint Company.

This book deals with those plantations along the Savannah River. Only mentions Hunter AAF area in passing as the plantations might run into the interior. The creation of Springfield plantation from Colerain is covered. Also speaks of the diversity of cash production efforts among the planters.

Harden, William
1913 A History of Savannah and South Georgia. Chicago: Lewis Publishing Co.

Personalities mainly. Little on our area at Hunter. No index for the 2 volumes. Once names for the survey area were obtained, it might pay to go back through this.

Hauntor, R. H.
1968 Savannah in the 1850's. Ph.D. dissertation. Ann Arbor: University Microfilms.

Nearly all internal to the city, does detail the lack of a history of the County. Rarely mentions the areas outside the city.
281: City fronted and flanked by undrained swamps.
290: Western part of the city was used by "laboring" peoples.
297: Springfield plantation to be bought up, drained, and then converted to garden lots and a public cemetery (now Laurel Grove (?)). This decision to purchase the ara was carried out in 1850. It is probable that the drainage of this plantation would have also caused some draining of the northern and western portions of Hunter AAF.

Kemperley, Marion R.
1973 English Crown Grants in Christ Church Parish in Georgia, 1755-1775. Georgia Department of State, Atlanta.

vii: Little Ogeechee District vaguely described in 1758.
viii: The Christ Church Parish became Chatham County.
219: Dean Forest Tract granted 31/10/1757.
204: Silk Hope Tract granted 5/3/1756.
216-252: Fifty grants listed, none by brief boundary descriptions, within the Hunter survey area. Earliest is 1755. Grants all listed by reference to neighboring tracts.

Ivers, Larry E.
1974 British Drums on the Southern Frontier. Chapel Hill: University of North Carolina Press.

13: 1/2/33 Oglethorpe landed at Savannah.
19: Fort Argyle described.
Nothing on Hunter area.

Jackson, Ronald V. (ed.)
1981 Georgia 1820 Census Index. Bountiful, Utah: Accelerated Indexing Systems, Inc.

46: McNish listed for Chatham County (p. 85, census roll 8).

Jenson, Ruth
1983 A History of Dairying in and around Savannah and Coastal Georgia. Manuscript on file, Department of History and Political Science, Armstrong State College, Savannah.

Details on the rise of dairying in coastal Georgia. Some commentary on effect of discovery of pasteurization, rail transport.

Jones, Charles C., Jr.
1974 The Dead Towns of Georgia. Collections of the Georgia Historical Society IV. Spartanburg: The Reprint Company.

13: Ebenezer described.
246: Hampstead and Highgate located on head of Vernon River. Called villages.
248: "Between four and five miles southwest of Savannah, as its limits were first ascertained, and on rising ground, the village of High-gate was laid out in 1733. Twelve families, most French, were here located. A mile to the eastward the village of Hampstead was founded the same year, and peopled by twelve families, chiefly German. (Not much would survive.)"
Ceramics should be different between the two villages unless they were already part of the English commercial system.
By 1740, only two families still at Highgate and none at Hampstead. Low focus and visibility type of sites.

Lawrence, Alexander A.
1951 Storm over Savannah. Athens: University of Georgia Press.

Of no use to Hunter survey. Quite a bit on 1779 seige and the city at that time.

Marriage License Index
n.d. Index to Chatham County Marriage Licenses. County Courthouse, Savannah, GA.

McNish names are (with one exception) "colored" after 1865.

McNish, John
1817 Letter from John McNish to Messers. Gordon, Thomson, et al., dated 18 March 1817. Wayne-Stites-Anderson Collection (846), Georgia Historical Society, Savannah.

Merely states that bills on his firm will be honored.

Newspaper Index
1938 Index to Savannah, Georgia Newspapers. Works Project Administration. Collections of the Georgia Historical Society, Savannah.

John McNish has many entries. Dates range from 1806 to 1825. Oddly enough, a spot check reveals that he was receiving goods which were being brought in on ship, but he never advertised for sales. The one sale he is advertising is for a plantation. Was he selling to people who couldn't read? A

OPERATOR WARNING: SHUTTING DOWN 5 MINS... PLEASE, HURRY!
detailed study of the more than 60 entries should be made if the name warrants further investigation.

Pringle, John
1775 Observations on the Diseases of the Army. London.

This is the 7th edition of 1752 original printing.
Goes into great detail of how people thought disease spread.

Rush, Benjamin (ed.)
1810 Observations on the Diseases of the Army. Philadelphia: Edward Earle.

American edition of the Pringle work.

Rutch, Edward and Brian H. Morrell
1981 Archaeological survey of the Savannah revolutionary battlefield park, city of Savannah. Chatham County, Georgia. Report on file, Archaeology Laboratory, Armstrong State College, Savannah.

Does not really deal with Hunter area. Provides an excellent starting point to some of the sources.

Savannah, Government of
1905 Report of Herman Myers, Manager, together with the Reports of City Officers of the City of Savannah, Georgia, for the Year Ending December 31st, 1904. Savannah: Morning News Print.

185: Statistics on privies. Not helpful for Hunter.

Savannah, Tax
n.d. Tax Digest, Savannah, Georgia. Microfilm Roll, Box M15, Collections of the Georgia Historical Society, Savannah.

1816 McNish owned lot and buildings.
1819 McNish owned lot 16, Warren Ward, 6 slaves, tax value $6,000, tax was $12.
1821 McNish owned lot and buildings on lot 16, Warren Ward, 5 slaves, other lots.
1826 McNish owned lot 35 Franklin Ward, lot 14 (?) Warren Ward, 5 slaves. Lot 16 is 300 block East Bryan Street, Lot 16 is on corner of East Bryan and Lincoln. (Fair location for a merchant to have a store?)

Schlereth, Thomas J.
1980 Artifacts and the American Past. Nashville: American Association for State and Local History.

68: Strategic locations.
69: Land fill areas and changes in chronological periods from maps.
70: Identification of transportation routes, high and low ground areas from maps.

Screven, John
1896 The Savannah Benevolent Association. Savannah: Morning News Print.

5-13: Originally founded to combat problems associated with Yellow Fever epidemic of 1854.
75-76: Epidemic blamed on many things, including neglected drainage of Springfield Plantation area.
76: Bilbo Canal not just drainage but used for sewage too.

Sholes, A. E.
1900 Chronological History of Savannah. Savannah: The Morning News Print.

88: Savannah Brewing Company organized 12/3/89. Brewery opens on 2 July 89.
Details on importation, deaths, disease, and other trivia facts. None cited to earlier sources. Nothing on Hunter AAF area.

Spencer, Franklin
1941 The Social and Economic Pattern of Savannah, Georgia. Works Project Administration of Georgia, Atlanta.

Intro: Savannah had 5,000 people in 1800. Steady growth from 1800-1840 when population doubled. 1910-1920, greatest population increase in city's history is ascribed to WWI.
1: 5,146 people in 1800.
Does not include Hunter area at time of report because this was the city airport. Does have a lot of good city demographics.

Ward Books
n.d. Ward Books. Manuscript Collections of the Georgia Historical Society, Savannah.

Went through Warren Ward to check on McNish property. His lots had not been run through a chain of title search.

Waring, Joseph F.
1973 Cerveau's Savannah. Georgia Historical Society, Savannah.

50: Hibernian Society founded in 1812.

51: Quotes Macon Telegraph about railroad being built.
26: Blacks constituted 42% of city total in 1837 of 12,758. In the county outside the city, blacks made up 80% (3,423 whites and 12,951 blacks). In 1837, only 784 free persons of color in Savannah.

Will Book
n.d. Chatham County Will Books, County Courthouse, Savannah, GA.

Will Book F:27 Gowrie Plantation on Big Ogeechee deed to McNish.
F:43 McNish was executor to Wm Craig, grocer.
M:18 McNish estate probated.

Wilson, Edmund G.
1858 A Digest of all the Ordinances of the City of Savannah. John M. Cooper, Savannah.

133: Dry culture ordered.
134: "Perpetual change" from wet to dry culture of rice for health reasons.
136: In the neighborhood of Savannah, dry culture was practiced.
137: Within Savannah, had to drain lands.
141: City purchased Springfield plantation on border of the city for the sole purpose of keeping it in dry culture. To be drained.

APPENDIX C

ARTIFACT INVENTORY FOR HAAF-11

ARTIFACT INVENTORY OF SURFACE COLLECTION FROM HAAF-11, PHASE 2.

	GRT 1		BTWN 1 & 2		GRT 2		BTWN 2 & 3		GRT 3		GRT 4		GRT 5	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics														
Plain redware	2		0		3		0		2		0		0	
Plain earthenware	0		0		0		1		0		0		0	
Lead-glazed redware	0		0		1		0		2		0		1	
Lead-glazed earthenware	0		0		4		1		0		0		0	
Staffordshire-Bristol style slip-decorated earthenware	0		0		0		0		0		0		1	
Slip-decorated earthenware	0		1		0		0		0		0		0	
Annular yellow-ware	0		0		0		0		1		0		0	
Plain delftware	0		2		1		0		1		0		0	
Blue-on-white delftware	0		1		0		0		0		0		0	
Enamelled redware	0		0		0		0		1		0		0	
Metallic-lustered, hard-paste dark redware	0		0		1		0		0		0		0	
Plain creamware	6		3		2		1		3		0		0	
Underglazed red-enamelled creamware	0		0		1		0		0		0		0	
Plain pearlware	4		2		17		0		11		2		3	
Blue hand-painted pearlware	1		1		2		0		0		0		0	
Polychrome hand-painted pearlware	1		0		2		1		1		0		0	
Blue trans-printed pearlware	0		0		8		0		5		0		1	
Blue shell-edged pearlware	1		3		5		1		0		0		0	
Green shell-edged pearlware	1		2		0		0		1		0		0	
Annular pearlware	0		0		3		0		1		0		1	
Annular/marbled pearlware	0		0		0		0		0		0		1	
Whiteware (including ironstone)	8		0		31		1		10		8		9	
Blue shell-edged whiteware	0		0		0		1		0		0		0	
Tinted-glaze whiteware	0		0		0		0		1		0		0	
Blue trans-printed whiteware	1		0		0		0		1		0		0	
Red trans-printed whiteware	0		0		0		0		1		0		0	
Rose trans-printed whiteware	0		0		0		0		1		1		0	
Polychrome hand-painted whiteware	1		0		0		0		0		0		0	

Surface Collection (continued)

	GRT 1		BTWN 1 & 2		GRT 2		BTWN 2 & 3		GRT 3		GRT 4		GRT 5	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Annular whiteware	1		0		1		0		0		0		1	
Gilded whiteware	0		0		1		0		0		0		1	
Polychrome trans-printed whiteware	0		0		1		0		0		0		1	
Other refined earthenware	1		0		7		0		6		2		0	
Overglaze trans-printed whiteware	0		0		1		0		1		0		0	
Gilded polychrome trans-printed whiteware	0		0		1		0		1		0		0	
Glazed refined earthenware	0		0		0		0		1		0		0	
Salt-glazed stoneware	1		1		4		0		3		0		0	
Alkaline-glazed stoneware	0		0		1		0		0		0		0	
Bat-molded white salt-glazed stoneware	0		0		0		0		0		1		0	
Scratch-blue white salt-glazed stoneware	0		0		1		0		0		1		0	
Other stoneware	0		0		5		0		1		0		0	
Plain or. export porcelain	0		0		1		0		0		1		0	
Overglazed/polychrome or. export porcelain	0		1		1		0		1		0		0	
Underglaze blue or. export porcelain	0		0		0		0		0		1		0	
Plain porcelain	3		0		3		0		9		1		0	
Parian porcelain	0		0		1		0		1		0		0	
Plain semi-porcelain	0		0		0		0		1		0		0	
Other porcelain	0		0		1		0		0		0		0	
Total	32		17		111		7		68		18		20	
Glasswares														
Lead glass	0		0		0		0		3		0		0	
Dark green wine bottle	0		0		1		0		1		0		0	
Green wine bottle	0		0		7		0		1		0		1	
Green/blue pharmaceutical	0		0		4		0		1		0		0	

Surface Collection (continued)	GRT 1		BTWN 1 & 2		GRT 2		BTWN 2 & 3		GRT 3		GRT 4		GRT 5	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Melted glass	1		0		14		0		1		0		1	
Miscellaneous glass	28		0		214		1		104		16		64	
Total	29		0		240		1		111		16		66	
White clay tobacco pipes														
Pipe stems	0		3		1		1		1		0		0	
Pipe bowls	0		1		1		0		0		0		0	
Total	0		4		2		1		1		0		0	
Architectural														
Window glass	4		0		56		1		20		4		5	
18th century window glass	0		0		2		0		3		0		0	
Wire nails	6		0		10		0		0		0		1	
Cut nails	1		0		4		0		0		0		2	
Square-sectioned nails	0		0		0		0		1		0		0	
Nail scrap	0		0		6	11.9	0		1	4.1	0		0	
Slate	0		0		0		0		2		1		1	
Tar shingle	0		0		0		0		1		0		0	
Staple	0		0		0		0		0		0		1	
Total	11		0		78		1		28		5		10	
Furniture														
Porcelain furniture knob	0		0		1		0		0		0		0	
Ferrous furniture tack	0		0		1		0		0		0		0	
Total	0		0		2		0		0		0		0	
Bone		0.4		0.0		12.9		0.0		15.9		7.6		0.5
Arms														
Shell	1		0		1		0		0		0		0	
Clothing														
Buckle	1		0		0		0		0		0		0	
Button	0		0		0		0		1		0		0	
Total	1		0		0		0		1		0		0	

Surface Collection (continued)

	GRT 1		BTWN 1 & 2		GRT 2		BTWN 2 & 3		GRT 3		GRT 4		GRT 5	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Activities														
Honing stone	0		1		0		0		0		0		0	
Wastes-slag, coal		36.6		0.0		816.2		0.0		0.0		0.0		2.2
Ferrous scrap	1		0		0		0		0		0		0	
Ferrous hook	0		0		1		0		0		0		0	
Glass marbles	0		0		1		0		0		1		1	
Clay marbles	0		0		0		0		1		0		0	
Total	1		1		2		0		1		1		1	
Miscellaneous														
Sewer pipe fragments	1		0		2		0		0		0		0	
Miscellaneous lead	1		0		0		0		0		0		0	
Styrofoam	2		0		0		0		0		0		0	
Porcelain insulator	1		0		2		0		0		0		0	
Concrete fragment	1	46.4	0		0		0		0		0		0	
Miscellaneous glass tube	1		0		0		0		0		0		0	
Unidentified tin	1		0		0		0		0		0		1	
Unidentified rubber	0		0		1		0		0		0		0	
Unidentified ferrous	0		0			171.7	0		1		0		0	
Metal container fragments	0		0		4		0		0		0		0	
Unidentified cuprous	0		0		3		0		2		0		1	
Tinfoil	0		0		1		0		0		0		0	
Graphite electrode	0		0		1		0		0		0		0	
Marble slabs	0		0		2		0		0		0		0	
Unidentified plastic	0		0		1		0		0		0		0	
Modern miscellaneous	0		0		2		0		1		1		0	
Aboriginal flake	0		0		1		0		0		0		0	
Clear lens	0		0		1		0		0		0		0	
Rubber hose	0		0		0		0		0		0		1	
Unidentified fabric	0		0		0		0		0		0		1	
Total	8		0		21		0		4		1		4	
Grand Total	83		22		457		10		214		41		101	

ARTIFACT INVENTORY FOR GRADER TRANSECT 1, FEATURES 1 THRU 8, HAAF-11, PHASE 2.

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 6		FEATURE 7		FEATURE 8	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics														
Plain redware	0		17		0		1		0		0		0	
Lead-glazed earthenware	0		5		0		0		0		0		0	
Yellow ware	0		18		0		0		0		0		0	
Green-glazed earthenware	0		8		0		0		0		0		0	
Whieldon ware	0		2		0		0		0		0		0	
Plain creamware	0		1		0		0		0		0		0	
Plain pearlware	0		0		0		1		0		0		0	
Polychrome h-p pearlware	1		0		0		0		0		0		0	
Annular pearlware	0		1		0		0		0		0		0	
Whiteware	0		98		0		0		0		0		0	
Green shell-edged whiteware	0		1		0		0		0		0		0	
Edge-molded whiteware	0		64		0		0		0		0		0	
Tinted-glaze whiteware	0		1		0		0		0		0		0	
Blue trans-printed whiteware	0		16		0		0		0		0		0	
Lavender t-p whiteware	0		12		0		0		0		0		0	
Green trans-printed whiteware	0		10		0		0		0		0		0	
Blue hand-painted whiteware	0		15		0		0		0		0		0	
Poly hand-painted whiteware	0		6		0		0		0		0		0	
Flowing blue t-p whiteware	0		11		0		0		0		0		0	
Stamp decorated whiteware	0		5		0		0		0		0		0	
Annular whiteware	0		1		0		0		0		0		0	
Gilded whiteware	0		14		0		0		0		0		0	
Poly trans-printed whiteware	0		2		0		1		0		0		0	
Other refined earthenware	0		5		0		0		0		0		0	
Overglaze t-p whiteware	0		20		0		0		0		0		0	
Salt-glazed stoneware	0		15		2		0		0		0		0	
Plain porcelain	0		25		0		0		0		0		0	
Other trans-printed porcelain	0		43		0		0		0		0		0	
Other porcelain	0		11		0		0		0		0		0	
Total	1		427		2		3		0		0		0	

Grader Transect 1, Features 1 thru 8 (continued)

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 6		FEATURE 7		FEATURE 8	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Glassware														
Whole bottles	0		15		0		0		0		0		0	
Green wine bottle glass	0		1		14		1		0		0		0	
Green glass	0		9		0		0		0		0		0	
Light blue/green glass	0		60		0		0		0		0		0	
Light blue glass	0		12		0		0		0		0		0	
Light green glass	0		45		0		0		0		0		0	
Clear glass	0		1009		0		0		0		0		0	
Brown glass	0		14		0		0		0		0		0	
Brown/amber glass	0		2		0		0		0		0		0	
Green/blue glass	0		20		0		0		0		0		0	
Dark blue glass	0		5		0		0		0		0		0	
Amesthyst glass	0		4		0		0		0		0		0	
Pink glass	0		1		0		0		0		0		0	
Milk glass	0		11		0		0		0		0		0	
Miscellaneous glass	7		5		2		2		2		0		0	
Total	7		1213		16		3		2		0		0	
Personal														
Perfume bottle	0		1		0		0		0		0		0	
Vaseline jar	0		1		0		0		0		0		0	
Total	0		2		0		0		0		0		0	
Architectural														
Window glass	1		305		0		0		1		0		0	
Cut nails	2		27		0		0		0		0		0	
Square sectioned nails	1		7		0		0		0		0		0	
Round sectioned nails	2		81		0		2		0		0		2	
Nail scrap	0		145		1		0		0		0		0	

Grader Transect 1, Features 1 thru 8 (continued)

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 6		FEATURE 7		FEATURE 8	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Spike	0		1		0		0		0		0		0	
Round bolt	0		1		0		0		0		0		0	
Ferrous screw	0		1		0		0		0		0		0	
Tack	1		0		0		0		0		0		0	
Slate	1		0		0		C		0		0		0	
Total	8		568		1		2		1		0		2	
Furniture														
Coaster, glass	0		1		0		0		0		0		0	
Bone		129.9		670.4		0.0		107.5		26.4		0.5		0.0
Arms														
Shell	0		1		0		0		0		0		0	
Clothing														
Bead	0		1		0		0		0		0		0	
Leather shoe fragments	0		3		0		0		0		0		0	
Buttons	0		2		0		0		0		0		0	
Total	0		6		0		0		0		0		0	
Activities														
Ink bottle	0		1		0		0		0		0		0	
Heater fragments	0		3		0		0		0		0		0	
Wheel hub	0		1		0		0		0		0		0	
Horse shoes	0		2		0		0		0		0		0	
Barbed wire	0		6		0		0		0		0		0	
Clear glass	0		1		0		0		0		0		0	
Light green glass	0		3		0		0		0		0		0	
Barrel strap	0		1		0		0		0		0		0	
Wastes-slag		0.0		0.0		0.0		1.1		0.0		0.0		0.0
Total	0		18		0		0		0		0		0	

Grader Transect 1, Features 1 thru 8 (continued)

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 6		FEATURE 7		FEATURE 8	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Miscellaneous														
Unidentified ferrous		7.1		4946.3		0.0		18.4		2.4		2.2	6	
Unidentified cuprous	1		11		0		0		0		0		0	
Unidentified lead	0		3		0		0		0		0		0	
Unidentified substance	0		2		0		0		0		0		0	
Ferrous strapping	0		2		0		0		0		0		0	
Ferrous spring	0		4		0		0		0		0		0	
Wire fragment	0		33		0		0		0		0		0	
Metal container fragments		0.0		446.6		0.0		0.0		0.0		0.0		0.0
Pebbles	0		0		0		3		0		0		0	
Total	1		55		0		3		0		0		6	
Grand Total	17		2291		19		11		3		0		8	

ARTIFACT INVENTORY FOR GRADER TRANSECT 1, FEATURES 9 THRU 13 PLUS SURFACE COLLECTION, HAAF-11, PHASE 2.

	FEATURE 9		FEATURE 10		FEATURE 11		FEATURE 12		FEATURE 13		GRADED SURFACE	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics												
Whiteware	0		0		0		1		0		0	
Edge-molded whiteware	0		0		0		1		0		0	
Tinted-glaze whiteware	0		0		0		1		0		0	
Plain porcelain	0		0		1		0		0		0	
Total	0		0		1		3		0		0	
Glassware												
Whole bottles	0		1		0		1		0		0	
Green wine bottle glass	1		0		0		0		0		0	
Clear glass	0		0		0		5		0		0	
Miscellaneous glass	0		0		1		116		1		0	
Total	1		1		1		122		1		0	
Architectural												
Window glass	1		0		0		0		0		0	
Round sectioned nails	0		0		2		0		0		0	
Nail scrap	0		0		6		4		0		0	
Porous red brick fragment	0		0		1		0		0		0	
Plaster fragments	11		0		0		0		0		0	
Total	12		0		9		4		0		0	
Furniture												
Copper light bulb socket	0		0		0		1		0		0	
Bone		0.0		0.0		0.0		607.3		0.0		0.0

Grader Transect 1, Features 9 thru 13 plus Surface (continued)

	FEATURE 9		FEATURE 10		FEATURE 11		FEATURE 12		FEATURE 13		GRADED SURFACE	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Activities												
Wastes-slag, coal		0.0		0.0		0.0		2.4		0.6		0.0
Padlock	0		0		0		0		0		1	
Hoe blade	0		0		0		0		0		1	
Total	0		0		0		0		0		2	
Miscellaneous												
Unidentified ferrous	5		0		0			11.5		225.7	0	
Unidentified cuprous	0		0		0		1		0		0	
Metal container fragments	0		0		3		0		0		0	
Porcelain insulator	0		0		0		1		0		0	
Molded plastic	0		0		0		2		0		0	
Total	5		0		3		4		0		0	
Grand Total	18		1		14		134		1		2	

ARTIFACT INVENTORY FOR GRADER TRANSECT 3, FEATURES 1 THRU 7, HAAF-11, PHASE 2.

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6		FEATURE 7	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics														
Plain pearlware	0		0		0		0		1		0		0	
Blue shell-edged pearlware	0		0		1		0		0		0		0	
Other annular pearlware	0		0		0		0		0		0		1	
Salt-glazed stoneware	0		0		0		1		0		0		0	
Slip-glazed stoneware	0		0		0		0		0		0		1	
Total	0		0		1		1		1		0		2	
Glassware														
Clear lead glass	0		1		0		0		0		0		0	
Miscellaneous glass	2		0		3		0		0		2		1	
Total	2		1		3		0		0		2		1	
Architectural														
Window glass	1		0		1		1		0		1		1	
Cut nails	0		0		0		0		1		1		1	
Square sectioned nails	0		0		0		0		0		0		1	
Wire nails	0		0		0		0		0		2		0	
Round nails	0		0		1		0		0		0		0	
Nail scrap	0		0		2		0		1		1		1	
Total	1		0		4		1		2		5		4	
Furniture														
Furniture caster	0		0		0		0		0		0		1	
Activities														
Wastes-slag, unidentified		0.0		0.0		0.0		0.0		0.0		0.0		3.4

Grader Transect 3, Features 1 thru 7 (continued)

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6		FEATURE 7	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics														
Plain pearlware	0		0		0		0		1		0		0	
Blue shell-edged pearlware	0		0		1		0		0		0		0	
Other annular pearlware	0		0		0		0		0		0		1	
Salt-glazed stoneware	0		0		0		1		0		0		0	
Slip-glazed stoneware	0		0		0		0		0		0		1	
Total	0		0		1		1		1		0		2	
Glassware														
Clear lead glass	0		1		0		0		0		0		0	
Miscellaneous														
Unidentified ferrous		0.0		0.0		0.4		0.6		1.0		3.1		4.8
Unidentified plastic	1		0		0		0		0		0		0	
Metal container fragments	0		1		0		0		0		0		0	
Total	1		1		0		0		0		0		0	
Grand Total	4		2		8		2		3		7		8	

ARTIFACT INVENTORY FOR GRADER TRANSECT 3, FEATURES 8 THRU 14, HAAF-11, PHASE 2.

	FEATURE 8		FEATURE 9		FEATURE 10		FEATURE 11		FEATURE 12		FEATURE 13		FEATURE 14	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics														
Lead-glazed redware	0		0		0		0		1		0		0	
Slip-decorated redware	0		0		0		0		0		1		0	
Other earthenware	0		0		1		0		0		0		0	
Plain creamware	0		1		0		0		0		0		0	
Plain pearlware	2		1		0		0		2		0		2	
Blue trans-printed pearlware	0		0		0		0		3		2		0	
Blue shell-edged pearlware	0		0		0		0		0		1		0	
Green shell-edged pearlware	0		0		0		0		0		0		1	
Other annular pearlware	1		0		0		0		0		0		0	
Whiteware	2		0		0		0		0		0		1	
Edge-molded whiteware	0		0		0		0		0		0		1	
Blue trans-printed whiteware	1		0		0		0		0		0		1	
Other refined earthenware	0		1		0		0		0		0		0	
Alkaline-glazed stoneware	1		0		0		0		0		0		0	
Plain or. export porcelain	1		0		0		0		0		0		0	
Overglaze/poly or. export porcelain	1		0		0		0		0		0		0	
Plain porcelain	0		0		0		0		1		0		0	
Total	9		3		1		0		7		4		6	
Kitchenware (including Glassware)														
Green wine bottle glass	1		0		0		0		1		2		0	
Miscellaneous glass	12		7		1		1		15		0		1	
Tin-enamelled bowls	0		0		0		2		0		0		0	
Total	13		7		1		3		16		2		1	
Architectural														
Window glass	1		0		0		0		6		0		1	
Cut nails	0		0		0		0		6		0		0	
Square sectioned nails	2		2		0		0		3		0		1	
Round nails	4		1		0		10		2		1		0	
Nail scrap	1		10		5		5		8		4		2	
Ferrous staples	1		0		0		1		0		0		0	

Grader Transect 3, Features 8 thru 14 (continued)

	FEATURE 8		FEATURE 9		FEATURE 10		FEATURE 11		FEATURE 12		FEATURE 13		FEATURE 14	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Square-sectioned rivet	0		1		0		0		0		0		0	
Eye bolt	0		0		0		1		0		0		0	
Cotter pin	0		0		0		0		1		0		0	
Slate	0		0		0		0		3		1		3	
Red brick fragment	0		0		0		0		1		0		0	
Red sandy brick fragment	0		0		0		0		0		0		1	
Mortar fragments	0		0		0		0		3		0		0	
Total	9		14		5		17		33		6		8	
Bone		0.6		0.5		81.0		0.0		209.4		0.0		57.4
Clothing														
Button	0		0		0		0		1		0		0	
Activities														
Wastes-slag, coal, unid.		0.0		1.1		0.0		0.0		2.4		0.0		0.0
Ferrous washer	0		0		0		1		0		0		0	
Total	0		0		0		1		0		0		0	
Miscellaneous														
Unidentified ferrous		61.8		0.0		0.0		16.1		9.5		0.6		0.0
Slate	0		0		0		1		0		0		0	
Total	0		0		0		1		0		0		0	
Grand Total	31		24		7		22		57		12		15	

ARTIFACT INVENTORY FOR GRADER TRANSECT 3, FEATURES 15 THRU 20, HAAF-11, PHASE 2.

	FEATURE 15		FEATURE 16		FEATURE 17		FEATURE 18		FEATURE 19		FEATURE 20	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics												
Plain redware	1		0		0		0		0		0	
Yellow ware	1		0		0		0		0		0	
Plain creamware	2		0		0		0		0		0	
Plain pearlware	3		0		0		0		1		0	
Blue shell-edged pearlware	0		1		0		0		0		0	
Other annular pearlware	1		0		0		0		0		0	
Salt-glazed stoneware	0		0		0		0		0		1	
Total	8		1		0		0		1		1	
Glassware												
Green wine bottle glass	0		0		0		0		0		1	
Miscellaneous glass	2		0		1		2		1		0	
Total	2		0		1		2		1		1	
Architectural												
Window glass	2		0		0		0		0		0	
Cut nails	0		1		0		0		3		0	
Wire nails	0		0		0		0		4		0	
Round nails	1		0		2		0		0		0	
Nail scrap	0		1		2		0		3		0	
Slate	1		0		0		0		0		0	
Total	4		2		4		0		10		0	
Bone		0.0		0.0		0.0		0.0		0.1		0.0
Arms												
Lead shot	0		1		0		0		0		0	

Grader Transect 3, Features 15 thru 20 (continued)

	FEATURE 15		FEATURE 16		FEATURE 17		FEATURE 18		FEATURE 19		FEATURE 20	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Miscellaneous												
Unidentified ferrous		8.0		0.5		42.8		1.7		2.0		0.0
Miscellaneous glass	0		0		1		0		0		0	
Sewer pipe fragment	0		0		0		1		0		0	
Total	0		0		1		1		0		0	
Grand Total	14		4		6		3		12		2	

ARTIFACT INVENTORY FOR GRADER TRANSECT 4, HAAF-11, PHASE 2.

	FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics										
Aboriginal	0		0		0		0		1	
Plain redware	0		2		0		0		0	
Lead-glazed earthenware	0		1		0		0		0	
Plain pearlware	0		2		0		0		0	
Blue trans-printed pearlware	0		1		0		0		0	
Other annular pearlware	0		0		0		1		0	
Whiteware (including ironstone)	0		1		0		1		0	
Other refined earthenware	0		1		0		0		0	
White salt-glazed stoneware	0		1		0		0		0	
Other stoneware	0		1		0		0		0	
Total	0		10		0		2		1	
Glasswares										
Dark green wine bottle	0		3		0		0		0	
Green wine bottle	0		1		0		1		0	
Miscellaneous glass	0		74		1		2		3	
Whole bottle (clear)	0		1		0		0		0	
Melted glass	0		70		0		0		0	
Total	0		149		1		3		3	
Architectural										
Window glass	1		394		4		1		3	
Cut nails	0		54		0		3		0	
Round section nails	0		36		1		0		4	
Square section nails	0		0		0		1		2	
Nail scrap	0		11		0		0		1	
Ferrous staple	0		1		0		0		0	
Ferrous screw	0		1		0		0		0	
Spike	0		1		0		0		0	
Ferrous hinge	0		1		0		0		0	
Mortar fragments		0.0		25.5		0.0		0.0		0.0
Shingle fragments		0.0		5.8		0.0		0.0		0.0
Orange brick fragments	0		11		1		0		0	

Grader Transect 4 (continued)

	FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Red brick fragments	0		4		0		0		0	
Savannah grey brick fragments	0		7		0		0		0	
Grey brick fragments	0		1		0		0		0	
Hard red brick fragments	0		0		0		0		1	
Gritty mortar sample	0		0		0		0		1	
Ferrous sash prop	0		1		0		0		0	
Total	1		523		6		5		12	
Bone		0.0		58.6		0.7		0.1		0.5
Arms										
.22 caliber shell	0		1		0		0		0	
Clothing										
Button	0		1		0		0		0	
Shoe eye	0		1		0		0		0	
Total	0		2		0		0		0	
Activities										
Ferrous pick	0		1		0		0		0	
Ferrous tacks	0		2		0		0		0	
Egg shells		0.0		0.2		0.0		0.0		0.0
Pebbles	0		0		0		0		2	
Wastes-slag, coal, coke		0.0		56.5		0.0		0.0		0.0
Walnut shell	0		1		0		0		0	
Lead pencil	0		1		0		0		0	
Total	0		5		0		0		2	
Miscellaneous										
Unidentified lead	0		1		0		0		0	
Unidentified cuprous	0		3		0		0		0	
Metal container fragments	0		83		0		0		0	
Ferrous bottle cap	0		3		0		0		0	

Grader Transect 4 (continued)

	FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Aluminum foil		0.0		1.2		0.0		0.0		0.0
Sewer pipe fragments		0.0		127.8		0.0		0.0		0.0
Unidentified tin	0		1		0		0		0	
Unidentified rubber	0		4		0		0		0	
Unidentified plastic	0		1		0		0		0	
Unidentified thin shingle?		0.0		2.5		0.0		0.0		0.0
Unidentified ferrous		0.0		2157.3		0.2		0.0		0.8
Cuprous wire		0.0		12.5		0.0		0.0		0.0
Wooden paint stirrer	0		1		0		0		0	
Total	0		97		0		0		0	
Grand Total	1		787		7		10		18	

ARTIFACT INVENTORY FOR GRADER TRANSECT 8, HAAF-11, PHASE 2.

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6		FEATURE 7		UNASS	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics																
Lead-glazed redware	1		0		0		1		0		0		0		0	
Lead-glazed earthenware	3		0		1		0		0		0		0		0	
Green-glazed cream colored earthenware	0		0		0		0		0		0		1		0	
Whieldon ware	0		0		0		0		0		0		6		0	
Blue-on-white delftware	2		1		0		0		0		0		0		0	
Faience	1		0		0		0		0		0		0		0	
Overglaze enamel yw	2		0		0		0		0		0		0		0	
Plain creamware	3		0		0		0		0		0		0		0	
Plain pearlware	12		0		4		3		0		2		3		0	
Blue h-p pearlware	2		2		0		0		0		0		0		1	
Poly h-p pearlware	4		0		0		0		0		0		0		0	
Blue t-p pearlware	7		0		0		1		0		0		1		0	
Blue s-e pearlware	1		0		0		0		0		0		0		0	
Green s-e pearlware	2		0		1		0		0		0		1		0	
Annular pearlware	9		1		0		0		0		0		0		0	
Whiteware	0		0		3		1		0		2		9		0	
Blue s-e whiteware	1		0		0		0		0		0		0		0	
Green s-e whiteware	1		0		0		0		0		0		0		0	
Blue t-p whiteware	0		0		0		0		0		0		2		0	
Brown t-p whiteware	0		0		0		0		0		0		2		0	
Green t-p whiteware	0		0		1		0		0		0		0		0	
Blue h-p whiteware	0		0		0		0		0		0		0		1	
Other annular whiteware	0		1		0		0		0		0		0		0	
Salt-glazed stoneware	2		0		0		0		0		0		0		0	
Slip-glazed stoneware	0		0		0		0		0		0		8		0	
Overglaze/polychrome or. exp. porcelain	0		0		0		0		0		0		1		0	
Plain porcelain	0		0		1		0		0		0		3		0	
Total	53		5		11		6		0		4		37		2	
Kitchenware (including Glassware)																
Whole bottles	0		1		0		0		0		0		1		0	

Grader Transect 8 (continued)

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6		FEATURE 7		UNASS	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Dark green wine bottle	18		0		0		0		0		0		1		0	
Green wine bottle			1		1		0		0		0		1		0	
Dark green case bottle	1		0		0		0		0		0		0		0	
Clear glass	2		0		1		0		0		0		0		0	
Miscellaneous glass	5		21		125		8		5		8		94		1	
Melted glass	0		0		0		0		0		0		3		0	
Kettle leg, ferrous	0		0		0		0		0		0		0		1	
Total	34		23		127		8		5		8		100		2	
White Clay Tobacco Pipes																
Pipe stems	6		0		0		0		0		0		3		2	
Pipe bowls	5		1		0		0		0		0		4		0	
Total	11		1		0		0		0		0		7		2	
Personal																
Ferrous key	0		0		1		0		0		0		0		0	
Architectural																
Window glass-18th c.	0		1		0		0		0		0		0		0	
Window glass	0		0		0		0		0		1		1		0	
Cut nails	83		5		3		1		0		2		3		0	
Square sect. nails	13		1		0		0		0		3		6		0	
Wire nail	0		0		1		0		0		0		0		0	
Round nails	0		0		1		0		0		11		5		0	
Nail scrap	8		3		7		6		1		0		1		1	
Spike	1		0		0		0		0		0		0		0	
Ferrous staple	0		0		0		0		0		1		0		0	
Eyebolt w/nut	0		0		0		0		0		0		1		0	
Slate	0		0		0		1		0		0		0		0	
Sav. gray brick frag.	0		1		0		0		0		0		0		0	

Grader Transect 8 (continued)

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6		FEATURE 7		UNASS	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Hard red brick frag.	0		0		0		0		1		0		3		0	
Sandy orange brick	0		0		0		0		0		0		1		0	
Purple brick fragment	0		0		0		0		0		0		1		0	
Gritty mortar	0		0		0		0		2		0		0		0	
Sandy mortar	0		0		0		0		0		0		5		0	
Mortar sample	0		0		0		0		0		2		0		0	
Total	105		11		12		8		4		20		27		1	
Furniture																
Cuprous nail/tack	0		0		0		0		0		0		1		0	
Bone		125.1		7.0		1.0		1.7		0.0		0.5		19.4		0.0
Clothing																
Buckle	1		0		0		0		0		0		0		0	
Button	1		0		0		0		0		0		0		0	
Pin	1		0		0		0		0		0		0		0	
Shoe eyes	0		0		5		0		0		0		0		0	
Total	3		0		5		0		0		0		0		0	
Activities																
Wastes-slag, coke		38.4		0.3		0.0		0.0		20.0		10.6		1.1		0.0
Peach seed	1		0		0		0		0		0		0		0	
Egg shells		0.0		0.0		0.0		0.0		0.0		0.0		2.0		0.0
Knife blade	1		0		0		0		0		0		0		0	
Strike-a-light	1		0		0		0		0		0		0		0	
Total	3		0		0		0		0		0		0		0	
Miscellaneous																
Unidentified ferrous		128.9		16.0		229.7		6.2		0.0	3			938.3		0.0
Unidentified cuprous	1		0		0		0		0		0		2		0	
Unidentified burnt	1		0		0		0		0		0		0		0	
Unidentified waste		0.0		0.6		0.0		0.0		0.0		0.0		0.0		0.0

Grader Transect 8 (continued)

	FEATURE 1		FEATURE 2		FEATURE 3		FEATURE 4		FEATURE 5		FEATURE 6		FEATURE 7		UNASS	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Unidentified substance	0		0		0		0		0		1		0		0	
Metal container frags.	0		0		4		1		0		0		56		0	
Cuprous ring	1		0		0		0		0		0		0		0	
Cuprous spring	1		0		0		0		0		0		0		0	
Barbed wire	0		0		0		0		0		1		0		0	
Sewer pipe frags.	0		0		0		0		0		0		1		0	
Aboriginal flakes	1		0		0		0		0		0		1		0	
Unidentified lead	0		0		0		0		0		0		1		0	
Asbestos shingle	0		0		0		0		0		0		1		0	
Slate	0		0		0		0		0		0		1		0	
Total	5		0		4		1		0		5		63		0	
Grand Total	214		41		160		23		9		37		235		7	

ARTIFACT INVENTORY FOR GRADER TRANSECT 10, HAFF-11, PHASE 2.

	FEATURE 1		FEATURE 2	
	FREQUENCY	WEIGHT	FREQUENCY	WEIGHT
Ceramics				
Whiteware (incl. ironstone)	4		5	
Blue trans-printed whiteware	1		0	
Total	5		5	
Glasswares				
Green wine bottle	1		0	
Miscellaneous glass	2		7	
Total	3		7	
Miscellaneous				
Unidentified ferrous		0.0		49.5
Metal container fragments		170.0		0.0
Grand Total	8		12	

ARTIFACT INVENTORY FOR TEST UNIT 2, HAAF-11, PHASE 2.

	ZONE 1		ZONE 2A		FEATURE 1		FEATURE 3	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics								
Plain redware	1		0		0		0	
Plain creamware	1		1		1		0	
Plain pearlware	0		1		0		0	
Polychrome h-p pearlware	1		0		0		0	
Blue shell-edged pearlware	1		0		0		0	
Whiteware (incl. ironstone)	2		0		0		0	
Red trans-printed whiteware	1		0		0		0	
Poly. trans-printed whiteware	1		0		0		0	
Other refined earthenware	0		0		1		0	
Total	8		2		2		0	
Glasswares								
Green wine bottle	7		0		0		0	
Miscellaneous glass	23		1		0		0	
Total	30		1		0		0	
Architectural								
Window glass	9		0		1		0	
Cut nails	6		0		0		0	
Round section nails	7		0		0		0	
Square section nails	0		0		2		0	
Nail scrap	2		0		0		0	
Bolt w/nut	0		0		1		0	
Slate	3		0		0		0	
Total	27		0		4		0	
Bone		6.0		0.0		0.0		0.0
Activities								
Wastes-coal		1.4		0.0		0.0		0.0
Clothing								
Cuprous button	1		0		0		1	
Snap head	1		0		0		0	
Total	2		0		0		1	
Miscellaneous								
Unidentified ferrous		56.8		2.1		0.0		0.0
Metal container fragments	4		0		0		0	
Unidentified rubber	2		0		0		0	
Bathroom tile	1		0		0		0	
Total	7		0		0		0	
Grand Total	74		3		6		1	

ARTIFACT INVENTORY FOR TEST UNIT 2, HAAF-11, PHASE 2.

	ZONE 1		ZONE 2A		FEATURE 1		FEATURE 2		FEATURE 3	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Ceramics										
Aboriginal	1		0		0		0		0	
Plain redware	11		0		0		0		0	
Plain earthenware	2		1		0		0		0	
Lead-glazed earthenware	3		0		0		0		1	
Plain creamware	3		0		0		0		0	
Plain pearlware	3		1		0		0		0	
Polychrome hand-painted pearlware	1		0		0		0		0	
Blue trans-printed pearlware	1		0		0		0		0	
Whiteware (including ironstone)	5		0		0		0		0	
Other refined earthenware	3		0		0		0		0	
Salt-glazed stoneware	2		1		0		0		0	
Slip-glazed stoneware	1		0		0		0		0	
White salt-glazed stoneware	1		0		0		0		0	
Plain porcelain	4		0		0		0		0	
Total	41		3		0		0		1	
Glasswares										
Dark green wine bottle	4		2		0		0		0	
Green wine bottle	5		0		0		0		0	
Pharmaceutical bottle	0		1		0		0		0	
Miscellaneous glass	87		4		2		1		3	
Burnt glass	6		0		1		13		0	
Total	102		7		3		14		3	
White Clay Tobacco Pipes										
Pipe stems	2		1		0		0		0	
Pipe bowls	0		1		0		0		0	
Total	2		2		0		0		0	
Architectural										
Window glass	16		1		1		2		0	
Cut nails	18		1		0		2		1	

Test Unit 2 (continued)

	ZONE 1		ZONE 2A		FEATURE 1		FEATURE 2		FEATURE 3	
	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT	FREQ	WGT
Round section nails	44		9		0		0		0	
Wire nails	0		0		3		0		10	
Nail fragments	14		3		0		0		0	
Ferrous staples	3		0		0		0		0	
Brick fragments	3		0		0		0		0	
Slate	0		0		1		0		0	
Gritty mortar fragments	0		0		0		2		0	
Total	98		14		5		6		11	
Furniture										
Copper and Iron knob	0		0		0		1		0	
Bone		10.5		4.6		11.8		12.0		4.0
Arms										
Lead shot	1		0		0		0		0	
.22 caliber shell	2		0		0		0		0	
Total	3		0		0		0		0	
Clothing										
Shoe eye	0		1		0		0		0	
Activities										
Wastes-coal, coal slag		28.1		0.0		0.0		0.0		7.9
Hexagonal nut	1		0		0		0		0	
Total	1		0		0		0		0	
Miscellaneous										
Metal container fragments	8		0		0		0		1	
Unidentified cuprous	2		0		0		0		0	
Unidentified ferrous		63.8		0.2		0.0		6.2		3.2
Unidentified burnt plastic	1		0		0		0		0	
Ferrous key	1		0		0		0		0	
Ferrous lid	1		0		0		0		0	
Graphite electrode	1		0		0		0		0	
Aboriginal flake	0		1		0		0		0	
Total	14		1		0		0		1	
Grand Total	261		28		8		21		16	

APPENDIX D
SOIL pH, HAAF-11, PHASE 2.

PROVENIENCE	FIELD SPECIMEN NO.	pH AVERAGE
Test Unit 1		
Feature 1	53	6.0
Zone 2A	57	6.2
Test Unit 2		
Zone 2A	63	7.5
Grader Transect 1		
Feature 1	110	5.7
Feature 2	125	6.0
Feature 3	107	5.7
Feature 4	114	7.5
Feature 6	115	7.3
Feature 11	116	6.7
Feature 12	122	7.3
Grader Transect 3		
Feature 8	307	5.7
Feature 9	305	5.7
Feature 12	311	5.6
Feature 12 (N 1/2)	319	5.8
Feature 15	321	4.6
Feature 14	325	4.9
Grader Transect 4		
Feature 3	407	6.8
Grader Transect 8		
Feature 1	804	6.8
Feature 1	807	6.8
Feature 2	810	7.0
Feature 2	812	7.0
Feature 3	820	6.6
Feature 3	826	6.3
Feature 4	816	7.0
Feature 5	814	7.4
Feature 6	818	7.3
Feature 7	822	6.3
Feature 7	824	6.8

APPENDIX E. LIST OF FIELD SPECIMEN NUMBERS

HAAF-1 McNish Site

2, 3, 4, 5, 6, 7, 8, 27, 28, 29, 34, 35, 36, 37, 38, 39, 40, 41, 239.

HAAF-2 Rio Road Site

10, 11, 13, 14, 15, 17,, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 98, 99.

HAAF-3 Dutchtown Road Site

43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 55, 56, 57, 58, 59.

HAAF-4 Cherburg Site

63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79.

HAAF-5 Creekside Site

89, 90, 91, 92, 93, 94.

HAAF-6 Marsh Island Site

100,101,102.

HAAF-8 Hallstrom Lake Site

107, 108, 109, 110, 111, 112, 113, 114, 115, 116,
117, 118, 119, 120.

HAAF-10 Acton Site

129, 130, 131, 132, 138, 139, 140, 141, 142, 143,
145, 146, 147, 148, 149, 150, 151, 152, 153, 154,
156, 157, 158, 159.

HAAF-11 White Bluff Road Site

160, 161, 162, 163, 164, 165, 166, 167, 168, 169,
170, 171, 172, 173, 174, 175, 176, 177, 178, 179,
180, 181, 182, 183, 184, 185, 186, 188, 189, 190,
191, 192, 193, 194, 195, 196, 197, 198, 199, 200,
201, 202, 203, 204, 205, 206, 207, 208, 209, 210,
211, 212, 213, 214, 215, 216, 217, 218, 219, 220,
221, 222, 223, 224, 225, 226, 228, 229, 230, 231,
232, 233, 235, 236, 237, 238.