TRC

Customer-Focused Solutions

CULTURAL RESOURCE SURVEY OF THE GREENE TRACT, ORANGE COUNTY, NORTH CAROLINA

TRC GARROW ASSOCIATES, INC.

February 2000

ABSTRACT

TRC Garrow Associates, Inc., (TRC Garrow) performed a cultural and archaeological survey of the Greene Tract in Orange County, North Carolina, between January 17 and February 2, 2000, for the Town of Chapel Hill Department of Solid Waste Management. The towns of Chapel Hill and Carrboro and Orange County, joint owners of the property, are considering the 169-acre Greene Tract for potential development. This study was commissioned to locate and evaluate the extent and significance of any cultural resources on the tract that could be affected by future development.

Survey methodology involved the excavation of shovel test pits (STPs) on a 30-m grid across the entire tract. Additional close-order tests were placed around artifact find locations to determine whether they represented an archaeological site or an isolated find. A total of 706 STPs was excavated during this survey. The locations and characteristics of surface features, such as piles of fieldstones, a set of quarry pits, and clusters of modern historic debris, were noted.

Two prehistoric and two historic sites were identified during this survey, as well as one historic and three prehistoric isolated find locations. All of the prehistoric material is rhyolite, but only one of the prehistoric sites produced a temporally diagnostic artifact (a Late Archaic Savannah River projectile point). The prehistoric sites are low density and do not appear to represent significant cultural resources. No further investigation of the prehistoric sites or the isolated find locations is recommended. The historic sites, however, each are represented by structural remnants and archaeological deposits and are potentially eligible for listing to the National Register of Historic Places. Phase II archaeological investigation, including additional background research is recommended for the two historic sites if future plans include impact to these resources.

ACKNOWLEDGMENTS

The author would like to thank Mr. Gayle Wilson, Director of the Department of Solid Waste Management for the Town of Chapel Hill, Mr. Watts Scott, and Mr. John Byrd, grandson of a former landowner, for providing valuable information pertinent to the project.

A number of individuals at TRC Garrow Associates, Inc., helped to complete this project. Damon Jones, Giampaolo DiGregorio, Brent Leftwich, and Kyle Minton served as Archaeological Technicians. Randy Kuppless produced the graphics. Paul Webb edited the report for technical content, and Heather Kennedy copyedited the report.

CONTENTS

ABSTRACT i
ACKNOWLEDGMENTS ii
LIST OF FIGURES iv
LIST OF TABLES v

I. INTRODUCTION 1

II. ENVIRONMENTAL SETTING 3
- Project Location 3
- Physiography and Hydrology 3
- Geology and Pedology 3
- Flora and Fauna 4
- Modern Climate 4
- Paleoenvironment 4

III. CULTURAL OVERVIEW 6
- Prehistoric Context 6
  - Paleoindian Period (ca. 10,000-8000 B.C.) 6
  - Archaic Period (ca. 8000-1000 B.C.) 6
  - Woodland Period (ca. 1000 B.C.-A.D. 1450) 8
  - Late Prehistoric and Contact (ca. A.D. 1450-1650) 9
- Historic Context 10
- Previous Cultural Resource Studies in the Area 13

IV. RESEARCH DESIGN AND METHODOLOGY 15
- Research Design 15
- Research Methodology 15
  - Background Research 15
  - Field Investigation 15
  - Laboratory Methodology 16
  - Assessing Site Significance and Recommendations 16

V. RESULTS 17
- Background Research 17
- Field Investigations 22
  - Site 1 22
  - Site 2 22
  - Byrd Farm House Site 28
  - Potts House Site 35
  - Isolated Finds 35
  - Miscellaneous Features 40

VI. CONCLUSIONS AND RECOMMENDATIONS 44
- Conclusions 44
- Recommendations 45

REFERENCES CITED 46

APPENDIX 1: Artifact Catalog
APPENDIX 2: Abbreviated Resume of the Principal Investigator

FIGURES

1. Project Location Map (from USGS 1993). 2
2. Portion of Eighteenth Century Grant Map, Showing the Project Area (from Markham 1973). 19
3. Portion of 1891 Map of Orange County, Showing the Project Area. 20
4. Portion of 1921 Soils Map, Showing the Project Area. (from Vanatta et al. 1921). 21
5. General View of the Project Tract, Facing East. 23
6. View of Wetland Area in South Part of Tract, Facing Southeast. 24
7. View of Access Road in Central Part of Site, Facing East. 25
8. Greene Tract Map, Showing STPs and Sites. 26
9. Representative Prehistoric Artifacts from the Greene Tract. 27
10. Plan Map of the Byrd Farm House Site. 29
11. View of the Byrd Farm House Site, Facing North. 30
12. View of the Byrd Farm House Foundation, Facing West. 31
13. View of the Well at the Byrd Farm House Site, Facing Northwest. 32
14. View of the Kitchen Hearth Remnants at the Byrd Farm House Site, Facing Northwest. 33
15. View of the Small Foundation near the Byrd Farm House Site, Facing Northwest. 34
16. Plan Map of the Potts House Site. 36
17. View of the Foundation Remnants at the Potts House Site, Facing East. 37
18. View of the Foundation Remnants at the Potts House Site, Facing North. 38
19. Representative Historic Artifacts from the Potts House Site. 39
20. View of Representative Stone Pile, Facing Northeast. 41
21. View of Historic Quarry Pits, Facing West. 42
22. View of Historic Quarry Pits, Facing East. 43

TABLES

1. Partial Chain of Title for the Greene Tract. 17
2. Summary of Cultural Resources Identified on the Greene Tract. 44

I. INTRODUCTION

TRC Garrow Associates, Inc. conducted an archaeological survey of the Greene Tract in Orange County, North Carolina, for the towns of Chapel Hill and Carrboro and Orange County (Figure 1). This investigation was carried out from January 17 to February 2, 2000, by Heather Millis, Principal Investigator, and Damon Jones, Giampaolo DiGregorio, Brent Leftwich, and Kyle Minton, Archaeological Technicians. The survey was performed to determine whether any cultural resources were present within the 169-acre tract that could be impacted by future development.

With the exception of the powerline right-of-way on the east, the Greene Tract is entirely wooded with a mix of young and mature deciduous and pine trees. Some understory is present in the form of holly, greenbrier, and saplings. Topography on the tract involves gently rolling hills with a few small drainages and associated wetlands. Wetland areas are more extensive in the southern one-third of the tract, where the landforms are at lower elevations. Quartz and granite outcrops are numerous across the hilltops. Erosion is evident across much of the tract, and in some areas little is left of the A horizon. Several dirt roads run through the tract, some of which are overgrown with brush and small saplings. One road provides access to the former I. D. Byrd homestead, located in the central portion of the project area.

The Phase I survey of the Greene Tract resulted in the identification of two prehistoric sites, two historic sites, and one historic and three prehistoric isolated finds. One prehistoric site is located in the northern part of the tract and produced a rhyolite Savannah River projectile point and one rhyolite flake. •The other prehistoric site is located in the east-central part of the tract and produced five pieces of rhyolite debitage from three shovel test pits (STPs). The prehistoric isolated finds consist of one rhyolite flake each, two found in the southeastern part of the tract but separated more than by 60 m, and one found in the northwest corner of the tract. The historic isolated find is a railroad spike found in the northeast part of the tract. The historic sites each are represented by structural foundations and artifacts. The Byrd Farm House site is located in the center of the tract and is depicted on several late-nineteenth to mid-twentieth-century maps. The site contains the remnants of an I-House, a detached kitchen hearth, and a stone-lined well. The site is well defined, based in part on the artifacts/features, the access road, and the foliage. The site was probably occupied during the late nineteenth through mid-twentieth century. The other historic site is located to the south of the Byrd House, west of a southern extension of the access road. The stone foundation of a small structure with a large stone chimney is present, but no other structural features were found. Twenty artifacts were recovered; based on these and the background information gathered, the site appears to be a mid-nineteenth- to early-twentieth-century domestic occupation. Background research indicates that this was the log residence of Johnson and Rebecca Potts.

Both historic sites contain archaeological deposits and architectural remnants in a moderate to high degree of integrity. Although the architectural features are no longer intact, additional information could be gained from further study of the remains and associated features and artifacts. The sites are roughly contemporary, and although the Byrd House site was occupied for a longer period, the sites offer an opportunity to compare two domestic occupations on very different scales. More intensive background research, including oral history, also would greatly benefit the interpretation of these sites. Should impact to these sites be necessary for future development plans, it is recommended that Phase II cultural resource investigations be conducted. The prehistoric sites and isolated finds discovered on the Greene Tract add to the current understanding of the prehistoric use of the region, but do not present further research opportunities, nor do the prehistoric sites and isolated finds appear to be associated with significant occupations on the tract. No additional cultural resource investigation of the prehistoric sites and isolated finds is recommended.

The following chapters summarize the methodology and results of this investigation. Chapter II presents information on the environmental setting of the region. Chapter III includes background information on the prehistory and history of the area as well as on previous archaeological investigations in the area. Chapter IV presents the methodology, Chapter V details the results of the investigation, and the conclusions and recommendations are in Chapter VI. Appendix 1 is the artifact catalog, and Appendix 2 is an abbreviated resume of the principal investigator.

Figure 1. Project Location.

II. ENVIRONMENTAL SETTING

PROJECT LOCATION

The project area is located in south-central Orange County in central North Carolina, approximately 7.5 miles south of Hillsborough, the county seat, and approximately 3.5 miles north of Chapel Hill and Carrboro. The Greene Tract is situated on gently sloping wooded uplands. The tract is bounded on the north, south, and west by private property and on the east by the University Branch Southern Railroad. A Duke Power Company right-of-way runs along the northeastern edge of the tract. The northwest corner of the tract abuts an excavated, but presently not in use, section of the Orange County Landfill, known as the Neville Tract. The Greene Tract comprises approximately 169 acres.

PHYSIOGRAPHY AND HYDROLOGY

Central North Carolina is in the Piedmont Upland section of the Piedmont physiographic province, a submaturely dissected peneplain on disordered resistant rocks (Fenneman 1938:691). The Piedmont province, extending from southern New York to Alabama, is a highly dissected plateau dominated by rounded hills and northeast-southwest trending ridges, characteristically resulting in a rolling landscape. In North Carolina, the Piedmont province has an average width of approximately 125 miles and is bounded by the Blue Ridge Mountains to the west and the Coastal Plain to the east. Generally, the Piedmont slopes towards the east from an approximate elevation of 1500 feet above mean sea level (AMSL) at the base of Blue Ridge to about 300–600 feet AMSL at the Fall Line of the Coastal Plain. Although erosion has modified the original relief in many places, the local terrain is predominantly gently rolling, with broad flat areas between stream drainages. Elevations in the project area range from 500–570 feet AMSL.

The project area is within the Cape Fear drainage basin. Several small drainages run through the Greene Tract. A small unnamed tributary to Old Field Creek runs northwesterly through the northern half of the tract. Old Field Creek flows northward to drain into New Hope Creek, which runs east and then south to empty into Jordan Lake. The southern half of the tract is drained by an unnamed tributary to Bolin Creek. Bolin Creek runs south and east into Little Creek, which empties into Jordan Lake. Jordan Lake drains into the Cape Fear River, and the Cape Fear River flows southward into Long Bay, and eventually into the Atlantic Ocean.

GEOLOGY AND PEDOLOGY

North Carolina is divided into two major geologic divisions: the eastern Coastal Plain and the western Piedmont and Mountain regions. In general, the Piedmont is underlain by gneiss, schist, slate, and metamorphosed volcanic rocks, into which have intruded minor masses of basic igneous rocks (Stuckey and Steele 1953). Most of Orange County is within the Carolina Slate Belt. The western one-third of the Greene Tract is underlain by metamorphic rocks (Felsic Metavolcanic), and the eastern two-thirds is underlain by intrusive rocks from late Proterozoic to Late Cambrian age (520–650 mya) (NCGS 1985). The felsic metavolcanic rock is described as "metamorphosed dactic to rhyolitic, flows to tuffs, light gray to greenish gray, interbedded with mafic and intermediate metavolcanic rock, meta-argillite, and metamudstone" (NCGS 1985). The intrusive rocks are described as "granitic rock, megacrystic well foliated, locally contains hornblende" (NCGS 1985). Although no prehistoric stone quarries are recorded in Orange County, one historically used whetstone quarry is well known. The McCauley whetstone quarry is less than 2 miles west of the Greene Tract and reportedly produced a stone that was similar to a "deep green marble" (Underhill 1983:60). One source of metavolcanic material that was quarried during the prehistoric period is found in northeast Chatham County (Daniel and Butler 1994). Quartz is also abundantly available locally and across the project tract.

The project tract is situated on the Iredell-Enon soil association, which is characterized as "nearly level to strongly sloping, moderately well drained and well drained soils that have a surface layer of gravelly loam and loam and a subsoil of clay and clay loam; on uplands" (Dunn 1977). Two soil types are found on the tract: Appling sandy loam (ApB and ApC) and Helena sandy loam (HeB). Helena sandy loam is a moderately well-drained soil found on broad ridges of the uplands, and is present across the southern one-third of the tract. Helena sandy loam was formed from acidic or basic crystalline rocks such as granite or granite gneiss. A typical profile consists of an A horizon of grayish brown (10YR 5/2) sandy loam extending to a depth of 5 inches overlying a second A horizon of very pale brown (10YR 7/4) sandy loam, which extends to a depth of 14 inches. The upper B horizon is typically a pale yellow (2.5Y 7/4) sandy clay loam. Appling sandy loam is found on the remainder of the tract and on a small section at the extreme southern end. It is characterized as well-drained soil usually found on broad ridges that are crossed by intermittent drainageways on the uplands (Dunn 1977:7). Appling sandy loam formed in residuum weathered from acid igneous and metamorphic rock. A typical profile involves an A horizon of brown (10YR 4/3) sandy loam up to 9 inches in depth underlain by an A2 horizon of light yellowish brown (10YR 6/4) sandy loam extending to a depth of 11 inches. The B1 horizon is a reddish yellow (7.5YR 6/8) sandy clay loam that extends to a depth of 18 inches.

FLORA AND FAUNA

Historically, clear-cutting, agriculture, and other types of development have drastically altered the forests of the region. Little or no primary forest vegetation remains in the Piedmont province, so there is considerable variety in the secondary communities (Braun 1950:243). Many areas now exhibit only secondary and tertiary growth. The study area is in the Atlantic Slope section of the Oak-Pine Forest region (Braun 1950). The forests of the Oak-Pine Forest region are entirely secondary and are now characterized by predominant oak and hickory species. Pine species are still a key element of these forests, but were more prominent in the original communities. White and post are the most common species of oak; other tree types usually mixed with these include birch, black willow, cottonwood, sycamore, and sweet gum along drainage bottoms, and beech, tuliptree, red maple, walnut, and black cherry on the upland slopes (Braun 1950:265).

Prior to Euro-American settlement the varied environment of Orange County undoubtedly supported a rich and diverse faunal assemblage, including buffalo, black bear, mountain lion, elk, and wolf (Lefler 1967). Other potential game species present in the area prehistorically include white-tailed deer, rabbit, raccoon, and several species of squirrel, bobcat, and opossum. Numerous avian species, particularly turkey, were also widespread in the area prior to historic-period modifications, and the area was a major flyway for migratory birds, such as the now-extinct passenger pigeon.

MODERN CLIMATE

Orange County enjoys a moderate climate, with extremes in weather rare occurrences. Prevailing winds are from the northeast during summer and fall and from the southwest during winter and spring. Effects of eastwardly trending cold fronts are somewhat mitigated as they pass through the mountains to the west and tropical storms moving inland as far as Orange County are generally considerably weakened. The average growing season in the county lasts for 200 days, extending from mid-April through late October. The average annual precipitation is approximately 43 inches, and is fairly well distributed throughout the year (Dunn 1977:2).

PALEOENVIRONMENT

Because human occupation of the North American continent spans two geological epochs, and because human/environmental interaction has been shown to be critical to an overall understanding of cultural adaptations, it is necessary to consider past climatic and ecological conditions. The occupation of the New World is known to have occurred from the latter part of the Pleistocene (glacial) epoch into the

Holocene (recent) epoch, spanning 13,000 years. The transition between these epochs itself is particularly important because it is at this temporal threshold that some of the most dramatic changes in environmental and ecological conditions occurred.

The contemporary climate and vegetation of Orange County, as elsewhere, are the products of a long and complex process of natural and human-induced change. The average annual temperatures in the study area were considerably colder during the glacial period, which lasted from ca. 23,000 to 13,000 B.C. The climate of the Pleistocene terrain was probably characterized by relatively cool summers and harsh winters. At that time, forests of the region, including the study area, were covered by a northern coniferous forest in which pines and spruce were dominant, with some mixed hardwood (Delcourt and Delcourt 1983; Whitehead 1973; Wright 1981). It is probable that the overall plant and animal communities were more complex and "disharmonious" than at present and were composed of a combination of modern and extinct species (Graham and Lundelius 1984; Kelly and Todd 1988:232). In general, regional environments seem to have been more "patchy" and less homogeneous than the modern eastern woodlands.

The modern faunal and floral communities of the region were becoming established as early as 10,500 B.C. (Delcourt 1978) as the climate warmed and precipitation increased during the period from ca. 13,000 to 8000 B.C. This period of rather dramatic ecological change coincided closely with the earliest movement of human groups into the eastern United States, and was also the period during which the first people arrived in North Carolina. During this time (the Late Wisconsin glacial period), the patchy, park-like coniferous (spruce-pine regime) forests of the full glacial period were replaced by northern hardwoods (oak-hickory regime) as dominant overstory species (Bryson et al. 1970; Watts 1975, 1980; Whitehead 1973). Mastodons, mammoths, horses, and bison may have roamed the Carolina Piedmont for approximately 1000 years after the first humans entered the area (Ward and Davis 1999:37). However, by 8000 B.C., as many as 35 different genera of mammals may have already vanished from North America (Meltzer and Mead 1983). The period from ca. 6000 to 3000 B.C. is referred to as the Altithermal or Hypsithermal, and was a period of continued warming, with decreased precipitation (Bryson et al. 1970; Watts 1975). The dominant overstory vegetation that survived was the oak-hickory forest (Watts 1975; Whitehead 1973). The climate since ca. 3000 B.C. has cooled slightly, with a possible increase in precipitation. The oak-hickory forests decreased in size, and became increasingly intermixed with pines (Wharton 1977). Pleistocene megafauna gave way to deer and smaller mammals as a result of the changing environment. These floral and faunal changes had a marked effect on the cultural adaptations made through time by the regional inhabitants during prehistory. Those adaptations are reflected in the known artifact assemblages for each temporal period.

III. CULTURAL OVERVIEW

PREHISTORIC CONTEXT

North Carolina has been inhabited for over 12,000 years and has experienced several major changes in the cultural traditions of its residents. The discussion that follows is a brief outline of the major recognized prehistoric and historic periods of this area of the state. Coe's (1964, 1995) investigations of the prehistoric cultures of the North Carolina Piedmont were the pioneering efforts on which the cultural sequence for the project area is based. More recent research has expanded on Coe's original observations, but the general sequence that he described remains generally valid for the region. Archaeologists with the Research Laboratories of Anthropology (RLA) at the University of North Carolina at Chapel Hill have added greatly to the understanding of prehistoric lifeways is this region, particularly concerning the latter part of the prehistoric sequence. The prehistory of the project area can be divided into four basic periods: Paleoindian, Archaic, Woodland, and Late Prehistoric to Contact.

Paleoindian Period (ca. 10,000–8000 B.C.)

The first indisputable evidence for human occupation in the southeastern United States is during the Paleoindian period, from approximately 10,000 to 8000 B.C. The Paleoindian occupation of the Southeast is known predominantly from surface sites. Paleoindian groups are presumed to have been highly mobile with a subsistence strategy including migratory large animals (some now-extinct), but also strongly emphasizing other plant and animal food resources, such as seeds, fruits, nuts, and small animals (Meltzer and Smith 1986). Settlements are thought to have included small temporary camps and less common base camps occupied by loosely organized bands. Three Paleoindian projectile points have been found in Orange County. One of these was found near Cedar Grove, one near Carr, and one at the Wall site in Hillsborough (OCHPC 1996). All were made from a nonlocal lithic material. The Hardaway site on the Yadkin River in Stanly County has produced the earliest evidence for occupation in North Carolina.

Diagnostic Paleoindian projectile points include the Clovis, Hardaway, and Hardaway-Dalton types (Coe 1964; Ward 1983). Over the course of the Paleoindian period, fluted point forms underwent a general reduction in size, and true fluting gave way to basal thinning. Locally, terminal Paleoindian assemblages are identified by Hardaway-Dalton projectile point forms, which are broad, thin, triangular bifaces with deeply concave bases and shallow side notches (Coe 1964:64) that are thought to date ca. 8500–7800 B.C. (Goodyear 1982). The Hardaway complex, identified by Dalton-like points and preforms, was first identified at the Hardaway site. This point type has been recovered from buried deposits at sites on the lower Haw River in Chatham County and elsewhere (Claggett and Cable 1982).

Archaic Period (ca. 8000–1000 B.C.)

The Archaic period began around 8000 B.C., perhaps precipitated in part by a distinctly Holocene climatic episode. Warmer global temperatures defined warmer and drier conditions in the Southeast, which precluded then-traditional Pleistocene lifeways. There was a concomitant shift in surface vegetation in the southern coastal areas from northern spruce-pine forests to mixed deciduous forests and then to the southern climax forests of today (Whitehead 1965). Coastal areas were characterized by fewer marshlands and less open water, and were more like modern local environments.

The Archaic period witnessed a higher density and wider dispersal of archaeological remains than the preceding Paleoindian period. Overall, this period is characterized by a reliance on large animals and wild plant resources, which became increasingly stabilized and broad-based during the Holocene. Group organization was presumed to be fairly mobile, making use of seasonally available resources in different areas of the Southeast. Group size gradually increased during this period, culminating in a fairly complex and populous society in the Late Archaic.

The Early Archaic, ca. 8000–6000 B.C., is usually subdivided into the earlier corner-notched (Palmer and Kirk) and later bifurcate traditions (St. Albans and LeCroy). A transitional type between the earlier Hardaway and the Palmer is also now recognized that has characteristics of both types, and is referred to as a "small Dalton" (Ward and Davis 1999). No artifacts of nonlithic raw materials have been found to represent this cultural tradition. There are striking lithic artifact similarities throughout the southeast, but tremendous variety in site size, content, and function. The Early Archaic tool kit included adzes, gravers, drills, and perforators (Ward and Davis 1999). Ward (1983:65) interprets this diversity as evidence of an ever-increasing adaptive radiation and specialization in a varied post-Pleistocene environment. This period is marked by the end of the glacial climate and the extinction of numerous large animals. Throughout the Southeast there is a notable increase in site size and frequency after Paleoindian times.

Some Piedmont investigations, such as those at the Haw River sites in Chatham County, North Carolina, suggest a tendency toward a collector-gatherer strategy (Claggett and Cable 1982). Other research supports the theory that a forager strategy was employed, particularly one that centered around the procurement of lithic material (Daniel 1993:196). Populations appear to have been highly mobile and could have coalesced around available resources during the winter months (Anderson and Hanson 1988). Hunting forays would have been made by small groups to supply the base camp through the winter. Groups may have moved exclusively along drainages, crossing large drainages only on special occasions for macroband gatherings (Anderson and Hanson 1988). Daniel (1998) suggests that quality raw material sources, particularly Uwharrie rhyolite outcrops, were the focal point of the settlement patterns. The forests of the Piedmont would have provided a reliable source and good variety of food, perhaps allowing groups to focus their settlement patterns on less widely available resources, such as high quality lithic material. Anderson (1996:173) suggests that there was an increase in the use of seasonal camps during this period.

Much of our understanding of the Middle Archaic period, ca. 6000–3000 B.C., in Piedmont North Carolina comes from research conducted at a few well stratified floodplain sites, such as Doerschuk, Gaston, and Lowder's Ferry. The Middle Archaic period can be distinguished from the Early Archaic by the more frequent recovery of ground stone artifacts and a less diverse chipped stone tool kit. Diagnostic bifaces that occur during this period include Stanly, Morrow Mountain, and Guilford types (Blanton and Sassaman 1989; Coe 1964). Bannerstones or atlatl weights first appear during this period, and are associated with the Stanly occupation. It is assumed that population density increased during the Middle Archaic, but small hunting and gathering bands probably still formed the primary social and economic units. Populations during this period appear to have relied primarily on a foraging-based economy (Anderson 1996:174). The changing climatic conditions associated with the Altithermal (6000–2000 B.C.) would have created a less reliable food base and possibly forced a change in settlement patterns (Ward and Davis 1999). Larger sites tend to occur near or along river floodplains, but numerous small sites, probably utilized for specialized resource extraction, are characteristic of upland locales. A larger number of Middle Archaic sites are known in the Piedmont region than in the Coastal Plain, a fact that Anderson (1996:174) attributes to the spread of pine during the Middle Holocene.

The Late Archaic period is generally dated ca. 3000–1000 B.C. It can be viewed as the period during which some groups were living for long periods of time in single, strategically placed locations and pursued a set of lifeways that laid the foundation for the establishment of villages in later periods. Climatic conditions improved and a wider variety of food types became more consistently available. Existing information suggests that the population during this period was relatively dense, and that the largest settlements occurred along the major river systems. Numerous small, temporary camps are recorded in the North Carolina Piedmont, often with thick midden layers and pit hearths, suggesting long periods of occupation (Ward and Davis 1999:66). A fission–fusion settlement pattern has been proposed for this period in the Middle Atlantic and Southeast regions (Mouer 1991; Sassaman et al. 1990:312–314). This model is characterized by large population aggregation in major stream valleys during the spring and summer months, with group dispersal into smaller tributaries during the fall and winter months. Early experimental cultivation likely took place, including squash, gourds, sunflower, maygrass, and chenopodium (Ward and Davis 1999).

Savannah River (Coe 1964) projectile points and knives are the most common diagnostic biface type found, but steatite bowls and a number of other artifact types are also unique to this period. Stallings

Island fiber-tempered ceramics were manufactured as early as 2500 B.C. in South Carolina (Anderson et al. 1982). Also in the coastal region of the Carolinas, a sand tempered, coil constructed ware called Thom's Creek was made. The lithic tool kit once again became more diverse, and included scrapers, drills, atlatl weights, netsinkers, and grooved axes.

Woodland Period (ca. 1000 B.C.–A.D. 1450)

Woodland-period occupations are characterized by increasing sedentism and improvements in food storage and preparation technologies. Subsistence strategies were a continuation of earlier hunter-forager ways, with an increased reliance on the cultivation of native plants. Religious life, as evidenced by increased ceremonialism and the construction of burial mounds, became more sophisticated during the Woodland period. Woodland Piedmont groups had an egalitarian social organization based on kinship ties (Ward and Davis 1999). Large triangular projectile points are diagnostic of this period; this change in point style could be linked with the introduction of bow and arrow technology into eastern North America. Ceramics became more refined and regional differentiation of wares, with respect to temper, paste, and surface decoration, became manifest during the period. There is little evidence of Woodland period occupation in Orange County.

The Early Woodland (ca. 1000 B.C.–A.D. 400) period occupations in the Piedmont are represented by Badin and Yadkin phases defined by the two ceramic series. Badin ceramics are sand tempered and stamped with either a cord wrapped or fabric wrapped paddle. This ceramic type has similarities to the coastal type, Deep Creek. Badin projectile points, crude triangular bifaces, are associated with this phase. Yadkin ceramics are finished with cord wrapped and fabric wrapped paddles, but also with carved paddles producing designs such as check stamping, linear check stamping, and simple stamping, and are tempered with crushed quartz. Projectile points associated with this phase are large triangular point, but are more carefully manufactured than the earlier Badin points (Ward and Davis 1999). Ceramic manufacturing techniques continued into the subsequent Middle Woodland period, characterized by different combinations of elements—cordmarked, fabric-impressed, and check-stamped, with coarse sand or crushed quartz temper (Coe 1964:30–32).

The lifeways of these peoples seem to have changed little from those of their Late Archaic predecessors. In comparison to previous periods, site density in the Piedmont decreased considerably during the Early Woodland period. A settlement pattern characterized by relatively permanent river-bottom base camps and specialized upland exploitation camps is inferred (Mathis 1979). Ward (1983:66–69), however, argues for a more sedentary and undifferentiated pattern. New crops were added to the domestication process, including knotweed, sumpweed, and goosefoot (Ward and Davis 1999). Early Woodland use of cultigens had certainly increased in importance in the diet from earlier times; however, the main staples would still have been the large animals, such as deer, and nuts and other wild plants.

The Middle Woodland period (ca. A.D. 400–1000) is characterized by an intensification of long-distance trade throughout much of eastern North America, but there is little evidence for direct participation of local groups in the classic Hopewell interaction sphere exchange network. Horticulture is thought to have assumed increasing importance, and the cultivation of maize may have been initiated at this time, although it did not gain prominence until the subsequent Late Woodland and Mississippian periods. Numerous large and small sites have been found dating to this period, suggesting periodic aggregation and dispersion, or some kind of a village/base camp specialization dichotomy in the settlement patterning. Ceramic artifacts dating to this period include a continuation of the Yadkin series and the introduction of the Uwharrie series. Uwharrie ceramics, used into the Late Woodland period, are fabric or net impressed, quartz tempered, usually interior scraped, and often crudely incised. Uwharrie phase sites in the region reflect more intensive and long-term occupations.

In many parts of the Southeast, the Late Woodland occupations are characterized by increasing sedentism, improvements in food storage and preparation technologies, and the development of complex tribal, chiefdom, and other political forms. Throughout much of the Piedmont, the Late Woodland period (ca. A.D. 1000–1450) marks the later stages of the Badin-Yadkin-Uwharrie sequence proposed by Coe (1964). The Late Woodland period in the Piedmont is divided into a number of distinct phases, including the Haw River, Dan River, and Donnaha phases. Haw River ceramics are thought to be a late

manifestation of the Uwharrie series (Ward and Davis 1999). Occupations associated with this phase, consisting of small, scattered hamlets, are found only in the north-central Piedmont. The Dan River phase is contemporary with the Haw River phase, but is focused around the Dan River drainage system of the northern Piedmont. Large storage pits are found at sites from both these phases, and generally indicate a subsistence based a mix of hunting, gathering, and cultivating. Early Dan River settlement appears to have been similar to Haw River settlement patterns, and early Dan River pottery is similar to Uwharrie in a number of characteristics (Ward and Davis 1999:105–106). The second half of the Dan River phase, however, is characterized by a noticeable increase in site size and population density. Most of the later phase pottery is net impressed, and while usually still interior scraped, sand replaced crushed quartz as the tempering agent. A wide variety of bone, shell, and clay objects were added to the assemblage, including awls, pins, needles, fishhooks, gouges, bowls, cups, spoons, dippers, beads, pendants, and smoking pipes. The Donnaha phase assemblage and settlement patterns are similar to that of the late Dan River phase (Ward and Davis 1999:109).

Late Prehistoric and Contact Period (ca. A.D 1450–1650)

The late prehistoric to contact-period Native American occupation of this portion of the North Carolina Piedmont is represented by the Early Saratown and Hillsboro phases. As Merrell (1987:20–21) and other researchers have noted, the early historic period was marked by extensive epidemics among the Native American populations of the area, which, along with the increasing Euro-American intrusions, forced the surviving groups to relocate and regroup. During the Hillsboro Phase, ceramics changed substantially and villages were nucleated within stockades (Davis and Ward 1991). A well-researched example of an occupation of this phase is the Wall site in Hillsborough. Hillsboro phase subsistence practices are a continuation of earlier Haw River practices. Hillsboro ceramics, however, are markedly different, having primarily simple stamped surfaces, with some check stamped, and with medium to fine sand or feldspar as temper. Burial practices also showed some differences. Haw River and earlier phase sites contained burials that involved the placement of flexed individuals in oval pits, with little funerary offerings. Hillsboro burials were placed in shaft and chamber pits, with some evidence of communal feasting associated with the mortuary customs, and offerings of food in clay pots (Ward and Davis 1999:114). From this combination of evidence it is inferred that the Hillsboro phase represents an intrusive group that moved into the area around A.D. 1400 (Ward and Davis 1999:115).

Early Saratown phase sites contain refuse pits similar to earlier Dan River phase sites, but contain noticeably more refuse. A broader based subsistence practice is indicated by the faunal remains (Ward and Davis 1999:117). Only a few burials associated with the phase are known, but these contained a variety of funerary offerings, and were placed in both shaft and chamber pits and simple pits.

The historic Native American occupation of the North Carolina Piedmont has been documented both ethnohistorically and through excavations at several sites, including Keyauwee Town in Randolph County (Coe 1937) and the Fredericks site (Occaneechi Town) in Orange County (Davis and Ward 1991; Davis et al. 1998). The latter site, which is located along the Eno River in Hillsborough, was one of several towns visited by John Lawson when he passed through the area in 1701. Another town visited by Lawson was Adshusheer, which has not been relocated but was apparently in what is now Durham County (Lefler 1967). A number of Siouan villages were reported by other early explorers, such as John Lederer in 1670, James Needham and Gabriel Arthur in 1673, and William Byrd in 1728. The Mitchum site on the Haw River in northern Chatham County is thought to be a village site of the Sissipaw Indians in the mid-seventeenth century. The Jenrette site on the Eno River in Hillsborough is believed to be the late-seventeenth-century village of the Shakori Indians. Adjacent to this site is the location of the Fredericks site, also known as Occaneechi Town, an early-eighteenth-century village site. By the 1740s most of the local Native American groups had amalgamated with other groups to the north and south and no longer appear as distinct tribes in the historical record. Descendants of some of these groups continue to inhabit the Piedmont, however, and in recent years have begun to reassert their identity.

HISTORIC CONTEXT

Eight English lords were granted the original property titles for land in the Carolinas, including the Carolina Piedmont under the Carolina Proprietary system. Most of these lords returned their ownership to the crown in 1728; however, Lord Carteret retained his property in the New World. A number of surveys were conducted from the 1740s through 1770s to attempt to delineate the boundaries of this tract, which was referred to as the "Granville District" after Lord Carteret's son, Lord Granville. Lord Granville issued land grants for his property for a price per acre and a quitrent.

The earliest Euro-American settlement of the Orange County area occurred in the late 1740s, when settlers began to enter the area from Pennsylvania, Maryland, and Virginia via the Great Wagon Road. Those who settled east of the Haw River were predominantly of Scotch-Irish origin (Blackwelder 1953:15), those who settled west of the Haw River were predominantly German, and those who settled in northern Orange along the Hico River and County Line Creek were primarily English. Few of these earlier settlers owned slaves; and by 1860, only 30 percent of the free population owned slaves (Stine and Hargrove 1999). A significant number of Quakers were included in the early settlers of the area. Initial settlement was somewhat gradual, and much of the area remained sparsely populated for the first few years. Orange County was formed in 1752, and 10 years later was the most populous in the colony. Orange County was named in honor of William III of the House of Orange, King of England from 1689–1702. At the time it was established, Orange County included present-day Caswell, Person, Orange, Durham, Alamance, and Chatham counties, as well as parts of several others. It was bounded by Virginia on the north, the Cape Fear River on the south, and Anson and Rowan counties to the west and south and comprised 3500 square miles. The population of the county at that time was 4000 (OCHPC 1996).

Land grants were made in old Orange between 1745 and 1760 (Blackwelder 1953:15). A group of families, including Blackwoods, Craigs, Freelands, Kirklands, Johnstons, and Strayhorns, purchased titles for land along the Haw River from the agents of the Earl of Granville during this period. Within a few years they learned that the validity of these titles was doubtful and instead of protesting, they moved roughly 10 miles east on a creek of the Haw River and purchased new titles directly from the Earl (Kenzer 1985:139). They named the creek "New Hope" and constructed a Presbyterian church in 1756. Another settlement formed along Cane Creek and another to the southeast, later known as White Cross. The Greene Tract appears to be located in the overlap of these three communities as depicted by Kenzer (1985).

Most early settlers were subsistence farmers, holding about 100 acres of land per family. Crops produced include beans, corn, peas, potatoes, and wheat. Larger landowners grew the majority of the cash crops tobacco and cotton. Houses were simple one-pen or two-pen log cabins on stone foundations.

The location where the "Great Trading Path" crossed the Eno River was chosen as the site for the county seat. The Town of Hillsborough was first named Corbin Town, after Francis Corbin, and later Childsburg for Dr. Thomas Child, both land agents for the Earl of Granville. It was renamed for the final time to honor the Earl of Hillsborough, the British Secretary of State for the colonies. The town remained modest in size, but was the commercial, administrative, and judicial center of the county for over a century. During the Revolutionary War, Hillsborough was the center of activity for the state. The Provincial Congress met here in 1775 and the General Assemblies met in Hillsborough four times from 1778–1783.

Residents of Granville, Orange, and Anson counties figured prominently in the Regulator movement of the 1760s. This social phenomenon anticipated much of the sentiment of the Revolutionary War in the following decade. It developed as a dispute between the residents of the Piedmont edge and Governor Tryon, who was building an ostentatious residence in the eastern part of the state and had instituted a poll tax as a means of financing the construction. This meant that the poorest farmer in the western part of the state owed the same amount as their more well-established and well-off neighbors to the east. This dichotomy between the eastern planter aristocracy and the western subsistence farmer was at the center of the sectional conflict. The older eastern five counties of the state each had five representatives in the state government, but Orange and many other western counties only had two each. Even more glaring

was the fact that the population of Orange County was more than the population of the five original counties combined (Lefler and Wager 1953:26).

The governor's taxes on tobacco and alcohol also proved to be unpopular, as did some of his administrators, who were perceived as being corrupt (Powell 1989). Orange County was within the Granville District and paid quit rents to the Earl, apparently twice as much as their southern neighbors paid to the royal governor. Granville's land agents, Francis Corbin and Dr. Thomas Child, were accused of abuses, such as selling the same piece of property to two or more parties and collecting fees from each and keeping inaccurate records or no records at all. Orange County residents protested by petition, civil disobedience, and riot.

The "Regulator Advertisement, Number One," which encouraged North Carolinians to resist the local oppression, was circulated in August 1766 in Hillsborough. A number of other papers followed, and early responses by the government for seditious behavior involved short prison terms and fines. The regulators attempted to take their case to the legislature, but in 1770 when the protest turned violent, the government responded with force. In January 1771, the General Assembly passed the Johnston Riot Act, giving them power to fight the regulators with military force. After a two-hour battle on Great Alamance Creek, a colonial militia of less than 1500 defeated a force of 2000 regulators at the Battle of Alamance. Twelve regulators were tried and convicted; six were hanged, and six were pardoned by the governor.

Among the many measures the governor implemented in an effort to control the Regulator Rebellion was the carving away of areas adjoining Hillsborough, the center of the rebellion, into separate counties. Guilford County was formed from part of Orange and Rowan in 1770 and Chatham was formed in 1771. Caswell County was formed from northern Orange in 1777 and reduced in 1792 by the establishment of Person County from the eastern half. Further division of the original Orange County followed disputes between eastern and western residents during the 1830s. Western Orange was industrial, while eastern Orange was agricultural. The first referendum failed to support the division, but a second vote in 1849 supported the division and Alamance County was formed.

The North Carolina legislature met in December of 1773 in New Bern to appoint a committee of persons to coordinate with the other colonies a resistance against the royal rule. The first Provincial Congress met in New Bern in August of 1774 to choose delegates to represent the state at the Continental Congress in Philadelphia. The royal governor, Josiah Martin, attempted to prevent North Carolina from participating in the second Continental Congress, but was unsuccessful and fled to the safety of a British warship on the Cape Fear River. A third Provincial Congress was held in Hillsborough in August 1775, at which participants signed an oath professing allegiance to King George III (Lefler and Wager 1953). The first and only local battle of the war was the Battle of Moore's Creek on Feburary 27, 1776, where the Whigs, or rebels, defeated the Tories, or supporters of the king.

During the Revolutionary War, Hillsborough was a focal point for military activities in the state. When Baron de Kalb, temporary commander of the Southern Department, heard about the surrender of Charleston, South Carolina, by General Lincoln to British forces in May of 1780, he ceased his southward march and set up camp at Hillsborough. Approximately 2000 soldiers stayed in the area for about a month, consuming a great deal of the local supplies before continuing their march southward. Horatio Gates, the new commander of the Southern Department, also made Hillsborough his headquarters that summer. After taking his troops south and suffering a defeat at the hands of Lord Cornwallis, he and his troops returned to Hillsborough to regroup. They remained in the area, seriously depleting the local supplies, until November of that year, when they moved to Salisbury. In January 1781, it was reported that Lord Cornwallis's troops were forcing General Nathaniel Greene's troops towards Hillsborough.

Cornwallis had secretly contacted Tory sympathizers in Orange County the summer before, and was confident in their support (Lefler and Wager 1953:53). They had suggested to him that he wait to invade the area until the crops were harvested, to which he agreed. He in turn requested that they secretly stockpile weapons and supplies. When Cornwallis entered Hillsborough in February 1781, and called on these supporters to come forward, he was greatly disappointed by the response. Cornwallis' troops remained in the area for several days; to keep them occupied and out of trouble, he gave them the task of

lining the intersection of King and Churton streets with stones. Cornwallis marched his troops to out of the area at the end of the month.

When the General Assembly met in Hillsborough in April 1783, a movement to establish the town as the seat of state government was gaining popularity. It was opposed by other well-established towns, however, such as New Bern, Fayetteville, Tarboro, and Smithfield. At the first convention to consider ratifying the Constitution of the United States in Hillsborough in 1788, the vote was against ratification 185 to 84. But North Carolina residents became increasingly uneasy about being an independent entity surrounded by members of a federal union, and a second convention was held in November 1789, where ratification was approved. In April 1792, Hillsborough officially lost its bid for the state capitol when land was purchased from Colonel Joel Lane in Wake County.

The 1776 North Carolina constitution had contained a provision for the establishment of a university. In 1792 a commission selected a hilltop location at the intersection of two main roads in Orange County. Local property owners donated 1290 acres and funds to support the construction of the university (CHBC 1994). The cornerstone on the first university building was put in place in 1793, and lots in the village of Chapel Hill were offered for sale the same year. The General Assembly authorized a municipal government for Chapel Hill in 1819, and the town was incorporated in 1851.

Cotton mills were established in Orange County in the early nineteenth century, and were some of the earliest in the state. A number of woolen factories were also in operation by the mid-nineteenth century, particularly along the Little and Eno rivers (Lefler and Wager 1953). The Venable cotton mill was built in 1898 next to the railway depot, west of Chapel Hill. When the Carr family purchased the mill from the Lloyd family, they renamed the factory Carrboro, and the surrounding town took its name from the mill.

The 1850 census offers clues about Antebellum period Orange County. Few of the landowners were slave owners, and most of those who did own slaves owned few than five (Stine and Hargrove 1999). Most of the farms were small to medium sized, involving less than 100 acres. The North Carolina Railroad was constructed in 1856, running from Salisbury to Charlotte, and providing a more efficient and reliable means of transportation for local industry and agriculture. The railroad increased the marketability of Bright Leaf tobacco, in particular, which became an increasingly popular cash crop.

By the mid-nineteenth century the settlements mapped by Kenzer had developed into "tightly knit, rural neighborhoods, each tied together by an extensive network of kinship," a settlement system that allowed the county to maintain a notably stable social order prior to the Civil War (Kenzer 1985:138). The numerous creeks and rivers of the county often formed the boundaries of these neighborhoods. Regional transportation routes were poor and remained so well into the nineteenth century. In 1839 a common school system was established in the county and in 1856 the North Carolina Central Railroad linked Hillsborough and Durham. These communities continued to be isolated and self contained, however.

Hoping to spare Chapel Hill and the university the general pillaging occurring across the countryside, the university President and the governor asked General Sherman to provide some protection. Union troops occupied Chapel Hill in April 1865. The official act ending the war took place within the original Orange County. General Johnston surrendered to General Sherman at the Bennett House, which was then in Orange County, and is now in Durham County. After the war, the university experienced financial difficulties, and the faculty was forced to leave. The university remained closed from 1871–1875. The rural character of the county continued after the Civil War. Writing in 1886, Reverend D. Irvin Craig of the New Hope Presbyterian Church recorded second and third generation memories of early settlement on New Hope Creek. Roads were established along old Native American paths. Cash or share cropping became more widespread due to post-war shortages in labor. This type of farming encourages the use of entire tracts for a single crop that earns the most (often tobacco), but also decreases soil fertility and increases erosion over time. Frame house construction replaced log cabins in common usage, and the I-House plan was particularly common from 1870–1910.

The twentieth century has witnessed increasing industrial development. Although tobacco is still extremely prominent in the area, a variety of other industries are present as well. Many of the smaller farms were consolidated into larger farms in the hands of fewer people. After a period of stagnation after

World War II, the last fifty years have also seen increasing agricultural development. Cattle and hog raising increased dramatically during this period, and crop diversification brought increasing yields.

PREVIOUS CULTURAL RESOURCE STUDIES IN THE AREA

The Orange County Historic Preservation Commission of the Orange County Planning Department, with the assistance of the Jaeger Company of Gainesville, Georgia, has conducted a study of the cultural resources of the county. The final report of the findings of this study was adopted in 1996 as the Historic Preservation Element of the Orange County Comprehensive Plan. Within Orange County are examples of all four types of cultural landscapes recognized by the National Park Service, some of which include Ayr Mount, Cedar Grove Rural Crossroads Historic District, Saint Mary's Road, and Occoneechee Mountain (OCHPC 1996). Types of important historic resources in the county include one-story log houses, early-nineteenth-century brick houses, early-nineteenth-century frame houses, postbellum houses, late-nineteenth- to early-twentieth-century houses, farmsteads and farmstead outbuildings, and intact rural communities. One-story log houses represent some of the earliest historic resources in the county, and can date to as early as the mid-eighteenth century. RLA archaeologists conducted studies at three log cabins in Orange County, involving oral history research and archaeology (Daniel and Ward 1993). Excavations at the Davis site, around a two-room house foundation, resulted in the recovery of a significant variety of artifacts that supported the oral history accounts. Only two early-nineteenth-century brick houses are extant in the county: Ayr Mount in Hillsborough and Hall's Mill Inn on the Eno River. Frame houses from this period are better represented in the county, and particularly interesting or well-maintained examples include Lambert Hall House, the house at Bingham School at Oaks, the William Maynard House, and the Smith-Cole House. Houses constructed after the Civil War tend to be similar to earlier houses in form and size, but more varied in architectural ornamentation. Particularly common in Orange County are the I-Houses that date 1870-1910. Well-documented examples of this resource type include the Matthew Strowd House and the Watson House.

Outbuildings are integral components of the farmstead complex, and often the positioning of certain types of outbuildings conformed to a general pattern. Domestic buildings were placed near the main house, and agricultural buildings were farther away but still in some proximity to the house. Historic farmstead complexes in Orange County contribute to the county's rural atmosphere. Although the farmhouses themselves may be simple, often they are on large pieces of property and involve of a number of associated structures. Rural communities are unincorporated settlements with ill defined boundaries that may have been focused around a general store or church, but are often not readily apparent today. Good examples of this type of resource in Orange County include Cedar Grove and Caldwell.

The Greene Tract is located in the northern section of Chapel Hill Township. A 1986 inventory of cultural, recreational, and biological resources in the township found six religious sites, eight historic properties, and seven archaeological sites in this half of the township (OCPD 1986). None of these resources is located on or near the project tract. A more comprehensive study was performed from December 1991 through April 1992 to document all historic properties that exhibited architectural and/or historical significance in the unincorporated portion of Chapel Hill Township. Only those properties that also had a high degree of physical integrity were recorded; those that were badly deteriorated, altered, or very common were mapped, but not fully documented. A total of 160 properties was recorded during this study, and none of these resources is located on or near the Greene Tract (OCHPC 1996:20).

One historic resource listed in the National Register of Historic Places (NRHP) is located within some proximity to the project area. The Alexander Hogan Plantation Site is a small Piedmont plantation established in 1838 and occupied until at least 1890 (Daniel and Vujic 1995). It is on property owned by Duke University and was nominated to the NRHP in April 1995. The site is located north of the Eubanks Road and Rogers Road intersection, less than 1 mile northwest of the Greene Tract. Above-ground remains identified at the site include four stone outbuilding foundations, chimney rubble associated with the main house, four graves marked by fieldstones and encircled by a stone wall, and an estimated 30-40 gravesites marked by fieldstones, but outside the enclosure (Daniel and Vujic 1995).

Several North Carolina Department of Transportation (NCDOT) projects in the area have involved cultural resource studies. A large-scale survey was performed by the Division of Archives and History, Department of Cultural Resources archaeologists in 1978 prior to the extension of Interstate 40 through Durham and Orange counties (McCabe et al. 1978). Two low density lithic scatters (31OR188 and 31OR195) were identified within a few miles of the Greene Tract, near the present-day NC 86 and I-40 interchange. No temporal diagnostic artifacts were found at these sites. Also near this interchange was a late-eighteenth-century house known as the "Hightop House" that was considered potentially one of the oldest extant houses in the Piedmont and eligible for listing to the NRHP. Avoidance of this resource was recommended. A survey was conducted for the widening of NC 86 between Homestead Road and Interstate 40 by NCDOT archaeologist in the summer of 1992. This study resulted in the relocation of a previously recorded prehistoric site (31OR19) and the identification of one new historic site (31OR272). Both sites were disturbed, however, and no further cultural resource work was necessary for this project (Herbert 1992).

Archaeologists with the RLA have conducted a number of cultural resource investigations in Orange County and the region. Details of these studies are published in several formats, and insights gained regarding prehistoric lifeways have been incorporated in the Prehistoric Overview section above. RLA archaeologists performed a survey of portions of Orange County from 1993 to 1994 to assist the county in identifying cultural resources for the comprehensive planning program (Daniel 1994). This survey focused primarily on the Little River and Back Creek drainage systems, as little archaeological study of these areas had been performed, but limited examination also was made of some areas on Cane Creek and within Duke Forest. Data generated during this study was integrated with existing data to develop a predictive model for the distribution of archaeological resources in the county.

It was noted that a majority of the prehistoric sites recorded in the county are described as lithic scatters. Fewer Woodland sites than Archaic sites are recorded for the county, which could be the result of sample bias, but could also indicate differences in the intensity of occupations or possibly the consolidation of occupations during later periods. A lower frequency of sites and lower density sites were found in the uplands compared with the riverine settings. Late prehistoric occupations tended to be situated on the river bottoms. Based on this research, three probability zones were delineated. Zone I, with an expected high density of large prehistoric and historic industrial sites, includes inhabitable portions of river floodplains. Zone II includes ridge and hilltop settings within 1 km of the main drainages, and is expected to contain low-density lithic and ceramic scatters, with occasional denser concentrations, and historic cemeteries and structural remains. Zone III includes the remainder of the county and is believed to have a low probability for the presence of archaeological sites (Daniel 1994). The Greene Tract is entirely within the Zone III designated by this study.

Legacy Research Associates, Inc., has performed a Phase I archaeological survey on a nearby tract for proposed expansion of the Orange County Landfill (Joy 1999). A 26.63-acre tract situated north of Eubanks Road was surveyed in October of 1999 and resulted in the identification of one prehistoric lithic scatter (31OR520). The materials were considered to be in a disturbed context and no further investigation was warranted.

IV. RESEARCH DESIGN AND METHODOLOGY

RESEARCH DESIGN

The research questions addressed in this study were largely based on general questions outlined by Claggett (1985:36–37) as those that should minimally be investigated during survey studies. Those questions include the following:

> What are the known and predictable archaeological site densities for the study area?
>
> What is the known and expected range of site types in the area, broken down by categories of function, age, etc.? What distributions of various artifact types can be recognized?
>
> What are the chances for preservation of significant sites, relative to factors of cultural and natural disturbance? Do modern environmental factors of topography, soils, etc., serve as adequate predictors of prehistoric site selection?

In addition to those questions, an additional question was formulated to help structure the historic period research.

> What is the documentary, architectural, and archaeological evidence for the historic period occupation of the tract?

RESEARCH METHODOLOGY

Background Research

Background data on the environment, prehistory, and history of the tract and region, as well as on previous archaeological investigations in the area, were obtained from previously published environmental, archaeological, and historical studies. The *Orange County Inventory* and the *Orange County Comprehensive Plan, Historic Element* publications were obtained through the Orange County Environment and Resource Conservation Department. Other information pertinent to the study was gathered from the North Carolina Office of State Archaeology in Raleigh, the North Carolina Collection at the University of North Carolina-Chapel Hill, and TRC's reference library. A documents search was performed at the Orange County Land Records Building in Hillsborough, and a partial chain of title was established for the tract. Limited genealogical and census research was performed via the internet to attempt to collect information regarding known landowners. One informant interview was conducted.

Field Investigation

Phase I investigation for this project included an intensive and systematic shovel testing program that involved the excavation of shovel test pits (STPs) on a 30 m grid across the tract. STPs measured approximately 30 cm in diameter and were excavated to a depth of at least 10 cm into a sterile subsoil. All soil removed from the STPs was screened through ¼ inch wire mesh for uniform artifact recovery. Additional STPs were excavated at 10 m intervals around STPs that produced cultural material to determine whether the artifacts represented isolated finds or archaeological sites. Sufficient STPs were excavated to made this determination and to delimit the boundaries of an archaeological site. Based on state guidelines, all locations containing three or more prehistoric artifacts were defined as archaeological sites. Historic sites were defined as all areas containing pre-modern (pre-1930) historic structural remains or features. Site numbers were not assigned to locations where small numbers of mid- to late-twentieth-century historic objects (such as appliances, glass bottles, and unassociated cement slab fragments) were observed as isolated occurrences along the project corridor. These items were considered to be the result of refuse disposal activities involving the residents adjacent to the tract.

These occurrences were recorded in field notes, but were not given isolated find numbers due to their lack of interpretative value.

Notes regarding soil color and texture, artifact recovery, and depth were recorded for each STP. No STPs were excavated in areas of standing water/wetland, on slopes greater than 15 percent, or within the power line right-of-way. Any potentially cultural surface anomalies or features observed were recorded by location and characteristics. Representative photographs were taken of the project area in black and white print and color slide formats.

Laboratory Methodology

Following completion of fieldwork, all artifacts were returned to the TRC Garrow Chapel Hill office and laboratory. Artifacts were cleaned and rebagged and then classified and catalogued as described below.

Prehistoric Artifacts. The prehistoric lithic artifact assemblage is primarily comprised of reduction debris. The debitage was sorted into categories that reflect the stages or steps of an idealized lithic reduction sequence. Raw material color and raw material type was recorded on a general level (e.g. rhyolite, quartz, quartzite). One diagnostic projectile point was found and was formally analyzed according to established projectile point typology for the region.

Historic Artifacts. Laboratory analysis focused on dating recovered artifacts and assigning functional ascriptions. All of the historic artifacts recovered from this project were categorized following published artifact descriptions such as Noël Hume (1969) and South (1977).

Curation. All project materials were prepared for curation according to the OSA's 1995 *Archaeological Curation Standards and Guidelines*. Analyzed artifacts were labeled with accession and specimen numbers using Rapidograph pens filled with permanent ink and an Acryloid B-72 base and overcoat. Analyzed artifacts were placed in labeled 4 mm polyethylene bags by type within provenience. The final repository will be the Office of State Archaeology Research Laboratory in Raleigh.

Assessing Site Significance and Recommendations

A final step in the analysis involved assessing the significance of the four identified sites and developing recommendations for further work. Site significance was assessed in accordance with the National Register Criteria for Evaluation (36CFR 60.4). Several factors were considered in assessing site significance and research potential, including artifact variety and quantity, site clarity and integrity, and environmental context (Glassow 1977), as well as potential for providing data concerning locally, regionally, or nationally relevant research topics. As with many survey projects, it was impossible to provide conclusive recommendations concerning NRHP-eligibility for several of the sites due to a lack of data. Consequently, a number of sites are evaluated as "Potentially NRHP-eligible," and additional excavations are recommended to allow a more definitive recommendation concerning their significance.

V. RESULTS

BACKGROUND RESEARCH

Data regarding historic and prehistoric occupations in the region, as well as information gained from previous cultural resource studies in the project vicinity are presented in Chapter III. Project specific data, such as deed records, cartographic evidence, and genealogical data, are presented in this section. A partial chain of title for the Greene Tract is presented in Table 1. Information gathered during this phase of the investigation was used to interpret the data collected during the fieldwork task.

Table 1. Partial Chain of Title for the Greene Tract.

Grantor	Grantee	Date	Reference	Comments
Turner King	Laura B. Faucett			25 acres
Laura B. Faucett	I. D. Byrd	2/5/1910	Bk 63, P 367	25 acres
Fred & James Potts	Thomas J. Potts	10/10/1914	Bk 68, P 432	17 acres
Thomas J. Potts	Allen S. Pendergraph	5/11/1916	Bk 71, P 190	1/2 17 acres
Thomas J. Potts	Allen S. Pendergraph	10/21/1918	Bk 74, P 244	all 17 acres
Isaac D. Hutchins	A.S. Pendergraph	10/2/1916	Bk 71, P534	120 acres
A. S. Pendergraph	Kernie M. Lloyd	10/21/1918	Bk 74, P 256	17+120 acres
K. M. & Nannie Lloyd	I. D. Byrd	2/7/1919	Bk 74, P 345	17 acres
I. D. Byrd	O. H. Byrd	5/2/1945	Bk 121, P 20	42 acres
L. J. Byrd	W. J. McGhee	4/?/1947	Bk 126, P 322	128 acres
O. H. Byrd	W. J. McGhee	4/23/1947	Bk 126, P 424	2.4 acres
O. H. Byrd	W. J. McGhee			42 acres?
W. J. McGhee	W. D. Wilkerson	7/1/1948	Bk 130, P 10	2.4 acres
Montgomery & Aldridge Investment Company	BEMAC Corp.	8/19/1959	Bk 172, P 388	172.4 acres
BEMAC Corp.	E. S. Booth	12/8/1960	Bk 179, P 355	2/3 173 acres
BEMAC Corp.	Ted Tillman	12/8/1960	Bk 181, P 379	1/3 173 acres
			Bk 187, P 379	
Albert T. Tillman	Harold Greene	9/3/1965	Bk 203, P 485	1/3 173 acres
BEMAC Corp.	Harold Greene	8/?/1965	Bk 203, P 479	interest
E. S. & Vallie Booth	Harold & Jean Greene	9/3/1965	Bk 203, P 476	2/3 173 acres
Harold & Jean Greene	W. F. Sledge	8/29/1973	Bk 246, P 192	168 acres
Greenes & W. F. Sledge	Chapel Hill, Carrboro Orange County	3/?/1984	Bk 459, P 340	169 acres

The project tract is currently owned jointly by the towns of Chapel Hill and Carrboro and by Orange County, which purchased the approximately 169 acres from Harold and Jean Greene and W. F. Sledge in 1984. The Greene family obtained the property from E. S. and Vallie Booth, Albert T. Tillman, and the BEMAC Corporation in 1965 and deeded a partial interest to W.F. Sledge in 1973. The approximately 173 acres was deeded to the BEMAC Corporation in 1959 by an investment company and deeded by the corporation to the Booths and Tillman in 1960. It appears that prior to the investment company's involvement the entire tract was owned by W. J. McGhee who obtained it in three separate parcels from various Byrd family members. This fits the general twentieth-century pattern of small farms consolidated into larger farms with fewer owners. I. D., L. J., and O. H. Byrd each owned part of the project tract from at least 1910, and likely obtained the properties from the Lloyd family and from Laura Faucett. The deed for the 25 acre tract from Laura Faucett to I. D. Byrd references the "late Turner King" as the previous owner. No listing was found for Laura Faucet as a grantee, nor was a will found for Turner King. Two deeds were found listing Turner King as a grantor, neither of which appears to be for this tract. Two deeds also were found listing Turner King as a grantee, but it is not clear if either of these could include the 25 acre tract. One deed is from J. Kirkland in 1850 for 58½ acres along Presswood (sic) Creek, which is on the east side of University Branch Railroad (Bk 36, P 17). Turner

King is one of the names listed on an 1879 deed giving the University Branch Railroad title to a right-of-way (Bk 55, P 205). On-line research produced some genealogical references to King family members that may be related to Turner King, including a Janet Turner who married a Nathaniel King in 1782 in Orange County. None of their children were named Turner, although it is possible that he was in the next generation. The 1850 Orange County census lists Turner King (33 yrs), his wife Mary Ann (23 yrs), and two daughters, Susan (4 yrs) and Louisa B. (2 yrs). Turner King was a laborer, and was born in Orange County.

A. S. Pendergraph deeded two tracts to the Lloyds in 1918, one of 17 acres and one of 120 acres. The tract with 17 acres is referred to as the Johnson and Rebecca Potts home place. The Pendergraphs received the lot from Thomas Potts, who received it from Fred and James Potts. The first deed between Thomas Potts and the Pendergraphs incorrectly stated that it was for one half interest and the 1918 deed was recorded to correct this mistake. The deed between Fred and James Potts and Thomas Potts states that this is the same property Johnson and Rebecca Potts gave to them and on which "they lived and died." Johnston (sic) and Rebecca Potts and their two sons, James and Thomas, are listed on the 1850 census. Johnston (28 yrs) is listed as a farmer born in Orange County. Rebecca was 26 years old and the children were 4 and 3, respectively. Johnson and Rebecca Potts are also listed on the 1879 deed granting right-of-way to the railroad. No will was found for Johnson and/or Rebecca Potts, nor was a marriage record found for them. Several deeds were found listing Potts family members as grantees and grantors, but none are clearly referring to this 17 acre tract. One deed shows the transfer of 303 acres along Bolin Creek from Walker Anderson to Jacob Potts in 1836 (Bk 26, P 427). Jacob (65 yrs) and Ann (64 yrs) Potts are listed on the 1850 census. He was a farmer with 150 acres of property. He was born in Sweden and she was born in Orange County. On-line genealogical research produced a record of marriage between Annie Blackwood and Jacob Potts in Hillsborough in 1817, but their only child listed is Anderson Potts.

Within the 120 acre tract deeded to the Lloyds there is a 4-acre exception owned by I. D. Byrd and referred to as the location of the Byrd Farm House in several deeds. I. D. Byrd was deeded the lot by J. L. Hutchins, who received the property from Isaac D. Hutchins. The 17 acre tract from the Lloyds and 25 acre tract from Laura Faucett were combined in I. D. Byrd's 1945 deed to O. H. Byrd. No deed was found showing when or from whom Isaac D. Hutchins received the property.

Historic maps and aerial photographs provide limited evidence regarding the use of the tract. When the project tract is outlined on the Markham (1973) map depicting eighteenth-century land grants, it appears to overlap several different properties (Figure 2). No features are shown in the project area on the 1891 map of the county (Tate 1891) (Figure 3). The 1898 North Carolina Geological Survey map shows one structure in the center of the tract at the intersection of access roads running in all four cardinal directions (NCGS 1898). The map accompanying the 1921 soil manual of Orange County shows a structure in the same location (Vanatta et al. 1921). Another structure is shown to the south on the west side of an access road (Figure 4). A 1938 aerial photograph of Orange County shows that at least half of the Greene Tract was heavily wooded, but patches of open land, and possibly agricultural land, were present, particularly along the railroad and along the access road. It is not possible to distinguish any structures, but a cluster of mature trees is visible close to the center of the tract and along the access road. No structures are depicted on the 1938 Highways map of Orange County (NCH&PW 1938). One structure is depicted in the project area on the 1946 USGS topographic map, and appears to be in the same location as the central structure on the 1921 soil manual map (USGS 1946). The aerial photograph in the 1977 Orange County soil manual shows that the northwest and southeast quadrants of the project area were thickly wooded (Dunn 1977). It also appears that the northeast quadrant was thinly wooded or perhaps under cultivation, but it is unclear whether the southwest quadrant was thinly wooded or cleared.

One informant interview was conducted with Mr. John Byrd, the grandson of I. D. Byrd. He stated that he thought that the Byrd family house was constructed by his grandfather and that it burned down. He also mentioned that the house to the south of the Byrd house was a log cabin known as the "Potts house" and was in a state of serious disrepair when he was a child (he is in his 60s). The Byrd family members are buried across the railroad tracks to the northeast at McDuffie Memorial Church, and as far as he knows there are no cemeteries on the project tract.

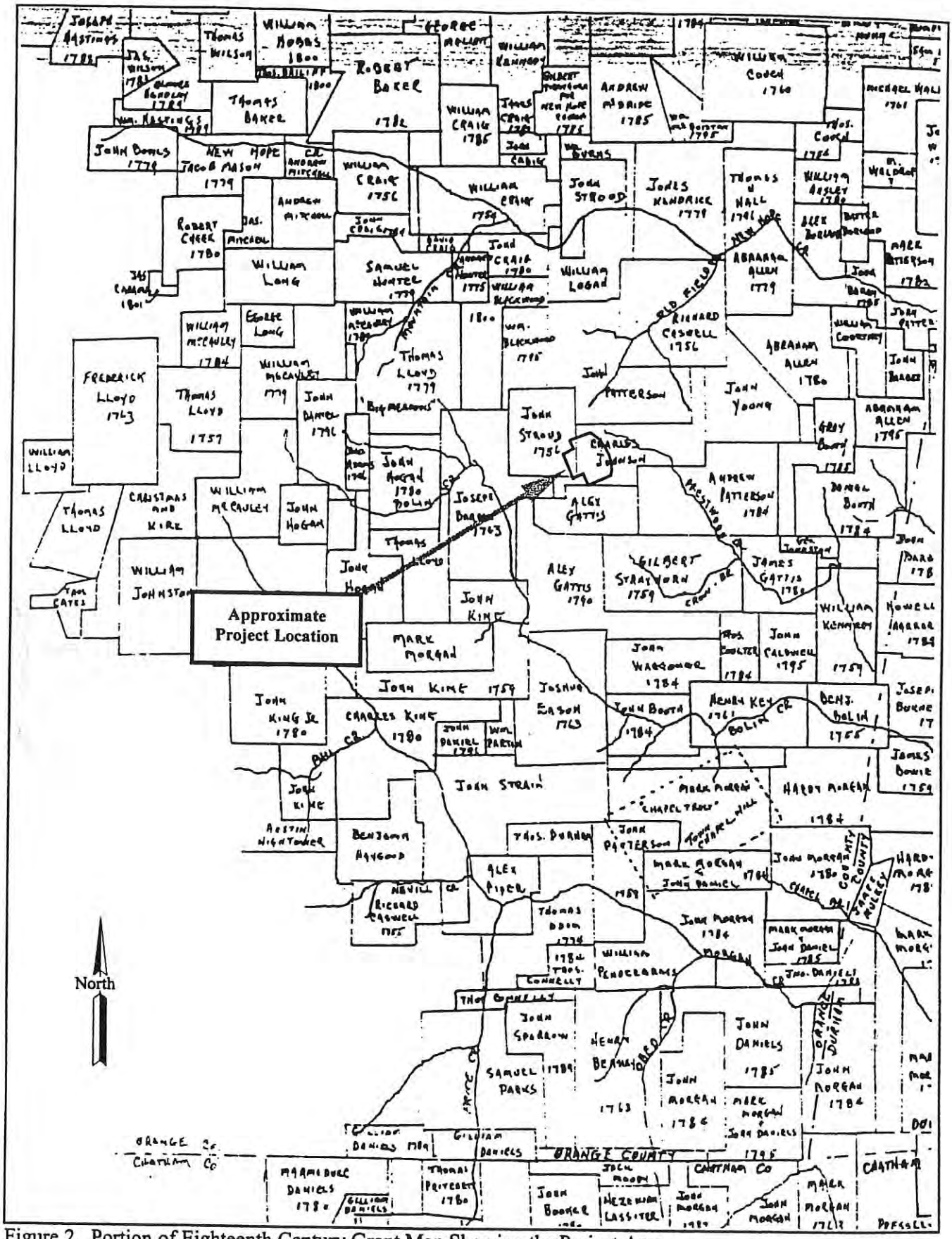

Figure 2. Portion of Eighteenth Century Grant Map Showing the Project Area.

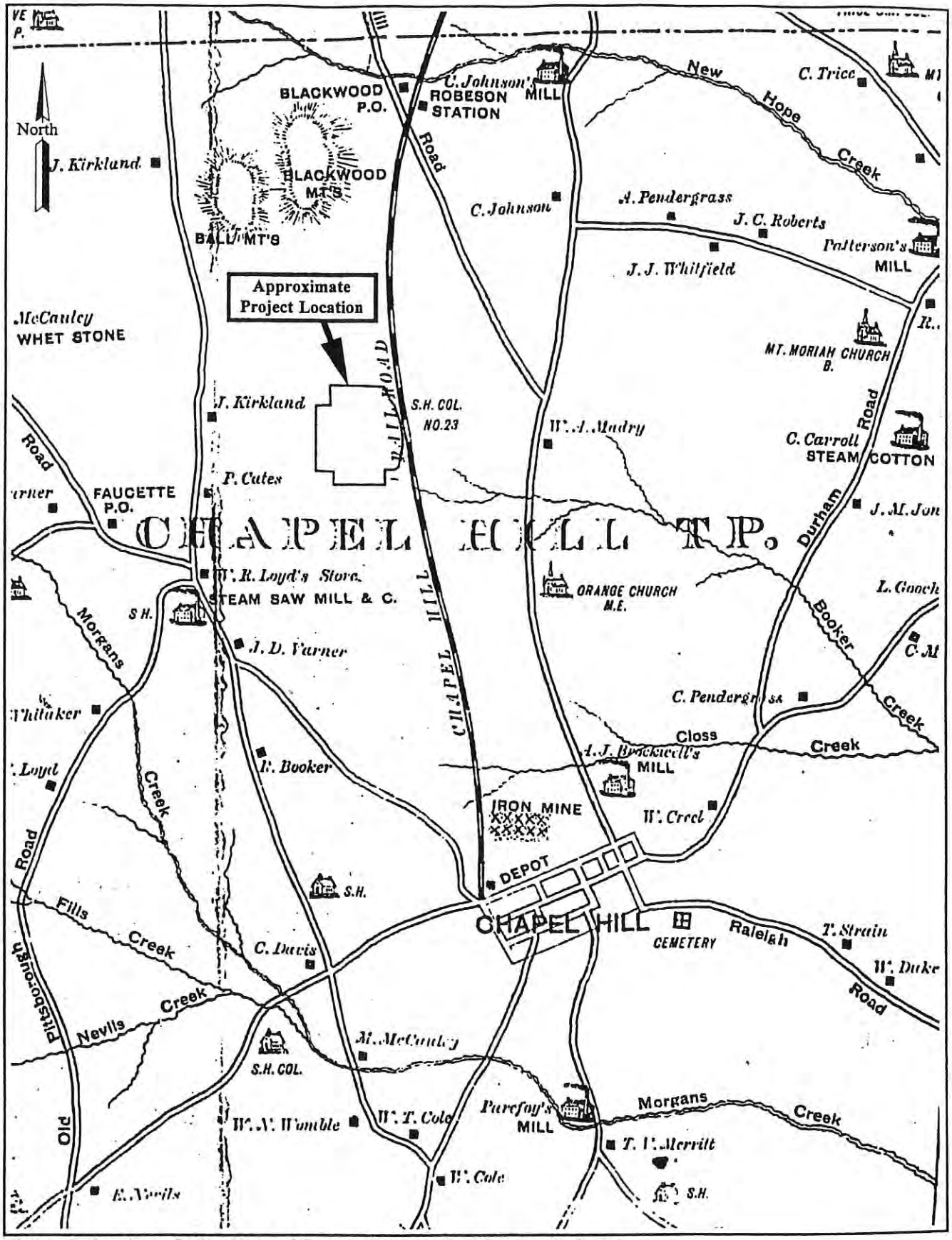

Figure 3. Portion of 1891 Map of Orange County Showing the Project Area.

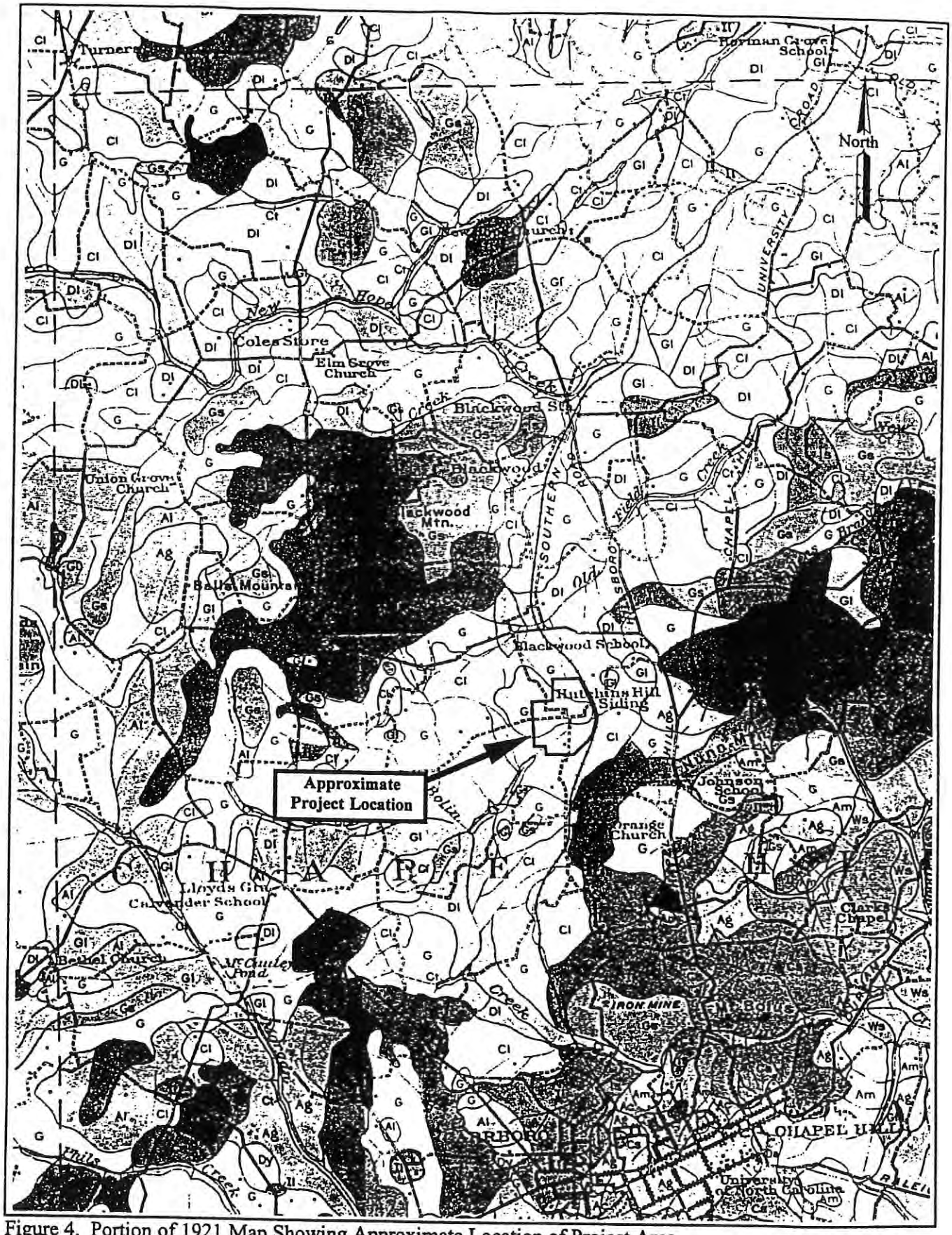

Figure 4. Portion of 1921 Map Showing Approximate Location of Project Area.

FIELD INVESTIGATION

The Greene Tract is entirely wooded in a mixture of mature and young deciduous and pine trees, a number of which have fallen (Figure 5). A cleared power line right-of-way and the University Branch railroad run along the eastern edge of the tract. Quartz and granite outcrops are ubiquitous across the tract, particularly on the hilltops. The terrain is gently rolling, with several small drainages meandering around the base of the hills. Elevations in the southern part of the tract are significantly lower than the northern part, and wetlands adjacent to the drainages in the southern half are more extensive (Figure 6). Several dirt access roads run through the tract, only one of which is depicted on the project map (Figure 7). The 1921 soils map shows this road slightly different than its current alignment, but also shows the existing but overgrown sections running east to the right-of-way and south to the end of the tract.

The initial Phase I survey of the Greene Tract involved the excavation of 650 STPs. The STPs were excavated at 30 m intervals along 31 east-west transects spaced 30 m apart (Figure 8). Transects varied in length due to the irregular configuration of the tract boundaries. Additional STPs were excavated at 5–10 m intervals in cardinal directions around STPs that produced prehistoric or non-modern historic artifacts. Some intuitively placed STPs were excavated at historic sites. A total of 56 additional STPs was excavated, for a total project number of 706. The survey of this tract resulted in the identification of two prehistoric sites, two historic sites, and four isolated finds.

Although soils and water level varied across the tract, two dominant soil profiles were observed. The first involves an A horizon of dark grayish brown (10YR 4/2) or dark brown (10YR 3/2) sandy loam or silt loam (0–20 cmbs) over a B horizon (20–30 cmbs) of yellowish brown (10YR 5/4 or 5/6) sandy loam or silt loam. These two layers are underlain by a second B horizon (30+ cmbs) of strong brown (7.5YR 4/6) sandy clay loam or silty clay loam. The second profile consisted of an olive brown (2.5Y 5/4) sandy loam A horizon (0–10 cmbs) over a B horizon (10–30 cmbs) of light olive brown (2.5Y 6/4)sandy loam. The amount of gravel present in the STPs varied, but was noticeably denser on the higher elevations.

Site 1

Component: Late Archaic
Elevation: 530 ft AMSL
Dimensions: 10 × 20 m
Landform: terrace
Soil Association: Appling sandy loam

Site 1 is located in the northern part of the tract and was first identified by a rhyolite Savannah River projectile point from STP 7-4 (Figure 9a). Ten close-order STPs were excavated around this find, and only one additional rhyolite flake was recovered from STP 7-4+10S. Two previously recorded sites with Savannah River projectile points are located approximately 1.5 miles east of Site 1.

Site 2

Component: unknown prehistoric
Elevation: 560 ft AMSL
Dimensions: 70 × 70 m
Landform: hillside
Soil Association: Appling sandy loam

Site 2 is located in the east-central part of the tract and produced five rhyolite flakes from three STPs on adjoining transects (STPs 1-24, 13-24, 14-26). Eight additional STPs were excavated at closer intervals in all cardinal directions but no further cultural material was found.

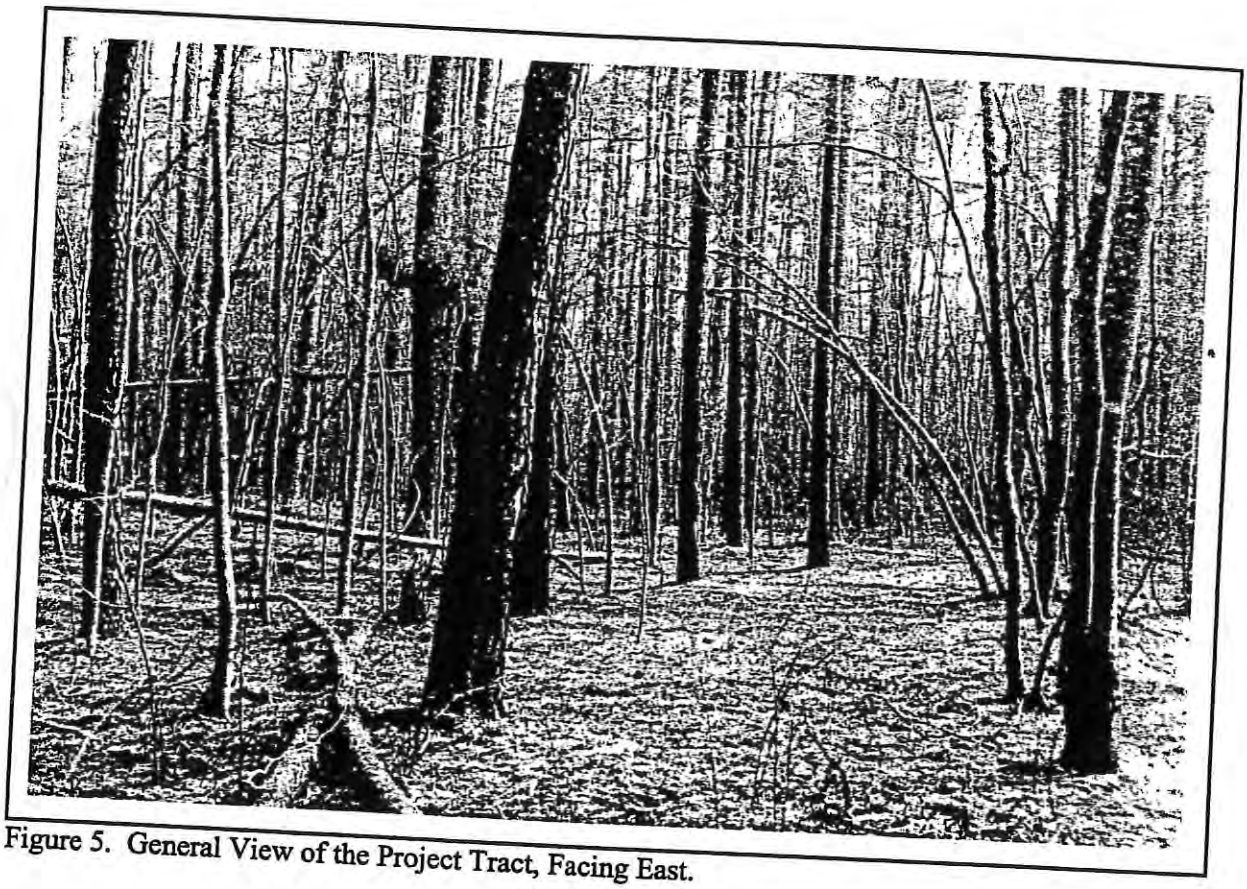

Figure 5. General View of the Project Tract, Facing East.

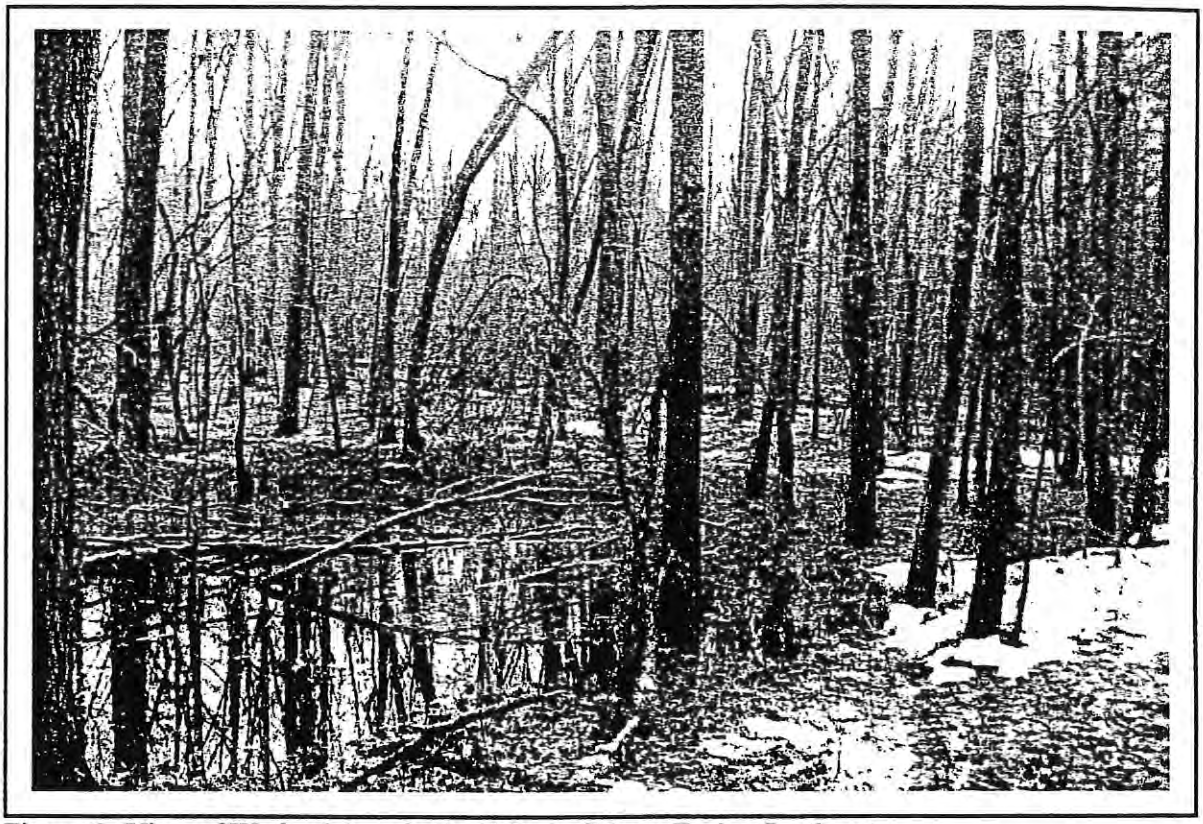

Figure 6. View of Wetland Area in South Part of Tract, Facing Southeast.

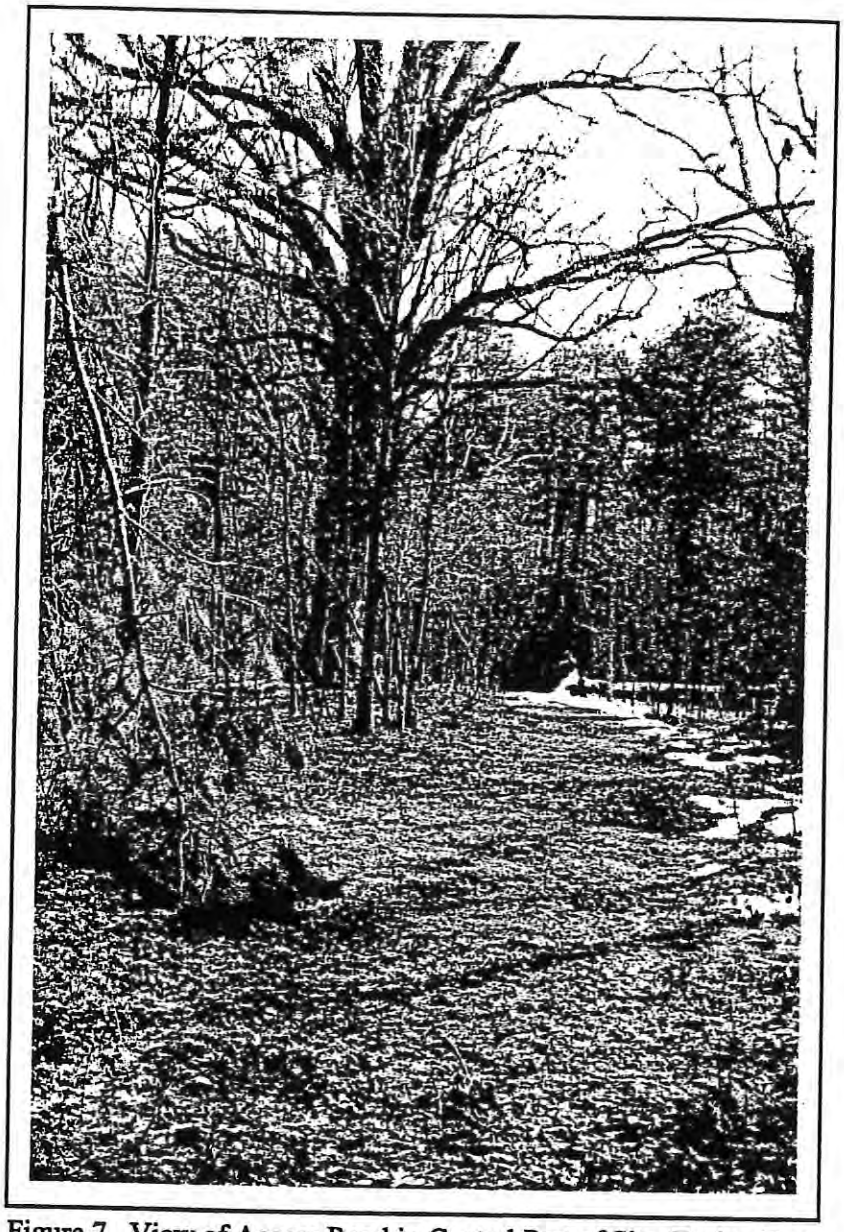

Figure 7. View of Access Road in Central Part of Site, Facing East.

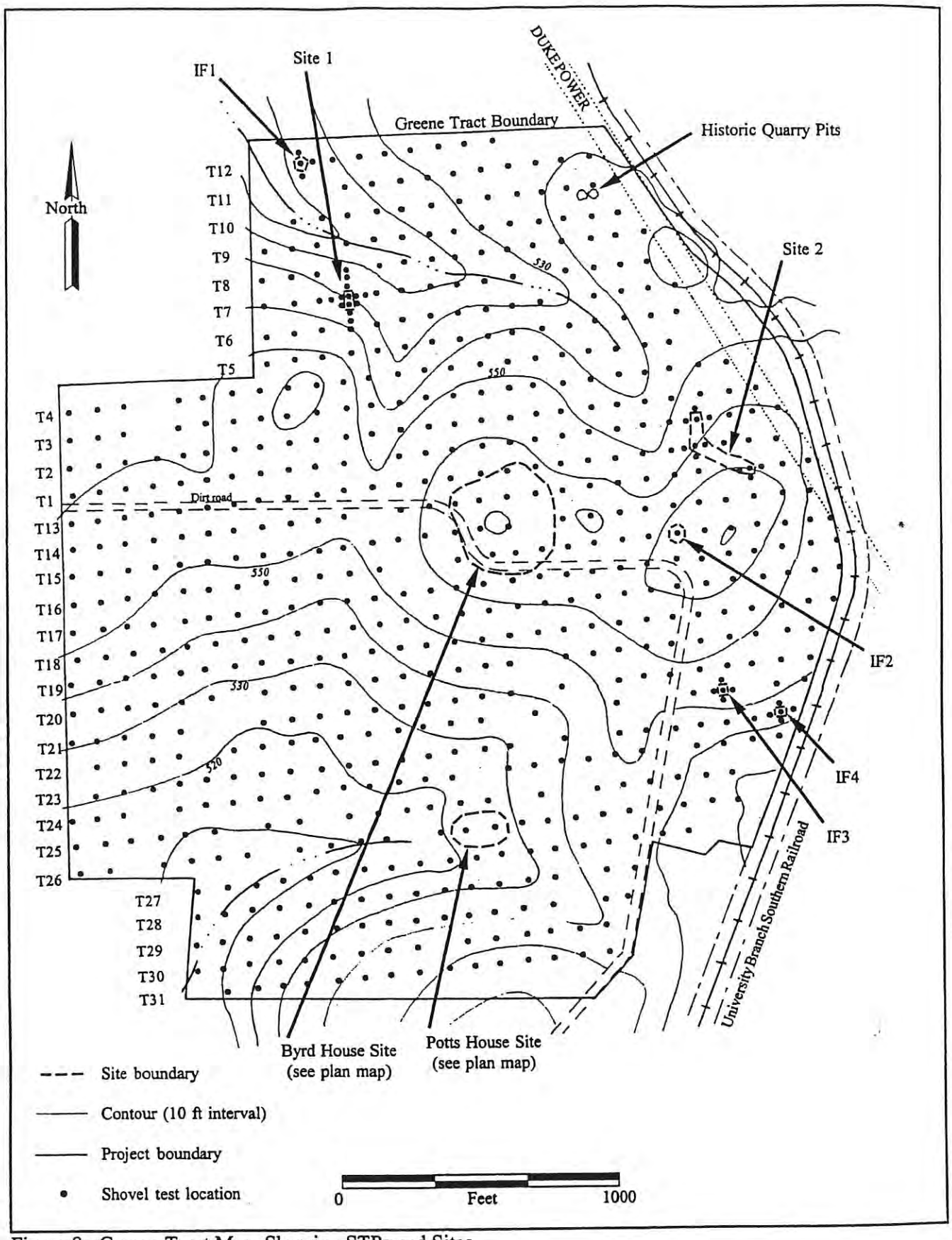

Figure 8. Greene Tract Map, Showing STPs and Sites.

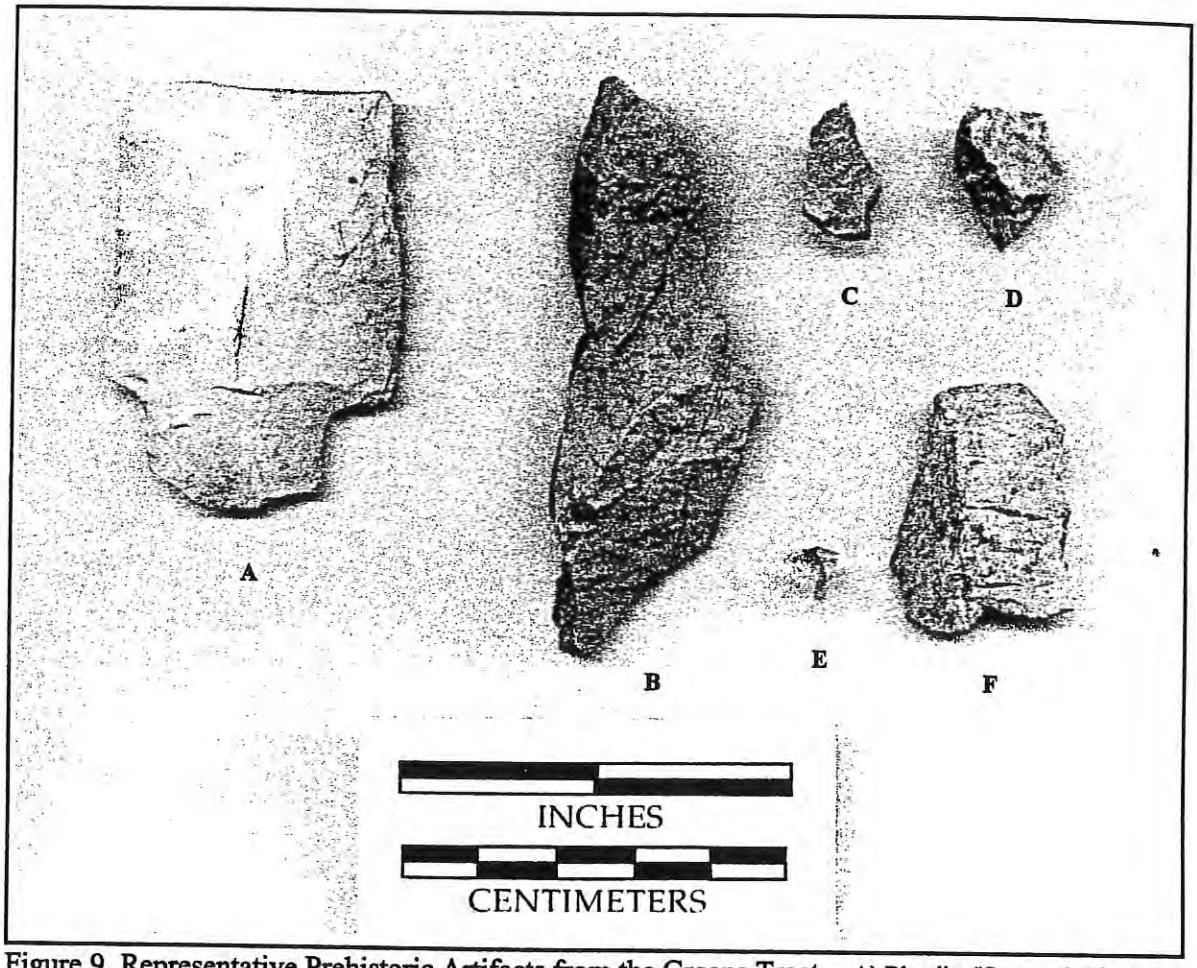

Figure 9. Representative Prehistoric Artifacts from the Greene Tract. A) Rhyolite "Savannah River" Point; B-F) Rhyolite Debitage.

Byrd Farm House Site

Component: late nineteenth through mid-twentieth century
Elevation: 560 ft AMSL
Dimensions: 200 × 200 ft
Landform: hilltop
Soil Association: Appling sandy loam

In the approximate center of the tract, near a bend in the depicted access road, is an area of older oak trees (Figure 10). This is the location of the Byrd Farm House Site referred to in several of the deeds and depicted on the 1898 geological survey map, the 1921 soils map, and the 1946 USGS map. The site is now well covered with overgrown wisteria vines, which are fairly thick in some parts. Structural remnants found at the site include the foundation of an I-House with two brick chimneys, a nearby fallen stone chimney, and a stone-lined well (Figures 11-14). The house is oriented with the long axis running east-west, and measures 16 × 38 feet. The piers were constructed of stacked, flat schist and granite field stones, with little apparent mortar. The house chimneys (one on each end, the western one still intact) were constructed of molded brick and mortar. Approximately 4 feet north of the house foundation is a large pile of uncut field stones that appears to be the remnants of a kitchen hearth/fireplace. Approximately 50 feet northwest of the house is a large stone-lined well. The well is 4 feet in diameter and is constructed of well-mortared flat and rounded quartz and granite stones. A shovel was used to investigate the soil within the well, but it revealed rocks and fill within, but no obvious cultural material. An early 1950s car is abandoned near the access road just west of the house.

As the systematically placed STPs on transects running through this site had failed to recover cultural material, four additional STPs were excavated to the B horizon to investigate the archaeological potential of this site. All of these contained a layer of black (10YR 2/1) loamy sand (0–25 cmbs) over a sterile B horizon of light olive brown (2.5Y 6/4) sandy loam. The soil is considerably darker than the natural profile found on the tract, which could be the result of the fire mentioned by Mr. Byrd. One STP (A) was excavated inside the house at the western end near the chimney, and produced 10 cut nails. One STP (B) was excavated between the house and the apparent kitchen fireplace, and contained one cut nail and a piece of flat metal. One STP (C) was excavated to the west of the kitchen fireplace remnant, and yielded 18 pieces of bottle glass (13 clear, 4 green, 1 amber). The fourth STP was placed on the south side of the well, and five cut nails and four pieces of burned glass were collected. Cut nails were generally replaced in common usage around the turn of the century (ca. 1890), but the rest of the artifacts are not temporally diagnostic. Numerous glass bottles and metal cans are scattered across the site, but may not be associated with the occupation of the house. Mr. Byrd suggested that his grandfather, who he states was born in 1875, and who obtained the property in 1910, constructed the house, but it is unlikely that the house was constructed that late. The property was owned by Laura Faucett prior to 1910, and by Turner King at some point prior to Ms. Faucett.

Another feature found in near the house is a small foundation. The foundation consists of mortared quartz cobbles stacked approximately 1 foot high in a squared U-shaped pattern with wire nails protruding from the top (Figure 15). This feature is located on the south side of the access road, at least 100 feet from the Byrd House. This feature may not be associated with the occupation of the Byrd house, and appears to be fairly modern (<30 years old). A shovel was used to probed the interior of the enclosure, and revealed the typical profile found in nearby STPs. A stacked cinderblock memorial to a lost pet (Genghis) is located just east of the Byrd House, but is not considered to be associated with the occupation of the site. The date of death on the cinderblock is 1982, and this site likely was chosen by someone who lives in one of the nearby houses adjacent to the Greene Tract.

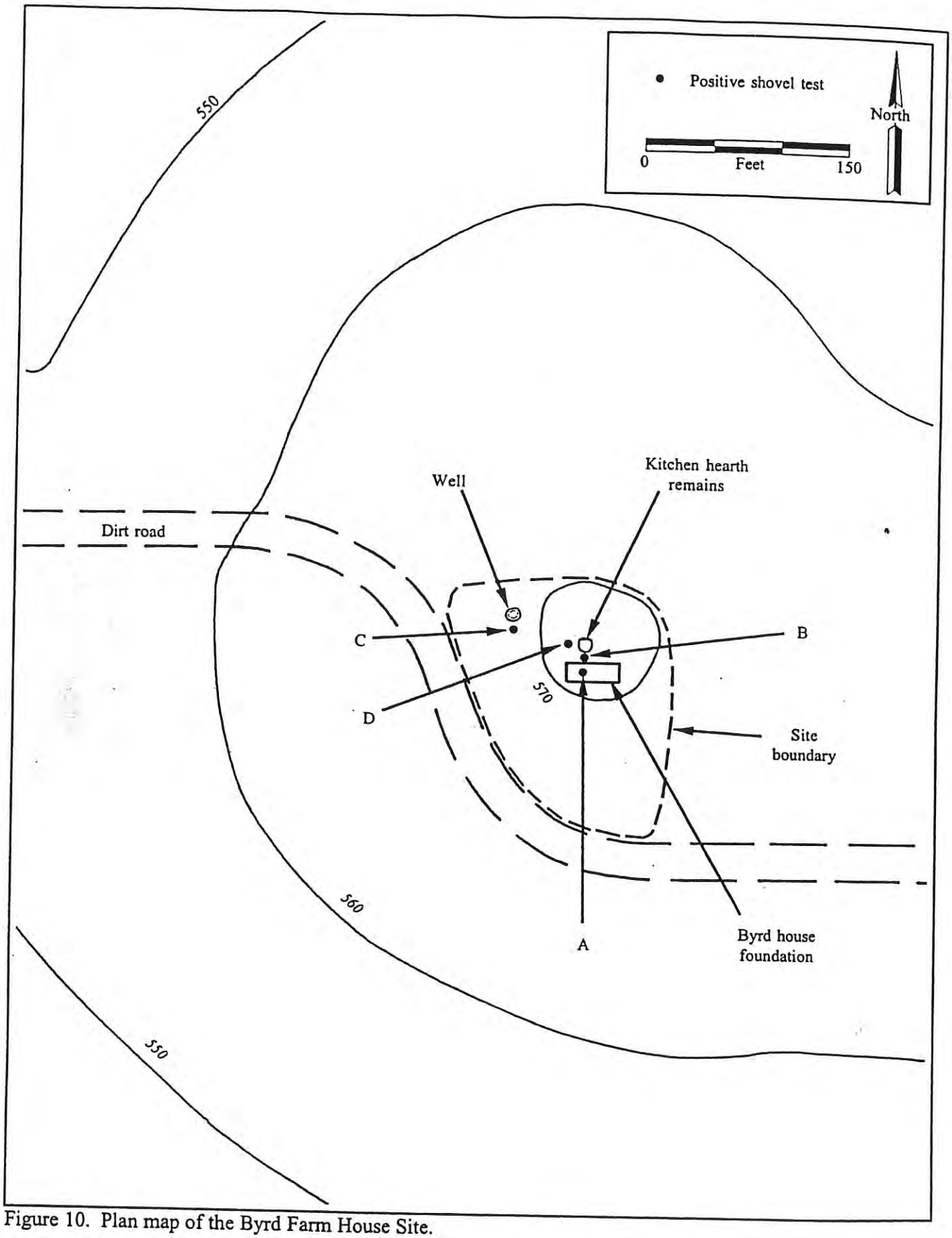

Figure 10. Plan map of the Byrd Farm House Site.

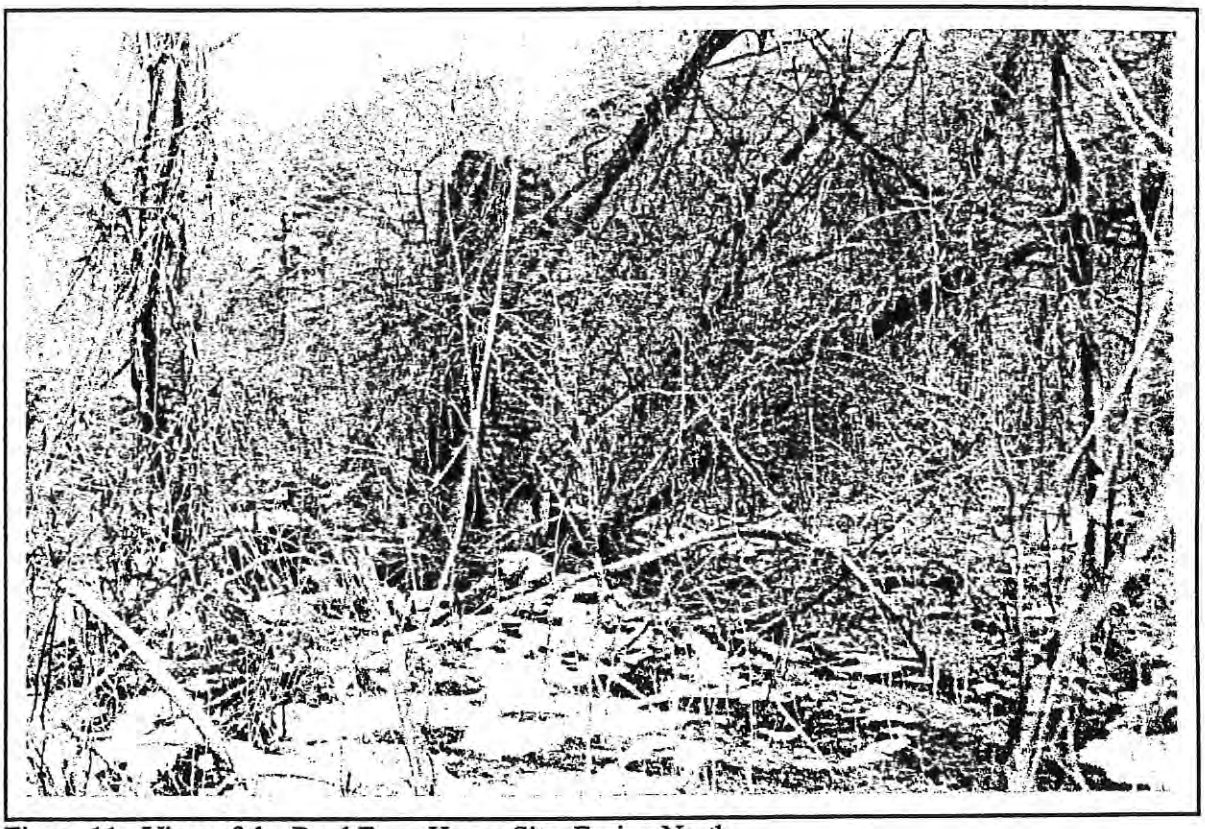

Figure 11. View of the Byrd Farm House Site, Facing North.

Figure 12. View of the Byrd Farm House Foundation, Facing West.

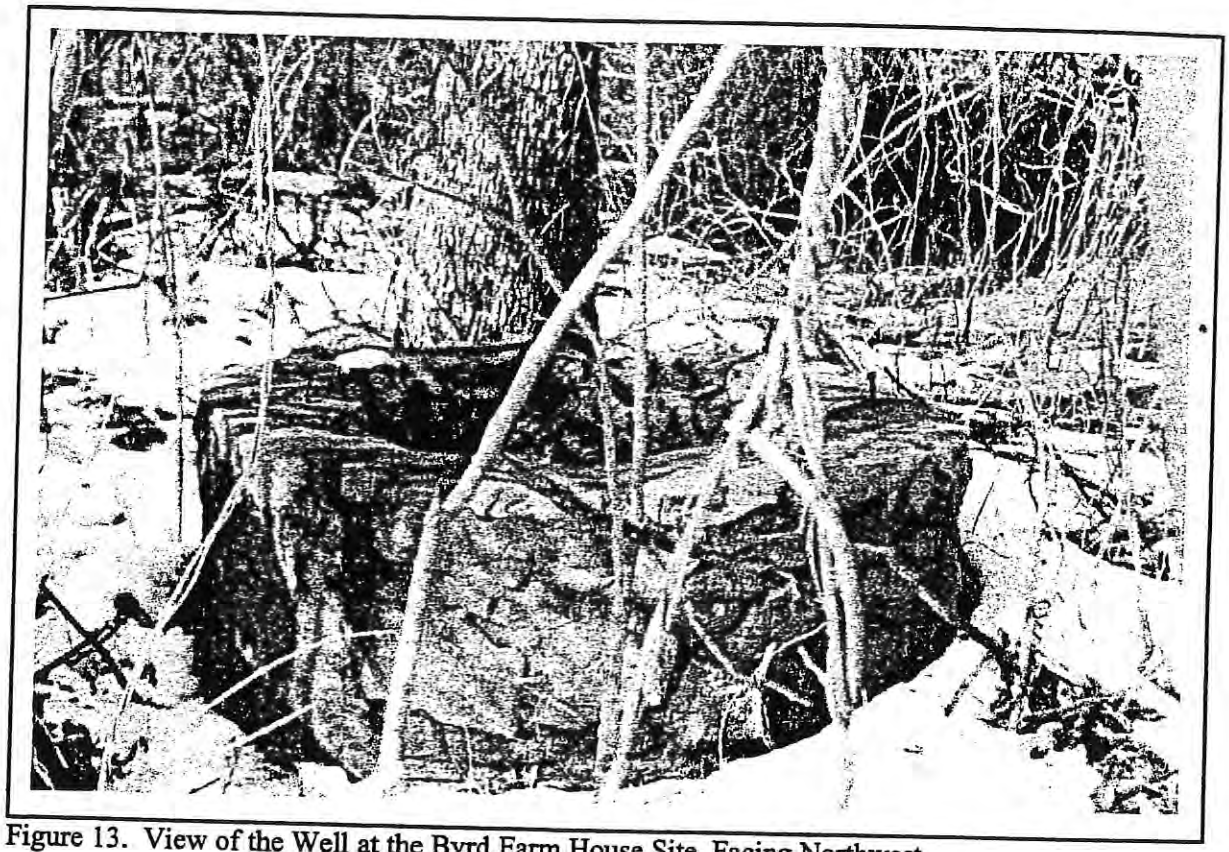

Figure 13. View of the Well at the Byrd Farm House Site, Facing Northwest.

Figure 14. View of the Kitchen Hearth Remnants at the Byrd Farm House Site, Facing Northwest.

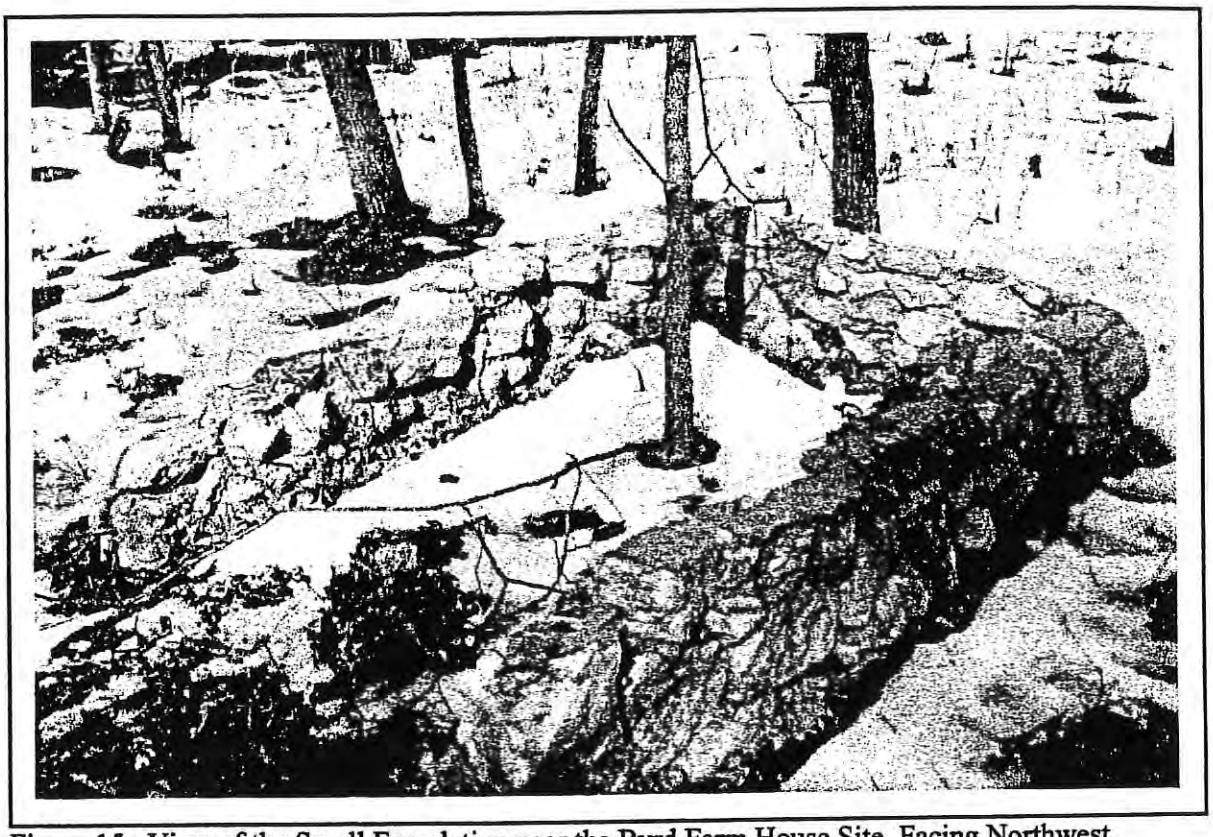

Figure 15. View of the Small Foundation near the Byrd Farm House Site, Facing Northwest.

Potts House Site

Component: mid-nineteenth through early twentieth century
Elevation: 520 ft AMSL
Dimensions: 100 × 150 ft
Landform: low terrace
Soil Association: Helena sandy loam

The Potts House Site is located in the southeastern part of the tract, in the approximate location of the structure depicted on the 1921 soil manual map. This site represents the former home of Johnson and Rebecca Potts (see Figure 4). This leg of the access road is covered by severely overgrown vegetation and is somewhat difficult to trace in some areas, but is apparent enough to make this association with confidence. A stone foundation and chimney remnants were found on transect 26. The foundation is constructed of large, hand-cut granite stones and measures 19 × 24 feet, oriented with the long axis east-west (Figures 16-18). The structural pad is clearly visible and is raised approximately 1 foot above the surrounding landform. The fireplace in the eastern wall remains intact to a height of 7½ feet and a width of 7 feet, and is constructed of the same building materials as the foundation. Some machine-made bricks were found inside the foundation. Remnants of a tin roof are also present inside the foundation. The rectangular shape of this structure may suggest a Scotch-Irish affiliation (Daniel and Ward 1993:3); however, the 1850 census indicated that Jacob Potts came from Sweden.

Two original STPs, one either side of the structural remnants (26-11 and 26-12), produced historic artifacts, and an additional 23 STPs were excavated at 5–10 m intervals to investigate the archaeological potential of this site. Of these, only three contained cultural material. A shovel test was also excavated inside the structure, but a natural soil profile was observed. Artifacts recovered from this site include undecorated ironstone (n=3), undecorated whiteware (n=1), handpainted whiteware (n=1), undecorated porcelain (n=1), transfer printed porcelain (n=1), clear bottle glass (n=4), opaque white glass (n=1), window glass (n=3), a nickel silver spoon, an unidentified nail, and a brick fragment (Figure 19). Two pieces of annular whiteware were also collected from the interior of the structure at the southwest corner. The artifacts indicate a domestic use for this structure and suggest that the house was occupied sometime from the mid-nineteenth to early twentieth century. The house is not depicted on the 1946 USGS map, and the artifact evidence confirms that is was not occupied well into the twentieth century. This fits well with the information provided by Mr. Byrd. It is not known if Johnson and Rebecca Potts constructed this house; the earliest they can be placed at the location is 1879, and by 1914 the property was owned by Fred and James Potts. The site does appear to have been left relatively undisturbed, however, possibly due to its somewhat remote location with respect to the main access road.

The site is located in close proximity to a drainage and associated wetland, which may have provided the water source for the occupants; no well was observed. Although a 4 foot wide ring of large quartz and granite rocks and a few bricks was found approximately 30 feet north of the foundation, it contained a natural soil profile, and may represent the remnants of a flower bed, rather than a subsurface feature. One dead crepe myrtle tree was observed approximately 50 feet northwest of the house. The area surrounding the structural remnants was inspected carefully, but no additional features were observed. Leaf cover may have obscured some features, however, particularly given the length of time since they were abandoned.

Isolated Finds

Four isolated finds were identified, and their locations are depicted on the project map (see Figure 8). One rhyolite flake (IF 1) was found in the extreme northwest corner of the tract on a terrace adjacent to a small drainage (STP 12-8). Three STPs were excavated at 10 m intervals around this find, but no further cultural material was recovered. One railroad spike (IF 2) was collected from an STP (16-23) on a hilltop in the east-central part of the tract; no additional STPs were excavated around this find. Two rhyolite flakes were found in the southeastern part of the tract, one each in STPs 22-25 (IF 3) and 23-27 (IF 4). Four additional STPs were excavated around each of the original STPs and no further cultural material was recovered. As the finds are separated by more than 60 m of sterile space, are different types of rhyolite, and no other cultural material was recovered, they were each assigned separate IF numbers.

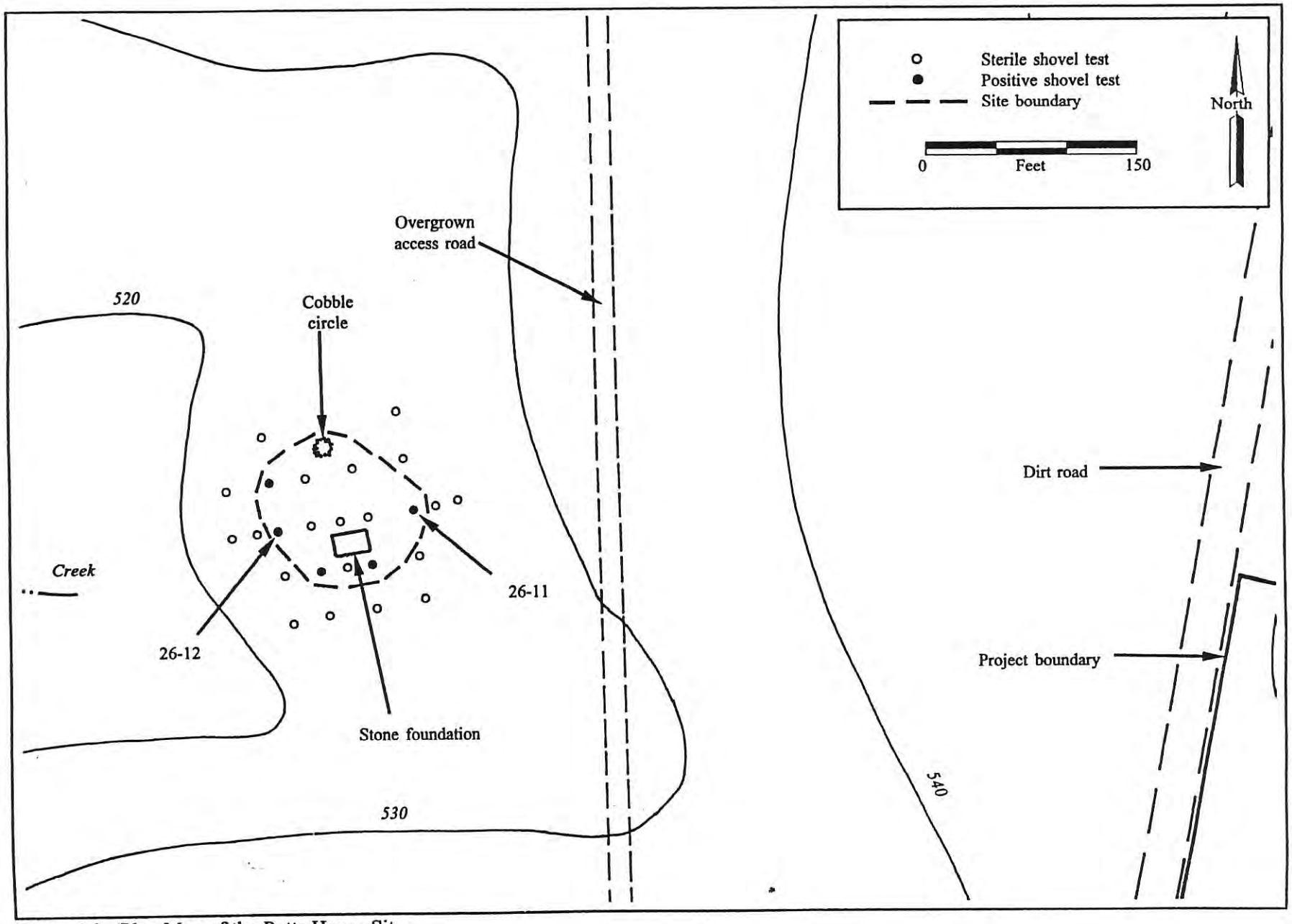

Figure 16. Plan Map of the Potts House Site.

Figure 17. View of the Foundation Remnants at the Potts House Site, Facing East.

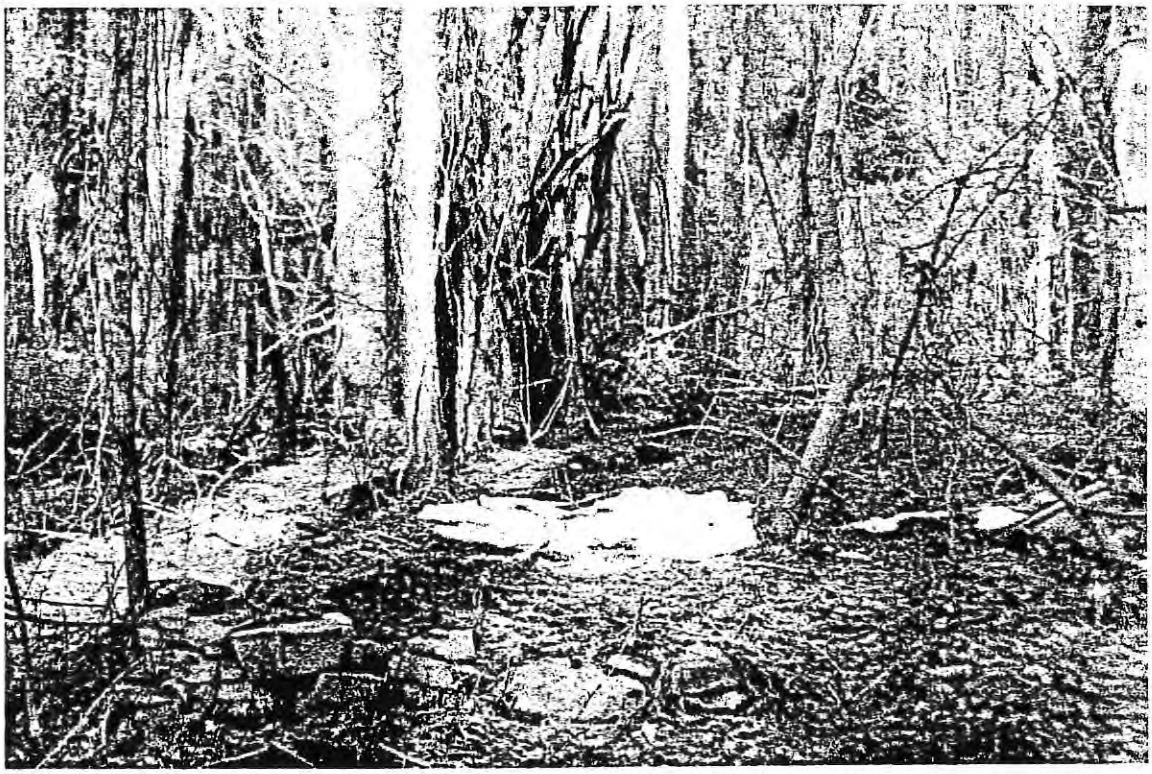

Figure 18. View of the Foundation Remnants at the Potts House Site, Facing North.

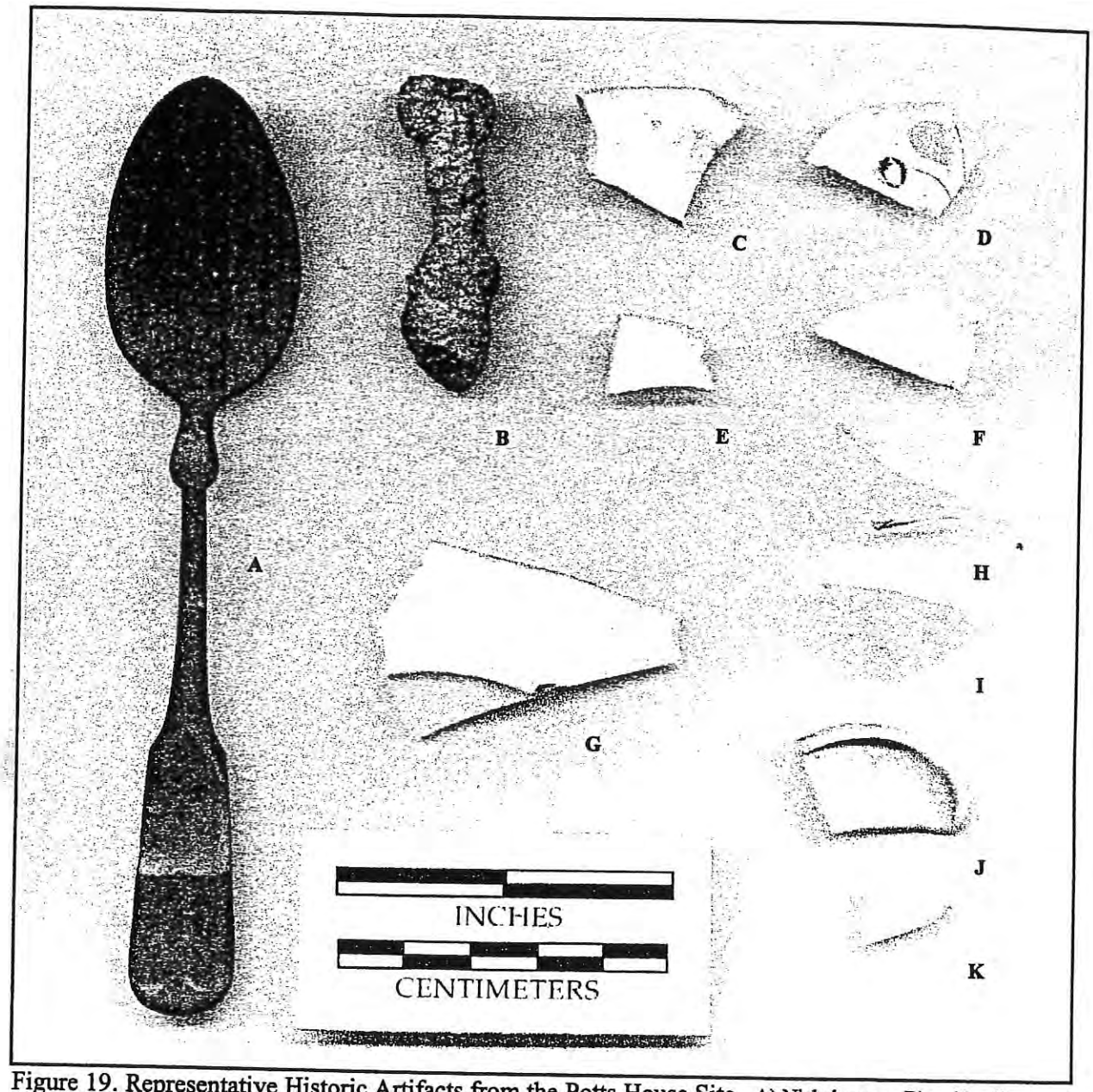

Figure 19. Representative Historic Artifacts from the Potts House Site. A) Nickel spoon; B) unid.nail; C,E,G) ironstone; D,F) whiteware; H,I) bottle glass; J,K) porcelain.

Miscellaneous Features

A number of small to medium-sized piles of fieldstones were observed throughout the tract (Figure 20). These do not appear to be structural remnants, but the result of clearing activities, probably for agricultural purposes. The stone piles are more prevalent in the northeast quadrant of the tract. Two large, deep quarry pits are located in the northeastern section of the tract, just inside the power line right-of-way (Figure 21). The pits are approximately 10–15 m in diameter and 4–5 m deep. Large back dirt piles are confined to the northern edges of these pits, suggesting that the pits were excavated by heavy machinery, rather than by hand (Figure 22). Quartz outcrops all around this area and may have been the material removed from the pits. No lithic reduction debris was found either in nearby STPs or on the surface in the vicinity of the pits, and the pits are clearly historic in origin.

Two tenant houses are located on the Neville Tract, near the northwest portion of the Greene Tract. Only cursory investigation was made of these structures, as they are outside the project area. The cabins are constructed of horizontal plank boards, with a raised plank board floor, and a tin side-gable roof. It appears that there was one small initial structure for each that was enlarged by the addition of one to two rooms. The cabins are oriented with their long axis roughly east-west, and measure approximately 16 × 45 feet. The cabins are approximately 45 feet apart. Chimneys constructed of machine-made brick were added to the structures. The cabins may have been occupied or used in some manner at least as late as 1973, based on a newspaper from that year found in one of the cabins. Numerous articles of clothing, furniture, and appliances are strewn across the cabin rooms.

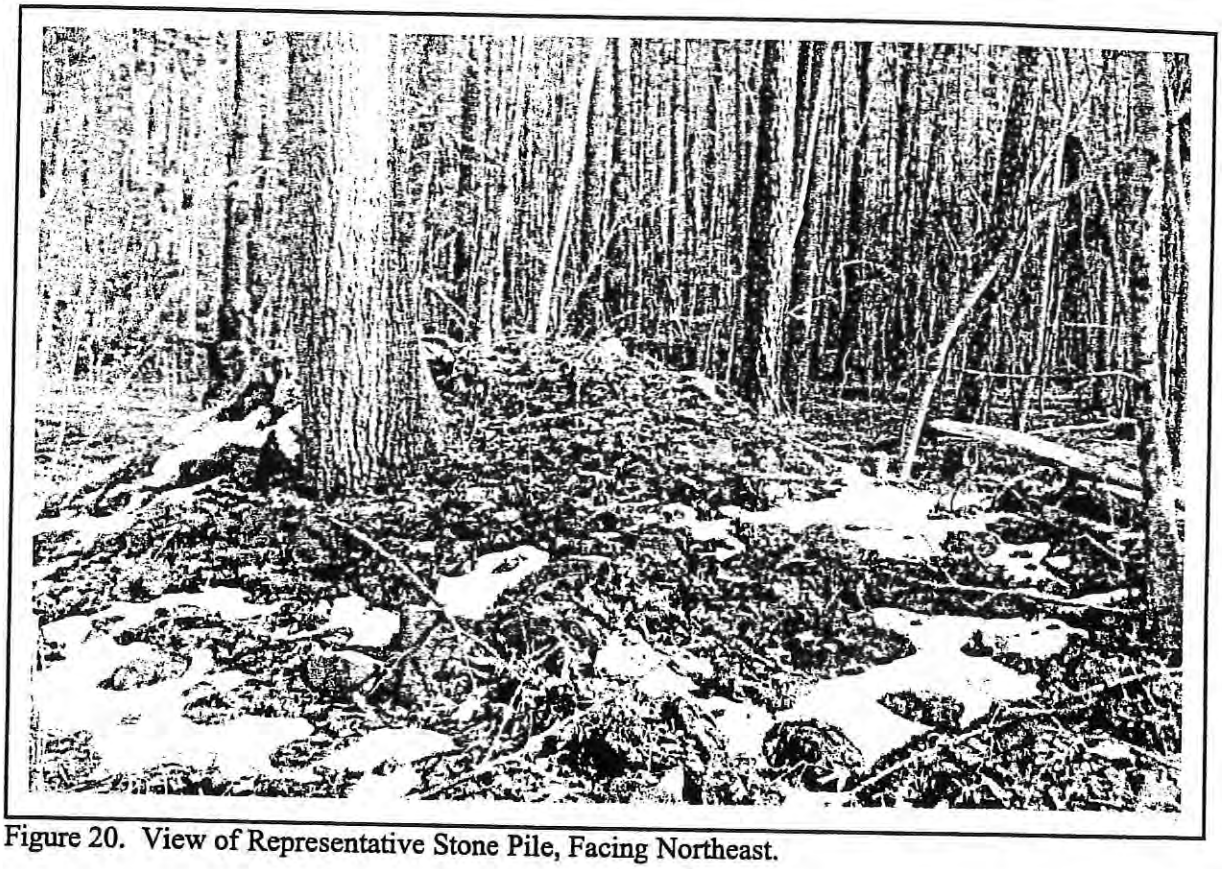

Figure 20. View of Representative Stone Pile, Facing Northeast.

Figure 21. View of Historic Quarry Pits, Facing West.

Figure 22. View of Historic Quarry Pits, Facing East.

VI. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The intensive and extensive archaeological survey of the Greene Tract involved the excavation of 706 STPs. Table 2 summarizes the findings of this study. Two light-density prehistoric lithic scatters were identified, one dating to the Late Archaic period. Two other prehistoric isolated find locations were also identified, revealing that although this area was not used intensively by the prehistoric inhabitants, it must have been used at least occasionally. A total of 10 rhyolite artifacts were found, and although each is classified as gray or green, all are slightly varied in color, suggesting related but potentially different sources of raw material.

Table 2. Summary of Cultural Resources Identified on the Greene Tract.

Site	Component	STPs Total	STPs Positive	Artifacts	Features	Recommendations
Site 1	Late Archaic	11	2	2	none observed	Ineligible for NRHP; no further work
Site 2	unknown prehistoric	11	3	5	none observed	Ineligible for NRHP; no further work
Byrd House	L. 19th. c.– M. 20th c.	8	4	39	house foundation, well, kitchen hearth, small foundation	Potentially eligible for NRHP; further work necessary if impact planned
Potts House	M. 19th c.– E. 20th c.	25	5	20	house foundation	Potentially eligible for NRHP; further work necessary if impact planned
IF 1	unknown prehistoric	5	1	1	none observed	Ineligible for NRHP; no further work
IF 2	unknown historic	1	1	1	none observed	Ineligible for NRHP; no further work
IF 3	unknown prehistoric	5	1	1	none observed	Ineligible for NRHP; no further work
IF 4	unknown prehistoric	5	1	1	none observed	Ineligible for NRHP; no further work

The remains of two historic sites are located on the Greene Tract. Both sites are domestic, one was occupied from the late nineteenth century until the middle of the twentieth century, and the other was probably only occupied from the mid-nineteenth to the early twentieth century. Both sites contain archaeological deposits and architectural remnants. Construction design differs somewhat, but construction elements (locally available stone, brick) are similar. Each site is quite different in character, however.

The Byrd Farm House is situated immediately adjacent to the main access road crossing through the tract. The site is located on high ground a considerable distance from a natural water source. The site contains the remnants of the house, a well, and a unattached kitchen hearth. Ornamental vegetation is still visible, including roses, daffodils, and wisteria. An quartz cobble enclosed rose garden is located southeast of the house. At least one of the property owners is identifiable through deed records, and the site is referred to as the Byrd Farm House in several deed records. The site was occupied for several decades, and perhaps by several generations.

In contrast, the Potts House is located somewhat off of an extension to the main access road. This extension is heavily overgrown and difficult to trace in some places, indicating a significant amount of time has passed since it was last used. No structural features other than the house were located. The site is located in a low and wet area, near a small creek. The site may have been occupied for several

decades, but appears to have had a much more limited use span than the Byrd House. One dead crepe myrtle tree and a possible flower bed constitute the only evidence that the natural environment may have been modified at this site. Deed references indicated that Johnson and Rebecca Potts "lived and died" in the house, but it is not known if it was used before or after that occupation. It is also not known where they are buried, although no indications of grave sites were found.

RECOMMENDATIONS

The identification of prehistoric sites (Site 1 and Site 2) and the isolated finds (IF 1, IF 2, IF 3, IF 4) adds to the general knowledge of the past use of the project area, but they do not represent significant occupations, nor offer potentially important research opportunities. The are not NRHP eligible, and no further cultural resource investigation of these sites and finds is recommended.

The two historic sites (Byrd House site and Potts House site), however, could each provide information regarding the past lifeways of rural inhabitants of Orange County, and as such are potentially eligible for listing in the NRHP under criterion D. As Daniel and Ward (1993:37) note, "written and historical record is notoriously biased in favor of the wealthy and powerful, whereas comparatively little attention is devoted to reconstructing and understanding the past of the poor and working class. . ." These two sites represent significant, and largely intact, archaeological resources, with architectural remnants and features. The Phase I background research indicated that the archaeological deposits and architectural features could be assigned to one or a few specific occupations, further strengthening their research value. If future impacts to these two historic sites are planned, its is recommended that a Phase II level of investigation, including intensive background research and oral history, be conducted to determine if these sites are eligible for listing to the NRHP.

"sites"

Criterion D - [illegible]

information [illegible]

REFERENCES CITED

Anderson, David G.
1996 Modeling Regional Settlement in the Archaic Period Southeast. In *Archaeology of the Mid-Holocene Southeast*, edited by Kenneth E. Sassaman and David G. Anderson, pp. 161–180. University of Florida Press, Gainesville.

Anderson, David G., and Glen T. Hanson
1988 Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River Valley. *American Antiquity* 53:262–286.

Anderson, David G., Charles E. Cantley, and A. Lee Novick
1982 *The Mattassee Lake Sites: Archaeological Investigations along the Lower Santee River in the Coastal Plain of South Carolina.* Special Publication. Interagency Archeological Services, National Park Service, Atlanta.

Blackwelder, Ruth
1953 Settlement and Early History. In *Orange County 1752–1952*, edited by Hugh Lefler and Paul Wager, pp. 14-23. Chapel Hill, North Carolina

Blanton, Dennis B., and Kenneth E. Sassaman
1989 Pattern and Process in the Middle Archaic Period of South Carolina. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by A. Goodyear and G. Hanson, pp. 53–71. Anthropology Studies 9. Occasional Papers of the South Carolina Institute of Archeology and Anthropology, University of South Carolina, Columbia.

Braun, E. Lucy
1950 *Deciduous Forests of Eastern North America.* The Blakiston Company, Philadelphia.

Broyles, Bettye J.
1971 *Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia.* West Virginia Geological and Economic Survey, Report of Archaeological Investigations No. 3. Morgantown.

Bryson, Reid A., David A. Baerreis, and W. M. Wendland
1970 The Character of the Late Glacial and Post Glacial Climatic Changes. In *Pleistocene and Recent Environments of the Central Great Plains*, edited by W. Dort, Jr. and J. K. Jones, Jr., pp. 53–74. University of Kansas Special Publications No. 3. Lawrence, Kansas.

Chapel Hill Bicentennial Commission (CHBC)
1994 *Chapel Hill: 200 Years "Close to Magic."* Chapel Hill Bicentennial Commission, Town of Chapel, Chapel Hill, North Carolina.

Claggett, Stephen R. (editor)
1985 *Planning Resource Protection Process (RP3) Study for Rocky River and the South Yadkin River Basins (The South Yadkin RP3 Study Area), North Carolina.* U. S. Army Corps of Engineers, Wilmington, North Carolina.

Claggett, Stephen R., and John S. Cable
1982 *The Haw River Sites: Archaeological Investigations at Two Stratified Sites in the North Carolina Piedmont.* Commonwealth Associates, Inc., Jackson, Michigan. Submitted to U.S. Army Corps of Engineers, Wilmington, North Carolina.

Coe, Joffre L.
1937 Keyauwee-A Preliminary Statement. *Bulletin of the Archaeological Society of North Carolina* 4(1):8-16.

1964 *The Formative Cultures of the Carolina Piedmont*. Transactions of the American Philosophical Society 54(5).

1995 *Town Creek Indian Mound: A Native American Legacy*. The University of North Carolina Press, Chapel Hill.

Daniel, I. Randolph, Jr.
1994 *An Archaeological Survey of Portions of Orange County, North Carolina*. Research Report 12, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1998 *Hardaway Revisited: Early Archaic Settlement in the Southeast*. The University of Alabama Press, Tuscaloosa.

Daniel, I. Randolph, Jr., and J. R. Butler
1994 Rhyolite Sources in the Uwharrie Mountains, Central North Carolina. In *Hardaway Revisited: Early Archaic Settlement in the Southeast*, by I.R. Daniel, Jr. Unpublished Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Daniel, I. Randolph, Jr., and Tatjana Vujic
1995 Alexander Hogan Plantation National Register of Historic Places Nomination Form. On file, North Carolina Office of State Archaeology, Raleigh.

Davis, R. P. Stephen, and H. Trawick Ward
1991 The Evolution of Siouan Communities in Piedmont North Carolina. *Southeastern Archaeology* 10(1):40-53.

1993 *Test Excavations at Selected Log Cabin Sites in Orange County, North Carolina*. Research Report 10, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Davis, R. P. Stephen, Jr., Patrick C. Livingood, H Trawick Ward, and Vincas P. Steponaitis (editors)
1998 *Excavating Occaneechi Town: Archaeology of an Eighteenth-Century Indian Village in North Carolina*. CD-ROM. University of North Carolina, Chapel Hill.

Delcourt, Paul A.
1978 *Quaternary Vegetational History of the Gulf Coastal Plain*. Unpublished Ph.D. dissertation, Department of Geology and Geophysics, University of Minnesota, Minneapolis.

Delcourt, Paul A., and Hazel R. Delcourt
1983 Late Quaternary Vegetational Dynamics and Community Stability Reconsidered. *Quaternary Research* 19:265–271.

Dunn, James
1977 *Soil Survey of Orange County, North Carolina*. United States Department of Agriculture, Soil Conservation Service in cooperation with North Carolina Agricultural Experiment Station and Orange County Board of Commissioners.

Fenneman, Nevin M.
1938 *Physiography of Eastern United States*. McGraw-Hill, New York.

Goodyear, Albert C. III
1982 The Chronological Positioning of the Dalton Horizon in the Southeastern United States. *American Antiquity* 47:382-395.

Graham, R. W., and E. L. Lundelius Jr.
1984 Coevolutionary Disequilibrium and Pleistocene Extinctions. In *Quaternary Extinctions: A Prehistoric Revolution*, edited by P. S. Martin and R. G. Klein, pp. 223–249. University of Arizona Press, Tucson.

Herbert, Joseph M.
1992 *Archaeological Survey of a 1.9 Mile Section of Airport Road (NC 86) Orange County, NC.* On file, North Carolina Department of Transportation, Division of Highways, Planning and Environmental Branch, Raleigh.

Joy, Deborah
1999 *Archaeological Survey Report, Proposed Orange County Landfill, Eubanks Road, Chapel Hill, Orange County, North Carolina.* Prepared for Joyce Engineering, Inc., Greensboro, North Carolina. Prepared by Legacy Research Associates, Inc., Durham, North Carolina.

Kelly, Robert L., and Lawrence C. Todd
1988 Coming into the Country: Early Paleoindian Hunting and Mobility. *American Antiquity* 53:231–244.

Kenzer, Robert C.
1985 Family, Kinship, and Neighborhood in an Antebellum Southern Community. In *A Master's Due: Essays in Honor of David Herbert Donald*, edited by William J. Cooper Jr., Michael F. Holt, and John McCardell, pp 138–160, Louisiana State University Press, Baton Rouge.

Lefler, Hugh T.
1967 *A New Voyage to Carolina by John Lawson.* University of North Carolina, Chapel Hill.

Lefler, Hugh, and Paul Wager
1953 *Orange County 1752—1952.*, Chapel Hill, North Carolina.

McCabe, J. Terrance, Thomas H. Hargrove, and Jerry L. Cross
1978 *I40 Extension: A Cultural Resource Reconnaissance Survey of the Proposed Interstate 40 Extension, Durham and Orange Counties, North Carolina.* Archeology Branch, Archeology and Historic Preservation Section, Division of Archives and History, Department of Cultural Resources, Raleigh. Submitted to the North Carolina Department of Transportation, Raleigh.

Markham, A. B.
1973 *Land Grants to Early Settlers in Old Orange County, North Carolina.* A. B. Markham, Durham, North Carolina.

Mathis, Mark A.
1979 *North Carolina Statewide Archaeological Survey: An Introduction and Application to Three Highway Projects in Hertford, Wilkes, and Ashe Counties.* Publication 22. North Carolina Archaeological Council, Raleigh.

Meltzer, David J., and J. I. Mead
1983 The Timing of Late Pleistocene Mammalian Extinctions in North America. *Quaternary Research* 19:130–135.

Meltzer, David J., and Bruce D. Smith
1986 Paleoindian and Early Archaic Subsistence Strategies in Eastern North America. In *Foraging, Collecting, and Harvesting: Archaic Period Subsistence and Settlement in the Eastern Woodlands*, edited by Sarah W. Neusius, pp. 3–31. Occasional Paper No. 6. Center for Archaeological Investigations, Southern Illinois University at Carbondale.

Merrell, James H.
1987 This Western World: The Evolution of the Piedmont, 1525-1725. In *The Siouan Project: Seasons I and II*, edited by Roy S. Dickens, Jr., H. Trawick Ward, and R. P. Stephen Davis, Jr., pp 19-27. Monograph Series No. 1. Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Mouer, L. Daniel
1991 Formative Transition in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 1-88. Special Publication 23. Archaeological Society of Virginia, Courtland, Virginia.

Noël Hume, Ivor
1969 *A Guide to the Artifacts of Colonial America*. Random House, New York.

North Carolina Geological Survey (NCGS)
1898 Map of Orange County, Chapel Hill Sheet.

1985 *Geological Map of North Carolina*. North Carolina Geological Survey, Raleigh.

North Carolina Highway and Public Works (NCH&PW)
1938 Map of Orange County. On file at North Carolina Collections, University of North Carolina, Chapel Hill.

Orange County Historic Preservation Commission (OCHPC)
1996 *Historic Preservation Element, Orange County Comprehensive Plan, Orange County, North Carolina*. Orange County Historic Preservation Commission, Orange County Planning Department, and the Jaeger Company, Gainesville, Georgia.

Orange County Planning Department
1986 *An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County*. Orange County Planning Department. Revised May 1988.

Powell, William S.
1989 *North Carolina Through Four Centuries*. The University of North Carolina Press, Chapel Hill.

Sassaman, Kenneth E., Mark J. Brooks, Glen T. Hanson, and David G. Anderson
1990 *Native American Prehistory of the Middle Savannah River Valley: A Synthesis of Archaeological Investigations on the Savannah River Site, Aiken and Barnwell Counties, South Carolina*. Savannah River Archaeological Research Papers No. 1. University of South Carolina, South Carolina Institute of Archaeology and Anthropology, Columbia.

South, Stanley
1977 *Method and Theory in Historical Archeology*. Academic Press, New York.

Stine, Linda F., and Thomas Hargrove
1999 *An Archaeological Context for St. Mary's Road Corridor, Orange County, North Carolina*. Prepared for the Orange County Environment and Resource Conservation Department, Hillsborough and the North Carolina Department of Cultural Resources, Division of Archives and History, Raleigh.

Stuckey, Jasper L., and W. G. Steele
1953 *Geology and Mineral Resources of North Carolina*. North Carolina Department of Conservation and Development, Division of Mineral Resources. Educational Series No. 3. Raleigh, North Carolina.

Tate, George W.
1891 *Map of Orange County, North Carolina.* George W. Tate, Bingham School, North Carolina.

Underhill, Roy
1983 *The Wood Wright's Companion: Exploring Traditional Woodcraft.* The University of North Carolina Press, Chapel Hill.

United State Geological Survey (USGS)
1946 Chapel Hill, North Carolina 7.5 minute quadrangle map. Washington, D. C.

1993 Chapel Hill, North Carolina 7.5 minute quadrangle map. Washington, D. C.

Vanatta, E. S., L. L. Brinkley, and S. F. Davidson
1921 *Soil Survey of Orange County, North Carolina.* U. S. Department of Agriculture, Government Printing Office, Washington, D. C.

Ward, H. Trawick
1983 A Review of Archaeology in the North Carolina Piedmont: A Study of Change. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by M. Mathis and J. Crow, pp. 53–81. North Carolina Division of Archives and History, Department of Cultural Resources, Raleigh.

Ward, H. Trawick and R. P. Stephen Davis, Jr.
1999 *Time Before History: The Archaeology of North Carolina.* University of North Carolina Press, Chapel Hill.

Watts, W. A.
1975 Vegetation Record for the Past 20,000 Years from a Small Marsh on Lookout Mountain, Northwestern Georgia. *Geologic Society of America Bulletin* 86.

1980 Late-Quaternary Vegetation History at White Pond on the Inner Coastal Plain of South Carolina. *Quaternary Research* 13:187–199.

Wharton, Charles H.
1977 *The Natural Environments of Georgia.* Georgia Department of Natural Resources, Office of Planning and Research, Resource Planning Section, Atlanta.

Whitehead, Donald R.
1965 Palynology and Pleistocene Phytography of Unglaciated Eastern North America. In *The Quaternary of the United States*, edited by H. E. Wright, Jr., and D. G. Frey. Princeton University Press, Princeton.

1973 Late-Wisconsin Vegetation Changes in Unglaciated North America. *Quaternary Research* 3:621–631.

Wright, H. E., Jr.
1981 Vegetation East of the Rocky Mountains 18,000 Years Ago. *Quaternary Research* 15:113–125.

APPENDIX 1

ARTIFACT CATALOG

Greene Tract Phase I Survey Catalog

Bag	Site	STP	Strat	Level*	Quantity	Description	Material	Color	Comments
1	Site 2	1-24	I	1 (0-20)	2	tertiary flake fragment	rhyolite	light green	
					1	primary unspecialized flake	rhyolite	light green	
2	Site 1	7-4	II	2 (10-40)	1	Savannah River projectile point	rhyolite	tan	patina, transverse fracture
3	Site 1	7-4+10S	II	2 (15-30)	1	tertiary biface thinning flake	rhyolite	light green	heavy patina
4	Isolated Find 1	12-8	I	1 (0-10)	1	tertiary unspecialized flake	rhyolite	light green	
5	Site 2	13-24	I	1 (0-20)	1	tertiary biface thinning flake	rhyolite	light green	
6	Site 2	14-26	II	2 (15-20)	1	tertiary unspecialized flake	rhyolite	gray with phenocrysts	
7	Isolated Find 2	16-23	I	2 (15-25)	1	railroad spike			corroded
8	Isolated Find 3	22-25	II	2 (10-40)	1	tertiary biface thinning flake	rhyolite	light gray	
9	Isolated Find 4	23-27	I	1 (0-35)	1	tertiary unspecialized flake	rhyolite	light gray	heavy patina
10	Potts House Site	26-11	I	1 (0-10)	2	ironstone	plain		
11	Potts House Site	26-11+10W+10S	I	1 (0-30)	1	whiteware, plain			
					1	whiteware, handpainted		pink, green	floral
					1	unidentified nail			corroded
					1	curved glass		clear	
					1	curved glass		clear	patina
12	Potts House Site	26-12	I	1 (0-30)	1	porcelain	plain		
					1	porcelain	transfer print	red	
					1	silver spoon			"Rogers German Silver"
					1	curved glass		opaque white	
					1	ironstone	plain		plate base
13	Potts House Site	26-12+10E+10S	I	1 (0-10)	1	bottle glass	square	clear	"CW"
					3	window glass		aqua	
					1	bottle glass		clear	lip
14	Potts House Site	26-12+10N	I		1	brick fragment			
15	Potts House Site	inside foundation			2	whiteware	annular	brown, tan	
16	Byrd House Site	A		1 (0-15)	10	cut nail			
17	Byrd House Site	B		1 (0-15)	1	cut nail			
					1	unid. flat metal			broken in 5 pieces
18	Byrd House Site	C		1 (0-18)	4	bottle glass	green		
					13	bottle glass	clear		
					1	bottle glass	amber		
19	Byrd House Site	D		1 (0-15)	5	cut nail			corroded
					2	decorative glass	clear		burned
					1	bottle glass	light blue		burned
					1	bottle glass	clear		burned

*centimeters below surface

APPENDIX 2

ABBREVIATED RESUME OF THE PRINCIPAL INVESTIGATOR

HEATHER MILLIS

EDUCATION

M.A., Anthropology, State University of New York at Albany, 1994
B.A., History, University of Maryland, 1986
Rutgers College, New Brunswick, New Jersey, 1982–1983

TECHNICAL SPECIALTIES

Ms. Millis has 12 years of experience encompassing:

- Archival Research/Land Use Studies
- Archaeological Inventory Surveys
- Archaeological Site Assessments and National Register Testing
- Archaeological Site Mitigation and Data Recovery

EXPERIENCE

Ms. Millis is a Senior Archaeologist and Assistant Branch Manager for TRC Garrow Associates, Inc. in Chapel Hill. Her extensive experience in cultural resource studies has been gained during a 12 year career on projects conducted across the eastern United States. She has served as Field Director or Historian on over 45 projects. Selected projects are summarized below.

Archival Research/Land Use Studies

Western Branch Patuxent River Watershed, Maryland. Conducted background research and field reconnaissance to develop an archaeological sensitivity model for this drainage system in Prince George's County. Senior author on report of findings.

Blackwater National Wildlife Refuge, Maryland. Served as Field Director and senior author for an archaeological reconnaissance survey at the Blackwater National Wildlife Refuge in Dorchester County, Maryland. Involved archaeological and geomorphological research for developing a landform sensitivity model for future management of cultural resources and the refuge's comprehensive planning document.

Spine Line Corridor MIS/DEIS, Pennsylvania. Historian for the development of historic and prehistoric cultural context for the Port Authority of Allegheny County. Involved extensive historical and archaeological background research for land use model of multiple alternatives in the City of Pittsburgh and outlying areas. Senior author of report on findings for compliance.

Federal North Redevelopment, Pennsylvania. Conducted a Phase IA cultural resource survey and land use history for a one-block area in the Northside section of the City of Pittsburgh scheduled for redevelopment.

Presque Isle Post Office, Pennsylvania. Conducted Phase IA cultural resource survey and land use history of 8.5 acre area for the proposed location of a postal facility in Erie County.

Sun Pipeline Relocation, Pennsylvania. Directed the Phase IA cultural resource survey of a 1,200 feet segment of pipeline relocation in Delaware County. Responsible for the background research and field visit, and authored report of findings for compliance.

PECO Pipeline, Pennsylvania. Directed the Phase IA cultural resource survey of a 2.6 mile segment of proposed pipeline in Bucks County. Responsible for the background research and field visit, and authored report of findings for compliance.

Wellsburg Riverbank Protection, West Virginia. Conducted a deed search and compiled a land use history to address U.S. Army Corps of Engineer's questions regarding a completed archaeological project along the Ohio River in Brooke County.

Archaeological Inventory Surveys

US 113 Project, Maryland. Directed Phase I survey of additional sections of right-of-way for highway project in eastern Maryland. Directed laboratory analysis and authored report of findings.

Lake Road Generating Power Plant, Connecticut. Directed fieldwork and laboratory analysis for a 60 acre tract and adjacent pipeline corridor and co-authored report of findings for compliance.

US 113 Expansion, Maryland. Conducted prehistoric archival research and provided logistical support for the survey of a 23-mile corridor for a proposed dualization by MDOT in Worcester County. Conducted laboratory analysis and co-authored report of findings for compliance.

Monastery Run Wetlands, Pennsylvania. Conducted a Phase I survey on a 35 acre tract in Westmoreland County. Performed laboratory analysis and authored report of findings for compliance.

Lycoming Mall Outparcel Development, Pennsylvania. Conducted a Phase I survey of 24 acres in Lycoming County. Performed laboratory analysis and authored report of findings for compliance.

Dauphin Meadows Sanitary Landfill Western Expansion, Pennsylvania. Conducted Phase I survey of 199 acres in Dauphin County. Performed laboratory analysis and authored report of findings for compliance.

Lanchester Landfill Facility Expansion, Pennsylvania. Conducted a Phase I survey of a 55 acre tract in Chester County. Performed laboratory analysis and authored report of findings for compliance.

Greensburg Development, Pennsylvania. Conducted a Phase I survey of a 63 acre tract in Westmoreland County, conducted laboratory analysis and authored report of findings for compliance.

Nemacolin Woodlands Ski Resort, Pennsylvania. Conducted a Phase I survey of 68 acres in Fayette County, conducted laboratory analysis and authored report of findings for compliance.

Lawrence Township Sewage Treatment Plant and Force Main and Interceptor Sewers, Pennsylvania. Co-directed laboratory analysis and co-authored report of findings from reconnaissance and testing of site 36TI68 in Tioga County for compliance.

Route 38 Industrial Park, Pennsylvania. Directed survey investigations of 165 acres for a proposed industrial park in Butler County. Responsible for laboratory analysis and authored report of findings for compliance.

Archaeological Site Assessments and National Register Testing

US 113 Project, Maryland. Directed Phase II investigations on two sites in eastern Maryland (18WO196 and 18WO204). Directed laboratory analysis and authored report on findings.

York Crossing Site, Pennsylvania. Directed laboratory analysis, performed background research, and co-authored report on Phase II investigation at a late eighteenth-century farmstead in York County.

Arlington National Cemetery, Virginia. Directed a multidisciplinary cultural resources study of a 24-acre tract adjacent to Arlington House, the Robert E. Lee Memorial in Arlington County. Research involved survey and site assessment investigations of archaeological resources on the property, documenting both prehistoric and ante-bellum historic period use of this tract, as well as an assessment of the cultural landscape, viewshed, and forestry issues associated with the Arlington House. Responsible for directing laboratory analysis and served as Senior Author for report of findings.

Wilson Bypass Site 31WL37, North Carolina. Directed Phase II investigation of a large multicomponent prehistoric site in Wilson County. Directed laboratory analysis and authored compliance report on findings.

Transcontinental Gas Pipeline Corporation, Pennsylvania, New Jersey, and Virginia. Involved in Phase I, II, and III cultural resource investigations of prehistoric and historic sites. Responsible for identification, excavation, and recordation of features and excavation units, and background research.

Texas Eastern Gas Pipeline, Pennsylvania. Field Technician in Phase II investigations of prehistoric sites in two counties.

Camp Lejeune Marine Corps Base, North Carolina. Field Technician in site assessment and testing investigations of four sites (31ON533, 31ON534, 31ON535, and 31ON536) in Onslow County.

Archaeological Site Mitigation and Data Recovery

Site 18WO193, Maryland. Directed data recovery at a prehistoric site in eastern Maryland. Directed laboratory analysis and authored report of findings.

Wilson Bypass Site 31WL37, North Carolina. Developed data recovery plan and directed field excavation and laboratory analysis on large multicomponent site in Wilson County. Senior author on compliance report of findings in progress.

Conway Central Express (CCX) Milton Facility, Pennsylvania. Co-directed the laboratory analysis and co-authored report of findings from site testing and data recovery investigations of a Late Woodland palisaded Quiggle settlement on the Susquehanna River in Union County for compliance.

Iroquois Gas Transmission System, Connecticut and New York.
Involved in Phase I, II, and III cultural resource investigations for a 369 mile long pipeline. Responsible for overseeing and conducting fieldwork, laboratory analysis, and report preparation.

Transcontinental Gas Pipeline Main Natural Gas Pipeline Expansion, Pennsylvania. Field Technician on data recovery investigations of the Gould Island and Jacob sites in and on the Susquehanna River in Luzerne County.

CNG Transmission Corporation TL-470 Pipeline Crossing, New York. Field Technician in data recovery excavations of the Goldkrest site, a protohistoric Mahican village site on Papscanee Island in Rensselaer County.

REGULATORY EXPERIENCE

Ms. Millis has had experience with the following major environmental regulations:

- National Environmental Policy Act of 1969 (NEPA), as amended (42 USC §4321 et seq.)
- Antiquities Act of 1906, as amended (16 USC §431 et seq.)
- Archeological Resources Protection Act (ARPA) of 1979, as amended (16 USC §470aa et seq.)
- National Historic Preservation Act (NHPA) of 1966, as amended (16 USC §470 et seq.)
- Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended (25 USC §3001-3013)
- Archaeological and Historic Preservation Act (AHPA) of 1974, as amended (16 USC §469-469c-2)

PROFESSIONAL AFFILIATIONS

Society for American Archaeology
North Carolina Archaeological Council
Southeastern Archaeological Conference
Archaeological Society of Virginia
North Carolina Archaeological Society
Archaeological Society of Maryland

WORK HISTORY

Assistant Branch Manager and Senior Archaeologist
TRC Garrow Associates Inc.
1997–present

Assistant Branch Manager and Archaeologist
Garrow & Associates, Inc.
1996–1997

Archaeologist
Garrow & Associates, Inc.
1994–1996

Archaeologist
Archaeological Research Specialists; Goodwin & Associates, Inc.
1993

Archaeologist
Garrow & Associates, Inc.
1990–1992

Archaeologist
Goodwin & Associates, Inc.; New World Research; University of Pittsburgh
1987-1990